



**Generation Interconnection
System Impact Study Report
for
Queue Project AG1-087
MILFORD-CARTANZA 230 KV
119 MW Capacity / 440 MW Energy**

October 2021

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1 Introduction

This System Impact Study has been prepared in accordance with the PJM Open Access Transmission Tariff, 205, as well as the System Impact Study Agreement between the Interconnection Customer (IC), and PJM Interconnection, LLC (PJM), Transmission Provider (TP). The Interconnected Transmission Owner (ITO) is DPL.

2 Preface

The intent of the System Impact Study is to determine a plan, with approximate cost and construction time estimates, to connect the subject generation interconnection project to the PJM network at a location specified by the Interconnection Customer. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system. All facilities required for interconnection of a generation interconnection project must be designed to meet the technical specifications (on PJM web site) for the appropriate transmission owner.

In some instances an Interconnection Customer may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection or merchant transmission upgrade, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the Feasibility Study, but the actual allocation will be deferred until the System Impact Study is performed.

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

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

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

3 General

The Interconnection Customer (IC), has proposed a Offshore Wind generating facility located in Sussex County, Delaware. The installed facilities will have a total capability of 440 MW with 119 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is October 31, 2026. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-087
Project Name	MILFORD-CARTANZA 230 KV
State	Delaware
County	Sussex
Transmission Owner	DPL
MFO	440
MWE	440
MWC	119
Fuel	Offshore Wind
Basecase Study Year	2024

Any new service customers who can feasibly be commercially operable prior to June 1st of the basecase study year are required to request interim deliverability analysis.

4 Point of Interconnection

AG1-087 will interconnect with the DPL transmission system via a terminal position at a new 3-breaker ring bus to be constructed on the Milford – Cartanza 230 kV line.

5 Cost Summary

The AG1-087 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$11,123,976
Allocation towards System Network Upgrade Costs (PJM Identified - Summer Peak)*	\$614,902,178
Allocation towards System Network Upgrade Costs (PJM Identified - Light Load)*	\$15,594,790
Allocation towards System Network Upgrade Costs (TO Identified)*	\$0
Total Costs	\$641,620,944

*As your project progresses through the study process and other projects modify their request or withdraw, then your cost allocation could change.

This cost excludes a Federal Income Tax Gross Up charges. This tax may or may not be charged based on whether this project meets the eligibility requirements of IRS Notice 88-129. If at a future date it is determined that the Federal Income Tax Gross charge is required, the Transmission Owner shall be reimbursed by the Interconnection Customer for such taxes.

Note 1: PJM Open Access Transmission Tariff (OATT) section 217.3A outline cost allocation rules. The rules are further clarified in PJM Manual 14A Attachment B. The allocation of costs for a network upgrade will start with the first Queue project to cause the need for the upgrade. Later queue projects will receive cost allocation contingent on their contribution to the violation and are allocated to the queues that have not closed less than 5 years following the execution of the first Interconnection Service Agreement which identifies the need for this upgrade.

Note 2: For customers with System Reinforcements listed: If your present cost allocation to a System Reinforcement indicates \$0, then please be aware that as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc, the cost responsibilities can change and a cost allocation may be assigned to your project. In addition, although your present cost allocation to a System Reinforcement is presently \$0, your project may need this system reinforcement

completed to be deliverable to the PJM system. If your project comes into service prior to completion of the system reinforcement, an interim deliverability study for your project will be required.

6 Transmission Owner Scope of Work

Scope of work for this project includes cutting a new 3-breaker ring bus into the Milford-Cartanza 230 kV line. Two terminals will be designated for the lines running in and out of the substation, with the 3rd terminal being designated for the generator.

Estimate: \$11,123,976

Major Equipment Included in Estimate:

• 3000A Power Circuit Breaker, 230 kV, 3 cycle	Qty. 3
• Disconnect Switch, 230 kV	Qty. 6
• Line Switch 230 kV	Qty. 3
• Relay Panel, Transmission Bus, FL/BU (20")	Qty. 3
• Control Panel, 230 kV Circuit Breaker (10")	Qty. 3
• Control Enclosure, 47'x 16'	Qty. 1
• CVT, 230 kV	Qty. 6
• 230kV Takeoff Structures	Qty. 3

Estimate Assumptions:

- The required land (≥5 acres) is available for use.
- Developer responsible for land purchase for the substation, price is not included.
- Site clearing, permitting and grading performed by Developer.
- Land for substation directly adjacent to transmission line.

7 Schedule

Based on the scope of work for the interconnection facilities, it is expected to take a minimum of 36-48 months after the signing of an Interconnection Construction Service Agreement (or "Interconnection Agreement" if non-FERC) and construction kickoff call to complete the installation of the physical connection work. This assumes that there will be no environmental issues with any of the new properties associated with this project, that there will be no delays in acquiring the necessary permits for implementing the defined interconnection work, and that all system outages will be allowed when requested.

The schedule for any required Network Impact Reinforcements will be more clearly identified in future study phases. The estimated time to complete each of the required reinforcements is identified in the "System Reinforcements" section of the report.

8 Transmission Owner Analysis

None

9 Interconnection Customer Requirements

9.1 Required Relaying and Communications

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

A breaker control relay on a breaker control panel will be required for the control and operation of each new 230 kV circuit breaker

9.2 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 DPL'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.

9.3 DPL Interconnection Customer Scope of Direct Connection Work Requirements

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

9.4 Special Operating Requirements

1. DPL 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 DPL.
2. DPL 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 DPL.

3. Interconnection Customer shall design its non-synchronous generation facility with the ability to maintain a power factor between 0.95 leading and 0.95 lagging measured at the generator terminals.

10 Revenue Metering and SCADA Requirements

10.1 PJM Requirements

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

10.2 Meteorological Data Reporting Requirements

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

- Wind speed (meters/second) - (Required)
- Wind direction (decimal degrees from true north) - (Required)
- Ambient air temperature (Fahrenheit) - (Required)
- Air Pressure (Hectopascals) - (Required)
- Humidity (Percent) (Accepted, not required)

10.3 Interconnected Transmission Owner Requirements

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

<http://www.pjm.com/planning/design-engineering/to-tech-standards/>

A three phase 230 kV revenue metering point will need to be established within the Interconnection Customer Facilities at the Point of Interconnection. The Interconnection Customer will purchase and install all metering instrument transformers as well as construct a metering structure per the DPL's specifications. The secondary wiring connections at the instrument transformers will be completed by the Interconnection Customer and inspected by DPL, while the connections at the metering enclosure will be completed by the DPL. The metering control cable and meter cabinets will be supplied by the DPL and installed by the Interconnection Customer. The Interconnection Customer will install conduit for the control cable between the instrument transformers and the metering enclosure. The location of the metering enclosure will be determined during construction. The Interconnection Customer will provide 120V power to the meter cabinet. The DPL will provide, program, install, and own the primary & backup solid state multi-function meters for the new metering position.

Each meter will be equipped with load profile, telemetry, and DNP outputs. The Interconnection Customer will be provided with one-meter DNP output for each meter. DPL will supply a wireless modem for MV90

interrogation. In the event that a wireless modem is unable to reliably communicate, the IC will be required to make provisions for a POTS (Plain Old Telephone Service) line or equivalent technology approved by DPL within approximately three feet of the DPL metering position to facilitate remote interrogation and data collection. It is the Interconnection Customer's responsibility to send the data that PJM and DPL require directly to PJM. The Interconnection Customer will grant permission for PJM to send DPL the following telemetry that the Interconnection Customer sends to PJM: real time MW, MVAR, volts, amperes, generator status, and interval MWH and MVARH.

DPL's revenue meters will be the official meters and must be the source for reporting generation output to PJM. The Interconnection Customer is responsible for installing telemetry equipment necessary to obtain the revenue meter data and submitting the data to PJM.

11 Summer Peak Analysis

The Queue Project AG1-087 was evaluated as a 440 MW (Capacity 119 MW) injection tapping the Milford to Cartanza 230 kV Line in the DPL area. Project AG1-087 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-087 was studied with a commercial probability of 100.0 %. Potential network impacts were as follows:

11.1 Generation Deliverability

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
167820046	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P1_2_CKT 23033-B	single	790.0	94.9	110.27	AC	118.77

11.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
182475560	200066	PCHBTM1N	500.0	PECO	270072	FUR RUN_500	500.0	PJM	1	PECO_P4_PEACH245/* \$ CHESCO \$ PECO_P4_PEACH245 \$ STBK	breaker	3609.0	96.46	112.87	AC	168.56
165231690	231003	KEEN_230	230.0	DP&L	231002	HARMONY	230.0	DP&L	2	DPL_P7_1_DBL_3NC	tower	804.0	98.71	103.9	AC	49.38
174170115	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	PJM	2	DPL_P4-2_DP11	breaker	790.0	85.74	102.57	AC	130.26
174170053	232112	FELTON	138.0	DP&L	232110	CHESWOLD	138.0	DP&L	1	DPL_P4-2_DP11	breaker	242.0	90.2	104.74	AC	43.42
174170024	232114	SHARNGTN	138.0	DP&L	232112	FELTON	138.0	DP&L	1	DPL_P4-2_DP11	breaker	242.0	98.34	112.9	AC	43.42

11.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
174376345	200012	NEWFRDM	500.0	PSE&G	200028	WINDSOR	500.0	JCP&L	1	PECO_P4_PEACH215/* \$ CHESCO \$ PECO_P4_PEACH215 \$ STBK	breaker	2983.0	108.69	112.47	AC	128.0
182782308	200012	NEWFRDM	500.0	PSE&G	200028	WINDSOR	500.0	JCP&L	1	PECO_P4_PEACH205/* \$ CHESCO \$ PECO_P4_PEACH205 \$ STBK	breaker	2983.0	108.48	112.27	AC	128.01
174376242	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PECO	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	112.64	128.68	AC	225.0
174170075	200064	PCHBTM1S	500.0	BGE	200004	CNASTONE	500.0	PECO	1	TS_P4_#T7_FUR RUN 500_CB 3	breaker	3620.0	113.61	118.09	AC	182.07

ID	FRO M BUS#	FROM BUS	kV	FRO M BUS ARE A	TO BUS#	TO BUS	kV	TO BUS ARE A	CK T ID	CONT NAME	Type	Rati ng MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC/ DC	MW IMPA CT
182681 532	2000 64	PCHBTM1 S	500 .0	BGE	2000 04	CNASTON E	500 .0	PEC O	1	TS_P4_#T5_FUR RUN 500_CB 1	break er	3620 .0	113.62	118.1	AC	182.0 7
182682 416	2000 64	PCHBTM1 S	500 .0	BGE	2000 04	CNASTON E	500 .0	PEC O	1	TS_P4_#T6_FUR RUN 500_CB 2	break er	3620 .0	113.61	118.09	AC	182.0 7
165231 365	2134 90	CHICHST2	230 .0	PEC O	2134 96	CHIREACT _53	230 .0	PEC O	1	PECO_P2- 2_CHI230B1/* \$ DELCO \$ PECO_P2- 2_CHI230B1 \$ B	bus	841. 0	110.32	115.68	AC	32.9
173975 403	2134 90	CHICHST2	230 .0	PEC O	2134 96	CHIREACT _53	230 .0	PEC O	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	break er	841. 0	110.33	115.69	AC	32.9
182693 466	2134 90	CHICHST2	230 .0	PEC O	2134 96	CHIREACT _53	230 .0	PEC O	1	PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	break er	841. 0	110.29	115.65	AC	32.88
165231 366	2134 96	CHIREACT _53	230 .0	PEC O	2139 72	TRAINER	230 .0	PEC O	1	PECO_P2- 2_CHI230B1/* \$ DELCO \$ PECO_P2- 2_CHI230B1 \$ B	bus	841. 0	110.32	115.68	AC	32.9
173975 402	2134 96	CHIREACT _53	230 .0	PEC O	2139 72	TRAINER	230 .0	PEC O	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	break er	841. 0	110.33	115.69	AC	32.9
182693 024	2134 96	CHIREACT _53	230 .0	PEC O	2139 72	TRAINER	230 .0	PEC O	1	PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	break er	841. 0	110.29	115.65	AC	32.88
165231 339	2135 59	DELCOTAP	230 .0	PEC O	2284 01	MCKLTON	230 .0	AE	1	PECO_P2- 2_CHI230B1/* \$ DELCO \$ PECO_P2- 2_CHI230B1 \$ B	bus	725. 0	127.24	131.4	AC	32.72
173791 832	2135 59	DELCOTAP	230 .0	PEC O	2284 01	MCKLTON	230 .0	AE	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	break er	725. 0	127.25	131.41	AC	32.72
182483 074	2135 59	DELCOTAP	230 .0	PEC O	2284 01	MCKLTON	230 .0	AE	1	PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	break er	725. 0	127.21	131.36	AC	32.71
174170 135	2137 50	LINWOOD 43	230 .0	PEC O	2142 21	CHIREACT _43	230 .0	PEC O	1	PECO_P4_POST475/* \$ DELCO \$ PECO_P4_POST475 \$ STBK	break er	1770 .0	109.6	112.87	AC	66.05
165231 391	2139 73	TRAINER2	230 .0	PEC O	2135 59	DELCOTAP	230 .0	PEC O	1	PECO_P2- 2_CHI230B1/* \$ DELCO \$ PECO_P2- 2_CHI230B1 \$ B	bus	841. 0	103.93	109.29	AC	32.9
174170 144	2139 73	TRAINER2	230 .0	PEC O	2135 59	DELCOTAP	230 .0	PEC O	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	break er	841. 0	103.93	109.29	AC	32.9
182848 166	2139 73	TRAINER2	230 .0	PEC O	2135 59	DELCOTAP	230 .0	PEC O	1	PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	break er	841. 0	103.89	109.25	AC	32.88
174376 386	2197 02	HILLTOP_ 2	230 .0	PSE& G	2191 01	BEAVERBK _1	230 .0	PSE& G	1	PECO_P4_PEACH215/* \$ CHESCO \$ PECO_P4_PEACH215 \$ STBK	break er	740. 0	101.19	104.42	AC	28.2
167820 095	2310 00	CLAY_230	230 .0	PEC O	2142 35	LINWOOD 84	230 .0	DP& L	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	single	804. 0	114.47	116.21	AC	17.32
167820 096	2310 00	CLAY_230	230 .0	PEC O	2142 35	LINWOOD 84	230 .0	DP& L	1	PECO_P1-2_220-85/* \$ DELCO \$ PECO_P1- 2_220-85 \$ L	single	804. 0	114.37	116.11	AC	17.3
167820 106	2310 01	EDGE MR 5	230 .0	PEC O	2142 36	LINWOOD 85	230 .0	DP& L	1	PECO_P1-2_220-84	single	804. 0	112.84	114.52	AC	16.76

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC/ DC	MW IMPACT
167820107	231001	EDGEMR5	230.0	PECO	214236	LINWOOD85	230.0	DP&L	1	PECO_P1-2_220-84/* \$ DELCO \$ PECO_P1-2_220-84 \$ L	single	804.0	112.44	114.11	AC	16.71
167820126	231001	EDGEMR5	230.0	PECO	231000	CLAY_230	230.0	PECO	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	single	804.0	113.16	114.71	AC	15.42
167820127	231001	EDGEMR5	230.0	PECO	231000	CLAY_230	230.0	PECO	1	PECO_P1-2_220-85/* \$ DELCO \$ PECO_P1-2_220-85 \$ L	single	804.0	113.08	114.62	AC	15.4
174170112	231002	HARMONY	230.0	DP&L	231001	EDGEMR5	230.0	PECO	1	PECO_P4_PEACH215/* \$ CHESCO \$ PECO_P4_PEACH215 \$ STBK	breaker	924.0	101.35	109.99	AC	96.59
182589154	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH215/* \$ CHESCO \$ PECO_P4_PEACH215 \$ STBK	breaker	378.0	109.5	118.43	AC	39.38
182625398	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH205/* \$ CHESCO \$ PECO_P4_PEACH205 \$ STBK	breaker	378.0	107.69	116.63	AC	39.39
182552468	232005	VIENNA	230.0	DP&L	232000	STEELE	230.0	DP&L	1	DPL_P4-2_DP3	breaker	550.0	107.93	117.17	AC	60.74
164868397	232012	HOPE CREEK	230.0	PJM	200029	HOPE CRK	500.0	PJM	1	DPL_P7_1_DBL_4NC	tower	1117.0	108.7	128.29	AC	218.05
174170099	232012	HOPE CREEK	230.0	PJM	200029	HOPE CRK	500.0	PJM	1	PJM500_DPL_P4_2_RE DLION-HOPE AT51	breaker	1117.0	106.27	114.3	AC	119.37
174376318	232012	HOPE CREEK	230.0	PJM	200029	HOPE CRK	500.0	PJM	1	PJM500_DPL_P4_2_RE DLION-HOPE AT50	breaker	1117.0	105.68	113.56	AC	116.93
174170014	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	PJM	1	DPL_P4-2_DP11	breaker	678.0	100.14	119.81	AC	130.08
182424288	232013	SILVER RUN	230.0	PJM	232014	LSPWR CABLE	230.0	PJM	1	DPL_P7_1_DBL_4NC	tower	1150.0	105.91	123.98	AC	218.05
182778772	232013	SILVER RUN	230.0	PJM	232014	LSPWR CABLE	230.0	PJM	1	PJM500_DPL_P4_2_RE DLION-HOPE AT51	breaker	1150.0	101.48	109.56	AC	119.37
182815458	232013	SILVER RUN	230.0	PJM	232014	LSPWR CABLE	230.0	PJM	1	PJM500_DPL_P4_2_RE DLION-HOPE AT50	breaker	1150.0	100.9	108.82	AC	116.93
182424730	232014	LSPWR CABLE	230.0	PJM	232012	HOPE CREEK	230.0	PJM	2	DPL_P7_1_DBL_4NC	tower	575.0	105.86	123.95	AC	109.02
182425172	232014	LSPWR CABLE	230.0	PJM	232012	HOPE CREEK	230.0	PJM	1	DPL_P7_1_DBL_4NC	tower	575.0	105.86	123.95	AC	109.02
182780098	232014	LSPWR CABLE	230.0	PJM	232012	HOPE CREEK	230.0	PJM	2	PJM500_DPL_P4_2_RE DLION-HOPE AT51	breaker	575.0	101.46	109.53	AC	59.68
182780540	232014	LSPWR CABLE	230.0	PJM	232012	HOPE CREEK	230.0	PJM	1	PJM500_DPL_P4_2_RE DLION-HOPE AT51	breaker	575.0	101.46	109.53	AC	59.68
182816342	232014	LSPWR CABLE	230.0	PJM	232012	HOPE CREEK	230.0	PJM	1	PJM500_DPL_P4_2_RE DLION-HOPE AT50	breaker	575.0	100.87	108.79	AC	58.46
182816784	232014	LSPWR CABLE	230.0	PJM	232012	HOPE CREEK	230.0	PJM	2	PJM500_DPL_P4_2_RE DLION-HOPE AT50	breaker	575.0	100.87	108.79	AC	58.46
166669854	232100	CHURCH	138.0	DP&L	232107	TOWNSEN D	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_ FSA	tower	348.0	156.99	173.42	AC	70.11
166669864	232106	MIDLTNT	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_ FSA	tower	348.0	139.06	156.52	AC	70.11
166669849	232107	TOWNSEN D	138.0	DP&L	232106	MIDLTNT	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_ FSA	tower	348.0	163.18	180.65	AC	70.11
182476886	232116	VIENN138	138.0	DP&L	232005	VIENNA	230.0	DP&L	1	DPL_P4-2_DP3	breaker	530.0	112.47	122.1	AC	60.74
182361082	232117	VIENNA 8	138.0	DP&L	232116	VIENN138	138.0	DP&L	1	DPL_P4-2_DP3	breaker	482.0	122.9	133.47	AC	60.74
174169917	232215	KENT	69.0	DP&L	232812	NMEREDT H	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	145.68	166.05	AC	22.46
173975288	232812	NMEREDT H	69.0	DP&L	924820	AB2-135 TAP	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	125.61	145.7	AC	22.46
174170047	923960	AB2-037 TAP	230.0	DP&L	231003	KEEN_230	230.0	DP&L	2	DPL_P4-2_DP8	breaker	727.0	101.73	113.87	AC	107.06
182619652	923960	AB2-037 TAP	230.0	DP&L	231003	KEEN_230	230.0	DP&L	2	DPL_P4-2_DP10	breaker	727.0	101.64	113.75	AC	106.79

11.4 Steady-State Voltage Requirements

To be determined

11.5 Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
167577749	200012	NEWFRDM	500.0	PSE&G	200028	WINDSOR	500.0	JCP&L	1	PECO_P1-2_5014/* \$ CHESCO \$ PECO_P1-2_5014 \$ L	operation	2983.0	108.47	112.26	AC	128.0
167577821	200014	SALEM	500.0	PSE&G	200063	ORCHARD	500.0	AE	1	PJM500_PS_P1-2_5023	operation	2598.0	102.71	104.89	AC	64.56
167577617	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PECO	1	JC-P1-2-JCC-500-003	operation	2905.0	131.93	138.6	AC	223.36
167577706	200064	PCHBTM1S	500.0	BGE	200004	CNASTONE	500.0	PECO	1	TS_P1-2_#T6	operation	3620.0	110.95	115.67	AC	181.82
167577708	200064	PCHBTM1S	500.0	BGE	200004	CNASTONE	500.0	PECO	1	Base Case	operation	2920.0	93.96	100.53	AC	140.49
167577643	200066	PCHBTM1N	500.0	PECO	270072	FUR RUN_500	500.0	PJM	1	PECO_P1-2_5012/* \$ CHESCO \$ PECO_P1-2_5012 \$ L	operation	3609.0	111.58	120.0	AC	166.81
167577816	213489	CHICHST1	230.0	PECO	213588	EDDYSTN4	230.0	PECO	1	PECO_P1-2_220-04/* \$ DELCO \$ PECO_P1-2_220-04 \$ L	operation	1079.0	102.29	105.98	AC	45.51
167577758	213750	LINWOOD43	230.0	PECO	214221	CHIREACT_43	230.0	PECO	1	PECO_P1-2_220-97/* \$ DELCO \$ PECO_P1-2_220-97 \$ L	operation	1770.0	109.59	112.86	AC	66.05
167577796	214220	CHIREACT_39	230.0	PECO	213490	CHICHST2	230.0	PECO	1	PECO_P2-1_CHIC435/* \$ DELCO \$ PECO_P2-1_CHIC435 \$ K	operation	1770.0	104.59	107.85	AC	65.82
167577762	214221	CHIREACT_43	230.0	PECO	213489	CHICHST1	230.0	PECO	1	PECO_P1-2_220-97/* \$ DELCO \$ PECO_P1-2_220-97 \$ L	operation	1770.0	109.59	112.86	AC	66.05
167577766	214234	LINWOOD97	230.0	PECO	214216	POST97	230.0	PECO	1	PECO_P2-1_CHIC435/* \$ DELCO \$ PECO_P2-1_CHIC435 \$ K	operation	1770.0	109.51	112.77	AC	65.82

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECTIONS T LOADING %	POST PROJECTIONS T LOADING %	AC/D C	MW IMPACT
167577792	214287	POST39	230.0	PECO	214220	CHIREACT_39	230.0	PECO	1	PECO_P2-1_CHIC435/* \$ DELCO \$ PECO_P2-1_CHIC435 \$ K	operation	1770.0	104.59	107.85	AC	65.82
167577669	219100	NEWFRDM	230.0	PSE&G	219704	HILLTOP_4	230.0	PSE&G	1	JC-P1-2-JCC-500-003	operation	740.0	125.42	128.14	AC	23.14
167577841	219702	HILLTOP_2	230.0	PSE&G	219101	BEAVERBK_1	230.0	PSE&G	1	PECO_P1-2_5014/* \$ CHESCO \$ PECO_P1-2_5014 \$ L	operation	740.0	100.24	103.47	AC	28.2
167820093	231000	CLAY_230	230.0	PECO	214235	LINWOOD84	230.0	DP&L	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	operation	804.0	145.66	152.57	AC	64.05
167820097	231000	CLAY_230	230.0	PECO	214235	LINWOOD84	230.0	DP&L	1	Base Case	operation	650.0	102.25	107.34	AC	38.18
167820104	231001	EDGE MR 5	230.0	PECO	214236	LINWOOD85	230.0	DP&L	1	PECO_P1-2_220-84	operation	804.0	143.01	149.7	AC	61.97
167820108	231001	EDGE MR 5	230.0	PECO	214236	LINWOOD85	230.0	DP&L	1	Base Case	operation	650.0	99.78	104.19	AC	33.13
167820124	231001	EDGE MR 5	230.0	PECO	231000	CLAY_230	230.0	PECO	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	operation	804.0	140.94	147.09	AC	57.02
167820128	231001	EDGE MR 5	230.0	PECO	231000	CLAY_230	230.0	PECO	1	Base Case	operation	650.0	99.66	103.96	AC	32.2
167820314	231002	HARMONY	230.0	DP&L	231001	EDGE MR 5	230.0	PECO	1	PECO_P1-2_5014/* \$ CHESCO \$ PECO_P1-2_5014 \$ L	operation	924.0	100.26	108.91	AC	96.59
167820281	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P1-2_5014/* \$ CHESCO \$ PECO_P1-2_5014 \$ L	operation	378.0	107.68	116.61	AC	39.38
167820175	232000	STEELE	230.0	DP&L	231003	KEEN_230	230.0	DP&L	1	DPL_P1_2_AB2-037 KEENEY	operation	552.0	110.07	123.46	AC	89.36
182858332	232000	STEELE	230.0	DP&L	923960	AB2-037 TAP	230.0	DP&L	2	CKT 23032B	operation	727.0	90.07	102.6	AC	111.45
167820029	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23032B	operation	678.0	150.66	174.22	AC	196.16
167820031	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operation	550.0	122.5	135.67	AC	125.5
167820045	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operation	650.0	131.32	152.55	AC	138.35
182204172	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23030B	operation	790.0	147.29	172.28	AC	193.52
167820012	232004	MILF_230	230.0	DP&L	232000	STEELE	230.0	DP&L	1	CKT 23032B	operation	550.0	150.25	185.89	AC	187.95
167820014	232004	MILF_230	230.0	DP&L	232000	STEELE	230.0	DP&L	1	Base Case	operation	550.0	96.84	121.31	AC	134.35
167820109	232004	MILF_230	230.0	DP&L	232002	CEDAR CK	230.0	DP&L	1	CKT 23032B	operation	738.0	112.96	134.96	AC	157.48
182705400	232005	VIENNA	230.0	DP&L	232000	STEELE	230.0	DP&L	1	DPL_P1_2_CKT 23076	operation	550.0	99.38	109.28	AC	65.02
167577735	232012	HOPE CREEK	230.0	PJM	200029	HOPE CRK	500.0	PJM	1	PJM500_PS_P1-2_5015	operation	1117.0	104.6	112.18	AC	112.41
167820184	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	PJM	1	PJM500_PS_P1-2_HOPE-SILVER	operation	678.0	99.41	117.53	AC	126.45
167820307	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	PJM	2	PJM500_PS_P1-2_HOPE-SILVER	operation	790.0	85.38	100.88	AC	126.62

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECTIONS LOADING %	POST PROJECTIONS LOADING %	AC/D C	MW IMPACT
182855238	232013	SILVER RUN	230.0	PJM	232014	LSPWR CABLE	230.0	PJM	1	PJM500_PS_P1-2_5015	operation	1150.0	99.82	107.44	AC	112.41
182855680	232014	LSPWR CABLE	230.0	PJM	232012	HOPE CREEK	230.0	PJM	1	PJM500_PS_P1-2_5015	operation	575.0	99.8	107.42	AC	56.2
182856122	232014	LSPWR CABLE	230.0	PJM	232012	HOPE CREEK	230.0	PJM	2	PJM500_PS_P1-2_5015	operation	575.0	99.8	107.42	AC	56.2
167820166	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	Base Case	operation	280.0	109.93	119.74	AC	33.28
182449924	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	CKT 23032B	operation	348.0	115.22	125.93	AC	45.83
167820275	232106	MIDLTNTP	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	Base Case	operation	273.0	92.53	102.55	AC	33.28
182698328	232106	MIDLTNTP	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	CKT 23032B	operation	348.0	99.36	110.05	AC	45.83
167820115	232107	TOWNSEND	138.0	DP&L	232106	MIDLTNTP	138.0	DP&L	1	Base Case	operation	273.0	123.1	133.16	AC	33.28
182379204	232107	TOWNSEND	138.0	DP&L	232106	MIDLTNTP	138.0	DP&L	1	CKT 23032B	operation	348.0	123.36	134.06	AC	45.83
182602414	232116	VIENN138	138.0	DP&L	232005	VIENNA	230.0	DP&L	1	DPL_P1_2_CKT23076	operation	530.0	103.64	113.96	AC	65.02
182445946	232117	VIENNA 8	138.0	DP&L	232116	VIENN138	138.0	DP&L	1	DPL_P1_2_CKT23076	operation	482.0	113.17	124.48	AC	65.02
169557748	923960	AB2-037 TAP	230.0	DP&L	231003	KEEN_230	230.0	DP&L	2	DPL_P1_2_CKT23001	operation	727.0	101.54	113.62	AC	106.53
167820076	962380	AG1-087 TAP	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	Base Case	operation	650.0	87.95	132.25	AC	300.8
167820292	962380	AG1-087 TAP	230.0	DP&L	232003	CARTANZA	230.0	DP&L	1	CKT 23030B	operation	804.0	77.51	101.4	AC	194.37
182590480	962380	AG1-087 TAP	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P1_1_232904 IR4 26	operation	804.0	83.07	118.54	AC	300.8

11.6 System Reinforcements

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																
174170053	5	FELTON 138.0 kV - CHESWOLD 138.0 kV Ckt 1	ProjectId : n7791 (dt13704r0001) Description : To mitigate the (DPL) Cheswold - Felton 138 kV line (from bus 232110 to 232112) overload, it will require increasing the emergency rating of the line by rebuilding it with new poles, conductor, foundations, insulators and OPGW Type : FAC Total Cost : \$23,000,000 Time Estimate : 36-48 Months Ratings : 329.0/372.0/372.0 <table><tr><td>Queue</td><td>MW</td><td>Cost %</td><td>Cost \$</td></tr><tr><td>AG1-087</td><td>43.42</td><td>100.00%</td><td>\$23,000,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	43.42	100.00%	\$23,000,000	\$23,000,000	\$23,000,000	N7791								
Queue	MW	Cost %	Cost \$																			
AG1-087	43.42	100.00%	\$23,000,000																			
174170144, 182848166, 165231391	14	TRAINER2 230.0 kV - DELCOTAP 230.0 kV Ckt 1	ProjectId : n7163 (pe022) Description : Rebuild 0.82 miles of 230 kV line from Trainer to Delco Tap with bundled 1590 kcmil 54/19 ACSR Type : FAC Total Cost : \$4,000,000 Time Estimate : 16.0 Months Ratings : 830.0/924.0/1056.0 Notes: The driver is unknown and will be determined in future retools. The potential cost allocation table is as follows <table><tr><td>Queue</td><td>MW</td><td>Cost %</td><td>Cost \$</td></tr><tr><td>Unknown Driver</td><td>14.8</td><td>26.21%</td><td>\$1,048,344</td></tr><tr><td>AG1-061</td><td>8.77</td><td>15.53%</td><td>\$621,215</td></tr><tr><td>AG1-087</td><td>32.9</td><td>58.26%</td><td>\$2,330,441</td></tr></table>	Queue	MW	Cost %	Cost \$	Unknown Driver	14.8	26.21%	\$1,048,344	AG1-061	8.77	15.53%	\$621,215	AG1-087	32.9	58.26%	\$2,330,441	\$4,000,000	\$2,338,441	N7163
Queue	MW	Cost %	Cost \$																			
Unknown Driver	14.8	26.21%	\$1,048,344																			
AG1-061	8.77	15.53%	\$621,215																			
AG1-087	32.9	58.26%	\$2,330,441																			

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																
182782308, 174376345	7	NEWFRDM 500.0 kV - WINDSOR 500.0 kV Ckt 1	ProjectId: n7838 (JC-AG1-S-0001a) Description : Replace (4) 3000 A current transformers at Windsor. Replace (1) 3000 A wave trap at Windsor. Additionally, PSEG would need to replace their section of the limiting conductor and provide estimates for their replacement. Type: FAC Total Cost: \$2,285,472 Time Estimate: 12.0 Months Ratings: 2707.0/3260.0/3260.0 Notes: The driver is unknown and will be determined in future retools. The potential cost allocation table is as follows: <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>Unknown Driver</td><td>218.95</td><td>57.89%</td><td>\$1,323,085</td></tr><tr><td>AG1-061</td><td>31.26</td><td>8.27%</td><td>\$188,900</td></tr><tr><td>AG1-087</td><td>128.0</td><td>33.84%</td><td>\$773,487</td></tr></table>	Queue	MW	Cost %	Cost \$	Unknown Driver	218.95	57.89%	\$1,323,085	AG1-061	31.26	8.27%	\$188,900	AG1-087	128.0	33.84%	\$773,487	\$15,221,872	\$7,709,504	N7836 N7838 N7839
			Queue	MW	Cost %	Cost \$																
			Unknown Driver	218.95	57.89%	\$1,323,085																
AG1-061	31.26	8.27%	\$188,900																			
AG1-087	128.0	33.84%	\$773,487																			
ProjectId: n7836 (r_PS_I024b_NF500) Description : Upgrade New Freedom 500kV terminal equipment to achieve a SER of 3386 MVA Type : FAC Total Cost : \$9,070,000 Time Estimate : 25.0 Months Ratings : 2906.0/3386.0/ Notes: The driver is unknown and will be determined in future retools. The potential cost allocation table is as follows: <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>Unknown Driver</td><td>218.95</td><td>57.89%</td><td>\$5,250,724</td></tr><tr><td>AG1-061</td><td>31.26</td><td>8.27%</td><td>\$749,658</td></tr><tr><td>AG1-087</td><td>128.0</td><td>33.84%</td><td>\$3,069,617</td></tr></table>	Queue	MW	Cost %	Cost \$	Unknown Driver	218.95	57.89%	\$5,250,724	AG1-061	31.26	8.27%	\$749,658	AG1-087	128.0	33.84%	\$3,069,617						
Queue	MW	Cost %	Cost \$																			
Unknown Driver	218.95	57.89%	\$5,250,724																			
AG1-061	31.26	8.27%	\$749,658																			
AG1-087	128.0	33.84%	\$3,069,617																			
ProjectId : n7839 (JC-AG1-S-0001b) Description : Replace (2) 3000 A Circuit Breakers at Windsor Type : FAC Total Cost : \$3,866,400 Time Estimate : 12.0 Months Ratings : 2931.0/3374.0/3374.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>128.0</td><td>100.00%</td><td>\$3,866,400</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	128.0	100.00%	\$3,866,400														
Queue	MW	Cost %	Cost \$																			
AG1-087	128.0	100.00%	\$3,866,400																			
174170024	6	SHARNGTN 138.0 kV - FELTON 138.0 kV Ckt 1	ProjectId : n7144 (dt13709r0001) Description : To mitigate the (DP&L) Felton - S. Harrington 138 kV line (from bus 232112 to bus 232114 Ckt 1) overload, it will require increasing the emergency rating of the Felton - S. Harrington 138 kV line by rebuilding the line which includes the installation of new poles, foundations, 954 ACSR conductor, insulators and OPGW Type : FAC Total Cost : \$17,000,000 Time Estimate : 36-48 Months Ratings : 241.0/295.0/295.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>43.42</td><td>100.00%</td><td>\$17,000,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	43.42	100.00%	\$17,000,000	\$17,000,000	\$17,000,000	N7144								
Queue	MW	Cost %	Cost \$																			
AG1-087	43.42	100.00%	\$17,000,000																			

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																												
174170112	19	HARMONY 230.0 kV - EDGEMR 5 230.0 kV Ckt 1	PECO Upgrade: Description : Not a violation for PECO portion DPL Upgrade: ProjectId : n7143 (dt23012r0001) Description : Rebuild 23012 Harmony - Edge Moor with new poles, conductor, foundations, insulators and OPGW Type : FAC Total Cost : \$23,000,000 Time Estimate : 36-48 Months Ratings : 916.0/1035.0/1035.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-358</td><td>5.65</td><td>3.69%</td><td>\$848,736</td></tr><tr><td>AF2-385</td><td>16.23</td><td>10.60%</td><td>\$2,438,051</td></tr><tr><td>AF2-387</td><td>22.12</td><td>14.45%</td><td>\$3,322,840</td></tr><tr><td>AG1-061</td><td>0.95</td><td>0.62%</td><td>\$142,708</td></tr><tr><td>AG1-072</td><td>11.57</td><td>7.56%</td><td>\$1,738,031</td></tr><tr><td>AG1-087</td><td>96.59</td><td>63.09%</td><td>\$14,509,634</td></tr></table>	Queue	MW	Cost %	Cost \$	AF2-358	5.65	3.69%	\$848,736	AF2-385	16.23	10.60%	\$2,438,051	AF2-387	22.12	14.45%	\$3,322,840	AG1-061	0.95	0.62%	\$142,708	AG1-072	11.57	7.56%	\$1,738,031	AG1-087	96.59	63.09%	\$14,509,634	\$23,000,000	\$14,509,634	N7143
Queue	MW	Cost %	Cost \$																															
AF2-358	5.65	3.69%	\$848,736																															
AF2-385	16.23	10.60%	\$2,438,051																															
AF2-387	22.12	14.45%	\$3,322,840																															
AG1-061	0.95	0.62%	\$142,708																															
AG1-072	11.57	7.56%	\$1,738,031																															
AG1-087	96.59	63.09%	\$14,509,634																															
174376386	15	HILLTOP_1 230.0 kV - BEAVERBK_1 230.0 kV Ckt 1	Description: No PSEG Violation. Ratings: PSEG Updated Rating 732/886 MVA.	\$0	\$0																													
174170135	13	LINWOOD 230.0 kV - CHIREACT_43 230.0 kV Ckt 1	Description: Not a violation for PESEG portion PECO Upgrade: ProjectId: n7866 (pe042) Description: Rebuild Linwood and Chichester 230 kV stations with 5" IPS Aluminum bus bar. Rebuild 230 kV line between Linwood and Chichester with bundled 1622 Kcmil Type 13 ACSS/TW and replace 1 line reactor, 3 CBs Type : FAC Total Cost : \$28,500,000 Time Estimate : 24.0 Months Ratings : 1831.0/2076.0/2406.0 Notes: The driver is unknown and will be determined in future retools. The potential cost allocation table is as follows: <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>Unknown Driver</td><td>170.0</td><td>72.02%</td><td>\$20,525,312</td></tr><tr><td>AG1-087</td><td>66.05</td><td>27.98%</td><td>\$7,974,688</td></tr></table>	Queue	MW	Cost %	Cost \$	Unknown Driver	170.0	72.02%	\$20,525,312	AG1-087	66.05	27.98%	\$7,974,688	\$28,500,000	\$7,974,688	N7866																
Queue	MW	Cost %	Cost \$																															
Unknown Driver	170.0	72.02%	\$20,525,312																															
AG1-087	66.05	27.98%	\$7,974,688																															

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																
182693466, 173975403, 165231365, 182693024, 173975402, 165231366	10	CHICHST2 230.0 kV - CHIREACT_53 230.0 kV Ckt 1	ProjectId : n7159 (pe023) Description : Rebuild 2 miles of 230 kV line from Chichester to Trainer with 2x1590 kcmil 54/19 ACSR Type : FAC Total Cost : \$9,900,000 Time Estimate : 36.0 Months Ratings : 731.0/885.0/984.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-194</td><td>23.66</td><td>36.22%</td><td>\$3,585,397</td></tr><tr><td>AG1-061</td><td>8.77</td><td>13.42%</td><td>\$1,328,991</td></tr><tr><td>AG1-087</td><td>32.9</td><td>50.36%</td><td>\$4,985,612</td></tr></table>	Queue	MW	Cost %	Cost \$	AF2-194	23.66	36.22%	\$3,585,397	AG1-061	8.77	13.42%	\$1,328,991	AG1-087	32.9	50.36%	\$4,985,612	\$13,880,000	\$8,946,670	N7159 N7865 N7864 N7863 N7862 N7161
			Queue	MW	Cost %	Cost \$																
			AF2-194	23.66	36.22%	\$3,585,397																
			AG1-061	8.77	13.42%	\$1,328,991																
			AG1-087	32.9	50.36%	\$4,985,612																
	ProjectId : n7865 (pe038) Description : Replace 12 CTs at Chichester & Trainer Type : FAC Total Cost : \$1,300,000 Time Estimate : 24.0 Months Ratings : 860.0/1078.0/1347.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>32.9</td><td>100.00%</td><td>\$1,300,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	32.9	100.00%	\$1,300,000													
	Queue	MW	Cost %	Cost \$																		
	AG1-087	32.9	100.00%	\$1,300,000																		
	ProjectId : n7864 (pe037) Description : Replace 2 Circuit breakers at Trainer Type : FAC Total Cost : \$1,600,000 Time Estimate : 12.0 Months Ratings : 832.0/960.0/1130.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>32.9</td><td>100.00%</td><td>\$1,600,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	32.9	100.00%	\$1,600,000													
	Queue	MW	Cost %	Cost \$																		
AG1-087	32.9	100.00%	\$1,600,000																			
ProjectId : n7863 (pe036) Description : Replace 1 line trap at Chichester Type : FAC Total Cost : \$90,000 Time Estimate : 6.0 Months Ratings : 832.0/960.0/1125.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>32.9</td><td>100.00%</td><td>\$90,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	32.9	100.00%	\$90,000														
Queue	MW	Cost %	Cost \$																			
AG1-087	32.9	100.00%	\$90,000																			
ProjectId : n7862 (pe035) Description : Replace 7 relays at Chichester & Trainer Type : FAC Total Cost : \$900,000 Time Estimate : 24.0 Months Ratings : 816.0/929.0/1083.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>32.9</td><td>100.00%</td><td>\$900,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	32.9	100.00%	\$900,000														
Queue	MW	Cost %	Cost \$																			
AG1-087	32.9	100.00%	\$900,000																			
11	CHIREACT_53 230.0 kV - TRAINER 230.0 kV Ckt 1	ProjectId : n7161 (pe034) Description : Replace 1 line trap at Trainer Type : FAC Total Cost : \$90,000 Time Estimate : 6.0 Months Ratings : 816.0/927.0/956.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>8.77</td><td>21.05%</td><td>\$18,942</td></tr><tr><td>AG1-087</td><td>32.9</td><td>78.95%</td><td>\$71,058</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-061	8.77	21.05%	\$18,942	AG1-087	32.9	78.95%	\$71,058								
		Queue	MW	Cost %	Cost \$																	
		AG1-061	8.77	21.05%	\$18,942																	
		AG1-087	32.9	78.95%	\$71,058																	

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																								
173975288	33	NMEREDTH 69.0 kV - AB2-135 TAP 69.0 kV Ckt 1	ProjectId : n7091 (dt6704r0002) Description : To mitigate the (DPL) New Meredith to AB2-135 Tap 69 kV line (from bus 232812 to 924820_ overload it will require increasing the emergency rating of the New Meredith to AB2-135 Tap 69 kV line by rebuilding the line with new poles foundations insulators and OPGW. Terminal equipment at New Meredith Tap will also need to be replaced Type : FAC Total Cost : \$11,000,000 Time Estimate : 36-48 Months Ratings : 136.0/174.0/174.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-194</td><td>24.97</td><td>46.60%</td><td>\$5,126,353</td></tr><tr><td>AG1-061</td><td>6.15</td><td>11.48%</td><td>\$1,262,598</td></tr><tr><td>AG1-087</td><td>22.46</td><td>41.92%</td><td>\$4,611,049</td></tr></table>	Queue	MW	Cost %	Cost \$	AF2-194	24.97	46.60%	\$5,126,353	AG1-061	6.15	11.48%	\$1,262,598	AG1-087	22.46	41.92%	\$4,611,049	\$11,000,000	\$4,611,049	N7091								
Queue	MW	Cost %	Cost \$																											
AF2-194	24.97	46.60%	\$5,126,353																											
AG1-061	6.15	11.48%	\$1,262,598																											
AG1-087	22.46	41.92%	\$4,611,049																											
174170014	23	SILVER RUN 230.0 kV - RL_230 230.0 kV Ckt 1	ProjectId : n7799 (dt23045r0001) Description : Rebuild 23045 Red Lion - Silver Run line utilizing (2) 1590 ACSR Lapwing conductor and upgrade stranded bus at Red Lion from 1590 ACSR to (2) 1590 ACSR Type : FAC Total Cost : \$38,500,000 Time Estimate : 48-60 Months Ratings : 1195.0/1195.0/1195.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>22.92</td><td>14.98%</td><td>\$5,767,451</td></tr><tr><td>AG1-087</td><td>130.08</td><td>85.02%</td><td>\$32,732,549</td></tr></table> ProjectId : n7800 (SR003) Description : Replace terminal jumpers with double bundled 1590 ACSR (Lapwing) on Silver Run's Cedar Creek line terminal Type : FAC Total Cost : \$30,000 Time Estimate : 12.0 Months Ratings : 797.0/1052.0/1052.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>27.63</td><td>17.52%</td><td>\$5,256</td></tr><tr><td>AG1-087</td><td>130.08</td><td>82.48%</td><td>\$24,744</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-061	22.92	14.98%	\$5,767,451	AG1-087	130.08	85.02%	\$32,732,549	Queue	MW	Cost %	Cost \$	AG1-061	27.63	17.52%	\$5,256	AG1-087	130.08	82.48%	\$24,744	\$38,530,000	\$32,757,293	N7799 N7800
Queue	MW	Cost %	Cost \$																											
AG1-061	22.92	14.98%	\$5,767,451																											
AG1-087	130.08	85.02%	\$32,732,549																											
Queue	MW	Cost %	Cost \$																											
AG1-061	27.63	17.52%	\$5,256																											
AG1-087	130.08	82.48%	\$24,744																											
174170115	4	SILVER RUN 230.0 kV - RL_230 230.0 kV Ckt 2	ProjectId : N7804 (dt23057r0001) Description : Rebuild 23057 Red Lion - Silver Run line utilizing (2) 1590 ACSR Lapwing conductor and upgrade stranded bus at Red Lion from 1590 ACSR to (2) 1590 ACSR Type : FAC Total Cost : \$39,250,000 Time Estimate : 48-60 Months Ratings : 1195.0/1195.0/1195.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>19.9</td><td>100.00%</td><td>\$39,250,000</td></tr></table> ProjectId : N7800 (SR003) Description : Replace terminal jumpers with double bundled 1590 ACSR (Lapwing) on Silver Run's Cedar Creek line terminal Type : FAC Total Cost : \$30,000 Time Estimate : 12.0 Months Ratings : 797.0/1052.0/1052.0 Notes: Please refer to <u>SILVER RUN 230.0 kV - RL_230 230.0 kV Ckt 1</u> facility above for Cost Allocation.	Queue	MW	Cost %	Cost \$	AG1-087	19.9	100.00%	\$39,250,000	\$39,250,000	\$39,250,000	N7800 N7804																
Queue	MW	Cost %	Cost \$																											
AG1-087	19.9	100.00%	\$39,250,000																											

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																																
165231339, 182483074, 173791832	12	DELCOTAP 230.0 kV - MCKLTON 230.0 kV Ckt 1	ProjectId : n7868 (ACEMickDelcorebuildr01) Description : To mitigate the (ACE)Mickleton to Delco Tap 230 kV line (from bus 228401 to bus 213559 Ckt 1) overload, it will require rebuilding 7.6 miles of 230 kV to a higher capacity Type : FAC Total Cost : \$19,000,000 Time Estimate : 36-42 Months Ratings : 733.0/828.0/952.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>8.73</td><td>21.06%</td><td>\$4,001,689</td></tr><tr><td>AG1-087</td><td>32.72</td><td>78.94%</td><td>\$14,998,311</td></tr></table> ProjectId : n7861 (pe039) Description : Replace 1 disconnect switch at Delco Tap Type : FAC Total Cost : \$250,000 Time Estimate : 6.0 Months Ratings : 880.0/1009.0/1079.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>32.72</td><td>100.00%</td><td>\$250,000</td></tr></table> ProjectId : n7869 (ACEMickDelcostrandctdiscLr01) Description : To mitigate the (ACE)Mickleton to Delco Tap 230 kV line (from bus 228401 to bus 213559 ckt 1) overload, it will require a 230 kV strand bus and CT at Mickleton. Type : FAC Total Cost : \$400,000 Time Estimate : 12-32 Months Ratings : 901/1045/1090 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>8.73</td><td>21.06%</td><td>\$84,246</td></tr><tr><td>AG1-087</td><td>32.72</td><td>78.94%</td><td>\$315,754</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-061	8.73	21.06%	\$4,001,689	AG1-087	32.72	78.94%	\$14,998,311	Queue	MW	Cost %	Cost \$	AG1-087	32.72	100.00%	\$250,000	Queue	MW	Cost %	Cost \$	AG1-061	8.73	21.06%	\$84,246	AG1-087	32.72	78.94%	\$315,754	\$19,650,000	\$15,564,065	N7861 N7868 N7869
Queue	MW	Cost %	Cost \$																																			
AG1-061	8.73	21.06%	\$4,001,689																																			
AG1-087	32.72	78.94%	\$14,998,311																																			
Queue	MW	Cost %	Cost \$																																			
AG1-087	32.72	100.00%	\$250,000																																			
Queue	MW	Cost %	Cost \$																																			
AG1-061	8.73	21.06%	\$84,246																																			
AG1-087	32.72	78.94%	\$315,754																																			
182475560	2	PCHBTM1N 500.0 kV - FUR RUN_500 500.0 kV Ckt 1	ProjectId : pe028 (N7078) Description : Upgrade 5 disconnect switches, 6 station conductors, 1 relay, 1 amp meter and 1 line trap @ Peach Bottom Type : FAC Total Cost : \$3,000,000 Time Estimate : 16.0 Months Ratings : 2920.0/3707.0/4157.0 Notes : Per PJM CA rules, this upgrade stays in AF2 queue ProjectId: pe040 (n7802) Description: Expand Peach Bottom 500 kV station to build a new bus section. Rebuild 500 kV line between Peach Bottom and Furnace run with 1962 T-11 51/19 ACCR and connect the rebuilt line to the new bus section (The estimated cost is for PECO portion only, right of way/land cost not included) Type : CON Total Cost : \$63,000,000 Time Estimate : 84.0 Months Ratings : 4888.0/5040.0/5196.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>132.2</td><td>100.00%</td><td>\$63,000,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	132.2	100.00%	\$63,000,000	\$66,000,000	\$63,000,000	N7078 N7802																								
Queue	MW	Cost %	Cost \$																																			
AG1-087	132.2	100.00%	\$63,000,000																																			

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number												
165231690	3	KEEN_230 230.0 kV - HARMONY 230.0 kV Ckt 2	ProjectId: n7783 (dt23010r0001) Description : Rebuild Harmony - Keeney 230kV line. Rebuild will include installation of new poles, foundations, insulators, and conductor (Bundled 1590 ACSR). Type : FAC Total Cost : \$14,000,000 Time Estimate : 36-48 Months Ratings : 916.0/1035.0/1035 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>49.38</td><td>100.00%</td><td>\$14,000,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	49.38	100.00%	\$14,000,000	\$14,000,000	\$14,000,000	N7783				
Queue	MW	Cost %	Cost \$															
AG1-087	49.38	100.00%	\$14,000,000															
174376242	8	ROCKSPGS 500.0 kV - PCHBTM2S 500.0 kV Ckt 1	ProjectId: n7801 (pe041) Description : Expand Peach Bottom 500 kV station to build a new bus section. Rebuild 500 kV line between Peach Bottoms and Rock Springs with 1962 T-11 51/19 ACCR and connect the rebuilt line to the new bus section (The estimated cost is for PECO portion only, right of way/land cost not included) Type : CON Total Cost : \$75,000,000 Time Estimate : 84.0 Months Ratings : 4888.0/5040.0/5196.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>55.7</td><td>19.84%</td><td>\$14,882,437</td></tr><tr><td>AG1-087</td><td>225.0</td><td>80.16%</td><td>\$60,117,563</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-061	55.7	19.84%	\$14,882,437	AG1-087	225.0	80.16%	\$60,117,563	\$75,000,000	\$60,117,563	N7801
Queue	MW	Cost %	Cost \$															
AG1-061	55.7	19.84%	\$14,882,437															
AG1-087	225.0	80.16%	\$60,117,563															

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																												
166669849	29	TOWNSEND 138.0 kV - MIDLTNTP 138.0 kV Ckt 1	ProjectId: n7139 (ds13808r0003) Description: Upgrade terminal equipment at Townsend Substation Type: FAC Total Cost: \$300,000 Time Estimate: 12.0 Months Ratings: 390.0/482.0/482.0 Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw. ProjectId: n7140 (dt13808r0004) Description: Rebuild the 13808-1 line from Townsend - Middletown Tap with new poles, conductor, foundations, insulators, and OPGW. Terminal equipment at Townsend would also need to be upgraded Type : FAC Total Cost : \$7,500,000 Time Estimate : 36-48 Months Ratings : 548.0/698.0/698.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-313</td><td>8.36</td><td>5.34%</td><td>\$400,870</td></tr><tr><td>AF2-358</td><td>23.3</td><td>14.90%</td><td>\$1,117,256</td></tr><tr><td>AF2-385</td><td>15.35</td><td>9.81%</td><td>\$736,046</td></tr><tr><td>AG1-061</td><td>22.96</td><td>14.68%</td><td>\$1,100,953</td></tr><tr><td>AG1-072</td><td>16.33</td><td>10.44%</td><td>\$783,038</td></tr><tr><td>AG1-087</td><td>70.11</td><td>44.82%</td><td>\$3,361,837</td></tr></table> ProjectId: n6407 (dt13808r0001) Description: To mitigate the (DP&L) TOWNSEND to MIDLTNTP 138 kV line (from bus 232107 to bus 232106 Ckt 1) overload, it will require increasing the emergency rating of the Townsend to Middletown Tap 138 kV line by reconductoring a small portion of the line Type: FAC Total Cost: \$100,000 Time Estimate: 9-12 Months Ratings: 329.0/372.0/372.0 Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AE2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.	Queue	MW	Cost %	Cost \$	AF2-313	8.36	5.34%	\$400,870	AF2-358	23.3	14.90%	\$1,117,256	AF2-385	15.35	9.81%	\$736,046	AG1-061	22.96	14.68%	\$1,100,953	AG1-072	16.33	10.44%	\$783,038	AG1-087	70.11	44.82%	\$3,361,837	\$7,900,000	\$3,361,837	N7139 N7140 N6407
Queue	MW	Cost %	Cost \$																															
AF2-313	8.36	5.34%	\$400,870																															
AF2-358	23.3	14.90%	\$1,117,256																															
AF2-385	15.35	9.81%	\$736,046																															
AG1-061	22.96	14.68%	\$1,100,953																															
AG1-072	16.33	10.44%	\$783,038																															
AG1-087	70.11	44.82%	\$3,361,837																															

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																																				
167820106, 167820107	17	EDGEMR 5 230.0 kV - LINWOOD85 230.0 kV Ckt 1	ProjectId: n6925 (dt22085r0001) Description : To mitigate the (DPL) Edge Moor - (PECO) Linwood 230 kV line (from bus 231001 to 214236) overload it will require increasing the emergency rating of the Edge Moor - Linwood 230 kV line by rebuilding the line with new poles, foundations, insulators and OPGW Type : FAC Total Cost : \$20,000,000 Time Estimate : 36-48 Months Ratings : 828.0/924.0/924.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AE1-107</td><td>5.41</td><td>5.80%</td><td>\$1,159,327</td></tr><tr><td>AF2-193</td><td>16.93</td><td>18.14%</td><td>\$3,627,987</td></tr><tr><td>AF2-194</td><td>16.93</td><td>18.14%</td><td>\$3,627,987</td></tr><tr><td>AF2-358</td><td>8.97</td><td>9.61%</td><td>\$1,922,212</td></tr><tr><td>AF2-387</td><td>10.53</td><td>11.28%</td><td>\$2,256,509</td></tr><tr><td>AG1-061</td><td>9.75</td><td>10.45%</td><td>\$2,089,360</td></tr><tr><td>AG1-072</td><td>8.05</td><td>8.63%</td><td>\$1,725,062</td></tr><tr><td>AG1-087</td><td>16.76</td><td>17.96%</td><td>\$3,591,557</td></tr></table>	Queue	MW	Cost %	Cost \$	AE1-107	5.41	5.80%	\$1,159,327	AF2-193	16.93	18.14%	\$3,627,987	AF2-194	16.93	18.14%	\$3,627,987	AF2-358	8.97	9.61%	\$1,922,212	AF2-387	10.53	11.28%	\$2,256,509	AG1-061	9.75	10.45%	\$2,089,360	AG1-072	8.05	8.63%	\$1,725,062	AG1-087	16.76	17.96%	\$3,591,557	\$45,080,000	\$15,754,196	N6925 N7745 B2985
			Queue	MW	Cost %	Cost \$																																				
			AE1-107	5.41	5.80%	\$1,159,327																																				
AF2-193	16.93	18.14%	\$3,627,987																																							
AF2-194	16.93	18.14%	\$3,627,987																																							
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AF2-387	10.53	11.28%	\$2,256,509																																							
AG1-061	9.75	10.45%	\$2,089,360																																							
AG1-072	8.05	8.63%	\$1,725,062																																							
AG1-087	16.76	17.96%	\$3,591,557																																							
ProjectId: n7745 (pe024) Description : Rebuild 8.64 miles of 230 kV line from Linwood to Edgemoor with 2x1590 kcmil 54/19 ACSR Type : FAC Total Cost : \$25,080,000 Time Estimate : 36.0 Months Ratings : 816.0/964.0/1161.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>9.75</td><td>28.21%</td><td>\$7,075,521</td></tr><tr><td>AG1-072</td><td>8.05</td><td>23.29%</td><td>\$5,841,840</td></tr><tr><td>AG1-087</td><td>16.76</td><td>48.50%</td><td>\$12,162,639</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-061	9.75	28.21%	\$7,075,521	AG1-072	8.05	23.29%	\$5,841,840	AG1-087	16.76	48.50%	\$12,162,639																										
Queue	MW	Cost %	Cost \$																																							
AG1-061	9.75	28.21%	\$7,075,521																																							
AG1-072	8.05	23.29%	\$5,841,840																																							
AG1-087	16.76	48.50%	\$12,162,639																																							
ProjectId: (b2985) Description: 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. Type: CON Total Cost: \$0 Time Estimate: 0.0 Months Ratings: 650.0/805.0/805.0 Notes: Baseline upgrades do not receive Cost Allocation.																																										

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																		
166669864	28	MIDLTNTP 138.0 kV - MT PLSNT 138.0 kV Ckt 1	ProjectId : n7753 (ds13808r0002) Description : Upgrade circuit breaker and associated Current Transformers and Switches from 2000A to 3000A at Mt. Pleasant Substation Type : FAC Total Cost : \$400,000 Time Estimate : 12.0 Months Ratings : 390.0/482.0/482.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-072</td><td>16.33</td><td>18.89%</td><td>\$75,567</td></tr><tr><td>AG1-087</td><td>70.11</td><td>81.11%</td><td>\$324,433</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-072	16.33	18.89%	\$75,567	AG1-087	70.11	81.11%	\$324,433	\$8,010,000	\$4,460,228	N6450 N7141 N7753						
			Queue	MW	Cost %	Cost \$																		
			AG1-072	16.33	18.89%	\$75,567																		
AG1-087	70.11	81.11%	\$324,433																					
ProjectId: n6450 (dt13808r0002) Description : Partial Reconductor of 13808 line between Mt. Pleasant and Middletown Tap Type : FAC Total Cost : \$110,000 Time Estimate : 9-12 Months Ratings : 329.0/372.0/372.0 Notes : Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.																								
ProjectId: n7141 (dt13808r0003) Description : To mitigate the (DPL) Mt. Pleasant - Middletown Tap 138 kV line (from bus 232104 to 232106) overload is will require increasing the emergency rating of the line by rebuilding the line with new poles, conductor, foundations, insulators and OPGW. In addition, terminal upgrades will be required at Mt. Pleasant Type : FAC Total Cost : \$7,500,000 Time Estimate : 36-48 Months Ratings : 548.0/621.0/621.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-358</td><td>7.5</td><td>5.90%</td><td>\$442,426</td></tr><tr><td>AF2-385</td><td>15.35</td><td>12.07%</td><td>\$905,498</td></tr><tr><td>AF2-387</td><td>32.77</td><td>25.77%</td><td>\$1,933,105</td></tr><tr><td>AG1-072</td><td>1.41</td><td>1.11%</td><td>\$83,176</td></tr><tr><td>AG1-087</td><td>70.11</td><td>55.14%</td><td>\$4,135,795</td></tr></table>	Queue	MW	Cost %	Cost \$	AF2-358	7.5	5.90%	\$442,426	AF2-385	15.35	12.07%	\$905,498	AF2-387	32.77	25.77%	\$1,933,105	AG1-072	1.41	1.11%	\$83,176	AG1-087	70.11	55.14%	\$4,135,795
Queue	MW	Cost %	Cost \$																					
AF2-358	7.5	5.90%	\$442,426																					
AF2-385	15.35	12.07%	\$905,498																					
AF2-387	32.77	25.77%	\$1,933,105																					
AG1-072	1.41	1.11%	\$83,176																					
AG1-087	70.11	55.14%	\$4,135,795																					
167820126, 167820127	18	EDGE MR 5 230.0 kV - CLAY_230 230.0 kV Ckt 1	ProjectId : N7841 (dt23015r0001) Description : To mitigate the (DP&L) Edge Moor to Claymont 230 kV line (from bus 231000 to bus 231001 Ckt 1) overload, it will require increasing the emergency rating of the Edge Moor to Claymont 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, terminal equipment will need to be upgraded at Claymont and Edge Moor Substations Type : FAC Total Cost : \$23,000,000 Time Estimate : 36-48 Months Ratings : 1298.0/1603.0/1603.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>8.97</td><td>36.78%</td><td>\$8,458,795</td></tr><tr><td>AG1-087</td><td>15.42</td><td>63.22%</td><td>\$14,541,205</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-061	8.97	36.78%	\$8,458,795	AG1-087	15.42	63.22%	\$14,541,205	\$23,000,000	\$14,541,205	N7841						
Queue	MW	Cost %	Cost \$																					
AG1-061	8.97	36.78%	\$8,458,795																					
AG1-087	15.42	63.22%	\$14,541,205																					

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																				
182589154, 182625398	20	GLASGOW 138.0 kV - CECIL138 138.0 kV Ckt 1	ProjectId: n7044 (ds13810r0001) Description: To mitigate the (DPL) Glasgow - Cecil 138 kV line (from bus 231130 to 231124) overload it will require increasing the emergency rating of the line by upgrading terminal equipment at Glasgow Type: FAC Total Cost: \$100,000 Time Estimate: 9-12 Months Ratings: 478.0/478.0/478.0 Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw. ProjectId : n7043 (dt13810r0001) Description : 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. Type: FAC Total Cost: \$5,000,000 Time Estimate: 36-60 Months Ratings: 380.0/445.0/445.0 Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.	\$5,100,000	\$0	N7043 N7044																				
174169917	32	KENT 69.0 kV - NMEREDTH 69.0 kV Ckt 1	ProjectId: n7042 (dt6704r0001) Description : Rebuild 6704-2 Line from Kent to N. Meredith Tap. Upgrade disconnect switch @ N Meredith Type : FAC Total Cost : \$7,600,000 Time Estimate : 36-48 Months Ratings : 136.0/174.0/174.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-193</td><td>24.97</td><td>31.79%</td><td>\$2,415,939</td></tr><tr><td>AF2-194</td><td>24.97</td><td>31.79%</td><td>\$2,415,939</td></tr><tr><td>AG1-061</td><td>6.15</td><td>7.83%</td><td>\$595,035</td></tr><tr><td>AG1-087</td><td>22.46</td><td>28.59%</td><td>\$2,173,087</td></tr></table>	Queue	MW	Cost %	Cost \$	AF2-193	24.97	31.79%	\$2,415,939	AF2-194	24.97	31.79%	\$2,415,939	AG1-061	6.15	7.83%	\$595,035	AG1-087	22.46	28.59%	\$2,173,087	\$7,600,000	\$2,173,087	N7042
Queue	MW	Cost %	Cost \$																							
AF2-193	24.97	31.79%	\$2,415,939																							
AF2-194	24.97	31.79%	\$2,415,939																							
AG1-061	6.15	7.83%	\$595,035																							
AG1-087	22.46	28.59%	\$2,173,087																							
182476886	30	VIENN138 138.0 kV - VIENNA 230.0 kV Ckt 1	ProjectId: n7786 (dtx_vienna_AT21) Description: Install a 2nd 230/138kV Auto Transformer at Vienna Substation to alleviate overload on existing transformer. Upgrade not feasible due to already larger than standard transformer currently installed at Vienna. Would require expansion of Vienna Substation including a new 230kV ring bus to accommodate 2nd Auto Transformer. Type: FAC Total Cost: \$41,000,000 Time Estimate: 48-60 Months Ratings: N/A Notes: The driver is unknown and will be determined in future retools. The potential cost allocation table is as follows: <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>Unknown Driver</td><td>47.7</td><td>32.06%</td><td>\$13,143,145</td></tr><tr><td>AG1-061</td><td>40.36</td><td>27.12%</td><td>\$11,120,699</td></tr><tr><td>AG1-087</td><td>60.74</td><td>40.82%</td><td>\$16,736,156</td></tr></table>	Queue	MW	Cost %	Cost \$	Unknown Driver	47.7	32.06%	\$13,143,145	AG1-061	40.36	27.12%	\$11,120,699	AG1-087	60.74	40.82%	\$16,736,156	\$41,000,000	\$16,736,156	N7786				
Queue	MW	Cost %	Cost \$																							
Unknown Driver	47.7	32.06%	\$13,143,145																							
AG1-061	40.36	27.12%	\$11,120,699																							
AG1-087	60.74	40.82%	\$16,736,156																							

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																				
167820095, 167820096	16	CLAY_230 230.0 kV - LINWOOD84 230.0 kV Ckt 1	ProjectId : n7195 (pe025) Description : Rebuild 1.55 miles of 230 kV line from Linwood to Claymont with 2x1590 kcmil 54/19 ACSR Type : FAC Total Cost : \$4,500,000 Time Estimate : 36.0 Months Ratings : 816.0/964.0/1161.0 Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw. ProjectId : n6926 (dt22084r0001) Description : To mitigate the (DPL) Claymont - (PECO) Linwood line (from bus 213750 to 231000) overload, it will require increasing the emergency rating of the Claymont - Linwood 230 kV line by rebuilding the line with new poles, foundations, insulators and OPGW and replacing terminal equipment at Claymont Type : FAC Total Cost : \$7,100,000 Time Estimate : 36-48 Months Ratings : 1309.0/1620.0/1620.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AE1-107</td><td>5.65</td><td>13.66%</td><td>\$969,664</td></tr><tr><td>AG1-061</td><td>10.07</td><td>24.34%</td><td>\$1,728,233</td></tr><tr><td>AG1-072</td><td>8.33</td><td>20.14%</td><td>\$1,429,611</td></tr><tr><td>AG1-087</td><td>17.32</td><td>41.87%</td><td>\$2,972,492</td></tr></table>	Queue	MW	Cost %	Cost \$	AE1-107	5.65	13.66%	\$969,664	AG1-061	10.07	24.34%	\$1,728,233	AG1-072	8.33	20.14%	\$1,429,611	AG1-087	17.32	41.87%	\$2,972,492	\$11,600,000	\$2,972,492	N7195 N6926
Queue	MW	Cost %	Cost \$																							
AE1-107	5.65	13.66%	\$969,664																							
AG1-061	10.07	24.34%	\$1,728,233																							
AG1-072	8.33	20.14%	\$1,429,611																							
AG1-087	17.32	41.87%	\$2,972,492																							

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																								
166669854	27	CHURCH 138.0 kV - TOWNSEND 138.0 kV Ckt 1	ProjectId: n7102 (ds13833r0003) Description : 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, ds13833r002) at Church Substation. Type: FAC Total Cost: \$100,000 Time Estimate: 12-18 Months Ratings: 395.0/478.0/478.0 Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.	\$26,800,000	\$12,472,528	N7100 N7101 N7102 N7103																								
			ProjectId: n7101 (ds13833r0002) Description: 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. Type: FAC Total Cost: \$200,000 Time Estimate: 24.0 Months Ratings: 381.0/445.0/445.0 Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.																											
			ProjectId: n7100 (ds13833r0001) Description: 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. Type: FAC Total Cost: \$500,000 Time Estimate: 24-36 Months Ratings: 329.0/372.0/372.0 Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.																											
			ProjectId : n7103 (dt13833r0001) Description : To mitigate the (DP&L) CHURCH to TOWNSEND 138 kV line (from bus 232100 to bus 232107 Ckt 1) overload will require a rebuild of the 13833 Church to Townsend 138 kV Line along with substation reinforcements (on top of ds13833r001, ds13833r002, ds13833r003) at Church and Townsend Substations Type : FAC Total Cost : \$26,000,000 Time Estimate : 48-60 Months Ratings : 548.0/698.0/698.0																											
			<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-358</td><td>21.4</td><td>14.64%</td><td>\$3,807,048</td></tr><tr><td>AF2-385</td><td>15.35</td><td>10.50%</td><td>\$2,730,756</td></tr><tr><td>AG1-061</td><td>22.96</td><td>15.71%</td><td>\$4,084,571</td></tr><tr><td>AG1-072</td><td>16.33</td><td>11.17%</td><td>\$2,905,098</td></tr><tr><td>AG1-087</td><td>70.11</td><td>47.97%</td><td>\$12,472,528</td></tr></table>	Queue	MW	Cost %	Cost \$	AF2-358	21.4	14.64%	\$3,807,048	AF2-385	15.35	10.50%	\$2,730,756	AG1-061	22.96	15.71%	\$4,084,571	AG1-072	16.33	11.17%	\$2,905,098	AG1-087	70.11	47.97%	\$12,472,528			
Queue	MW	Cost %	Cost \$																											
AF2-358	21.4	14.64%	\$3,807,048																											
AF2-385	15.35	10.50%	\$2,730,756																											
AG1-061	22.96	15.71%	\$4,084,571																											
AG1-072	16.33	11.17%	\$2,905,098																											
AG1-087	70.11	47.97%	\$12,472,528																											

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																								
182681532, 174170075, 182682416	9	PCHBTM1S 500.0 kV - CNASTONE 500.0 kV Ckt 1	ProjectId : N7835 (BGE_2021_001) Description : Reconductor Peach Bottom-Conastone 500 kV line 16.4 miles with special 3M conductor and replace terminal equipment to achieve ratings equal to 500 kV bus at Peach Bottom South Type : FAC Total Cost : \$37,000,000 Time Estimate : 24 to 36 Months Ratings : 5730.0/7074.0/7074.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>45.22</td><td>19.90%</td><td>\$7,361,257</td></tr><tr><td>AG1-087</td><td>182.07</td><td>80.10%</td><td>\$29,638,743</td></tr></table> ProjectId : n7834 (pe043) Description : Expand Peach Bottom 500 kV station to build a new bus section. Rebuild 500 kV line between Peach Bottom and Conastone with 1962 T-11 51/19 ACCR and connect the rebuilt line to the new bus section (The estimated cost is for PECO portion only, right of way/land cost not included) Type : CON Total Cost : \$74,000,000 Time Estimate : 84.0 Months Ratings : 4888.0/5040.0/5196.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>45.22</td><td>19.90%</td><td>\$14,722,513</td></tr><tr><td>AG1-087</td><td>182.07</td><td>80.10%</td><td>\$59,277,487</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-061	45.22	19.90%	\$7,361,257	AG1-087	182.07	80.10%	\$29,638,743	Queue	MW	Cost %	Cost \$	AG1-061	45.22	19.90%	\$14,722,513	AG1-087	182.07	80.10%	\$59,277,487	\$111,000,000	\$88,916,230	N7834 N7835
Queue	MW	Cost %	Cost \$																											
AG1-061	45.22	19.90%	\$7,361,257																											
AG1-087	182.07	80.10%	\$29,638,743																											
Queue	MW	Cost %	Cost \$																											
AG1-061	45.22	19.90%	\$14,722,513																											
AG1-087	182.07	80.10%	\$59,277,487																											
167820046	1	CARTANZA 230.0 kV - SILVER RUN 230.0 kV Ckt 1	ProjectId : n7803 (SR004) Description : Replace terminal jumpers with double bundled 1590 ACSR (Lapwing) on Silver Run's Cartanza line terminal Type : FAC Total Cost : \$30,000 Time Estimate : 12.0 Months Ratings : 797.0/1052.0/1052.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>79.36</td><td>100.00%</td><td>\$30,000</td></tr></table> ProjectId : n7798 (dt23032r0001) Description : Rebuild Cartanza - Silver Run 230 kV line Type : FAC Total Cost : \$65,000,000 Time Estimate : 48-60 Months Ratings : 803.0/978.0/978.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>79.36</td><td>100.00%</td><td>\$65,000,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	79.36	100.00%	\$30,000	Queue	MW	Cost %	Cost \$	AG1-087	79.36	100.00%	\$65,000,000	\$65,030,000	\$65,030,000	N7798 N7803								
Queue	MW	Cost %	Cost \$																											
AG1-087	79.36	100.00%	\$30,000																											
Queue	MW	Cost %	Cost \$																											
AG1-087	79.36	100.00%	\$65,000,000																											
182619652, 174170047	34	AB2-037 TAP 230.0 kV - KEEN_230 230.0 kV Ckt 2	ProjectId : n7744 (dt23009r0001) Description : Rebuild approximately 2.98 mi. of Keeney - Steele 230kV line to upgrade existing conductor to bundled 1590 ACSR Type : FAC Total Cost : \$9,000,000 Time Estimate : 36-48 Months Ratings : 790.0/932.0/932.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>24.06</td><td>100.00%</td><td>\$9,000,000</td></tr></table> ProjectId : n7138 (ds23009r0001) Description : Upgrade relaying at Keeney Substation Type : FAC Total Cost : \$230,000 Time Estimate : 12.0 Months Ratings : 650.0/808.0/808.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-072</td><td>18.04</td><td>14.42%</td><td>\$33,167</td></tr><tr><td>AG1-087</td><td>107.06</td><td>85.58%</td><td>\$196,833</td></tr></table>	Queue	MW	Cost %	Cost \$	AG1-087	24.06	100.00%	\$9,000,000	Queue	MW	Cost %	Cost \$	AG1-072	18.04	14.42%	\$33,167	AG1-087	107.06	85.58%	\$196,833	\$9,230,000	\$9,196,833	N7744 N7138				
Queue	MW	Cost %	Cost \$																											
AG1-087	24.06	100.00%	\$9,000,000																											
Queue	MW	Cost %	Cost \$																											
AG1-072	18.04	14.42%	\$33,167																											
AG1-087	107.06	85.58%	\$196,833																											

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																																				
174170099, 174376318, 164868397	22	HOPE CREEK 230.0 kV - HOPE CRK 500.0 kV Ckt 1	ProjectId : r_PS_I025a_HC230500 (n7731) Description : Upgrade Hope Creek 500/230kV terminal equipment to achieve a SER of 1748 MVA Type : FAC Total Cost : \$1,670,000 Time Estimate : 15.0 Months Ratings : 1479.0/1748.0/ <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF1-000</td><td>47.4</td><td>14.66%</td><td>\$244,851</td></tr><tr><td>AG1-061</td><td>44.51</td><td>13.77%</td><td>\$229,923</td></tr><tr><td>AG1-072</td><td>13.33</td><td>4.12%</td><td>\$68,858</td></tr><tr><td>AG1-087</td><td>218.05</td><td>67.45%</td><td>\$1,126,368</td></tr></table>	Queue	MW	Cost %	Cost \$	AF1-000	47.4	14.66%	\$244,851	AG1-061	44.51	13.77%	\$229,923	AG1-072	13.33	4.12%	\$68,858	AG1-087	218.05	67.45%	\$1,126,368	\$1,670,000	\$1,126,368	N7731																
Queue	MW	Cost %	Cost \$																																							
AF1-000	47.4	14.66%	\$244,851																																							
AG1-061	44.51	13.77%	\$229,923																																							
AG1-072	13.33	4.12%	\$68,858																																							
AG1-087	218.05	67.45%	\$1,126,368																																							
182361082	31	VIENNA 8 138.0 kV - VIENN138 138.0 kV Ckt 1	ProjectId: n7090 (dt13710r0001) Description: To mitigate the (DPL) Vienna - Vienna 8 138 kV line (from bus 232116 to 232117) overload, it will require increasing the emergency rating of the Vienna - Vienna 8 138 kV line by rebuilding the line with new poles, foundations, insulators and OPGW and replacing terminal equipment at Vienna Type: FAC Total Cost: \$1,200,000 Time Estimate: 12-18 Months Ratings: 548.0/698.0/698.0. Notes: Per PJM cost allocation rules, this reinforcement cost is driven by previous AF2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.	\$1,200,000	\$0	N7090																																				
182424730, 182780098, 182816784, 182780540, 182816342, 182425172, 182778772, 182424288, 182815458	26 25 24	LSPWR CABLE 230.0 kV - HOPE CREEK 230.0 kV Ckt 1 LSPWR CABLE 230.0 kV - HOPE CREEK 230.0 kV Ckt 2 SILVER RUN 230.0 kV - LSPWR CABLE 230.0 kV Ckt 1	ProjectId : N7759 (SR001) Description : Install an additional submarine cable to each phase of the existing Silver Run to Hope Creek 230 kV line Type : FAC Total Cost : \$60,000,000 Time Estimate : 48-60 Months Ratings : 974.0/1195.0/1195.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF1-000</td><td>20.7</td><td>6.98%</td><td>\$4,187,599</td></tr><tr><td>AG1-061</td><td>44.51</td><td>15.01%</td><td>\$9,004,349</td></tr><tr><td>AG1-072</td><td>13.33</td><td>4.49%</td><td>\$2,696,652</td></tr><tr><td>AG1-087</td><td>218.05</td><td>73.52%</td><td>\$44,111,400</td></tr></table> ProjectId : N7760 (SR002) Description : Upgrade Silver Run's Hope Creek line terminal to 5000 amp and rerate overhead line conductor to operate at a higher conductor operating temperature Type : FAC Total Cost : \$1,000,000 Time Estimate : 12-18 Months Ratings : 1364.0/1614.0/1614.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-061</td><td>22.25</td><td>16.13%</td><td>\$161,314</td></tr><tr><td>AG1-072</td><td>6.66</td><td>4.83%</td><td>\$48,285</td></tr><tr><td>AG1-087</td><td>109.02</td><td>79.04%</td><td>\$790,401</td></tr></table>	Queue	MW	Cost %	Cost \$	AF1-000	20.7	6.98%	\$4,187,599	AG1-061	44.51	15.01%	\$9,004,349	AG1-072	13.33	4.49%	\$2,696,652	AG1-087	218.05	73.52%	\$44,111,400	Queue	MW	Cost %	Cost \$	AG1-061	22.25	16.13%	\$161,314	AG1-072	6.66	4.83%	\$48,285	AG1-087	109.02	79.04%	\$790,401	\$61,000,000	\$44,901,801	N7759 N7760
Queue	MW	Cost %	Cost \$																																							
AF1-000	20.7	6.98%	\$4,187,599																																							
AG1-061	44.51	15.01%	\$9,004,349																																							
AG1-072	13.33	4.49%	\$2,696,652																																							
AG1-087	218.05	73.52%	\$44,111,400																																							
Queue	MW	Cost %	Cost \$																																							
AG1-061	22.25	16.13%	\$161,314																																							
AG1-072	6.66	4.83%	\$48,285																																							
AG1-087	109.02	79.04%	\$790,401																																							

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																				
182552468	21	VIENNA 230.0 kV - STEELE 230.0 kV Ckt 1	ProjectId: n7109 (dt23085r0001) Description: Rebuild Vienna - Steele 230kV line. Rebuild will include installations of new poles, foundations, insulators, conductor and OPGW Type : FAC Total Cost : \$62,500,000 Time Estimate : 48-60 Months Ratings : 650/804/804 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-358</td><td>38.97</td><td>23.08%</td><td>\$14,423,077</td></tr><tr><td>AF2-385</td><td>28.8</td><td>17.05%</td><td>\$10,659,087</td></tr><tr><td>AG1-061</td><td>40.36</td><td>23.90%</td><td>\$14,937,526</td></tr><tr><td>AG1-087</td><td>60.74</td><td>35.97%</td><td>\$22,480,310</td></tr></table>	Queue	MW	Cost %	Cost \$	AF2-358	38.97	23.08%	\$14,423,077	AF2-385	28.8	17.05%	\$10,659,087	AG1-061	40.36	23.90%	\$14,937,526	AG1-087	60.74	35.97%	\$22,480,310	\$62,500,000	\$22,480,310	N7109
Queue	MW	Cost %	Cost \$																							
AF2-358	38.97	23.08%	\$14,423,077																							
AF2-385	28.8	17.05%	\$10,659,087																							
AG1-061	40.36	23.90%	\$14,937,526																							
AG1-087	60.74	35.97%	\$22,480,310																							
			TOTAL COST	\$875,751,872	\$614,902,178																					

Note: For customers with System Reinforcements listed: If your present cost allocation to a System Reinforcement indicates \$0, then please be aware that as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc, the cost responsibilities can change and a cost allocation may be assigned to your project. In addition, although your present cost allocation to a System Reinforcement is presently \$0, your project may need this system reinforcement completed to be deliverable to the PJM system. If your project comes into service prior to completion of the system reinforcement, an interim deliverability study for your project will be required.

11.7 Flow Gate Details

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

11.7.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
167820046	232003	CARTANZA	DP&L	232013	SILVER RUN	PJM	1	DPL_P1_2_CKT 23033-B	single	790.0	94.9	110.27	AC	118.77

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232616	GEN FOOD	2.49	80 50	2.49
232901	NORTHST	7.53	80 50	7.53
232922	MR3 (Deactivation : 01/06/2021)	101.8	80 50	101.8
233920	W3-032A-CTG1	31.61	80 50	31.61
233921	W3-032A-STG1	19.03	80 50	19.03
919831	AA2-069	450.13	80 50	450.13
962381	AG1-087 C O1	118.77	80 50	118.77
966281	AG1-497 C O1	83.84	80 50	83.84
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.1934	Confirmed LTF	0.1934
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.1451	Confirmed LTF	0.1451
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.3356	Confirmed LTF	0.3356
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.0961	Confirmed LTF	0.0961
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0677	Confirmed LTF	0.0677
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.0968	Confirmed LTF	0.0968
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.406	Confirmed LTF	0.406
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1056	Confirmed LTF	0.1056
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1117	Confirmed LTF	0.1117
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.1069	Confirmed LTF	0.1069
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.4994	Confirmed LTF	0.4994
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1076	Confirmed LTF	0.1076

11.7.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
182475560	200066	PCHBTM1N	PECO	270072	FUR RUN_500	PJM	1	PECO_P4_PEACH245/ * \$ CHESCO \$ PECO_P4_PEACH245 \$ STBK	breaker	3609.0	96.46	112.87	AC	168.56

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200034	PCHBTM 2	119.04	80 50	119.04
200035	PCHBTM 3	120.92	80 50	120.92
200052	ROCKSP 1	11.55	80 50	11.55
200053	ROCKSP 2	11.48	80 50	11.48
200054	ROCKSP 3	11.65	80 50	11.65
200055	ROCKSP 4	11.65	80 50	11.65
200062	SALEM G3	11.06	Adder	13.01
200203	Y1-065-STG	40.23	80 50	40.23
200204	Y1-065-CTG1	23.27	80 50	23.27
200205	Y1-065-CTG2	23.27	80 50	23.27
213792	MDYRN1-2	22.15	80 50	22.15
213793	MDYRN3-4	22.23	80 50	22.23
213794	MDYRN5-6	22.17	80 50	22.17
213795	MDYRN7-8	22.25	80 50	22.25
227801	ONTC&DCT	9.29	Adder	10.93
227842	MARINGEN	1.88	Adder	2.21
227881	GRENWCHG	0.41	Adder	0.48
227928	V4-067E	0.38	Adder	0.45
228102	BLE#2 ST (Deactivation : 30/04/2019)	36.72	Adder	43.2
228251	CARLLS#4	1.19	Adder	1.4
228261	V4-054E	1.53	Adder	1.8
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.42	Adder	0.49
228357	V2-046E	2.98	Adder	3.51
228712	V2-041E	0.62	Adder	0.73
228721	V2-035E	0.08	Adder	0.09
231903	GEN4	3.55	Adder	4.18
231904	DC1 NUG	9.2	Adder	10.82
231905	DC2 NUG	9.2	Adder	10.82
231911	HR5	8.06	80 50	8.06
231912	HR6	8.06	80 50	8.06
231913	HR7	8.06	80 50	8.06
231914	HR8	12.26	80 50	12.26
232405	W1-003 E	4.04	Adder	4.75
232407	W1-004 E	4.04	Adder	4.75
232409	W1-005 E	4.04	Adder	4.75
232411	W1-006 E	4.04	Adder	4.75
232412	X1-032 E	1.3	Adder	1.53
232418	X3-008 E	4.04	Adder	4.75
232423	X3-066 E	0.94	Adder	1.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232425	Y1-079 E	2.0	Adder	2.35
232427	Y1-080 E	0.68	Adder	0.8
232429	Y3-058 E	1.99	Adder	2.34
232433	Z2-076 E	0.65	Adder	0.76
232435	Z2-077 E	0.65	Adder	0.76
232851	DUP-SFR1	3.26	Adder	3.84
232922	MR3 (Deactivation : 01/06/2021)	33.15	Adder	39.0
233916	AB1-141 E	2.02	Adder	2.38
233919	AB1-142 E	2.02	Adder	2.38
233931	AB2-179 C	11.85	Adder	13.94
902092	W1-130E	1.39	Adder	1.64
902432	W2-030 E	1.45	Adder	1.71
917082	CHERRYDALE E	4.04	Adder	4.75
918835	AA1-102 E	30.33	Adder	35.68
919831	AA2-069	146.57	Adder	172.44
923921	AB2-032 C	4.35	Adder	5.12
923922	AB2-032 E	2.05	Adder	2.41
923951	AB2-036 C	11.29	Adder	13.28
923952	AB2-036 E	18.48	Adder	21.74
923961	AB2-037 C	29.61	80 50	29.61
923962	AB2-037 E	48.37	80 50	48.37
924051	AB2-049 C	0.28	Adder	0.33
924052	AB2-049 E	0.45	Adder	0.53
924531	AB2-102 C	56.39	Adder	66.34
924532	AB2-102 E	1.25	Adder	1.47
924801	AB2-133 C O1	7.85	Adder	9.24
924802	AB2-133 E O1	9.96	Adder	11.72
924821	AB2-135 C	9.58	Adder	11.27
924822	AB2-135 E	10.92	Adder	12.85
924831	AB2-136 C	8.08	Adder	9.51
924832	AB2-136 E	8.57	Adder	10.08
924971	AB2-153 C	2.43	Adder	2.86
924972	AB2-153 E	3.97	Adder	4.67
925151	AB2-172 C	6.19	Adder	7.28
925152	AB2-172 E	10.1	Adder	11.88
925254	AB2-179 E	3.87	Adder	4.55
925261	AB2-180 C	4.56	Adder	5.36
925262	AB2-180 E	1.96	Adder	2.31
926131	AC1-091 C	2.43	Adder	2.86
926132	AC1-091 E	3.99	Adder	4.69
926141	AC1-092 C	2.43	Adder	2.86
926142	AC1-092 E	3.99	Adder	4.69
926151	AC1-093 C	2.3	Adder	2.71
926152	AC1-093 E	3.8	Adder	4.47
926161	AC1-094 C	1.95	Adder	2.29
926162	AC1-094 E	3.21	Adder	3.78
927031	AC1-190 C	11.4	Adder	13.41
927032	AC1-190 E	4.89	Adder	5.75
927191	AC1-213 C (Withdrawn : 05/24/2021)	1.04	Adder	1.22
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.68	Adder	0.8

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	20.98	Adder	24.68
930202	AB1-056 E	59.75	Adder	70.29
930722	AB1-116 E	0.19	Adder	0.22
930732	AB1-119 E	0.18	Adder	0.21
931261	AB1-176 C	0.48	Adder	0.56
931262	AB1-176 E	0.8	Adder	0.94
932161	AC2-023 C	8.64	Adder	10.16
932162	AC2-023 E	6.29	Adder	7.4
933631	AC2-185 C	4.93	Adder	5.8
933632	AC2-185 E	8.05	Adder	9.47
933641	AC2-186 C	6.17	Adder	7.26
933642	AC2-186 E	10.07	Adder	11.85
933962	AD1-019 E	1.83	Adder	2.15
934661	AD1-097 1	2.58	Adder	3.04
934671	AD1-097 2	2.58	Adder	3.04
934681	AD1-097 3	2.57	Adder	3.02
934691	AD1-097 4	1.52	Adder	1.79
936452	AD2-059 E	0.24	Adder	0.28
936501	AD2-065 C	0.26	Adder	0.31
936502	AD2-065 E	0.36	Adder	0.42
936611	AD2-076 C O1	5.97	Adder	7.02
936612	AD2-076 E O1	9.75	Adder	11.47
937011	AD2-135 C	0.15	Adder	0.18
937012	AD2-135 E	0.25	Adder	0.29
938421	AE1-061 C	0.67	Adder	0.79
938422	AE1-061 E	0.67	Adder	0.79
938431	AE1-062 C	2.42	Adder	2.85
938651	AE1-087 C	5.21	Adder	6.13
938652	AE1-087 E	1.3	Adder	1.53
938781	AE1-104 C O1	34.04	Adder	40.05
938782	AE1-104 E O1	87.07	Adder	102.44
938814	AE1-107 C	9.68	Adder	11.39
938815	AE1-107 E	6.9	Adder	8.12
938871	AE1-115 C	2.47	Adder	2.91
938872	AE1-115 E	2.47	Adder	2.91
938895	AE1-117 C	15.64	Adder	18.4
938896	AE1-117 E	41.7	Adder	49.06
939151	AE1-145	6.52	Adder	7.67
939301	AE1-161 C	4.88	Adder	5.74
939302	AE1-161 E	7.32	Adder	8.61
939501	AE1-179 C O1	8.68	Adder	10.21
939502	AE1-179 E O1	6.13	Adder	7.21
939821	AE1-218 C O1	0.19	Adder	0.22
939822	AE1-218 E O1	0.29	Adder	0.34
939931	AE1-229 C O1	21.92	Adder	25.79
939932	AE1-229 E O1	14.85	Adder	17.47
940001	AE1-240 C O1	7.19	Adder	8.46
940002	AE1-240 E O1	5.13	Adder	6.04
940361	AE2-020 C	25.48	Adder	29.98
940362	AE2-020 E	119.32	Adder	140.38
940371	AE2-021 C	25.48	Adder	29.98
940372	AE2-021 E	119.32	Adder	140.38

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940381	AE2-022 C	14.87	Adder	17.49
940382	AE2-022 E	69.6	Adder	81.88
941021	AE2-093 C	5.44	Adder	6.4
941022	AE2-093 E	8.88	Adder	10.45
941181	AE2-112 C	2.07	Adder	2.44
941182	AE2-112 E	3.38	Adder	3.98
942101	AE2-222 C	20.28	Adder	23.86
942102	AE2-222 E	51.9	Adder	61.06
942381	AE2-251 C	80.73	Adder	94.98
942382	AE2-251 E	206.57	Adder	243.02
942441	AE2-257 C	10.75	Adder	12.65
942442	AE2-257 E	28.35	Adder	33.35
943071	AE2-334 C	6.45	Adder	7.59
943072	AE2-334 E	4.3	Adder	5.06
943361	AF1-007 C	0.62	Adder	0.73
943362	AF1-007 E	1.76	Adder	2.07
943441	AF1-015 C	2.05	Adder	2.41
943442	AF1-015 E	2.83	Adder	3.33
943651	AF1-036 C	2.69	Adder	3.16
943652	AF1-036 E	3.72	Adder	4.38
943732	AF1-041 E	0.58	Adder	0.68
944721	AF1-137 C O1	1.62	Adder	1.91
944722	AF1-137 E O1	1.07	Adder	1.26
944951	AF1-160 C	2.42	Adder	2.85
945091	AF1-174 C O1	3.3	Adder	3.88
945092	AF1-174 E O1	2.2	Adder	2.59
945431	AF1-208 C O1	6.68	Adder	7.86
945432	AF1-208 E O1	4.45	Adder	5.24
945661	AF1-231 C	2.48	Adder	2.92
945662	AF1-231 E	3.72	Adder	4.38
945731	AF1-238 C O1	12.65	Adder	14.88
945732	AF1-238 E O1	18.98	Adder	22.33
945741	AF1-239 C	2.98	Adder	3.51
945742	AF1-239 E	4.47	Adder	5.26
945791	AF1-244 (Withdrawn : 06/07/2021)	2.61	Adder	3.07
945931	AF1-258	1.04	Adder	1.22
945941	AF1-259	0.26	Adder	0.31
945971	AF1-262	0.22	Adder	0.26
957221	AF2-016 C	28.93	Adder	34.04
957222	AF2-016 E	43.39	Adder	51.05
957251	AF2-019 C	1.97	Adder	2.32
957252	AF2-019 E	2.96	Adder	3.48
957261	AF2-020 C	1.98	Adder	2.33
957262	AF2-020 E	2.97	Adder	3.49
957291	AF2-023 C	4.2	Adder	4.94
957292	AF2-023 E	6.3	Adder	7.41
957301	AF2-024 C	2.32	Adder	2.73
957302	AF2-024 E	3.48	Adder	4.09
957311	AF2-025 C	1.92	Adder	2.26
957312	AF2-025 E	2.89	Adder	3.4
957441	AF2-038 C (Withdrawn : 04/20/2021)	1.99	Adder	2.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957442	AF2-038 E (Withdrawn : 04/20/2021)	2.99	Adder	3.52
957611	AF2-055 C	11.41	Adder	13.42
957612	AF2-055 E	4.89	Adder	5.75
957661	AF2-060	2.93	Adder	3.45
957671	AF2-061 O1	13.04	Adder	15.34
959021	AF2-193 C	38.77	Adder	45.61
959022	AF2-193 E	104.59	Adder	123.05
959031	AF2-194 C	38.77	Adder	45.61
959032	AF2-194 E	104.59	Adder	123.05
959051	AF2-196 C	2.93	Adder	3.45
959052	AF2-196 E	6.84	Adder	8.05
959161	AF2-207 C O1	6.57	Adder	7.73
959162	AF2-207 E O1	9.86	Adder	11.6
959581	AF2-249 C	0.2	Adder	0.24
959582	AF2-249 E	0.78	Adder	0.92
959591	AF2-250 C	0.36	Adder	0.42
959592	AF2-250 E	0.28	Adder	0.33
960221	AF2-313 C	4.08	Adder	4.8
960222	AF2-313 E	2.31	Adder	2.72
960341	AF2-325 C	1.37	Adder	1.61
960342	AF2-325 E	1.89	Adder	2.22
960671	AF2-358 C O1	19.56	Adder	23.01
960672	AF2-358 E O1	13.04	Adder	15.34
960871	AF2-378 C	0.36	Adder	0.42
960872	AF2-378 E	0.5	Adder	0.59
960881	AF2-379 C	0.53	Adder	0.62
960882	AF2-379 E	0.74	Adder	0.87
960941	AF2-385 C	15.58	Adder	18.33
960942	AF2-385 E	8.87	Adder	10.44
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	32.64	Adder	38.4
961621	AG1-001 C	2.92	Adder	3.44
961622	AG1-001 E	4.76	Adder	5.6
962161	AG1-061 C O1	21.37	Adder	25.14
962162	AG1-061 E O1	14.25	Adder	16.76
962261	AG1-072	16.24	Adder	19.11
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.48	Adder	0.56
962381	AG1-087 C O1	38.75	Adder	45.59
962382	AG1-087 E O1	104.52	Adder	122.96
962611	AG1-110	4.84	Adder	5.69
962801	AG1-129 C O1	8.92	Adder	10.49
962802	AG1-129 E O1	5.95	Adder	7.0
963001	AG1-149 (Withdrawn : 06/07/2021)	0.98	Adder	1.15
963011	AG1-150	13.04	Adder	15.34
963092	AG1-158 E	3.97	Adder	4.67
964001	AG1-254 C	6.23	Adder	7.33
964002	AG1-254 E	3.13	Adder	3.68
964011	AG1-255 C	9.06	Adder	10.66
964012	AG1-255 E	4.52	Adder	5.32
964371	AG1-299 C	0.45	Adder	0.53

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
964372	AG1-299 E	0.3	Adder	0.35
964381	AG1-300 C	0.75	Adder	0.88
964382	AG1-300 E	0.5	Adder	0.59
964551	AG1-318 C	0.1	Adder	0.12
964552	AG1-318 E	0.23	Adder	0.27
964962	AG1-360 E	2.85	Adder	3.35
965321	AG1-397 C	1.37	Adder	1.61
965322	AG1-397 E	1.88	Adder	2.21
965611	AG1-429 C O1	11.5	Adder	13.53
965612	AG1-429 E O1	7.66	Adder	9.01
965821	AG1-450	8.15	Adder	9.59
965921	AG1-461 C O1	6.35	Adder	7.47
965922	AG1-461 E O1	3.42	Adder	4.02
965951	AG1-464 C O1	6.49	Adder	7.64
965952	AG1-464 E O1	9.74	Adder	11.46
966071	AG1-476	7.94	Adder	9.34
966281	AG1-497 C O1	27.3	Adder	32.12
966282	AG1-497 E O1	11.7	Adder	13.76
966301	AG1-499 C	1.84	Adder	2.16
966302	AG1-499 E	1.22	Adder	1.44
966601	AG1-529 C	15.91	Adder	18.72
966602	AG1-529 E	8.49	Adder	9.99
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	7.8623	Confirmed LTF	7.8623
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	6.3595	Confirmed LTF	6.3595
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	13.6068	Confirmed LTF	13.6068
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	4.0214	Confirmed LTF	4.0214
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	2.9064	Confirmed LTF	2.9064
LTFEXP_CBM-N	LTFEXP_CBM-N->LTFIMP_CBM-N	19.4096	LTF/CBM	19.4096
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	4.0533	Confirmed LTF	4.0533
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	16.8097	Confirmed LTF	16.8097
LTFEXP_G-007A	LTFEXP_G-007A->LTFIMP_G-007A	47.5645	LTF/CMTX	47.5645
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	4.2785	Confirmed LTF	4.2785
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	4.856	Confirmed LTF	4.856
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	20.3818	Confirmed LTF	20.3818
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	4.3604	Confirmed LTF	4.3604
LTFEXP_VFT	LTFEXP_VFT->LTFIMP_VFT	118.1444	Confirmed LTF	118.1444

11.7.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
165231690	231003	KEEN_230	DP&L	231002	HARMONY	DP&L	2	DPL_P7_1_DBL_3NC	tower	804.0	98.71	103.9	AC	49.38

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.26	80 50	0.26
232405	W1-003 E	1.46	80 50	1.46
232406	W1-004 C	0.26	80 50	0.26
232407	W1-004 E	1.46	80 50	1.46
232408	W1-005 C	0.26	80 50	0.26
232409	W1-005 E	1.46	80 50	1.46
232410	W1-006 C	0.26	80 50	0.26
232411	W1-006 E	1.46	80 50	1.46
232412	X1-032 E	0.47	80 50	0.47
232417	X3-008 C	0.15	80 50	0.15
232418	X3-008 E	1.47	80 50	1.47
232423	X3-066 E	0.23	Adder	0.27
232425	Y1-079 E	0.55	Adder	0.65
232426	Y1-080 FULL	0.03	80 50	0.03
232427	Y1-080 E	0.25	80 50	0.25
232428	Y3-058 C	0.11	80 50	0.11
232429	Y3-058 E	0.72	80 50	0.72
232433	Z2-076 E	0.2	Adder	0.24
232435	Z2-077 E	0.2	Adder	0.24
232851	DUP-SFR1	0.97	Adder	1.14
232907	VN8	3.07	80 50	3.07
232912	OH NUG1	0.69	80 50	0.69
232914	OH NUG3	0.69	80 50	0.69
232915	OH NUG4	0.69	80 50	0.69
232916	OH NUG5	0.69	80 50	0.69
232919	VN10	0.22	80 50	0.22
232922	MR3 (Deactivation : 01/06/2021)	9.02	Adder	10.61
232926	CRISFLD1	0.19	80 50	0.19
233916	AB1-141 E	0.45	Adder	0.53
233919	AB1-142 E	0.45	Adder	0.53
233923	AA1-102 C	1.11	80 50	1.11
917082	CHERRYDALE E	1.24	Adder	1.46
918835	AA1-102 E	11.04	80 50	11.04
919831	AA2-069	39.89	Adder	46.93
923921	AB2-032 C	0.98	Adder	1.15
923922	AB2-032 E	0.46	Adder	0.54
923951	AB2-036 C	3.19	Adder	3.75
923952	AB2-036 E	5.22	Adder	6.14
923961	AB2-037 C	10.58	80 50	10.58
923962	AB2-037 E	17.28	80 50	17.28
924801	AB2-133 C O1	1.67	Adder	1.96
924802	AB2-133 E O1	2.11	Adder	2.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924821	AB2-135 C	2.14	Adder	2.52
924822	AB2-135 E	2.44	Adder	2.87
924831	AB2-136 C	2.95	80 50	2.95
924832	AB2-136 E	3.13	80 50	3.13
924971	AB2-153 C	0.55	Adder	0.65
924972	AB2-153 E	0.89	Adder	1.05
925151	AB2-172 C	2.25	80 50	2.25
925152	AB2-172 E	3.68	80 50	3.68
925261	AB2-180 C	1.66	80 50	1.66
925262	AB2-180 E	0.71	80 50	0.71
926131	AC1-091 C	0.63	Adder	0.74
926132	AC1-091 E	1.04	Adder	1.22
926141	AC1-092 C	0.63	Adder	0.74
926142	AC1-092 E	1.04	Adder	1.22
926151	AC1-093 C	0.6	Adder	0.71
926152	AC1-093 E	0.99	Adder	1.16
926161	AC1-094 C	0.51	Adder	0.6
926162	AC1-094 E	0.84	Adder	0.99
927031	AC1-190 C	4.15	80 50	4.15
927032	AC1-190 E	1.78	80 50	1.78
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.32	Adder	0.38
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.21	Adder	0.25
930201	AB1-056 C	6.29	Adder	7.4
930202	AB1-056 E	17.92	Adder	21.08
931261	AB1-176 C	0.12	Adder	0.14
931262	AB1-176 E	0.19	Adder	0.22
932161	AC2-023 C	3.14	80 50	3.14
932162	AC2-023 E	2.29	80 50	2.29
933631	AC2-185 C	1.28	Adder	1.51
933632	AC2-185 E	2.09	Adder	2.46
933641	AC2-186 C	1.73	Adder	2.04
933642	AC2-186 E	2.82	Adder	3.32
934661	AD1-097 1	-1.75	Adder	-2.06
934671	AD1-097 2	-1.75	Adder	-2.06
934681	AD1-097 3	-1.75	Adder	-2.06
934691	AD1-097 4	-1.03	Adder	-1.21
936453	AD2-059 BAT	0.44	80 50	0.44
936611	AD2-076 C O1	1.42	Adder	1.67
936612	AD2-076 E O1	2.32	Adder	2.73
938651	AE1-087 C	1.9	80 50	1.9
938652	AE1-087 E	0.47	80 50	0.47
938895	AE1-117 C	4.7	Adder	5.53
938896	AE1-117 E	12.53	Adder	14.74
939151	AE1-145	2.01	Adder	2.36
941021	AE2-093 C	2.01	80 50	2.01
941022	AE2-093 E	3.28	80 50	3.28
941181	AE2-112 C	0.49	Adder	0.58
941182	AE2-112 E	0.8	Adder	0.94
942441	AE2-257 C	3.23	Adder	3.8
942442	AE2-257 E	8.51	Adder	10.01
943361	AF1-007 C	0.19	Adder	0.22

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943362	AF1-007 E	0.53	Adder	0.62
943441	AF1-015 C	0.76	80 50	0.76
943442	AF1-015 E	1.04	80 50	1.04
943651	AF1-036 C	0.64	Adder	0.75
943652	AF1-036 E	0.88	Adder	1.04
945661	AF1-231 C	0.76	Adder	0.89
945662	AF1-231 E	1.14	Adder	1.34
945791	AF1-244 (Withdrawn : 06/07/2021)	0.95	80 50	0.95
945931	AF1-258	0.38	80 50	0.38
945941	AF1-259	0.06	Adder	0.07
957443	AF2-038 BAT (Withdrawn : 04/20/2021)	2.72	80 50	2.72
957611	AF2-055 C	3.51	Adder	4.13
957612	AF2-055 E	1.5	Adder	1.76
957661	AF2-060	0.9	Adder	1.06
957671	AF2-061 O1	4.01	Adder	4.72
959021	AF2-193 C	11.63	Adder	13.68
959022	AF2-193 E	31.37	Adder	36.91
959031	AF2-194 C	11.63	Adder	13.68
959032	AF2-194 E	31.37	Adder	36.91
959051	AF2-196 C	0.88	Adder	1.04
959052	AF2-196 E	2.06	Adder	2.42
959161	AF2-207 C O1	2.02	Adder	2.38
959162	AF2-207 E O1	3.02	Adder	3.55
959581	AF2-249 C	0.06	Adder	0.07
959582	AF2-249 E	0.24	Adder	0.28
959591	AF2-250 C	0.11	Adder	0.13
959592	AF2-250 E	0.09	Adder	0.11
960221	AF2-313 C	0.99	Adder	1.16
960222	AF2-313 E	0.56	Adder	0.66
960341	AF2-325 C	0.5	80 50	0.5
960342	AF2-325 E	0.69	80 50	0.69
960671	AF2-358 C O1	7.17	80 50	7.17
960672	AF2-358 E O1	4.78	80 50	4.78
960871	AF2-378 C	0.13	80 50	0.13
960872	AF2-378 E	0.18	80 50	0.18
960881	AF2-379 C	0.19	80 50	0.19
960882	AF2-379 E	0.27	80 50	0.27
960941	AF2-385 C	4.78	Adder	5.62
960942	AF2-385 E	2.72	Adder	3.2
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	12.23	80 50	12.23
962161	AG1-061 C O1	6.55	Adder	7.71
962162	AG1-061 E O1	4.36	Adder	5.13
962261	AG1-072	4.91	Adder	5.78
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.12	Adder	0.14
962381	AG1-087 C O1	11.35	Adder	13.35
962382	AG1-087 E O1	30.62	Adder	36.02
963001	AG1-149 (Withdrawn : 06/07/2021)	0.36	80 50	0.36
963011	AG1-150	4.01	Adder	4.72

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
964551	AG1-318 C	0.03	Adder	0.04
964552	AG1-318 E	0.07	Adder	0.08
964962	AG1-360 E	1.04	80 50	1.04
965321	AG1-397 C	0.42	Adder	0.49
965322	AG1-397 E	0.58	Adder	0.68
965611	AG1-429 C O1	3.54	Adder	4.16
965612	AG1-429 E O1	2.36	Adder	2.78
965821	AG1-450	2.99	80 50	2.99
965921	AG1-461 C O1	1.92	Adder	2.26
965922	AG1-461 E O1	1.03	Adder	1.21
965951	AG1-464 C O1	1.82	Adder	2.14
965952	AG1-464 E O1	2.73	Adder	3.21
966281	AG1-497 C O1	7.43	Adder	8.74
966282	AG1-497 E O1	3.18	Adder	3.74
966601	AG1-529 C	4.63	Adder	5.45
966602	AG1-529 E	2.47	Adder	2.91
LTFEXP_AA2-074	LTFEXP_AA2-074->LTFIMP_AA2-074	0.2691	Confirmed LTF	0.2691
LTFEXP_CBM-S1	LTFEXP_CBM-S1->LTFIMP_CBM-S1	0.2047	LTF/CBM	0.2047
LTFEXP_CBM-S2	LTFEXP_CBM-S2->LTFIMP_CBM-S2	6.0171	LTF/CBM	6.0171
LTFEXP_CBM-W1	LTFEXP_CBM-W1->LTFIMP_CBM-W1	7.2116	LTF/CBM	7.2116
LTFEXP_CBM-W2	LTFEXP_CBM-W2->LTFIMP_CBM-W2	4.7787	LTF/CBM	4.7787
LTFEXP_CPLE	LTFEXP_CPLE->LTFIMP_CPLE	0.4038	Confirmed LTF	0.4038
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	1.4313	LTF/CMTX NF	1.4313
LTFEXP_LAGN	LTFEXP_LAGN->LTFIMP_LAGN	0.946	Confirmed LTF	0.946
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019->LTFIMP_LGE-0012019	0.0051	Confirmed LTF	0.0051
LTFEXP_LGEE	LTFEXP_LGEE->LTFIMP_LGEE	0.3286	Confirmed LTF	0.3286
LTFEXP_MEC	LTFEXP_MEC->LTFIMP_MEC	0.8327	Confirmed LTF	0.8327
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.4987	Confirmed LTF	0.4987
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	9.1832	LTF/CMTX NF	9.1832
LTFEXP_SIGE	LTFEXP_SIGE->LTFIMP_SIGE	0.055	Confirmed LTF	0.055
LTFEXP_TVA	LTFEXP_TVA->LTFIMP_TVA	0.759	Confirmed LTF	0.759
LTFEXP_WEC	LTFEXP_WEC->LTFIMP_WEC	0.1635	Confirmed LTF	0.1635

11.7.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174170115	232013	SILVER RUN	PJM	231004	RL_230	PJM	2	DPL_P4-2_DP11	breaker	790.0	85.74	102.57	AC	130.26

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	2.86	Adder	3.36
232407	W1-004 E	2.86	Adder	3.36
232409	W1-005 E	2.86	Adder	3.36
232411	W1-006 E	2.86	Adder	3.36
232412	X1-032 E	0.92	Adder	1.08
232418	X3-008 E	1.88	Adder	2.21
232427	Y1-080 E	0.4	Adder	0.47
232429	Y3-058 E	1.34	Adder	1.58
232433	Z2-076 E	0.48	Adder	0.56
232435	Z2-077 E	0.48	Adder	0.56
232616	GEN FOOD	0.77	80 50	0.77
232851	DUP-SFR1	2.29	Adder	2.69
232899	W1-062	2.26	80 50	2.26
232901	NORTHST	2.33	80 50	2.33
232904	IR4	19.25	80 50	19.25
232920	IR10	0.75	80 50	0.75
232922	MR3 (Deactivation : 01/06/2021)	31.52	80 50	31.52
233920	W3-032A-CTG1	9.79	80 50	9.79
233921	W3-032A-STG1	5.89	80 50	5.89
917082	CHERRYDALE E	2.86	Adder	3.36
918835	AA1-102 E	21.31	Adder	25.07
919831	AA2-069	139.37	80 50	139.37
924831	AB2-136 C	4.27	Adder	5.02
924832	AB2-136 E	4.52	Adder	5.32
925151	AB2-172 C	2.88	Adder	3.39
925152	AB2-172 E	4.7	Adder	5.53
925261	AB2-180 C	3.07	Adder	3.61
925262	AB2-180 E	1.31	Adder	1.54
926131	AC1-091 C	2.24	80 50	2.24
926132	AC1-091 E	3.67	80 50	3.67
926141	AC1-092 C	2.24	80 50	2.24
926142	AC1-092 E	3.67	80 50	3.67
926151	AC1-093 C	2.12	80 50	2.12
926152	AC1-093 E	3.49	80 50	3.49
926161	AC1-094 C	1.79	80 50	1.79
926162	AC1-094 E	2.96	80 50	2.96
927031	AC1-190 C	5.43	Adder	6.39
927032	AC1-190 E	2.33	Adder	2.74
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.72	Adder	0.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.47	Adder	0.55
930201	AB1-056 C	18.34	80 50	18.34
930202	AB1-056 E	52.24	80 50	52.24
932161	AC2-023 C	5.71	Adder	6.72
932162	AC2-023 E	4.16	Adder	4.89
933631	AC2-185 C	4.54	80 50	4.54
933632	AC2-185 E	7.41	80 50	7.41
933641	AC2-186 C	4.17	Adder	4.91
933642	AC2-186 E	6.8	Adder	8.0
938651	AE1-087 C	2.43	Adder	2.86
938652	AE1-087 E	0.61	Adder	0.72
938895	AE1-117 C	13.54	80 50	13.54
938896	AE1-117 E	36.1	80 50	36.1
939151	AE1-145	4.62	Adder	5.44
942441	AE2-257 C	9.32	80 50	9.32
942442	AE2-257 E	24.57	80 50	24.57
943361	AF1-007 C	0.54	80 50	0.54
943362	AF1-007 E	1.54	80 50	1.54
945661	AF1-231 C	1.75	Adder	2.06
945662	AF1-231 E	2.63	Adder	3.09
945791	AF1-244 (Withdrawn : 06/07/2021)	1.83	Adder	2.15
945931	AF1-258	0.7	Adder	0.82
957611	AF2-055 C	8.08	Adder	9.51
957612	AF2-055 E	3.46	Adder	4.07
957661	AF2-060	2.08	Adder	2.45
957671	AF2-061 O1	9.24	Adder	10.87
959021	AF2-193 C	33.9	80 50	33.9
959022	AF2-193 E	91.43	80 50	91.43
959031	AF2-194 C	33.9	80 50	33.9
959032	AF2-194 E	91.43	80 50	91.43
959051	AF2-196 C	2.54	80 50	2.54
959052	AF2-196 E	5.93	80 50	5.93
959161	AF2-207 C O1	4.55	Adder	5.35
959162	AF2-207 E O1	6.82	Adder	8.02
959581	AF2-249 C	0.14	Adder	0.16
959582	AF2-249 E	0.54	Adder	0.64
959591	AF2-250 C	0.25	Adder	0.29
959592	AF2-250 E	0.19	Adder	0.22
960341	AF2-325 C	0.69	Adder	0.81
960342	AF2-325 E	0.96	Adder	1.13
960671	AF2-358 C O1	11.54	Adder	13.58
960672	AF2-358 E O1	7.69	Adder	9.05
960871	AF2-378 C	0.19	Adder	0.22
960872	AF2-378 E	0.26	Adder	0.31
960881	AF2-379 C	0.37	Adder	0.44
960882	AF2-379 E	0.51	Adder	0.6
960941	AF2-385 C	10.79	Adder	12.69
960942	AF2-385 E	6.14	Adder	7.22
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	22.07	Adder	25.96
962161	AG1-061 C O1	14.11	Adder	16.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962162	AG1-061 E O1	9.41	Adder	11.07
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.18	Adder	0.21
962381	AG1-087 C O1	35.23	80 50	35.23
962382	AG1-087 E O1	95.03	80 50	95.03
963001	AG1-149 (Withdrawn : 06/07/2021)	0.69	Adder	0.81
963011	AG1-150	9.24	Adder	10.87
964551	AG1-318 C	0.08	80 50	0.08
964552	AG1-318 E	0.2	80 50	0.2
964962	AG1-360 E	2.01	Adder	2.36
965321	AG1-397 C	0.96	Adder	1.13
965322	AG1-397 E	1.32	Adder	1.55
965611	AG1-429 C O1	8.14	Adder	9.58
965612	AG1-429 E O1	5.43	Adder	6.39
965821	AG1-450	4.81	Adder	5.66
965921	AG1-461 C O1	4.47	Adder	5.26
965922	AG1-461 E O1	2.41	Adder	2.84
965951	AG1-464 C O1	4.39	Adder	5.16
965952	AG1-464 E O1	6.58	Adder	7.74
966281	AG1-497 C O1	25.96	80 50	25.96
966282	AG1-497 E O1	11.12	80 50	11.12
966601	AG1-529 C	13.88	80 50	13.88
966602	AG1-529 E	7.41	80 50	7.41
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.4448	Confirmed LTF	0.4448
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.3604	Confirmed LTF	0.3604
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.7697	Confirmed LTF	0.7697
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.2277	Confirmed LTF	0.2277
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.1646	Confirmed LTF	0.1646
LTFEXP_CBM-N	LTFEXP_CBM-N->LTFIMP_CBM-N	0.8539	LTF/CBM	0.8539
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.2295	Confirmed LTF	0.2295
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.9514	Confirmed LTF	0.9514
LTFEXP_G-007A	LTFEXP_G-007A->LTFIMP_G-007A	2.5814	LTF/CMTX	2.5814
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.242	Confirmed LTF	0.242
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.2751	Confirmed LTF	0.2751
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	1.1532	Confirmed LTF	1.1532
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.2467	Confirmed LTF	0.2467
LTFEXP_VFT	LTFEXP_VFT->LTFIMP_VFT	5.8313	Confirmed LTF	5.8313

11.7.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174170053	232112	FELTON	DP&L	232110	CHESWOLD	DP&L	1	DPL_P4-2_DP11	breaker	242.0	90.2	104.74	AC	43.42

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231940	T-011	0.09	80 50	0.09
232405	W1-003 E	1.29	Adder	1.52
232407	W1-004 E	1.29	Adder	1.52
232409	W1-005 E	1.29	Adder	1.52
232411	W1-006 E	1.29	Adder	1.52
232412	X1-032 E	0.49	80 50	0.49
232418	X3-008 E	0.9	Adder	1.06
232427	Y1-080 E	0.19	Adder	0.22
232428	Y3-058 C	0.11	80 50	0.11
232429	Y3-058 E	0.75	80 50	0.75
232432	Z2-076 C	0.08	80 50	0.08
232433	Z2-076 E	0.26	80 50	0.26
232434	Z2-077 C	0.08	80 50	0.08
232435	Z2-077 E	0.26	80 50	0.26
232851	DUP-SFR1	1.74	80 50	1.74
232920	IR10	0.33	80 50	0.33
232921	TASLEY2G	0.47	80 50	0.47
232922	MR3 (Deactivation : 01/06/2021)	4.91	Adder	5.78
232926	CRISFLD1	0.2	80 50	0.2
233923	AA1-102 C	1.14	80 50	1.14
293670	O-025 C	0.12	80 50	0.12
917082	CHERRYDALE E	1.29	Adder	1.52
918835	AA1-102 E	11.37	80 50	11.37
919831	AA2-069	21.7	Adder	25.53
924831	AB2-136 C	2.06	Adder	2.42
924832	AB2-136 E	2.18	Adder	2.56
925151	AB2-172 C	1.39	Adder	1.64
925152	AB2-172 E	2.26	Adder	2.66
925261	AB2-180 C	1.72	80 50	1.72
925262	AB2-180 E	0.74	80 50	0.74
927031	AC1-190 C	2.62	Adder	3.08
927032	AC1-190 E	1.12	Adder	1.32
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.4	80 50	0.4
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.26	80 50	0.26
930201	AB1-056 C	6.61	Adder	7.78
930202	AB1-056 E	18.84	Adder	22.16
932161	AC2-023 C	2.73	Adder	3.21
932162	AC2-023 E	1.99	Adder	2.34
933641	AC2-186 C	2.8	80 50	2.8

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933642	AC2-186 E	4.57	80 50	4.57
938651	AE1-087 C	1.17	Adder	1.38
938652	AE1-087 E	0.29	Adder	0.34
938895	AE1-117 C	6.1	80 50	6.1
938896	AE1-117 E	16.27	80 50	16.27
939151	AE1-145	2.45	80 50	2.45
942441	AE2-257 C	4.17	80 50	4.17
942442	AE2-257 E	11.0	80 50	11.0
943361	AF1-007 C	0.2	Adder	0.24
943362	AF1-007 E	0.55	Adder	0.65
945661	AF1-231 C	0.79	Adder	0.93
945662	AF1-231 E	1.18	Adder	1.39
945791	AF1-244 (Withdrawn : 06/07/2021)	0.98	80 50	0.98
945931	AF1-258	0.39	80 50	0.39
957611	AF2-055 C	3.64	Adder	4.28
957612	AF2-055 E	1.56	Adder	1.84
957661	AF2-060	1.1	80 50	1.1
957671	AF2-061 O1	4.89	80 50	4.89
959021	AF2-193 C	12.22	Adder	14.38
959022	AF2-193 E	32.97	Adder	38.79
959031	AF2-194 C	12.22	Adder	14.38
959032	AF2-194 E	32.97	Adder	38.79
959051	AF2-196 C	1.14	80 50	1.14
959052	AF2-196 E	2.66	80 50	2.66
959161	AF2-207 C O1	2.68	80 50	2.68
959162	AF2-207 E O1	4.01	80 50	4.01
959581	AF2-249 C	0.08	80 50	0.08
959582	AF2-249 E	0.31	80 50	0.31
959591	AF2-250 C	0.14	80 50	0.14
959592	AF2-250 E	0.11	80 50	0.11
960341	AF2-325 C	0.33	Adder	0.39
960342	AF2-325 E	0.46	Adder	0.54
960671	AF2-358 C O1	5.59	Adder	6.58
960672	AF2-358 E O1	3.73	Adder	4.39
960871	AF2-378 C	0.09	Adder	0.11
960872	AF2-378 E	0.13	Adder	0.15
960881	AF2-379 C	0.2	80 50	0.2
960882	AF2-379 E	0.28	80 50	0.28
960941	AF2-385 C	6.34	80 50	6.34
960942	AF2-385 E	3.61	80 50	3.61
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	10.34	Adder	12.16
962161	AG1-061 C O1	8.76	80 50	8.76
962162	AG1-061 E O1	5.84	80 50	5.84
962381	AG1-087 C O1	9.98	Adder	11.74
962382	AG1-087 E O1	26.92	Adder	31.67
963001	AG1-149 (Withdrawn : 06/07/2021)	0.37	80 50	0.37
963011	AG1-150	4.89	80 50	4.89
964551	AG1-318 C	0.04	80 50	0.04
964552	AG1-318 E	0.09	80 50	0.09
964962	AG1-360 E	1.07	80 50	1.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965321	AG1-397 C	0.53	80 50	0.53
965322	AG1-397 E	0.73	80 50	0.73
965611	AG1-429 C O1	3.66	Adder	4.31
965612	AG1-429 E O1	2.44	Adder	2.87
965821	AG1-450	2.33	Adder	2.74
965921	AG1-461 C O1	2.76	80 50	2.76
965922	AG1-461 E O1	1.49	80 50	1.49
965951	AG1-464 C O1	2.95	80 50	2.95
965952	AG1-464 E O1	4.43	80 50	4.43
966281	AG1-497 C O1	4.04	Adder	4.75
966282	AG1-497 E O1	1.73	Adder	2.04
966601	AG1-529 C	10.06	80 50	10.06
966602	AG1-529 E	5.37	80 50	5.37
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.0652	Confirmed LTF	0.0652
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.049	Confirmed LTF	0.049
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.113	Confirmed LTF	0.113
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.0324	Confirmed LTF	0.0324
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0228	Confirmed LTF	0.0228
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.0326	Confirmed LTF	0.0326
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.1368	Confirmed LTF	0.1368
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.0604	LTF/CMTX NF	0.0604
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.0356	Confirmed LTF	0.0356
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.0377	Confirmed LTF	0.0377
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0337	Confirmed LTF	0.0337
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.3973	LTF/CMTX NF	0.3973
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.1682	Confirmed LTF	0.1682
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.0362	Confirmed LTF	0.0362

11.7.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174170024	232114	SHARNGTN	DP&L	232112	FELTON	DP&L	1	DPL_P4-2_DP11	breaker	242.0	98.34	112.9	AC	43.42

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231940	T-011	0.09	80 50	0.09
232405	W1-003 E	1.29	Adder	1.52
232407	W1-004 E	1.29	Adder	1.52
232409	W1-005 E	1.29	Adder	1.52
232411	W1-006 E	1.29	Adder	1.52
232412	X1-032 E	0.49	80 50	0.49
232418	X3-008 E	0.9	Adder	1.06
232427	Y1-080 E	0.19	Adder	0.22
232428	Y3-058 C	0.11	80 50	0.11
232429	Y3-058 E	0.75	80 50	0.75
232432	Z2-076 C	0.08	80 50	0.08
232433	Z2-076 E	0.26	80 50	0.26
232434	Z2-077 C	0.08	80 50	0.08
232435	Z2-077 E	0.26	80 50	0.26
232851	DUP-SFR1	1.74	80 50	1.74
232920	IR10	0.33	80 50	0.33
232921	TASLEY2G	0.47	80 50	0.47
232922	MR3 (Deactivation : 01/06/2021)	4.91	Adder	5.78
232926	CRISFLD1	0.2	80 50	0.2
233923	AA1-102 C	1.14	80 50	1.14
293670	O-025 C	0.12	80 50	0.12
917082	CHERRYDALE E	1.29	Adder	1.52
918835	AA1-102 E	11.37	80 50	11.37
919831	AA2-069	21.7	Adder	25.53
924831	AB2-136 C	2.06	Adder	2.42
924832	AB2-136 E	2.18	Adder	2.56
925151	AB2-172 C	1.39	Adder	1.64
925152	AB2-172 E	2.26	Adder	2.66
925261	AB2-180 C	1.72	80 50	1.72
925262	AB2-180 E	0.74	80 50	0.74
927031	AC1-190 C	2.62	Adder	3.08
927032	AC1-190 E	1.12	Adder	1.32
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.4	80 50	0.4
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.26	80 50	0.26
930201	AB1-056 C	6.61	Adder	7.78
930202	AB1-056 E	18.84	Adder	22.16
932161	AC2-023 C	2.73	Adder	3.21
932162	AC2-023 E	1.99	Adder	2.34
933641	AC2-186 C	2.8	80 50	2.8

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933642	AC2-186 E	4.57	80 50	4.57
938651	AE1-087 C	1.17	Adder	1.38
938652	AE1-087 E	0.29	Adder	0.34
938895	AE1-117 C	6.1	80 50	6.1
938896	AE1-117 E	16.27	80 50	16.27
939151	AE1-145	2.45	80 50	2.45
942441	AE2-257 C	4.17	80 50	4.17
942442	AE2-257 E	11.0	80 50	11.0
943361	AF1-007 C	0.2	Adder	0.24
943362	AF1-007 E	0.55	Adder	0.65
945661	AF1-231 C	0.79	Adder	0.93
945662	AF1-231 E	1.18	Adder	1.39
945791	AF1-244 (Withdrawn : 06/07/2021)	0.98	80 50	0.98
945931	AF1-258	0.39	80 50	0.39
957611	AF2-055 C	3.64	Adder	4.28
957612	AF2-055 E	1.56	Adder	1.84
957661	AF2-060	1.1	80 50	1.1
957671	AF2-061 O1	4.89	80 50	4.89
959021	AF2-193 C	12.22	Adder	14.38
959022	AF2-193 E	32.97	Adder	38.79
959031	AF2-194 C	12.22	Adder	14.38
959032	AF2-194 E	32.97	Adder	38.79
959051	AF2-196 C	1.14	80 50	1.14
959052	AF2-196 E	2.66	80 50	2.66
959161	AF2-207 C O1	2.68	80 50	2.68
959162	AF2-207 E O1	4.01	80 50	4.01
959581	AF2-249 C	0.08	80 50	0.08
959582	AF2-249 E	0.31	80 50	0.31
959591	AF2-250 C	0.14	80 50	0.14
959592	AF2-250 E	0.11	80 50	0.11
960341	AF2-325 C	0.33	Adder	0.39
960342	AF2-325 E	0.46	Adder	0.54
960671	AF2-358 C O1	5.59	Adder	6.58
960672	AF2-358 E O1	3.73	Adder	4.39
960871	AF2-378 C	0.09	Adder	0.11
960872	AF2-378 E	0.13	Adder	0.15
960881	AF2-379 C	0.2	80 50	0.2
960882	AF2-379 E	0.28	80 50	0.28
960941	AF2-385 C	6.34	80 50	6.34
960942	AF2-385 E	3.61	80 50	3.61
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	10.34	Adder	12.16
962161	AG1-061 C O1	8.76	80 50	8.76
962162	AG1-061 E O1	5.84	80 50	5.84
962381	AG1-087 C O1	9.98	Adder	11.74
962382	AG1-087 E O1	26.92	Adder	31.67
963001	AG1-149 (Withdrawn : 06/07/2021)	0.37	80 50	0.37
963011	AG1-150	4.89	80 50	4.89
964551	AG1-318 C	0.04	80 50	0.04
964552	AG1-318 E	0.09	80 50	0.09
964962	AG1-360 E	1.07	80 50	1.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965321	AG1-397 C	0.53	80 50	0.53
965322	AG1-397 E	0.73	80 50	0.73
965611	AG1-429 C O1	3.66	Adder	4.31
965612	AG1-429 E O1	2.44	Adder	2.87
965821	AG1-450	2.33	Adder	2.74
965921	AG1-461 C O1	2.76	80 50	2.76
965922	AG1-461 E O1	1.49	80 50	1.49
965951	AG1-464 C O1	2.95	80 50	2.95
965952	AG1-464 E O1	4.43	80 50	4.43
966281	AG1-497 C O1	4.04	Adder	4.75
966282	AG1-497 E O1	1.73	Adder	2.04
966601	AG1-529 C	10.06	80 50	10.06
966602	AG1-529 E	5.37	80 50	5.37
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.0652	Confirmed LTF	0.0652
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.049	Confirmed LTF	0.049
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.113	Confirmed LTF	0.113
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.0324	Confirmed LTF	0.0324
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0228	Confirmed LTF	0.0228
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.0326	Confirmed LTF	0.0326
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.1368	Confirmed LTF	0.1368
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.0604	LTF/CMTX NF	0.0604
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.0356	Confirmed LTF	0.0356
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.0377	Confirmed LTF	0.0377
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0337	Confirmed LTF	0.0337
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.3973	LTF/CMTX NF	0.3973
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.1682	Confirmed LTF	0.1682
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.0362	Confirmed LTF	0.0362

11.7.7 Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
182782308	200012	NEWFRDM	PSE&G	200028	WINDSOR	JCP&L	1	PECO_P4_PEACH205/ * \$ CHESCO \$ PECO_P4_PEACH205 \$ STBK	breaker	2983.0	108.48	112.27	AC	128.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200036	SALEM-G1 (Deactivation : 01/10/2020)	52.55	80 50	52.55
200037	SALEM-G2 (Deactivation : 01/04/2020)	52.25	80 50	52.25
200039	HOPE CG1 (Deactivation : 01/10/2019)	54.0	80 50	54.0
200052	ROCKSP 1	6.62	80 50	6.62
200053	ROCKSP 2	6.58	80 50	6.58
200054	ROCKSP 3	6.68	80 50	6.68
200055	ROCKSP 4	6.68	80 50	6.68
200062	SALEM G3	13.62	80 50	13.62
200203	Y1-065-STG	23.05	80 50	23.05
200204	Y1-065-CTG1	13.34	80 50	13.34
200205	Y1-065-CTG2	13.34	80 50	13.34
218661	EHAMPSOLAR E	0.25	Adder	0.29
219137	THOSOLAR C (Deactivation : 01/06/2015)	0.09	Adder	0.11
219138	THOSOLAR E	0.14	Adder	0.16
219259	KINSLEYDEP E	0.43	Adder	0.51
219273	CLEANLIGHT E	0.25	Adder	0.29
219292	REEVESSO E	0.09	Adder	0.11
219624	KINSLEYBEA E	0.35	Adder	0.41
219687	LUMSOLAR_N E	0.29	Adder	0.34
219726	BAT.STORG E	0.14	Adder	0.16
227801	ONTC&DCT	7.17	Adder	8.44
227842	MARINGEN	1.45	Adder	1.71
227881	GRENWCHG	0.3	Adder	0.35
227928	V4-067E	0.3	Adder	0.35
228102	BLE#2 ST (Deactivation : 30/04/2019)	29.81	Adder	35.07
228251	CARLLS#4	0.99	Adder	1.16
228261	V4-054E	1.29	Adder	1.52
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.34	Adder	0.4
228357	V2-046E	2.39	Adder	2.81
228712	V2-041E	0.53	Adder	0.62
228721	V2-035E	0.07	Adder	0.08
231903	GEN4	2.53	Adder	2.98
231904	DC1 NUG	6.55	Adder	7.71
231905	DC2 NUG	6.55	Adder	7.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	3.02	Adder	3.55
232407	W1-004 E	3.02	Adder	3.55
232409	W1-005 E	3.02	Adder	3.55
232411	W1-006 E	3.02	Adder	3.55
232412	X1-032 E	0.97	Adder	1.14
232418	X3-008 E	2.98	Adder	3.51
232423	X3-066 E	0.67	Adder	0.79
232425	Y1-079 E	1.44	Adder	1.69
232427	Y1-080 E	0.51	Adder	0.6
232429	Y3-058 E	1.48	Adder	1.74
232433	Z2-076 E	0.49	Adder	0.58
232435	Z2-077 E	0.49	Adder	0.58
232851	DUP-SFR1	2.45	Adder	2.88
232901	NORTHST	2.24	80 50	2.24
232922	MR3 (Deactivation : 01/06/2021)	25.71	Adder	30.25
233916	AB1-141 E	1.44	Adder	1.69
233919	AB1-142 E	1.44	Adder	1.69
233920	W3-032A-CTG1	9.39	80 50	9.39
233921	W3-032A-STG1	5.65	80 50	5.65
233931	AB2-179 C	8.19	Adder	9.64
902092	W1-130E	1.13	Adder	1.33
902432	W2-030 E	1.13	Adder	1.33
910862	OWENSCORIN E	0.24	Adder	0.28
917082	CHERRYDALE E	3.02	Adder	3.55
918835	AA1-102 E	22.64	Adder	26.64
919831	AA2-069	113.68	Adder	133.74
923921	AB2-032 C	3.11	Adder	3.66
923922	AB2-032 E	1.46	Adder	1.72
923951	AB2-036 C	8.14	Adder	9.58
923952	AB2-036 E	13.32	Adder	15.67
923961	AB2-037 C	18.21	Adder	21.42
923962	AB2-037 E	29.75	Adder	35.0
924051	AB2-049 C	0.24	Adder	0.28
924052	AB2-049 E	0.4	Adder	0.47
924531	AB2-102 C	49.5	Adder	58.24
924532	AB2-102 E	1.1	Adder	1.29
924801	AB2-133 C O1	5.62	Adder	6.61
924802	AB2-133 E O1	7.13	Adder	8.39
924821	AB2-135 C	6.94	Adder	8.16
924822	AB2-135 E	7.91	Adder	9.31
924831	AB2-136 C	5.97	Adder	7.02
924832	AB2-136 E	6.33	Adder	7.45
924971	AB2-153 C	1.74	Adder	2.05
924972	AB2-153 E	2.83	Adder	3.33
925151	AB2-172 C	4.56	Adder	5.36
925152	AB2-172 E	7.44	Adder	8.75
925254	AB2-179 E	2.67	Adder	3.14
925261	AB2-180 C	3.4	Adder	4.0
925262	AB2-180 E	1.46	Adder	1.72
926131	AC1-091 C	2.23	80 50	2.23
926132	AC1-091 E	3.66	80 50	3.66
926141	AC1-092 C	2.23	80 50	2.23

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926142	AC1-092 E	3.66	80 50	3.66
926151	AC1-093 C	2.11	80 50	2.11
926152	AC1-093 E	3.48	80 50	3.48
926161	AC1-094 C	1.78	80 50	1.78
926162	AC1-094 E	2.94	80 50	2.94
927031	AC1-190 C	8.41	Adder	9.89
927032	AC1-190 E	3.6	Adder	4.24
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.78	Adder	0.92
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.51	Adder	0.6
930002	AB1-001 E	0.22	Adder	0.26
930201	AB1-056 C	15.81	Adder	18.6
930202	AB1-056 E	45.02	Adder	52.96
930722	AB1-116 E	0.16	Adder	0.19
930732	AB1-119 E	0.16	Adder	0.19
931261	AB1-176 C	0.35	Adder	0.41
931262	AB1-176 E	0.57	Adder	0.67
932161	AC2-023 C	6.43	Adder	7.56
932162	AC2-023 E	4.69	Adder	5.52
932361	AC2-050 C O1	0.65	Adder	0.76
932362	AC2-050 E O1	1.06	Adder	1.25
933631	AC2-185 C	4.52	80 50	4.52
933632	AC2-185 E	7.38	80 50	7.38
933641	AC2-186 C	4.66	Adder	5.48
933642	AC2-186 E	7.6	Adder	8.94
933962	AD1-019 E	1.41	Adder	1.66
936452	AD2-059 E	0.16	Adder	0.19
936501	AD2-065 C	0.22	Adder	0.26
936502	AD2-065 E	0.31	Adder	0.36
936611	AD2-076 C O1	4.27	Adder	5.02
936612	AD2-076 E O1	6.97	Adder	8.2
937011	AD2-135 C	0.13	Adder	0.15
937012	AD2-135 E	0.23	Adder	0.27
938421	AE1-061 C	0.55	Adder	0.65
938422	AE1-061 E	0.55	Adder	0.65
938431	AE1-062 C	2.1	Adder	2.47
938651	AE1-087 C	3.84	Adder	4.52
938652	AE1-087 E	0.96	Adder	1.13
938781	AE1-104 C O1	27.63	Adder	32.51
938782	AE1-104 E O1	70.68	Adder	83.15
938814	AE1-107 C	6.67	Adder	7.85
938815	AE1-107 E	4.76	Adder	5.6
938871	AE1-115 C	1.98	Adder	2.33
938872	AE1-115 E	1.98	Adder	2.33
938895	AE1-117 C	11.77	Adder	13.85
938896	AE1-117 E	31.39	Adder	36.93
939151	AE1-145	4.88	Adder	5.74
939301	AE1-161 C	4.02	Adder	4.73
939302	AE1-161 E	6.03	Adder	7.09
939501	AE1-179 C O1	7.39	Adder	8.69
939502	AE1-179 E O1	5.21	Adder	6.13
939821	AE1-218 C O1	0.16	Adder	0.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939822	AE1-218 E O1	0.25	Adder	0.29
939931	AE1-229 C O1	17.97	Adder	21.14
939932	AE1-229 E O1	12.18	Adder	14.33
940001	AE1-240 C O1	6.12	Adder	7.2
940002	AE1-240 E O1	4.37	Adder	5.14
940361	AE2-020 C	19.42	Adder	22.85
940362	AE2-020 E	90.93	Adder	106.98
940371	AE2-021 C	19.42	Adder	22.85
940372	AE2-021 E	90.93	Adder	106.98
940381	AE2-022 C	11.33	Adder	13.33
940382	AE2-022 E	53.04	Adder	62.4
941021	AE2-093 C	3.95	Adder	4.65
941022	AE2-093 E	6.44	Adder	7.58
941181	AE2-112 C	1.48	Adder	1.74
941182	AE2-112 E	2.42	Adder	2.85
942101	AE2-222 C	15.65	Adder	18.41
942102	AE2-222 E	40.05	Adder	47.12
942381	AE2-251 C	61.53	Adder	72.39
942382	AE2-251 E	157.43	Adder	185.21
942441	AE2-257 C	8.09	Adder	9.52
942442	AE2-257 E	21.34	Adder	25.11
943071	AE2-334 C	5.47	Adder	6.44
943072	AE2-334 E	3.65	Adder	4.29
943361	AF1-007 C	0.47	Adder	0.55
943362	AF1-007 E	1.33	Adder	1.56
943441	AF1-015 C	1.49	Adder	1.75
943442	AF1-015 E	2.06	Adder	2.42
943651	AF1-036 C	1.93	Adder	2.27
943652	AF1-036 E	2.66	Adder	3.13
943732	AF1-041 E	0.44	Adder	0.52
944951	AF1-160 C	2.1	Adder	2.47
945431	AF1-208 C O1	5.52	Adder	6.49
945432	AF1-208 E O1	3.68	Adder	4.33
945661	AF1-231 C	1.85	Adder	2.18
945662	AF1-231 E	2.78	Adder	3.27
945731	AF1-238 C O1	10.84	Adder	12.75
945732	AF1-238 E O1	16.26	Adder	19.13
945741	AF1-239 C	2.55	Adder	3.0
945742	AF1-239 E	3.83	Adder	4.51
945791	AF1-244 (Withdrawn : 06/07/2021)	1.95	Adder	2.29
945931	AF1-258	0.78	Adder	0.92
945941	AF1-259	0.18	Adder	0.21
945971	AF1-262	0.18	Adder	0.21
945991	AF1-264	0.18	Adder	0.21
957221	AF2-016 C	22.52	Adder	26.49
957222	AF2-016 E	33.78	Adder	39.74
957251	AF2-019 C	1.65	Adder	1.94
957252	AF2-019 E	2.47	Adder	2.91
957261	AF2-020 C	1.66	Adder	1.95
957262	AF2-020 E	2.49	Adder	2.93
957291	AF2-023 C	3.36	Adder	3.95
957292	AF2-023 E	5.05	Adder	5.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957301	AF2-024 C	1.65	Adder	1.94
957302	AF2-024 E	2.48	Adder	2.92
957311	AF2-025 C	1.49	Adder	1.75
957312	AF2-025 E	2.23	Adder	2.62
957611	AF2-055 C	8.53	Adder	10.04
957612	AF2-055 E	3.66	Adder	4.31
957661	AF2-060	2.19	Adder	2.58
957671	AF2-061 O1	9.75	Adder	11.47
959021	AF2-193 C	29.21	Adder	34.36
959022	AF2-193 E	78.8	Adder	92.71
959031	AF2-194 C	29.21	Adder	34.36
959032	AF2-194 E	78.8	Adder	92.71
959051	AF2-196 C	2.21	Adder	2.6
959052	AF2-196 E	5.15	Adder	6.06
959161	AF2-207 C O1	4.91	Adder	5.78
959162	AF2-207 E O1	7.37	Adder	8.67
959581	AF2-249 C	0.15	Adder	0.18
959582	AF2-249 E	0.58	Adder	0.68
959591	AF2-250 C	0.27	Adder	0.32
959592	AF2-250 E	0.21	Adder	0.25
960221	AF2-313 C	2.93	Adder	3.45
960222	AF2-313 E	1.66	Adder	1.95
960341	AF2-325 C	1.01	Adder	1.19
960342	AF2-325 E	1.4	Adder	1.65
960671	AF2-358 C O1	14.49	Adder	17.05
960672	AF2-358 E O1	9.66	Adder	11.36
960871	AF2-378 C	0.27	Adder	0.32
960872	AF2-378 E	0.37	Adder	0.44
960881	AF2-379 C	0.4	Adder	0.47
960882	AF2-379 E	0.55	Adder	0.65
960941	AF2-385 C	11.64	Adder	13.69
960942	AF2-385 E	6.62	Adder	7.79
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	24.16	Adder	28.42
961621	AG1-001 C	2.47	Adder	2.91
961622	AG1-001 E	4.03	Adder	4.74
962161	AG1-061 C O1	15.94	Adder	18.75
962162	AG1-061 E O1	10.63	Adder	12.51
962261	AG1-072	11.75	Adder	13.82
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.36	Adder	0.42
962381	AG1-087 C O1	29.43	Adder	34.62
962382	AG1-087 E O1	79.38	Adder	93.39
962611	AG1-110	4.2	Adder	4.94
962801	AG1-129 C O1	7.56	Adder	8.89
962802	AG1-129 E O1	5.04	Adder	5.93
963001	AG1-149 (Withdrawn : 06/07/2021)	0.73	Adder	0.86
963011	AG1-150	9.75	Adder	11.47
964001	AG1-254 C	5.0	Adder	5.88
964002	AG1-254 E	2.51	Adder	2.95
964011	AG1-255 C	7.33	Adder	8.62
964012	AG1-255 E	3.66	Adder	4.31

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
964371	AG1-299 C	0.39	Adder	0.46
964372	AG1-299 E	0.26	Adder	0.31
964381	AG1-300 C	0.65	Adder	0.76
964382	AG1-300 E	0.43	Adder	0.51
964551	AG1-318 C	0.07	Adder	0.08
964552	AG1-318 E	0.17	Adder	0.2
964962	AG1-360 E	2.13	Adder	2.51
965321	AG1-397 C	1.02	Adder	1.2
965322	AG1-397 E	1.41	Adder	1.66
965611	AG1-429 C O1	8.59	Adder	10.11
965612	AG1-429 E O1	5.73	Adder	6.74
965821	AG1-450	6.04	Adder	7.11
965921	AG1-461 C O1	4.77	Adder	5.61
965922	AG1-461 E O1	2.57	Adder	3.02
965951	AG1-464 C O1	4.91	Adder	5.78
965952	AG1-464 E O1	7.36	Adder	8.66
966071	AG1-476	5.25	Adder	6.18
966281	AG1-497 C O1	21.17	Adder	24.91
966282	AG1-497 E O1	9.07	Adder	10.67
966301	AG1-499 C	1.49	Adder	1.75
966302	AG1-499 E	0.99	Adder	1.16
966601	AG1-529 C	12.05	Adder	14.18
966602	AG1-529 E	6.43	Adder	7.56
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	1.8582	Confirmed LTF	1.8582
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	1.2919	Confirmed LTF	1.2919
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	3.2321	Confirmed LTF	3.2321
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.8977	Confirmed LTF	0.8977
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.6158	Confirmed LTF	0.6158
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.9032	Confirmed LTF	0.9032
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	3.8328	Confirmed LTF	3.8328
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	7.1277	LTF/CMTX NF	7.1277
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	1.0167	Confirmed LTF	1.0167
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	1.0027	Confirmed LTF	1.0027
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019->LTFIMP_LGE-0012019	0.0101	Confirmed LTF	0.0101
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	3.2129	Confirmed LTF	3.2129
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	49.626	LTF/CMTX NF	49.626
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	4.7789	Confirmed LTF	4.7789
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	1.0364	Confirmed LTF	1.0364

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174376242	200051	ROCKSPGS	PJM	200065	PCHBTM2S	PECO	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	112.64	128.68	AC	225.0

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200052	ROCKSP 1	17.79	80 50	17.79
200053	ROCKSP 2	17.68	80 50	17.68
200054	ROCKSP 3	17.95	80 50	17.95
200055	ROCKSP 4	17.95	80 50	17.95
200062	SALEM G3	14.91	Adder	17.54
200203	Y1-065-STG	61.97	80 50	61.97
200204	Y1-065-CTG1	35.85	80 50	35.85
200205	Y1-065-CTG2	35.85	80 50	35.85
227801	ONTC&DCT	9.69	Adder	11.4
227842	MARINGEN	1.96	Adder	2.31
227928	V4-067E	0.4	Adder	0.47
228102	BLE#2 ST (Deactivation : 30/04/2019)	39.25	Adder	46.18
228251	CARLLS#4	1.27	Adder	1.49
228261	V4-054E	1.64	Adder	1.93
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.44	Adder	0.52
228357	V2-046E	3.07	Adder	3.61
228712	V2-041E	0.68	Adder	0.8
228721	V2-035E	0.09	Adder	0.11
231903	GEN4	4.62	Adder	5.44
231904	DC1 NUG	11.97	Adder	14.08
231905	DC2 NUG	11.97	Adder	14.08
231911	HR5	10.91	80 50	10.91
231912	HR6	10.91	80 50	10.91
231913	HR7	10.91	80 50	10.91
231914	HR8	16.59	80 50	16.59
232405	W1-003 E	5.38	Adder	6.33
232407	W1-004 E	5.38	Adder	6.33
232409	W1-005 E	5.38	Adder	6.33
232411	W1-006 E	5.38	Adder	6.33
232412	X1-032 E	1.73	Adder	2.04
232418	X3-008 E	5.35	Adder	6.29
232423	X3-066 E	1.22	Adder	1.44
232425	Y1-079 E	2.62	Adder	3.08
232427	Y1-080 E	0.91	Adder	1.07
232429	Y3-058 E	2.64	Adder	3.11
232433	Z2-076 E	0.87	Adder	1.02
232435	Z2-077 E	0.87	Adder	1.02
232616	GEN FOOD	1.28	80 50	1.28
232851	DUP-SFR1	4.33	Adder	5.09
232901	NORTHST	3.87	80 50	3.87

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232922	MR3 (Deactivation : 01/06/2021)	44.46	Adder	52.31
233916	AB1-141 E	2.62	Adder	3.08
233919	AB1-142 E	2.62	Adder	3.08
233920	W3-032A-CTG1	16.24	80 50	16.24
233921	W3-032A-STG1	9.78	80 50	9.78
233931	AB2-179 C	15.0	Adder	17.65
902092	W1-130E	1.44	Adder	1.69
902432	W2-030 E	1.51	Adder	1.78
917082	CHERRYDALE E	5.38	Adder	6.33
918835	AA1-102 E	40.33	Adder	47.45
919831	AA2-069	196.57	Adder	231.26
923921	AB2-032 C	5.65	Adder	6.65
923922	AB2-032 E	2.66	Adder	3.13
923951	AB2-036 C	14.8	Adder	17.41
923952	AB2-036 E	24.22	Adder	28.49
923961	AB2-037 C	33.31	Adder	39.19
923962	AB2-037 E	54.42	Adder	64.02
924051	AB2-049 C	0.29	Adder	0.34
924052	AB2-049 E	0.47	Adder	0.55
924531	AB2-102 C	62.95	Adder	74.06
924532	AB2-102 E	1.4	Adder	1.65
924801	AB2-133 C O1	10.19	Adder	11.99
924802	AB2-133 E O1	12.93	Adder	15.21
924821	AB2-135 C	12.49	Adder	14.69
924822	AB2-135 E	14.25	Adder	16.76
924831	AB2-136 C	10.71	Adder	12.6
924832	AB2-136 E	11.36	Adder	13.36
924971	AB2-153 C	3.16	Adder	3.72
924972	AB2-153 E	5.15	Adder	6.06
925151	AB2-172 C	8.2	Adder	9.65
925152	AB2-172 E	13.38	Adder	15.74
925254	AB2-179 E	4.89	Adder	5.75
925261	AB2-180 C	6.07	Adder	7.14
925262	AB2-180 E	2.6	Adder	3.06
926131	AC1-091 C	3.26	Adder	3.84
926132	AC1-091 E	5.35	Adder	6.29
926141	AC1-092 C	3.26	Adder	3.84
926142	AC1-092 E	5.35	Adder	6.29
926151	AC1-093 C	3.09	Adder	3.64
926152	AC1-093 E	5.09	Adder	5.99
926161	AC1-094 C	2.61	Adder	3.07
926162	AC1-094 E	4.31	Adder	5.07
927031	AC1-190 C	15.1	Adder	17.76
927032	AC1-190 E	6.47	Adder	7.61
927191	AC1-213 C (Withdrawn : 05/24/2021)	1.39	Adder	1.64
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.91	Adder	1.07
930201	AB1-056 C	27.96	Adder	32.89
930202	AB1-056 E	79.62	Adder	93.67
930722	AB1-116 E	0.2	Adder	0.24
930732	AB1-119 E	0.19	Adder	0.22

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
931261	AB1-176 C	0.63	Adder	0.74
931262	AB1-176 E	1.04	Adder	1.22
932161	AC2-023 C	11.48	Adder	13.51
932162	AC2-023 E	8.36	Adder	9.84
933631	AC2-185 C	6.62	Adder	7.79
933632	AC2-185 E	10.79	Adder	12.69
933641	AC2-186 C	8.21	Adder	9.66
933642	AC2-186 E	13.4	Adder	15.76
933962	AD1-019 E	1.91	Adder	2.25
936452	AD2-059 E	0.3	Adder	0.35
936501	AD2-065 C	0.27	Adder	0.32
936502	AD2-065 E	0.37	Adder	0.44
936611	AD2-076 C O1	7.77	Adder	9.14
936612	AD2-076 E O1	12.68	Adder	14.92
937011	AD2-135 C	0.16	Adder	0.19
937012	AD2-135 E	0.27	Adder	0.32
938421	AE1-061 C	0.69	Adder	0.81
938422	AE1-061 E	0.69	Adder	0.81
938431	AE1-062 C	2.51	Adder	2.95
938651	AE1-087 C	6.9	Adder	8.12
938652	AE1-087 E	1.73	Adder	2.04
938781	AE1-104 C O1	36.38	Adder	42.8
938782	AE1-104 E O1	93.07	Adder	109.49
938814	AE1-107 C	12.26	Adder	14.42
938815	AE1-107 E	8.74	Adder	10.28
938871	AE1-115 C	2.56	Adder	3.01
938872	AE1-115 E	2.56	Adder	3.01
938895	AE1-117 C	20.83	Adder	24.51
938896	AE1-117 E	55.55	Adder	65.35
939151	AE1-145	8.67	Adder	10.2
939301	AE1-161 C	5.05	Adder	5.94
939302	AE1-161 E	7.57	Adder	8.91
939501	AE1-179 C O1	9.38	Adder	11.04
939502	AE1-179 E O1	6.62	Adder	7.79
939821	AE1-218 C O1	0.2	Adder	0.24
939822	AE1-218 E O1	0.3	Adder	0.35
939931	AE1-229 C O1	22.91	Adder	26.95
939932	AE1-229 E O1	15.52	Adder	18.26
940001	AE1-240 C O1	7.77	Adder	9.14
940002	AE1-240 E O1	5.55	Adder	6.53
940361	AE2-020 C	26.48	Adder	31.15
940362	AE2-020 E	123.98	Adder	145.86
940371	AE2-021 C	26.48	Adder	31.15
940372	AE2-021 E	123.98	Adder	145.86
940381	AE2-022 C	15.45	Adder	18.18
940382	AE2-022 E	72.32	Adder	85.08
941021	AE2-093 C	7.18	Adder	8.45
941022	AE2-093 E	11.71	Adder	13.78
941181	AE2-112 C	2.7	Adder	3.18
941182	AE2-112 E	4.4	Adder	5.18
942101	AE2-222 C	21.15	Adder	24.88
942102	AE2-222 E	54.12	Adder	63.67

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942381	AE2-251 C	83.89	Adder	98.69
942382	AE2-251 E	214.64	Adder	252.52
942441	AE2-257 C	14.32	Adder	16.85
942442	AE2-257 E	37.76	Adder	44.42
943071	AE2-334 C	6.67	Adder	7.85
943072	AE2-334 E	4.45	Adder	5.24
943361	AF1-007 C	0.82	Adder	0.96
943362	AF1-007 E	2.34	Adder	2.75
943441	AF1-015 C	2.7	Adder	3.18
943442	AF1-015 E	3.73	Adder	4.39
943651	AF1-036 C	3.51	Adder	4.13
943652	AF1-036 E	4.84	Adder	5.69
943732	AF1-041 E	0.6	Adder	0.71
944951	AF1-160 C	2.51	Adder	2.95
945431	AF1-208 C O1	7.06	Adder	8.31
945432	AF1-208 E O1	4.7	Adder	5.53
945661	AF1-231 C	3.3	Adder	3.88
945662	AF1-231 E	4.94	Adder	5.81
945731	AF1-238 C O1	13.72	Adder	16.14
945732	AF1-238 E O1	20.58	Adder	24.21
945741	AF1-239 C	3.23	Adder	3.8
945742	AF1-239 E	4.84	Adder	5.69
945791	AF1-244 (Withdrawn : 06/07/2021)	3.47	Adder	4.08
945931	AF1-258	1.39	Adder	1.64
945941	AF1-259	0.33	Adder	0.39
945971	AF1-262	0.23	Adder	0.27
957221	AF2-016 C	30.25	Adder	35.59
957222	AF2-016 E	45.37	Adder	53.38
957251	AF2-019 C	2.14	Adder	2.52
957252	AF2-019 E	3.21	Adder	3.78
957261	AF2-020 C	2.11	Adder	2.48
957262	AF2-020 E	3.17	Adder	3.73
957291	AF2-023 C	4.35	Adder	5.12
957292	AF2-023 E	6.52	Adder	7.67
957311	AF2-025 C	2.01	Adder	2.36
957312	AF2-025 E	3.01	Adder	3.54
957611	AF2-055 C	15.18	Adder	17.86
957612	AF2-055 E	6.51	Adder	7.66
957661	AF2-060	3.9	Adder	4.59
957671	AF2-061 O1	17.35	Adder	20.41
959021	AF2-193 C	51.66	Adder	60.78
959022	AF2-193 E	139.35	Adder	163.94
959031	AF2-194 C	51.66	Adder	60.78
959032	AF2-194 E	139.35	Adder	163.94
959051	AF2-196 C	3.91	Adder	4.6
959052	AF2-196 E	9.11	Adder	10.72
959161	AF2-207 C O1	8.74	Adder	10.28
959162	AF2-207 E O1	13.11	Adder	15.42
959581	AF2-249 C	0.26	Adder	0.31
959582	AF2-249 E	1.04	Adder	1.22
959591	AF2-250 C	0.48	Adder	0.56
959592	AF2-250 E	0.37	Adder	0.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960221	AF2-313 C	5.32	Adder	6.26
960222	AF2-313 E	3.01	Adder	3.54
960341	AF2-325 C	1.81	Adder	2.13
960342	AF2-325 E	2.5	Adder	2.94
960671	AF2-358 C O1	25.95	Adder	30.53
960672	AF2-358 E O1	17.3	Adder	20.35
960871	AF2-378 C	0.48	Adder	0.56
960872	AF2-378 E	0.67	Adder	0.79
960881	AF2-379 C	0.71	Adder	0.84
960882	AF2-379 E	0.98	Adder	1.15
960941	AF2-385 C	20.72	Adder	24.38
960942	AF2-385 E	11.79	Adder	13.87
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	43.33	Adder	50.98
961621	AG1-001 C	3.14	Adder	3.69
961622	AG1-001 E	5.13	Adder	6.04
962161	AG1-061 C O1	28.41	Adder	33.42
962162	AG1-061 E O1	18.94	Adder	22.28
962261	AG1-072	21.37	Adder	25.14
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.63	Adder	0.74
962381	AG1-087 C O1	51.73	Adder	60.86
962382	AG1-087 E O1	139.53	Adder	164.15
962611	AG1-110	5.02	Adder	5.91
962801	AG1-129 C O1	9.6	Adder	11.29
962802	AG1-129 E O1	6.4	Adder	7.53
963001	AG1-149 (Withdrawn : 06/07/2021)	1.3	Adder	1.53
963011	AG1-150	17.35	Adder	20.41
964001	AG1-254 C	6.44	Adder	7.58
964002	AG1-254 E	3.23	Adder	3.8
964011	AG1-255 C	9.45	Adder	11.12
964012	AG1-255 E	4.71	Adder	5.54
964371	AG1-299 C	0.49	Adder	0.58
964372	AG1-299 E	0.33	Adder	0.39
964381	AG1-300 C	0.82	Adder	0.96
964382	AG1-300 E	0.55	Adder	0.65
964551	AG1-318 C	0.13	Adder	0.15
964552	AG1-318 E	0.3	Adder	0.35
964962	AG1-360 E	3.79	Adder	4.46
965321	AG1-397 C	1.82	Adder	2.14
965322	AG1-397 E	2.51	Adder	2.95
965611	AG1-429 C O1	15.29	Adder	17.99
965612	AG1-429 E O1	10.19	Adder	11.99
965821	AG1-450	10.81	Adder	12.72
965921	AG1-461 C O1	8.45	Adder	9.94
965922	AG1-461 E O1	4.55	Adder	5.35
965951	AG1-464 C O1	8.64	Adder	10.16
965952	AG1-464 E O1	12.96	Adder	15.25
966281	AG1-497 C O1	36.61	Adder	43.07
966282	AG1-497 E O1	15.69	Adder	18.46
966301	AG1-499 C	1.85	Adder	2.18
966302	AG1-499 E	1.23	Adder	1.45

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966601	AG1-529 C	21.22	Adder	24.96
966602	AG1-529 E	11.32	Adder	13.32
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	5.2047	Confirmed LTF	5.2047
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	4.1804	Confirmed LTF	4.1804
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	9.0097	Confirmed LTF	9.0097
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	2.6549	Confirmed LTF	2.6549
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	1.9141	Confirmed LTF	1.9141
LTFEXP_CBM-N	LTFEXP_CBM-N->LTFIMP_CBM-N	7.6601	LTF/CBM	7.6601
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	2.6757	Confirmed LTF	2.6757
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	11.1086	Confirmed LTF	11.1086
LTFEXP_G-007A	LTFEXP_G-007A->LTFIMP_G-007A	23.4573	LTF/CMTX	23.4573
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	2.8331	Confirmed LTF	2.8331
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	3.1944	Confirmed LTF	3.1944
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	13.4873	Confirmed LTF	13.4873
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	2.8873	Confirmed LTF	2.8873
LTFEXP_VFT	LTFEXP_VFT->LTFIMP_VFT	51.5444	Confirmed LTF	51.5444

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
182682416	200064	PCHBTM1S	BGE	200004	CNASTONE	PECO	1	TS_P4_#T6_FUR RUN 500_CB 2	breaker	3620.0	113.61	118.09	AC	182.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200034	PCHBTM 2	117.8	80 50	117.8
200035	PCHBTM 3	118.96	80 50	118.96
200052	ROCKSP 1	11.56	80 50	11.56
200053	ROCKSP 2	11.49	80 50	11.49
200054	ROCKSP 3	11.66	80 50	11.66
200055	ROCKSP 4	11.66	80 50	11.66
200062	SALEM G3	12.48	Adder	14.68
200192	DELTA CT1	11.46	80 50	11.46
200193	DELTA CT2	11.46	80 50	11.46
200194	DELTA CT3	11.46	80 50	11.46
200195	DELTA ST	17.7	80 50	17.7
200200	DELTA2 CT1	20.54	80 50	20.54
200201	DELTA2 CT2	20.54	80 50	20.54
200202	DELTA2 ST	35.04	80 50	35.04
200203	Y1-065-STG	40.26	80 50	40.26
200204	Y1-065-CTG1	23.29	80 50	23.29
200205	Y1-065-CTG2	23.29	80 50	23.29
213792	MDYRN1-2	22.2	80 50	22.2
213793	MDYRN3-4	22.28	80 50	22.28
213794	MDYRN5-6	22.22	80 50	22.22
213795	MDYRN7-8	22.3	80 50	22.3
231903	GEN4	3.83	Adder	4.51
231904	DC1 NUG	9.92	Adder	11.67
231905	DC2 NUG	9.92	Adder	11.67
231911	HR5	8.66	80 50	8.66
231912	HR6	8.66	80 50	8.66
231913	HR7	8.66	80 50	8.66
231914	HR8	13.16	80 50	13.16
232405	W1-003 E	4.36	Adder	5.13
232407	W1-004 E	4.36	Adder	5.13
232409	W1-005 E	4.36	Adder	5.13
232411	W1-006 E	4.36	Adder	5.13
232412	X1-032 E	1.41	Adder	1.66
232418	X3-008 E	4.36	Adder	5.13
232423	X3-066 E	1.01	Adder	1.19
232425	Y1-079 E	2.16	Adder	2.54
232427	Y1-080 E	0.74	Adder	0.87
232429	Y3-058 E	2.15	Adder	2.53
232433	Z2-076 E	0.71	Adder	0.84
232435	Z2-077 E	0.71	Adder	0.84
232851	DUP-SFR1	3.51	Adder	4.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232922	MR3 (Deactivation : 01/06/2021)	35.86	Adder	42.19
233916	AB1-141 E	2.18	Adder	2.56
233919	AB1-142 E	2.18	Adder	2.56
233931	AB2-179 C	12.8	Adder	15.06
917082	CHERRYDALE E	4.36	Adder	5.13
918835	AA1-102 E	32.72	Adder	38.49
919831	AA2-069	158.55	Adder	186.53
923921	AB2-032 C	4.7	Adder	5.53
923922	AB2-032 E	2.21	Adder	2.6
923951	AB2-036 C	12.17	Adder	14.32
923952	AB2-036 E	19.92	Adder	23.44
923961	AB2-037 C	31.87	80 50	31.87
923962	AB2-037 E	52.06	80 50	52.06
924801	AB2-133 C O1	8.48	Adder	9.98
924802	AB2-133 E O1	10.75	Adder	12.65
924821	AB2-135 C	10.34	Adder	12.16
924822	AB2-135 E	11.79	Adder	13.87
924831	AB2-136 C	8.72	Adder	10.26
924832	AB2-136 E	9.24	Adder	10.87
924971	AB2-153 C	2.62	Adder	3.08
924972	AB2-153 E	4.28	Adder	5.04
925151	AB2-172 C	6.67	Adder	7.85
925152	AB2-172 E	10.89	Adder	12.81
925254	AB2-179 E	4.18	Adder	4.92
925261	AB2-180 C	4.92	Adder	5.79
925262	AB2-180 E	2.11	Adder	2.48
926131	AC1-091 C	2.63	Adder	3.09
926132	AC1-091 E	4.32	Adder	5.08
926141	AC1-092 C	2.63	Adder	3.09
926142	AC1-092 E	4.32	Adder	5.08
926151	AC1-093 C	2.49	Adder	2.93
926152	AC1-093 E	4.11	Adder	4.84
926161	AC1-094 C	2.11	Adder	2.48
926162	AC1-094 E	3.48	Adder	4.09
927031	AC1-190 C	12.3	Adder	14.47
927032	AC1-190 E	5.27	Adder	6.2
927191	AC1-213 C (Withdrawn : 05/24/2021)	1.13	Adder	1.33
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.74	Adder	0.87
930201	AB1-056 C	22.65	Adder	26.65
930202	AB1-056 E	64.51	Adder	75.89
931261	AB1-176 C	0.52	Adder	0.61
931262	AB1-176 E	0.86	Adder	1.01
932161	AC2-023 C	9.32	Adder	10.96
932162	AC2-023 E	6.79	Adder	7.99
933631	AC2-185 C	5.34	Adder	6.28
933632	AC2-185 E	8.71	Adder	10.25
933641	AC2-186 C	6.66	Adder	7.84
933642	AC2-186 E	10.87	Adder	12.79
936452	AD2-059 E	0.26	Adder	0.31
936611	AD2-076 C O1	6.44	Adder	7.58

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936612	AD2-076 E O1	10.51	Adder	12.36
938651	AE1-087 C	5.62	Adder	6.61
938652	AE1-087 E	1.41	Adder	1.66
938814	AE1-107 C	10.47	Adder	12.32
938815	AE1-107 E	7.46	Adder	8.78
938895	AE1-117 C	16.88	Adder	19.86
938896	AE1-117 E	45.02	Adder	52.96
939151	AE1-145	7.04	Adder	8.28
941021	AE2-093 C	5.87	Adder	6.91
941022	AE2-093 E	9.57	Adder	11.26
941181	AE2-112 C	2.24	Adder	2.64
941182	AE2-112 E	3.65	Adder	4.29
942441	AE2-257 C	11.61	Adder	13.66
942442	AE2-257 E	30.6	Adder	36.0
943361	AF1-007 C	0.67	Adder	0.79
943362	AF1-007 E	1.9	Adder	2.24
943441	AF1-015 C	2.21	Adder	2.6
943442	AF1-015 E	3.05	Adder	3.59
943651	AF1-036 C	2.91	Adder	3.42
943652	AF1-036 E	4.01	Adder	4.72
945661	AF1-231 C	2.67	Adder	3.14
945662	AF1-231 E	4.01	Adder	4.72
945791	AF1-244 (Withdrawn : 06/07/2021)	2.81	Adder	3.31
945931	AF1-258	1.13	Adder	1.33
945941	AF1-259	0.28	Adder	0.33
957611	AF2-055 C	12.31	Adder	14.48
957612	AF2-055 E	5.28	Adder	6.21
957661	AF2-060	3.17	Adder	3.73
957671	AF2-061 O1	14.07	Adder	16.55
959021	AF2-193 C	41.86	Adder	49.25
959022	AF2-193 E	112.91	Adder	132.84
959031	AF2-194 C	41.86	Adder	49.25
959032	AF2-194 E	112.91	Adder	132.84
959051	AF2-196 C	3.17	Adder	3.73
959052	AF2-196 E	7.39	Adder	8.69
959161	AF2-207 C O1	7.09	Adder	8.34
959162	AF2-207 E O1	10.64	Adder	12.52
959581	AF2-249 C	0.21	Adder	0.25
959582	AF2-249 E	0.84	Adder	0.99
959591	AF2-250 C	0.39	Adder	0.46
959592	AF2-250 E	0.3	Adder	0.35
960221	AF2-313 C	4.4	Adder	5.18
960222	AF2-313 E	2.49	Adder	2.93
960341	AF2-325 C	1.48	Adder	1.74
960342	AF2-325 E	2.04	Adder	2.4
960671	AF2-358 C O1	21.1	Adder	24.82
960672	AF2-358 E O1	14.07	Adder	16.55
960871	AF2-378 C	0.39	Adder	0.46
960872	AF2-378 E	0.54	Adder	0.64
960881	AF2-379 C	0.58	Adder	0.68
960882	AF2-379 E	0.8	Adder	0.94
960941	AF2-385 C	16.81	Adder	19.78

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960942	AF2-385 E	9.57	Adder	11.26
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	35.2	Adder	41.41
962161	AG1-061 C O1	23.06	Adder	27.13
962162	AG1-061 E O1	15.37	Adder	18.08
962261	AG1-072	17.5	Adder	20.59
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.52	Adder	0.61
962381	AG1-087 C O1	41.86	Adder	49.25
962382	AG1-087 E O1	112.91	Adder	132.84
963001	AG1-149 (Withdrawn : 06/07/2021)	1.06	Adder	1.25
963011	AG1-150	14.07	Adder	16.55
964551	AG1-318 C	0.11	Adder	0.13
964552	AG1-318 E	0.25	Adder	0.29
964962	AG1-360 E	3.08	Adder	3.62
965321	AG1-397 C	1.47	Adder	1.73
965322	AG1-397 E	2.03	Adder	2.39
965611	AG1-429 C O1	12.41	Adder	14.6
965612	AG1-429 E O1	8.27	Adder	9.73
965821	AG1-450	8.79	Adder	10.34
965921	AG1-461 C O1	6.86	Adder	8.07
965922	AG1-461 E O1	3.69	Adder	4.34
965951	AG1-464 C O1	7.02	Adder	8.26
965952	AG1-464 E O1	10.52	Adder	12.38
966281	AG1-497 C O1	29.53	Adder	34.74
966282	AG1-497 E O1	12.66	Adder	14.89
966601	AG1-529 C	17.19	Adder	20.22
966602	AG1-529 E	9.17	Adder	10.79
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	10.6397	Confirmed LTF	10.6397
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	9.3993	Confirmed LTF	9.3993
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	18.35	Confirmed LTF	18.35
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	5.6403	Confirmed LTF	5.6403
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	4.2004	Confirmed LTF	4.2004
LTFEXP_CBM-N	LTFEXP_CBM-N->LTFIMP_CBM-N	29.9188	LTF/CBM	29.9188
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	5.6908	Confirmed LTF	5.6908
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	23.2745	Confirmed LTF	23.2745
LTFEXP_G-007A	LTFEXP_G-007A->LTFIMP_G-007A	66.5871	LTF/CMTX	66.5871
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	5.7689	Confirmed LTF	5.7689
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	7.1165	Confirmed LTF	7.1165
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	27.7261	Confirmed LTF	27.7261

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	5.8778	Confirmed LTF	5.8778
LTFEXP_VFT	LTFEXP_VFT->LTFIMP_VFT	171.6445	Confirmed LTF	171.6445

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	ACID C	MW IMPACT
182693466	213490	CHICHST2	PECO	213496	CHIREACT_53	PECO	1	PECO_P4_CHICH435/ * \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	breaker	841.0	110.29	115.65	AC	32.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213888	PHLISCT1	10.73	80 50	10.73
213889	PHLISCT2	10.73	80 50	10.73
213890	PHLISCT3	10.78	80 50	10.78
213893	PHLISST1	15.82	80 50	15.82
219137	THOSOLAR C (Deactivation : 01/06/2015)	-0.05	Adder	-0.06
219727	Z1-082 BAT	0.07	Adder	0.08
227881	GRENWCHG	-0.15	Adder	-0.18
228343	QUINTN#1 (Deactivation : 26/04/2020)	-0.11	Adder	-0.13
231505	HR4	8.88	80 50	8.88
231900	EM5	21.56	80 50	21.56
231903	GEN4	0.93	Adder	1.09
231904	DC1 NUG	2.41	Adder	2.84
231905	DC2 NUG	2.41	Adder	2.84
231909	HR2	4.21	80 50	4.21
231916	EM3	2.9	80 50	2.9
232405	W1-003 E	0.84	Adder	0.99
232407	W1-004 E	0.84	Adder	0.99
232409	W1-005 E	0.84	Adder	0.99
232411	W1-006 E	0.84	Adder	0.99
232412	X1-032 E	0.27	Adder	0.32
232418	X3-008 E	0.88	Adder	1.04
232423	X3-066 E	0.23	Adder	0.27
232425	Y1-079 E	0.47	Adder	0.55
232427	Y1-080 E	0.15	Adder	0.18
232429	Y3-058 E	0.42	Adder	0.49
232433	Z2-076 E	0.13	Adder	0.15
232435	Z2-077 E	0.13	Adder	0.15
232851	DUP-SFR1	0.66	Adder	0.78
232922	MR3 (Deactivation : 01/06/2021)	5.91	Adder	6.95
233916	AB1-141 E	0.49	Adder	0.58
233919	AB1-142 E	0.49	Adder	0.58
233931	AB2-179 C	3.23	Adder	3.8
917082	CHERRYDALE E	0.84	Adder	0.99
918835	AA1-102 E	6.33	Adder	7.45
919831	AA2-069	26.11	Adder	30.72
923921	AB2-032 C	1.07	Adder	1.26
923922	AB2-032 E	0.5	Adder	0.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923951	AB2-036 C	2.68	Adder	3.15
923952	AB2-036 E	4.38	Adder	5.15
923961	AB2-037 C	5.85	Adder	6.88
923962	AB2-037 E	9.55	Adder	11.24
924801	AB2-133 C O1	1.92	Adder	2.26
924802	AB2-133 E O1	2.43	Adder	2.86
924821	AB2-135 C	2.24	Adder	2.64
924822	AB2-135 E	2.56	Adder	3.01
924831	AB2-136 C	1.75	Adder	2.06
924832	AB2-136 E	1.86	Adder	2.19
924971	AB2-153 C	0.6	Adder	0.71
924972	AB2-153 E	0.97	Adder	1.14
925151	AB2-172 C	1.35	Adder	1.59
925152	AB2-172 E	2.21	Adder	2.6
925254	AB2-179 E	1.05	Adder	1.24
925261	AB2-180 C	0.96	Adder	1.13
925262	AB2-180 E	0.41	Adder	0.48
925391	AC1-010 C	-0.39	Adder	-0.46
926131	AC1-091 C	0.42	Adder	0.49
926132	AC1-091 E	0.7	Adder	0.82
926141	AC1-092 C	0.42	Adder	0.49
926142	AC1-092 E	0.7	Adder	0.82
926151	AC1-093 C	0.4	Adder	0.47
926152	AC1-093 E	0.66	Adder	0.78
926161	AC1-094 C	0.34	Adder	0.4
926162	AC1-094 E	0.56	Adder	0.66
927031	AC1-190 C	2.49	Adder	2.93
927032	AC1-190 E	1.07	Adder	1.26
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.22	Adder	0.26
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.14	Adder	0.16
930201	AB1-056 C	4.23	Adder	4.98
930202	AB1-056 E	12.03	Adder	14.15
930722	AB1-116 E	-0.04	Adder	-0.05
931261	AB1-176 C	0.12	Adder	0.14
931262	AB1-176 E	0.19	Adder	0.22
932161	AC2-023 C	1.82	Adder	2.14
932162	AC2-023 E	1.33	Adder	1.56
933631	AC2-185 C	0.86	Adder	1.01
933632	AC2-185 E	1.4	Adder	1.65
933641	AC2-186 C	1.23	Adder	1.45
933642	AC2-186 E	2.01	Adder	2.36
934661	AD1-097 1	3.48	80 50	3.48
934671	AD1-097 2	3.48	80 50	3.48
934681	AD1-097 3	3.49	80 50	3.49
934691	AD1-097 4	2.07	80 50	2.07
936452	AD2-059 E	0.09	Adder	0.11
936611	AD2-076 C O1	1.45	Adder	1.71
936612	AD2-076 E O1	2.37	Adder	2.79
938423	AE1-061 BAT	0.36	Adder	0.42
938651	AE1-087 C	1.14	Adder	1.34
938652	AE1-087 E	0.29	Adder	0.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938814	AE1-107 C	2.71	Adder	3.19
938815	AE1-107 E	1.94	Adder	2.28
938873	AE1-115 BAT	1.63	Adder	1.92
938895	AE1-117 C	3.16	Adder	3.72
938896	AE1-117 E	8.43	Adder	9.92
939151	AE1-145	1.35	Adder	1.59
939303	AE1-161 BAT	3.49	Adder	4.11
939821	AE1-218 C O1	-0.05	Adder	-0.06
941021	AE2-093 C	1.26	Adder	1.48
941022	AE2-093 E	2.05	Adder	2.41
941181	AE2-112 C	0.5	Adder	0.59
941182	AE2-112 E	0.82	Adder	0.96
942441	AE2-257 C	2.17	Adder	2.55
942442	AE2-257 E	5.73	Adder	6.74
943361	AF1-007 C	0.12	Adder	0.14
943362	AF1-007 E	0.35	Adder	0.41
943441	AF1-015 C	0.47	Adder	0.55
943442	AF1-015 E	0.65	Adder	0.76
943651	AF1-036 C	0.66	Adder	0.78
943652	AF1-036 E	0.91	Adder	1.07
945661	AF1-231 C	0.51	Adder	0.6
945662	AF1-231 E	0.77	Adder	0.91
945791	AF1-244 (Withdrawn : 06/07/2021)	0.54	Adder	0.64
945931	AF1-258	0.22	Adder	0.26
945941	AF1-259	0.06	Adder	0.07
945991	AF1-264	-0.08	Adder	-0.09
957263	AF2-020 BAT	1.32	Adder	1.55
957293	AF2-023 BAT	3.46	Adder	4.07
957303	AF2-024 BAT	2.56	Adder	3.01
957611	AF2-055 C	2.37	Adder	2.79
957612	AF2-055 E	1.01	Adder	1.19
957661	AF2-060	0.61	Adder	0.72
957671	AF2-061 O1	2.71	Adder	3.19
959021	AF2-193 C	7.81	Adder	9.19
959022	AF2-193 E	21.06	Adder	24.78
959031	AF2-194 C	7.81	Adder	9.19
959032	AF2-194 E	21.06	Adder	24.78
959051	AF2-196 C	0.59	Adder	0.69
959052	AF2-196 E	1.38	Adder	1.62
959161	AF2-207 C O1	1.37	Adder	1.61
959162	AF2-207 E O1	2.05	Adder	2.41
959581	AF2-249 C	0.04	Adder	0.05
959582	AF2-249 E	0.16	Adder	0.19
959591	AF2-250 C	0.07	Adder	0.08
959592	AF2-250 E	0.06	Adder	0.07
960221	AF2-313 C	0.98	Adder	1.15
960222	AF2-313 E	0.56	Adder	0.66
960341	AF2-325 C	0.3	Adder	0.35
960342	AF2-325 E	0.41	Adder	0.48
960671	AF2-358 C O1	4.2	Adder	4.94
960672	AF2-358 E O1	2.8	Adder	3.29
960871	AF2-378 C	0.08	Adder	0.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960872	AF2-378 E	0.11	Adder	0.13
960881	AF2-379 C	0.11	Adder	0.13
960882	AF2-379 E	0.15	Adder	0.18
960941	AF2-385 C	3.24	Adder	3.81
960942	AF2-385 E	1.84	Adder	2.16
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	7.03	Adder	8.27
962161	AG1-061 C O1	4.47	Adder	5.26
962162	AG1-061 E O1	2.98	Adder	3.51
962261	AG1-072	3.8	Adder	4.47
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.11	Adder	0.13
962381	AG1-087 C O1	7.56	Adder	8.89
962382	AG1-087 E O1	20.39	Adder	23.99
963001	AG1-149 (Withdrawn : 06/07/2021)	0.2	Adder	0.24
963011	AG1-150	2.71	Adder	3.19
964003	AG1-254 BAT	1.53	Adder	1.8
964013	AG1-255 BAT	2.15	Adder	2.53
964083	AG1-263 BAT	1.52	Adder	1.79
964551	AG1-318 C	0.02	Adder	0.02
964552	AG1-318 E	0.05	Adder	0.06
964962	AG1-360 E	0.59	Adder	0.69
965321	AG1-397 C	0.28	Adder	0.33
965322	AG1-397 E	0.39	Adder	0.46
965611	AG1-429 C O1	2.39	Adder	2.81
965612	AG1-429 E O1	1.59	Adder	1.87
965821	AG1-450	1.75	Adder	2.06
965921	AG1-461 C O1	1.3	Adder	1.53
965922	AG1-461 E O1	0.7	Adder	0.82
965951	AG1-464 C O1	1.3	Adder	1.53
965952	AG1-464 E O1	1.94	Adder	2.28
966281	AG1-497 C O1	4.86	Adder	5.72
966282	AG1-497 E O1	2.08	Adder	2.45
966601	AG1-529 C	3.14	Adder	3.69
966602	AG1-529 E	1.68	Adder	1.98
LTFEXP_AA2-074	LTFEXP_AA2-074->LTFIMP_AA2-074	0.0286	Confirmed LTF	0.0286
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.008	Confirmed LTF	0.008
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.018	Confirmed LTF	0.018
LTFEXP_CBM-S1	LTFEXP_CBM-S1->LTFIMP_CBM-S1	0.0026	LTF/CBM	0.0026
LTFEXP_CBM-S2	LTFEXP_CBM-S2->LTFIMP_CBM-S2	0.4933	LTF/CBM	0.4933
LTFEXP_CBM-W2	LTFEXP_CBM-W2->LTFIMP_CBM-W2	0.012	LTF/CBM	0.012
LTFEXP_CPLE	LTFEXP_CPLE->LTFIMP_CPLE	0.0434	Confirmed LTF	0.0434
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	2.7818	LTF/CMTX NF	2.7818

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.0058	Confirmed LTF	0.0058
LTFEXP_LAGN	LTFEXP_LAGN->LTFIMP_LAGN	0.0158	Confirmed LTF	0.0158
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019->LTFIMP_LGE-0012019	0.0054	Confirmed LTF	0.0054
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.9023	Confirmed LTF	0.9023
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	15.6668	LTF/CMTX NF	15.6668
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.0109	Confirmed LTF	0.0109
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.006	Confirmed LTF	0.006
LTFEXP_TVA	LTFEXP_TVA->LTFIMP_TVA	0.0149	Confirmed LTF	0.0149

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
182693024	213496	CHIREACT_53	PECO	213972	TRAINER	PECO	1	PECO_P4_CHICH435/ * \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	breaker	841.0	110.29	115.65	AC	32.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213888	PHLISCT1	10.73	80 50	10.73
213889	PHLISCT2	10.73	80 50	10.73
213890	PHLISCT3	10.78	80 50	10.78
213893	PHLISST1	15.82	80 50	15.82
219137	THOSOLAR C (Deactivation : 01/06/2015)	-0.05	Adder	-0.06
219727	Z1-082 BAT	0.07	Adder	0.08
227881	GRENWCHG	-0.15	Adder	-0.18
228343	QUINTN#1 (Deactivation : 26/04/2020)	-0.11	Adder	-0.13
231505	HR4	8.88	80 50	8.88
231900	EM5	21.56	80 50	21.56
231903	GEN4	0.93	Adder	1.09
231904	DC1 NUG	2.41	Adder	2.84
231905	DC2 NUG	2.41	Adder	2.84
231909	HR2	4.21	80 50	4.21
231916	EM3	2.9	80 50	2.9
232405	W1-003 E	0.84	Adder	0.99
232407	W1-004 E	0.84	Adder	0.99
232409	W1-005 E	0.84	Adder	0.99
232411	W1-006 E	0.84	Adder	0.99
232412	X1-032 E	0.27	Adder	0.32
232418	X3-008 E	0.88	Adder	1.04
232423	X3-066 E	0.23	Adder	0.27
232425	Y1-079 E	0.47	Adder	0.55
232427	Y1-080 E	0.15	Adder	0.18
232429	Y3-058 E	0.42	Adder	0.49
232433	Z2-076 E	0.13	Adder	0.15
232435	Z2-077 E	0.13	Adder	0.15
232851	DUP-SFR1	0.66	Adder	0.78
232922	MR3 (Deactivation : 01/06/2021)	5.91	Adder	6.95
233916	AB1-141 E	0.49	Adder	0.58
233919	AB1-142 E	0.49	Adder	0.58
233931	AB2-179 C	3.23	Adder	3.8
917082	CHERRYDALE E	0.84	Adder	0.99
918835	AA1-102 E	6.33	Adder	7.45
919831	AA2-069	26.11	Adder	30.72
923921	AB2-032 C	1.07	Adder	1.26
923922	AB2-032 E	0.5	Adder	0.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923951	AB2-036 C	2.68	Adder	3.15
923952	AB2-036 E	4.38	Adder	5.15
923961	AB2-037 C	5.85	Adder	6.88
923962	AB2-037 E	9.55	Adder	11.24
924801	AB2-133 C O1	1.92	Adder	2.26
924802	AB2-133 E O1	2.43	Adder	2.86
924821	AB2-135 C	2.24	Adder	2.64
924822	AB2-135 E	2.56	Adder	3.01
924831	AB2-136 C	1.75	Adder	2.06
924832	AB2-136 E	1.86	Adder	2.19
924971	AB2-153 C	0.6	Adder	0.71
924972	AB2-153 E	0.97	Adder	1.14
925151	AB2-172 C	1.35	Adder	1.59
925152	AB2-172 E	2.21	Adder	2.6
925254	AB2-179 E	1.05	Adder	1.24
925261	AB2-180 C	0.96	Adder	1.13
925262	AB2-180 E	0.41	Adder	0.48
925391	AC1-010 C	-0.39	Adder	-0.46
926131	AC1-091 C	0.42	Adder	0.49
926132	AC1-091 E	0.7	Adder	0.82
926141	AC1-092 C	0.42	Adder	0.49
926142	AC1-092 E	0.7	Adder	0.82
926151	AC1-093 C	0.4	Adder	0.47
926152	AC1-093 E	0.66	Adder	0.78
926161	AC1-094 C	0.34	Adder	0.4
926162	AC1-094 E	0.56	Adder	0.66
927031	AC1-190 C	2.49	Adder	2.93
927032	AC1-190 E	1.07	Adder	1.26
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.22	Adder	0.26
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.14	Adder	0.16
930201	AB1-056 C	4.23	Adder	4.98
930202	AB1-056 E	12.03	Adder	14.15
930722	AB1-116 E	-0.04	Adder	-0.05
931261	AB1-176 C	0.12	Adder	0.14
931262	AB1-176 E	0.19	Adder	0.22
932161	AC2-023 C	1.82	Adder	2.14
932162	AC2-023 E	1.33	Adder	1.56
933631	AC2-185 C	0.86	Adder	1.01
933632	AC2-185 E	1.4	Adder	1.65
933641	AC2-186 C	1.23	Adder	1.45
933642	AC2-186 E	2.01	Adder	2.36
934661	AD1-097 1	3.48	80 50	3.48
934671	AD1-097 2	3.48	80 50	3.48
934681	AD1-097 3	3.49	80 50	3.49
934691	AD1-097 4	2.07	80 50	2.07
936452	AD2-059 E	0.09	Adder	0.11
936611	AD2-076 C O1	1.45	Adder	1.71
936612	AD2-076 E O1	2.37	Adder	2.79
938423	AE1-061 BAT	0.36	Adder	0.42
938651	AE1-087 C	1.14	Adder	1.34
938652	AE1-087 E	0.29	Adder	0.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938814	AE1-107 C	2.71	Adder	3.19
938815	AE1-107 E	1.94	Adder	2.28
938873	AE1-115 BAT	1.63	Adder	1.92
938895	AE1-117 C	3.16	Adder	3.72
938896	AE1-117 E	8.43	Adder	9.92
939151	AE1-145	1.35	Adder	1.59
939303	AE1-161 BAT	3.49	Adder	4.11
939821	AE1-218 C O1	-0.05	Adder	-0.06
941021	AE2-093 C	1.26	Adder	1.48
941022	AE2-093 E	2.05	Adder	2.41
941181	AE2-112 C	0.5	Adder	0.59
941182	AE2-112 E	0.82	Adder	0.96
942441	AE2-257 C	2.17	Adder	2.55
942442	AE2-257 E	5.73	Adder	6.74
943361	AF1-007 C	0.12	Adder	0.14
943362	AF1-007 E	0.35	Adder	0.41
943441	AF1-015 C	0.47	Adder	0.55
943442	AF1-015 E	0.65	Adder	0.76
943651	AF1-036 C	0.66	Adder	0.78
943652	AF1-036 E	0.91	Adder	1.07
945661	AF1-231 C	0.51	Adder	0.6
945662	AF1-231 E	0.77	Adder	0.91
945791	AF1-244 (Withdrawn : 06/07/2021)	0.54	Adder	0.64
945931	AF1-258	0.22	Adder	0.26
945941	AF1-259	0.06	Adder	0.07
945991	AF1-264	-0.08	Adder	-0.09
957263	AF2-020 BAT	1.32	Adder	1.55
957293	AF2-023 BAT	3.46	Adder	4.07
957303	AF2-024 BAT	2.56	Adder	3.01
957611	AF2-055 C	2.37	Adder	2.79
957612	AF2-055 E	1.01	Adder	1.19
957661	AF2-060	0.61	Adder	0.72
957671	AF2-061 O1	2.71	Adder	3.19
959021	AF2-193 C	7.81	Adder	9.19
959022	AF2-193 E	21.06	Adder	24.78
959031	AF2-194 C	7.81	Adder	9.19
959032	AF2-194 E	21.06	Adder	24.78
959051	AF2-196 C	0.59	Adder	0.69
959052	AF2-196 E	1.38	Adder	1.62
959161	AF2-207 C O1	1.37	Adder	1.61
959162	AF2-207 E O1	2.05	Adder	2.41
959581	AF2-249 C	0.04	Adder	0.05
959582	AF2-249 E	0.16	Adder	0.19
959591	AF2-250 C	0.07	Adder	0.08
959592	AF2-250 E	0.06	Adder	0.07
960221	AF2-313 C	0.98	Adder	1.15
960222	AF2-313 E	0.56	Adder	0.66
960341	AF2-325 C	0.3	Adder	0.35
960342	AF2-325 E	0.41	Adder	0.48
960671	AF2-358 C O1	4.2	Adder	4.94
960672	AF2-358 E O1	2.8	Adder	3.29
960871	AF2-378 C	0.08	Adder	0.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960872	AF2-378 E	0.11	Adder	0.13
960881	AF2-379 C	0.11	Adder	0.13
960882	AF2-379 E	0.15	Adder	0.18
960941	AF2-385 C	3.24	Adder	3.81
960942	AF2-385 E	1.84	Adder	2.16
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	7.03	Adder	8.27
962161	AG1-061 C O1	4.47	Adder	5.26
962162	AG1-061 E O1	2.98	Adder	3.51
962261	AG1-072	3.8	Adder	4.47
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.11	Adder	0.13
962381	AG1-087 C O1	7.56	Adder	8.89
962382	AG1-087 E O1	20.39	Adder	23.99
963001	AG1-149 (Withdrawn : 06/07/2021)	0.2	Adder	0.24
963011	AG1-150	2.71	Adder	3.19
964003	AG1-254 BAT	1.53	Adder	1.8
964013	AG1-255 BAT	2.15	Adder	2.53
964083	AG1-263 BAT	1.52	Adder	1.79
964551	AG1-318 C	0.02	Adder	0.02
964552	AG1-318 E	0.05	Adder	0.06
964962	AG1-360 E	0.59	Adder	0.69
965321	AG1-397 C	0.28	Adder	0.33
965322	AG1-397 E	0.39	Adder	0.46
965611	AG1-429 C O1	2.39	Adder	2.81
965612	AG1-429 E O1	1.59	Adder	1.87
965821	AG1-450	1.75	Adder	2.06
965921	AG1-461 C O1	1.3	Adder	1.53
965922	AG1-461 E O1	0.7	Adder	0.82
965951	AG1-464 C O1	1.3	Adder	1.53
965952	AG1-464 E O1	1.94	Adder	2.28
966281	AG1-497 C O1	4.86	Adder	5.72
966282	AG1-497 E O1	2.08	Adder	2.45
966601	AG1-529 C	3.14	Adder	3.69
966602	AG1-529 E	1.68	Adder	1.98
LTFEXP_AA2-074	LTFEXP_AA2-074->LTFIMP_AA2-074	0.0286	Confirmed LTF	0.0286
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.008	Confirmed LTF	0.008
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.018	Confirmed LTF	0.018
LTFEXP_CBM-S1	LTFEXP_CBM-S1->LTFIMP_CBM-S1	0.0026	LTF/CBM	0.0026
LTFEXP_CBM-S2	LTFEXP_CBM-S2->LTFIMP_CBM-S2	0.4933	LTF/CBM	0.4933
LTFEXP_CBM-W2	LTFEXP_CBM-W2->LTFIMP_CBM-W2	0.012	LTF/CBM	0.012
LTFEXP_CPLE	LTFEXP_CPLE->LTFIMP_CPLE	0.0434	Confirmed LTF	0.0434
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	2.7818	LTF/CMTX NF	2.7818

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.0058	Confirmed LTF	0.0058
LTFEXP_LAGN	LTFEXP_LAGN->LTFIMP_LAGN	0.0158	Confirmed LTF	0.0158
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019->LTFIMP_LGE-0012019	0.0054	Confirmed LTF	0.0054
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.9023	Confirmed LTF	0.9023
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	15.6668	LTF/CMTX NF	15.6668
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.0109	Confirmed LTF	0.0109
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.006	Confirmed LTF	0.006
LTFEXP_TVA	LTFEXP_TVA->LTFIMP_TVA	0.0149	Confirmed LTF	0.0149

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
182483074	213559	DELCOTA P	PECO	228401	MCKLTON	AE	1	PECO_P4_CHICH435/ * \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	breaker	725.0	127.21	131.36	AC	32.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213400	COVANTA DELA	8.81	80 50	8.81
213888	PHLISCT1	10.72	80 50	10.72
213889	PHLISCT2	10.72	80 50	10.72
213890	PHLISCT3	10.77	80 50	10.77
213893	PHLISST1	15.8	80 50	15.8
219137	THOSOLAR C (Deactivation : 01/06/2015)	-0.05	Adder	-0.06
219727	Z1-082 BAT	0.07	Adder	0.08
227881	GRENWCHG	-0.15	Adder	-0.18
228343	QUINTN#1 (Deactivation : 26/04/2020)	-0.11	Adder	-0.13
231505	HR4	8.87	80 50	8.87
231900	EM5	21.53	80 50	21.53
231903	GEN4	0.93	Adder	1.09
231904	DC1 NUG	2.4	Adder	2.82
231905	DC2 NUG	2.4	Adder	2.82
231909	HR2	4.2	80 50	4.2
232405	W1-003 E	0.84	Adder	0.99
232407	W1-004 E	0.84	Adder	0.99
232409	W1-005 E	0.84	Adder	0.99
232411	W1-006 E	0.84	Adder	0.99
232412	X1-032 E	0.27	Adder	0.32
232418	X3-008 E	0.88	Adder	1.04
232423	X3-066 E	0.22	Adder	0.26
232425	Y1-079 E	0.47	Adder	0.55
232427	Y1-080 E	0.15	Adder	0.18
232429	Y3-058 E	0.42	Adder	0.49
232433	Z2-076 E	0.13	Adder	0.15
232435	Z2-077 E	0.13	Adder	0.15
232851	DUP-SFR1	0.66	Adder	0.78
233916	AB1-141 E	0.49	Adder	0.58
233919	AB1-142 E	0.49	Adder	0.58
233931	AB2-179 C	3.22	Adder	3.79
917082	CHERRYDALE E	0.83	Adder	0.98
918835	AA1-102 E	6.3	Adder	7.41
923921	AB2-032 C	1.06	Adder	1.25
923922	AB2-032 E	0.5	Adder	0.59
923951	AB2-036 C	2.66	Adder	3.13
923952	AB2-036 E	4.36	Adder	5.13
923961	AB2-037 C	5.82	Adder	6.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923962	AB2-037 E	9.51	Adder	11.19
924801	AB2-133 C O1	1.91	Adder	2.25
924802	AB2-133 E O1	2.42	Adder	2.85
924821	AB2-135 C	2.23	Adder	2.62
924822	AB2-135 E	2.55	Adder	3.0
924831	AB2-136 C	1.74	Adder	2.05
924832	AB2-136 E	1.85	Adder	2.18
924971	AB2-153 C	0.59	Adder	0.69
924972	AB2-153 E	0.97	Adder	1.14
925151	AB2-172 C	1.35	Adder	1.59
925152	AB2-172 E	2.2	Adder	2.59
925254	AB2-179 E	1.05	Adder	1.24
925261	AB2-180 C	0.95	Adder	1.12
925262	AB2-180 E	0.41	Adder	0.48
925391	AC1-010 C	-0.39	Adder	-0.46
927031	AC1-190 C	2.48	Adder	2.92
927032	AC1-190 E	1.06	Adder	1.25
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.22	Adder	0.26
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.14	Adder	0.16
930201	AB1-056 C	4.2	Adder	4.94
930202	AB1-056 E	11.97	Adder	14.08
931261	AB1-176 C	0.12	Adder	0.14
931262	AB1-176 E	0.19	Adder	0.22
932161	AC2-023 C	1.81	Adder	2.13
932162	AC2-023 E	1.32	Adder	1.55
933641	AC2-186 C	1.23	Adder	1.45
933642	AC2-186 E	2.0	Adder	2.35
934661	AD1-097 1	3.47	80 50	3.47
934671	AD1-097 2	3.47	80 50	3.47
934681	AD1-097 3	3.49	80 50	3.49
934691	AD1-097 4	2.07	80 50	2.07
936452	AD2-059 E	0.09	Adder	0.11
936611	AD2-076 C O1	1.45	Adder	1.71
936612	AD2-076 E O1	2.36	Adder	2.78
938651	AE1-087 C	1.13	Adder	1.33
938652	AE1-087 E	0.28	Adder	0.33
938814	AE1-107 C	2.7	Adder	3.18
938815	AE1-107 E	1.93	Adder	2.27
938873	AE1-115 BAT	1.63	Adder	1.92
938895	AE1-117 C	3.15	Adder	3.71
938896	AE1-117 E	8.39	Adder	9.87
939151	AE1-145	1.35	Adder	1.59
939303	AE1-161 BAT	3.51	Adder	4.13
939821	AE1-218 C O1	-0.05	Adder	-0.06
941021	AE2-093 C	1.25	Adder	1.47
941022	AE2-093 E	2.04	Adder	2.4
941181	AE2-112 C	0.5	Adder	0.59
941182	AE2-112 E	0.82	Adder	0.96
942441	AE2-257 C	2.16	Adder	2.54
942442	AE2-257 E	5.7	Adder	6.71
943361	AF1-007 C	0.12	Adder	0.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943362	AF1-007 E	0.35	Adder	0.41
943441	AF1-015 C	0.47	Adder	0.55
943442	AF1-015 E	0.65	Adder	0.76
943651	AF1-036 C	0.65	Adder	0.76
943652	AF1-036 E	0.9	Adder	1.06
945661	AF1-231 C	0.51	Adder	0.6
945662	AF1-231 E	0.77	Adder	0.91
945791	AF1-244 (Withdrawn : 06/07/2021)	0.54	Adder	0.64
945931	AF1-258	0.22	Adder	0.26
945941	AF1-259	0.06	Adder	0.07
945991	AF1-264	-0.08	Adder	-0.09
957293	AF2-023 BAT	3.47	Adder	4.08
957303	AF2-024 BAT	2.57	Adder	3.02
957611	AF2-055 C	2.36	Adder	2.78
957612	AF2-055 E	1.01	Adder	1.19
957661	AF2-060	0.61	Adder	0.72
957671	AF2-061 O1	2.69	Adder	3.16
959021	AF2-193 C	7.77	Adder	9.14
959022	AF2-193 E	20.96	Adder	24.66
959031	AF2-194 C	7.77	Adder	9.14
959032	AF2-194 E	20.96	Adder	24.66
959051	AF2-196 C	0.59	Adder	0.69
959052	AF2-196 E	1.38	Adder	1.62
959161	AF2-207 C O1	1.36	Adder	1.6
959162	AF2-207 E O1	2.04	Adder	2.4
959581	AF2-249 C	0.04	Adder	0.05
959582	AF2-249 E	0.16	Adder	0.19
959591	AF2-250 C	0.07	Adder	0.08
959592	AF2-250 E	0.06	Adder	0.07
960221	AF2-313 C	0.98	Adder	1.15
960222	AF2-313 E	0.55	Adder	0.65
960341	AF2-325 C	0.3	Adder	0.35
960342	AF2-325 E	0.41	Adder	0.48
960671	AF2-358 C O1	4.18	Adder	4.92
960672	AF2-358 E O1	2.79	Adder	3.28
960871	AF2-378 C	0.08	Adder	0.09
960872	AF2-378 E	0.11	Adder	0.13
960881	AF2-379 C	0.11	Adder	0.13
960882	AF2-379 E	0.15	Adder	0.18
960941	AF2-385 C	3.22	Adder	3.79
960942	AF2-385 E	1.84	Adder	2.16
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	6.99	Adder	8.22
962161	AG1-061 C O1	4.45	Adder	5.24
962162	AG1-061 E O1	2.97	Adder	3.49
962261	AG1-072	3.78	Adder	4.45
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.11	Adder	0.13
962381	AG1-087 C O1	7.52	Adder	8.85
962382	AG1-087 E O1	20.28	Adder	23.86
963001	AG1-149 (Withdrawn : 06/07/2021)	0.2	Adder	0.24

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963011	AG1-150	2.69	Adder	3.16
964003	AG1-254 BAT	1.54	Adder	1.81
964013	AG1-255 BAT	2.16	Adder	2.54
964083	AG1-263 BAT	1.52	Adder	1.79
964551	AG1-318 C	0.02	Adder	0.02
964552	AG1-318 E	0.05	Adder	0.06
964962	AG1-360 E	0.59	Adder	0.69
965321	AG1-397 C	0.28	Adder	0.33
965322	AG1-397 E	0.39	Adder	0.46
965611	AG1-429 C O1	2.37	Adder	2.79
965612	AG1-429 E O1	1.58	Adder	1.86
965821	AG1-450	1.74	Adder	2.05
965921	AG1-461 C O1	1.29	Adder	1.52
965922	AG1-461 E O1	0.7	Adder	0.82
965951	AG1-464 C O1	1.29	Adder	1.52
965952	AG1-464 E O1	1.93	Adder	2.27
966601	AG1-529 C	3.13	Adder	3.68
966602	AG1-529 E	1.67	Adder	1.96
LTFEXP_AA2-074	LTFEXP_AA2-074- >LTFIMP_AA2-074	0.0108	Confirmed LTF	0.0108
LTFEXP_AC1-056	LTFEXP_AC1-056- >LTFIMP_AC1-056	0.0472	Confirmed LTF	0.0472
LTFEXP_BlueG	LTFEXP_BlueG- >LTFIMP_BlueG	0.086	Confirmed LTF	0.086
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD- >LTFIMP_CALDERWOOD	0.01	Confirmed LTF	0.01
LTFEXP_CBM-S2	LTFEXP_CBM-S2- >LTFIMP_CBM-S2	0.0846	LTF/CBM	0.0846
LTFEXP_CHEOAH	LTFEXP_CHEOAH- >LTFIMP_CHEOAH	0.0096	Confirmed LTF	0.0096
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD- >LTFIMP_COTTONWOOD	0.0633	Confirmed LTF	0.0633
LTFEXP_CPLE	LTFEXP_CPLE- >LTFIMP_CPLE	0.0167	Confirmed LTF	0.0167
LTFEXP_G-007	LTFEXP_G-007- >LTFIMP_G-007	2.8229	LTF/CMTX NF	2.8229
LTFEXP_GIBSON	LTFEXP_GIBSON- >LTFIMP_GIBSON	0.0272	Confirmed LTF	0.0272
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019- >LTFIMP_LGE-0012019	0.0054	Confirmed LTF	0.0054
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.9239	Confirmed LTF	0.9239
LTFEXP_O-066	LTFEXP_O-066- >LTFIMP_O-066	15.9303	LTF/CMTX NF	15.9303
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE- >LTFIMP_PRAIRIE	0.112	Confirmed LTF	0.112
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE- >LTFIMP_TRIMBLE	0.0277	Confirmed LTF	0.0277

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
174170135	213750	LINWOOD43	PECO	214221	CHIREACT_43	PECO	1	PECO_P4_POST475/ * \$ DELCO \$ PECO_P4_POST475 \$ STBK	breaker	1770.0	109.6	112.87	AC	66.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213888	PHLISCT1	19.32	80 50	19.32
213889	PHLISCT2	19.32	80 50	19.32
213890	PHLISCT3	19.39	80 50	19.39
213893	PHLISST1	28.44	80 50	28.44
231505	HR4	15.99	80 50	15.99
231900	EM5	38.83	80 50	38.83
231903	GEN4	1.77	Adder	2.08
231904	DC1 NUG	4.6	Adder	5.41
231905	DC2 NUG	4.6	Adder	5.41
231909	HR2	7.64	80 50	7.64
231916	EM3	5.26	80 50	5.26
232405	W1-003 E	1.66	Adder	1.95
232407	W1-004 E	1.66	Adder	1.95
232409	W1-005 E	1.66	Adder	1.95
232411	W1-006 E	1.66	Adder	1.95
232412	X1-032 E	0.54	Adder	0.64
232418	X3-008 E	1.73	Adder	2.04
232423	X3-066 E	0.43	Adder	0.51
232425	Y1-079 E	0.91	Adder	1.07
232427	Y1-080 E	0.29	Adder	0.34
232429	Y3-058 E	0.82	Adder	0.96
232433	Z2-076 E	0.26	Adder	0.31
232435	Z2-077 E	0.26	Adder	0.31
232851	DUP-SFR1	1.32	Adder	1.55
232922	MR3 (Deactivation : 01/06/2021)	12.12	Adder	14.26
233916	AB1-141 E	0.94	Adder	1.11
233919	AB1-142 E	0.94	Adder	1.11
233931	AB2-179 C	5.99	Adder	7.05
917082	CHERRYDALE E	1.66	Adder	1.95
918835	AA1-102 E	12.53	Adder	14.74
919831	AA2-069	53.59	Adder	63.05
923921	AB2-032 C	2.03	Adder	2.39
923922	AB2-032 E	0.96	Adder	1.13
923951	AB2-036 C	5.14	Adder	6.05
923952	AB2-036 E	8.42	Adder	9.91
923961	AB2-037 C	11.32	Adder	13.32
923962	AB2-037 E	18.5	Adder	21.76
924801	AB2-133 C O1	3.65	Adder	4.29
924802	AB2-133 E O1	4.63	Adder	5.45
924821	AB2-135 C	4.31	Adder	5.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924822	AB2-135 E	4.91	Adder	5.78
924831	AB2-136 C	3.44	Adder	4.05
924832	AB2-136 E	3.65	Adder	4.29
924971	AB2-153 C	1.14	Adder	1.34
924972	AB2-153 E	1.85	Adder	2.18
925151	AB2-172 C	2.65	Adder	3.12
925152	AB2-172 E	4.33	Adder	5.09
925254	AB2-179 E	1.96	Adder	2.31
925261	AB2-180 C	1.89	Adder	2.22
925262	AB2-180 E	0.81	Adder	0.95
926131	AC1-091 C	0.88	Adder	1.04
926132	AC1-091 E	1.44	Adder	1.69
926141	AC1-092 C	0.88	Adder	1.04
926142	AC1-092 E	1.44	Adder	1.69
926151	AC1-093 C	0.83	Adder	0.98
926152	AC1-093 E	1.37	Adder	1.61
926161	AC1-094 C	0.7	Adder	0.82
926162	AC1-094 E	1.16	Adder	1.36
927031	AC1-190 C	4.88	Adder	5.74
927032	AC1-190 E	2.09	Adder	2.46
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.43	Adder	0.51
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.28	Adder	0.33
930201	AB1-056 C	8.43	Adder	9.92
930202	AB1-056 E	24.0	Adder	28.24
931261	AB1-176 C	0.22	Adder	0.26
931262	AB1-176 E	0.37	Adder	0.44
932161	AC2-023 C	3.59	Adder	4.22
932162	AC2-023 E	2.62	Adder	3.08
933631	AC2-185 C	1.77	Adder	2.08
933632	AC2-185 E	2.89	Adder	3.4
933641	AC2-186 C	2.46	Adder	2.89
933642	AC2-186 E	4.01	Adder	4.72
934661	AD1-097 1	6.26	80 50	6.26
934671	AD1-097 2	6.26	80 50	6.26
934681	AD1-097 3	6.28	80 50	6.28
934691	AD1-097 4	3.72	80 50	3.72
936452	AD2-059 E	0.16	Adder	0.19
936611	AD2-076 C O1	2.77	Adder	3.26
936612	AD2-076 E O1	4.53	Adder	5.33
938651	AE1-087 C	2.23	Adder	2.62
938652	AE1-087 E	0.56	Adder	0.66
938814	AE1-107 C	5.03	Adder	5.92
938815	AE1-107 E	3.59	Adder	4.22
938895	AE1-117 C	6.3	Adder	7.41
938896	AE1-117 E	16.8	Adder	19.76
939151	AE1-145	2.68	Adder	3.15
941021	AE2-093 C	2.43	Adder	2.86
941022	AE2-093 E	3.97	Adder	4.67
941181	AE2-112 C	0.96	Adder	1.13
941182	AE2-112 E	1.57	Adder	1.85
942441	AE2-257 C	4.33	Adder	5.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942442	AE2-257 E	11.41	Adder	13.42
943361	AF1-007 C	0.25	Adder	0.29
943362	AF1-007 E	0.71	Adder	0.84
943441	AF1-015 C	0.92	Adder	1.08
943442	AF1-015 E	1.27	Adder	1.49
943651	AF1-036 C	1.25	Adder	1.47
943652	AF1-036 E	1.73	Adder	2.04
945661	AF1-231 C	1.02	Adder	1.2
945662	AF1-231 E	1.53	Adder	1.8
945791	AF1-244 (Withdrawn : 06/07/2021)	1.08	Adder	1.27
945931	AF1-258	0.43	Adder	0.51
945941	AF1-259	0.12	Adder	0.14
957443	AF2-038 BAT (Withdrawn : 04/20/2021)	3.94	Adder	4.64
957611	AF2-055 C	4.69	Adder	5.52
957612	AF2-055 E	2.01	Adder	2.36
957661	AF2-060	1.21	Adder	1.42
957671	AF2-061 O1	5.36	Adder	6.31
959021	AF2-193 C	15.57	Adder	18.32
959022	AF2-193 E	42.0	Adder	49.41
959031	AF2-194 C	15.57	Adder	18.32
959032	AF2-194 E	42.0	Adder	49.41
959051	AF2-196 C	1.18	Adder	1.39
959052	AF2-196 E	2.76	Adder	3.25
959161	AF2-207 C O1	2.71	Adder	3.19
959162	AF2-207 E O1	4.06	Adder	4.78
959581	AF2-249 C	0.08	Adder	0.09
959582	AF2-249 E	0.32	Adder	0.38
959591	AF2-250 C	0.15	Adder	0.18
959592	AF2-250 E	0.11	Adder	0.13
960221	AF2-313 C	1.88	Adder	2.21
960222	AF2-313 E	1.06	Adder	1.25
960341	AF2-325 C	0.58	Adder	0.68
960342	AF2-325 E	0.81	Adder	0.95
960671	AF2-358 C O1	8.26	Adder	9.72
960672	AF2-358 E O1	5.51	Adder	6.48
960871	AF2-378 C	0.15	Adder	0.18
960872	AF2-378 E	0.21	Adder	0.25
960881	AF2-379 C	0.22	Adder	0.26
960882	AF2-379 E	0.3	Adder	0.35
960941	AF2-385 C	6.42	Adder	7.55
960942	AF2-385 E	3.65	Adder	4.29
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	13.81	Adder	16.25
962161	AG1-061 C O1	8.84	Adder	10.4
962162	AG1-061 E O1	5.9	Adder	6.94
962261	AG1-072	7.32	Adder	8.61
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.21	Adder	0.25
962381	AG1-087 C O1	15.18	Adder	17.86
962382	AG1-087 E O1	40.96	Adder	48.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963001	AG1-149 (Withdrawn : 06/07/2021)	0.4	Adder	0.47
963011	AG1-150	5.36	Adder	6.31
964551	AG1-318 C	0.04	Adder	0.05
964552	AG1-318 E	0.09	Adder	0.11
964962	AG1-360 E	1.18	Adder	1.39
965321	AG1-397 C	0.56	Adder	0.66
965322	AG1-397 E	0.77	Adder	0.91
965611	AG1-429 C O1	4.73	Adder	5.56
965612	AG1-429 E O1	3.15	Adder	3.71
965821	AG1-450	3.44	Adder	4.05
965921	AG1-461 C O1	2.58	Adder	3.04
965922	AG1-461 E O1	1.39	Adder	1.64
965951	AG1-464 C O1	2.59	Adder	3.05
965952	AG1-464 E O1	3.88	Adder	4.56
966281	AG1-497 C O1	9.98	Adder	11.74
966282	AG1-497 E O1	4.28	Adder	5.04
966601	AG1-529 C	6.29	Adder	7.4
966602	AG1-529 E	3.36	Adder	3.95
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.2983	Confirmed LTF	0.2983
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.1501	Confirmed LTF	0.1501
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.5232	Confirmed LTF	0.5232
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.1297	Confirmed LTF	0.1297
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0795	Confirmed LTF	0.0795
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.1301	Confirmed LTF	0.1301
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.5771	Confirmed LTF	0.5771
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	3.0511	LTF/CMTX NF	3.0511
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1647	Confirmed LTF	0.1647
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1216	Confirmed LTF	0.1216
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019->LTFIMP_LGE-0012019	0.0074	Confirmed LTF	0.0074
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	1.2531	Confirmed LTF	1.2531
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	19.523	LTF/CMTX NF	19.523
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.7567	Confirmed LTF	0.7567
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.168	Confirmed LTF	0.168

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
182848166	213973	TRAINER2	PECO	213559	DELCOTAP	PECO	1	PECO_P4_CHICH435/ * \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	breaker	841.0	103.89	109.25	AC	32.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213888	PHLISCT1	10.73	80 50	10.73
213889	PHLISCT2	10.73	80 50	10.73
213890	PHLISCT3	10.78	80 50	10.78
213893	PHLISST1	15.82	80 50	15.82
219137	THOSOLAR C (Deactivation : 01/06/2015)	-0.05	Adder	-0.06
219727	Z1-082 BAT	0.07	Adder	0.08
227881	GRENWCHG	-0.15	Adder	-0.18
228343	QUINTN#1 (Deactivation : 26/04/2020)	-0.11	Adder	-0.13
231505	HR4	8.88	80 50	8.88
231900	EM5	21.56	80 50	21.56
231903	GEN4	0.93	Adder	1.09
231904	DC1 NUG	2.41	Adder	2.84
231905	DC2 NUG	2.41	Adder	2.84
231909	HR2	4.21	80 50	4.21
231916	EM3	2.9	80 50	2.9
232405	W1-003 E	0.84	Adder	0.99
232407	W1-004 E	0.84	Adder	0.99
232409	W1-005 E	0.84	Adder	0.99
232411	W1-006 E	0.84	Adder	0.99
232412	X1-032 E	0.27	Adder	0.32
232418	X3-008 E	0.88	Adder	1.04
232423	X3-066 E	0.23	Adder	0.27
232425	Y1-079 E	0.47	Adder	0.55
232427	Y1-080 E	0.15	Adder	0.18
232429	Y3-058 E	0.42	Adder	0.49
232433	Z2-076 E	0.13	Adder	0.15
232435	Z2-077 E	0.13	Adder	0.15
232851	DUP-SFR1	0.66	Adder	0.78
232922	MR3 (Deactivation : 01/06/2021)	5.91	Adder	6.95
233916	AB1-141 E	0.49	Adder	0.58
233919	AB1-142 E	0.49	Adder	0.58
233931	AB2-179 C	3.23	Adder	3.8
917082	CHERRYDALE E	0.84	Adder	0.99
918835	AA1-102 E	6.33	Adder	7.45
919831	AA2-069	26.11	Adder	30.72
923921	AB2-032 C	1.07	Adder	1.26
923922	AB2-032 E	0.5	Adder	0.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923951	AB2-036 C	2.68	Adder	3.15
923952	AB2-036 E	4.38	Adder	5.15
923961	AB2-037 C	5.85	Adder	6.88
923962	AB2-037 E	9.55	Adder	11.24
924801	AB2-133 C O1	1.92	Adder	2.26
924802	AB2-133 E O1	2.43	Adder	2.86
924821	AB2-135 C	2.24	Adder	2.64
924822	AB2-135 E	2.56	Adder	3.01
924831	AB2-136 C	1.75	Adder	2.06
924832	AB2-136 E	1.86	Adder	2.19
924971	AB2-153 C	0.6	Adder	0.71
924972	AB2-153 E	0.97	Adder	1.14
925151	AB2-172 C	1.35	Adder	1.59
925152	AB2-172 E	2.21	Adder	2.6
925254	AB2-179 E	1.05	Adder	1.24
925261	AB2-180 C	0.96	Adder	1.13
925262	AB2-180 E	0.41	Adder	0.48
925391	AC1-010 C	-0.39	Adder	-0.46
926131	AC1-091 C	0.42	Adder	0.49
926132	AC1-091 E	0.7	Adder	0.82
926141	AC1-092 C	0.42	Adder	0.49
926142	AC1-092 E	0.7	Adder	0.82
926151	AC1-093 C	0.4	Adder	0.47
926152	AC1-093 E	0.66	Adder	0.78
926161	AC1-094 C	0.34	Adder	0.4
926162	AC1-094 E	0.56	Adder	0.66
927031	AC1-190 C	2.49	Adder	2.93
927032	AC1-190 E	1.07	Adder	1.26
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.22	Adder	0.26
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.14	Adder	0.16
930201	AB1-056 C	4.23	Adder	4.98
930202	AB1-056 E	12.03	Adder	14.15
930722	AB1-116 E	-0.04	Adder	-0.05
931261	AB1-176 C	0.12	Adder	0.14
931262	AB1-176 E	0.19	Adder	0.22
932161	AC2-023 C	1.82	Adder	2.14
932162	AC2-023 E	1.33	Adder	1.56
933631	AC2-185 C	0.86	Adder	1.01
933632	AC2-185 E	1.4	Adder	1.65
933641	AC2-186 C	1.23	Adder	1.45
933642	AC2-186 E	2.01	Adder	2.36
934661	AD1-097 1	3.48	80 50	3.48
934671	AD1-097 2	3.48	80 50	3.48
934681	AD1-097 3	3.49	80 50	3.49
934691	AD1-097 4	2.07	80 50	2.07
936452	AD2-059 E	0.09	Adder	0.11
936611	AD2-076 C O1	1.45	Adder	1.71
936612	AD2-076 E O1	2.37	Adder	2.79
938423	AE1-061 BAT	0.36	Adder	0.42
938651	AE1-087 C	1.14	Adder	1.34
938652	AE1-087 E	0.29	Adder	0.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938814	AE1-107 C	2.71	Adder	3.19
938815	AE1-107 E	1.94	Adder	2.28
938873	AE1-115 BAT	1.63	Adder	1.92
938895	AE1-117 C	3.16	Adder	3.72
938896	AE1-117 E	8.43	Adder	9.92
939151	AE1-145	1.35	Adder	1.59
939303	AE1-161 BAT	3.49	Adder	4.11
939821	AE1-218 C O1	-0.05	Adder	-0.06
941021	AE2-093 C	1.26	Adder	1.48
941022	AE2-093 E	2.05	Adder	2.41
941181	AE2-112 C	0.5	Adder	0.59
941182	AE2-112 E	0.82	Adder	0.96
942441	AE2-257 C	2.17	Adder	2.55
942442	AE2-257 E	5.73	Adder	6.74
943361	AF1-007 C	0.12	Adder	0.14
943362	AF1-007 E	0.35	Adder	0.41
943441	AF1-015 C	0.47	Adder	0.55
943442	AF1-015 E	0.65	Adder	0.76
943651	AF1-036 C	0.66	Adder	0.78
943652	AF1-036 E	0.91	Adder	1.07
945661	AF1-231 C	0.51	Adder	0.6
945662	AF1-231 E	0.77	Adder	0.91
945791	AF1-244 (Withdrawn : 06/07/2021)	0.54	Adder	0.64
945931	AF1-258	0.22	Adder	0.26
945941	AF1-259	0.06	Adder	0.07
945991	AF1-264	-0.08	Adder	-0.09
957263	AF2-020 BAT	1.32	Adder	1.55
957293	AF2-023 BAT	3.46	Adder	4.07
957303	AF2-024 BAT	2.56	Adder	3.01
957611	AF2-055 C	2.37	Adder	2.79
957612	AF2-055 E	1.01	Adder	1.19
957661	AF2-060	0.61	Adder	0.72
957671	AF2-061 O1	2.71	Adder	3.19
959021	AF2-193 C	7.81	Adder	9.19
959022	AF2-193 E	21.06	Adder	24.78
959031	AF2-194 C	7.81	Adder	9.19
959032	AF2-194 E	21.06	Adder	24.78
959051	AF2-196 C	0.59	Adder	0.69
959052	AF2-196 E	1.38	Adder	1.62
959161	AF2-207 C O1	1.37	Adder	1.61
959162	AF2-207 E O1	2.05	Adder	2.41
959581	AF2-249 C	0.04	Adder	0.05
959582	AF2-249 E	0.16	Adder	0.19
959591	AF2-250 C	0.07	Adder	0.08
959592	AF2-250 E	0.06	Adder	0.07
960221	AF2-313 C	0.98	Adder	1.15
960222	AF2-313 E	0.56	Adder	0.66
960341	AF2-325 C	0.3	Adder	0.35
960342	AF2-325 E	0.41	Adder	0.48
960671	AF2-358 C O1	4.2	Adder	4.94
960672	AF2-358 E O1	2.8	Adder	3.29
960871	AF2-378 C	0.08	Adder	0.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960872	AF2-378 E	0.11	Adder	0.13
960881	AF2-379 C	0.11	Adder	0.13
960882	AF2-379 E	0.15	Adder	0.18
960941	AF2-385 C	3.24	Adder	3.81
960942	AF2-385 E	1.84	Adder	2.16
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	7.03	Adder	8.27
962161	AG1-061 C O1	4.47	Adder	5.26
962162	AG1-061 E O1	2.98	Adder	3.51
962261	AG1-072	3.8	Adder	4.47
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.11	Adder	0.13
962381	AG1-087 C O1	7.56	Adder	8.89
962382	AG1-087 E O1	20.39	Adder	23.99
963001	AG1-149 (Withdrawn : 06/07/2021)	0.2	Adder	0.24
963011	AG1-150	2.71	Adder	3.19
964003	AG1-254 BAT	1.53	Adder	1.8
964013	AG1-255 BAT	2.15	Adder	2.53
964083	AG1-263 BAT	1.52	Adder	1.79
964551	AG1-318 C	0.02	Adder	0.02
964552	AG1-318 E	0.05	Adder	0.06
964962	AG1-360 E	0.59	Adder	0.69
965321	AG1-397 C	0.28	Adder	0.33
965322	AG1-397 E	0.39	Adder	0.46
965611	AG1-429 C O1	2.39	Adder	2.81
965612	AG1-429 E O1	1.59	Adder	1.87
965821	AG1-450	1.75	Adder	2.06
965921	AG1-461 C O1	1.3	Adder	1.53
965922	AG1-461 E O1	0.7	Adder	0.82
965951	AG1-464 C O1	1.3	Adder	1.53
965952	AG1-464 E O1	1.94	Adder	2.28
966281	AG1-497 C O1	4.86	Adder	5.72
966282	AG1-497 E O1	2.08	Adder	2.45
966601	AG1-529 C	3.14	Adder	3.69
966602	AG1-529 E	1.68	Adder	1.98
LTFEXP_AA2-074	LTFEXP_AA2-074->LTFIMP_AA2-074	0.0286	Confirmed LTF	0.0286
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.008	Confirmed LTF	0.008
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.018	Confirmed LTF	0.018
LTFEXP_CBM-S1	LTFEXP_CBM-S1->LTFIMP_CBM-S1	0.0026	LTF/CBM	0.0026
LTFEXP_CBM-S2	LTFEXP_CBM-S2->LTFIMP_CBM-S2	0.4933	LTF/CBM	0.4933
LTFEXP_CBM-W2	LTFEXP_CBM-W2->LTFIMP_CBM-W2	0.012	LTF/CBM	0.012
LTFEXP_CPLE	LTFEXP_CPLE->LTFIMP_CPLE	0.0434	Confirmed LTF	0.0434
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	2.7818	LTF/CMTX NF	2.7818

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.0058	Confirmed LTF	0.0058
LTFEXP_LAGN	LTFEXP_LAGN->LTFIMP_LAGN	0.0158	Confirmed LTF	0.0158
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019->LTFIMP_LGE-0012019	0.0054	Confirmed LTF	0.0054
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.9023	Confirmed LTF	0.9023
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	15.6668	LTF/CMTX NF	15.6668
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.0109	Confirmed LTF	0.0109
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.006	Confirmed LTF	0.006
LTFEXP_TVA	LTFEXP_TVA->LTFIMP_TVA	0.0149	Confirmed LTF	0.0149

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	ACID C	MW IMPACT
174376386	219702	HILLTOP_2	PSE&G	219101	BEAVERBK_1	PSE&G	1	PECO_P4_PEACH215/ * \$ CHESCO \$ PECO_P4_PEACH215 \$ STBK	breaker	740.0	101.19	104.42	AC	28.2

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200062	SALEM G3	3.06	Adder	3.6
219137	THOSOLAR C (Deactivation : 01/06/2015)	-0.03	Adder	-0.04
227801	ONTC&DCT	2.69	Adder	3.16
227842	MARINGEN	0.54	Adder	0.64
227928	V4-067E	0.12	Adder	0.14
228102	BLE#2 ST (Deactivation : 30/04/2019)	9.97	Adder	11.73
228251	CARLLS#4	0.21	Adder	0.25
228261	V4-054E	0.28	Adder	0.33
228712	V2-041E	0.15	Adder	0.18
228721	V2-035E	0.02	Adder	0.02
231903	GEN4	0.51	Adder	0.6
231904	DC1 NUG	1.33	Adder	1.56
231905	DC2 NUG	1.33	Adder	1.56
232405	W1-003 E	0.66	Adder	0.78
232407	W1-004 E	0.66	Adder	0.78
232409	W1-005 E	0.66	Adder	0.78
232411	W1-006 E	0.66	Adder	0.78
232412	X1-032 E	0.21	Adder	0.25
232418	X3-008 E	0.64	Adder	0.75
232423	X3-066 E	0.14	Adder	0.16
232425	Y1-079 E	0.3	Adder	0.35
232427	Y1-080 E	0.11	Adder	0.13
232429	Y3-058 E	0.32	Adder	0.38
232433	Z2-076 E	0.11	Adder	0.13
232435	Z2-077 E	0.11	Adder	0.13
232851	DUP-SFR1	0.53	Adder	0.62
232922	MR3 (Deactivation : 01/06/2021)	5.78	Adder	6.8
233916	AB1-141 E	0.29	Adder	0.34
233919	AB1-142 E	0.29	Adder	0.34
902092	W1-130E	0.34	Adder	0.4
902432	W2-030 E	0.42	Adder	0.49
910862	OWENSCORIN E	0.19	80 50	0.19
917082	CHERRYDALE E	0.66	Adder	0.78
918835	AA1-102 E	4.9	Adder	5.76
919831	AA2-069	25.54	Adder	30.05
923921	AB2-032 C	0.63	Adder	0.74
923922	AB2-032 E	0.3	Adder	0.35

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923951	AB2-036 C	1.69	Adder	1.99
923952	AB2-036 E	2.77	Adder	3.26
923961	AB2-037 C	3.83	Adder	4.51
923962	AB2-037 E	6.26	Adder	7.36
924051	AB2-049 C	0.12	80 50	0.12
924052	AB2-049 E	0.2	80 50	0.2
924531	AB2-102 C	13.38	Adder	15.74
924532	AB2-102 E	0.3	Adder	0.35
924801	AB2-133 C O1	1.15	Adder	1.35
924802	AB2-133 E O1	1.46	Adder	1.72
924821	AB2-135 C	1.44	Adder	1.69
924822	AB2-135 E	1.64	Adder	1.93
924831	AB2-136 C	1.28	Adder	1.51
924832	AB2-136 E	1.36	Adder	1.6
924971	AB2-153 C	0.35	Adder	0.41
924972	AB2-153 E	0.58	Adder	0.68
925151	AB2-172 C	0.97	Adder	1.14
925152	AB2-172 E	1.59	Adder	1.87
925261	AB2-180 C	0.74	Adder	0.87
925262	AB2-180 E	0.32	Adder	0.38
925391	AC1-010 C	-0.63	Adder	-0.74
926131	AC1-091 C	0.43	Adder	0.51
926132	AC1-091 E	0.7	Adder	0.82
926141	AC1-092 C	0.43	Adder	0.51
926142	AC1-092 E	0.7	Adder	0.82
926151	AC1-093 C	0.4	Adder	0.47
926152	AC1-093 E	0.67	Adder	0.79
926161	AC1-094 C	0.34	Adder	0.4
926162	AC1-094 E	0.56	Adder	0.66
927031	AC1-190 C	1.8	Adder	2.12
927032	AC1-190 E	0.77	Adder	0.91
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.17	Adder	0.2
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.11	Adder	0.13
930002	AB1-001 E	0.09	Adder	0.11
930201	AB1-056 C	3.46	Adder	4.07
930202	AB1-056 E	9.84	Adder	11.58
930722	AB1-116 E	0.06	Adder	0.07
930732	AB1-119 E	0.08	80 50	0.08
931261	AB1-176 C	0.07	Adder	0.08
931262	AB1-176 E	0.12	Adder	0.14
932161	AC2-023 C	1.39	Adder	1.64
932162	AC2-023 E	1.01	Adder	1.19
932361	AC2-050 C O1	0.22	Adder	0.26
932362	AC2-050 E O1	0.36	Adder	0.42
933631	AC2-185 C	0.87	Adder	1.02
933632	AC2-185 E	1.41	Adder	1.66
933641	AC2-186 C	1.02	Adder	1.2
933642	AC2-186 E	1.66	Adder	1.95
933962	AD1-019 E	0.53	Adder	0.62
936501	AD2-065 C	0.11	80 50	0.11
936502	AD2-065 E	0.16	80 50	0.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936611	AD2-076 C O1	0.88	Adder	1.04
936612	AD2-076 E O1	1.43	Adder	1.68
937011	AD2-135 C	0.08	80 50	0.08
937012	AD2-135 E	0.13	80 50	0.13
938421	AE1-061 C	0.16	Adder	0.19
938422	AE1-061 E	0.16	Adder	0.19
938431	AE1-062 C	1.11	80 50	1.11
938651	AE1-087 C	0.82	Adder	0.96
938652	AE1-087 E	0.21	Adder	0.25
938781	AE1-104 C O1	9.24	Adder	10.87
938782	AE1-104 E O1	23.65	Adder	27.82
938895	AE1-117 C	2.57	Adder	3.02
938896	AE1-117 E	6.86	Adder	8.07
939151	AE1-145	1.06	Adder	1.25
939301	AE1-161 C	1.14	Adder	1.34
939302	AE1-161 E	1.71	Adder	2.01
939501	AE1-179 C O1	1.87	Adder	2.2
939502	AE1-179 E O1	1.32	Adder	1.55
939821	AE1-218 C O1	0.05	Adder	0.06
939822	AE1-218 E O1	0.08	Adder	0.09
940001	AE1-240 C O1	1.53	Adder	1.8
940002	AE1-240 E O1	1.09	Adder	1.28
940361	AE2-020 C	7.99	Adder	9.4
940362	AE2-020 E	37.41	Adder	44.01
940371	AE2-021 C	7.99	Adder	9.4
940372	AE2-021 E	37.41	Adder	44.01
940381	AE2-022 C	4.66	Adder	5.48
940382	AE2-022 E	21.82	Adder	25.67
941021	AE2-093 C	0.83	Adder	0.98
941022	AE2-093 E	1.35	Adder	1.59
941181	AE2-112 C	0.3	Adder	0.35
941182	AE2-112 E	0.5	Adder	0.59
942101	AE2-222 C	5.87	Adder	6.91
942102	AE2-222 E	15.02	Adder	17.67
942381	AE2-251 C	25.31	Adder	29.78
942382	AE2-251 E	64.77	Adder	76.2
942441	AE2-257 C	1.77	Adder	2.08
942442	AE2-257 E	4.66	Adder	5.48
943071	AE2-334 C	1.74	Adder	2.05
943072	AE2-334 E	1.16	Adder	1.36
943361	AF1-007 C	0.1	Adder	0.12
943362	AF1-007 E	0.29	Adder	0.34
943441	AF1-015 C	0.31	Adder	0.36
943442	AF1-015 E	0.43	Adder	0.51
943651	AF1-036 C	0.4	Adder	0.47
943652	AF1-036 E	0.55	Adder	0.65
943732	AF1-041 E	0.17	Adder	0.2
944951	AF1-160 C	1.11	80 50	1.11
945661	AF1-231 C	0.4	Adder	0.47
945662	AF1-231 E	0.6	Adder	0.71
945731	AF1-238 C O1	2.94	Adder	3.46
945732	AF1-238 E O1	4.41	Adder	5.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945741	AF1-239 C	0.69	Adder	0.81
945742	AF1-239 E	1.04	Adder	1.22
945791	AF1-244 (Withdrawn : 06/07/2021)	0.42	Adder	0.49
945931	AF1-258	0.17	Adder	0.2
945941	AF1-259	0.04	Adder	0.05
945971	AF1-262	0.04	Adder	0.05
945991	AF1-264	0.14	80 50	0.14
957221	AF2-016 C	8.38	Adder	9.86
957222	AF2-016 E	12.57	Adder	14.79
957251	AF2-019 C	0.51	Adder	0.6
957252	AF2-019 E	0.76	Adder	0.89
957261	AF2-020 C	0.35	Adder	0.41
957262	AF2-020 E	0.53	Adder	0.62
957271	AF2-021 C	0.4	Adder	0.47
957272	AF2-021 E	0.6	Adder	0.71
957311	AF2-025 C	0.56	Adder	0.66
957312	AF2-025 E	0.84	Adder	0.99
957611	AF2-055 C	1.85	Adder	2.18
957612	AF2-055 E	0.79	Adder	0.93
957661	AF2-060	0.48	Adder	0.56
957671	AF2-061 O1	2.12	Adder	2.49
959021	AF2-193 C	6.39	Adder	7.52
959022	AF2-193 E	17.23	Adder	20.27
959031	AF2-194 C	6.39	Adder	7.52
959032	AF2-194 E	17.23	Adder	20.27
959051	AF2-196 C	0.48	Adder	0.56
959052	AF2-196 E	1.13	Adder	1.33
959161	AF2-207 C O1	1.06	Adder	1.25
959162	AF2-207 E O1	1.6	Adder	1.88
959581	AF2-249 C	0.03	Adder	0.04
959582	AF2-249 E	0.13	Adder	0.15
959591	AF2-250 C	0.06	Adder	0.07
959592	AF2-250 E	0.04	Adder	0.05
960221	AF2-313 C	0.6	Adder	0.71
960222	AF2-313 E	0.34	Adder	0.4
960341	AF2-325 C	0.22	Adder	0.26
960342	AF2-325 E	0.3	Adder	0.35
960671	AF2-358 C O1	3.11	Adder	3.66
960672	AF2-358 E O1	2.08	Adder	2.45
960871	AF2-378 C	0.06	Adder	0.07
960872	AF2-378 E	0.08	Adder	0.09
960881	AF2-379 C	0.09	Adder	0.11
960882	AF2-379 E	0.12	Adder	0.14
960941	AF2-385 C	2.52	Adder	2.96
960942	AF2-385 E	1.44	Adder	1.69
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	5.19	Adder	6.11
961621	AG1-001 C	0.6	Adder	0.71
961622	AG1-001 E	0.97	Adder	1.14
962161	AG1-061 C O1	3.45	Adder	4.06
962162	AG1-061 E O1	2.3	Adder	2.71
962261	AG1-072	2.46	Adder	2.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.08	Adder	0.09
962381	AG1-087 C O1	6.48	Adder	7.62
962382	AG1-087 E O1	17.49	Adder	20.58
962611	AG1-110	2.22	80 50	2.22
962801	AG1-129 C O1	1.83	Adder	2.15
962802	AG1-129 E O1	1.22	Adder	1.44
963001	AG1-149 (Withdrawn : 06/07/2021)	0.16	Adder	0.19
963011	AG1-150	2.12	Adder	2.49
964083	AG1-263 BAT	2.48	80 50	2.48
964371	AG1-299 C	0.11	Adder	0.13
964372	AG1-299 E	0.07	Adder	0.08
964381	AG1-300 C	0.18	Adder	0.21
964382	AG1-300 E	0.12	Adder	0.14
964551	AG1-318 C	0.02	Adder	0.02
964552	AG1-318 E	0.04	Adder	0.05
964962	AG1-360 E	0.46	Adder	0.54
965321	AG1-397 C	0.22	Adder	0.26
965322	AG1-397 E	0.31	Adder	0.36
965611	AG1-429 C O1	1.86	Adder	2.19
965612	AG1-429 E O1	1.24	Adder	1.46
965821	AG1-450	1.3	Adder	1.53
965921	AG1-461 C O1	1.04	Adder	1.22
965922	AG1-461 E O1	0.56	Adder	0.66
965951	AG1-464 C O1	1.07	Adder	1.26
965952	AG1-464 E O1	1.61	Adder	1.89
966281	AG1-497 C O1	4.76	Adder	5.6
966282	AG1-497 E O1	2.04	Adder	2.4
966301	AG1-499 C	0.34	Adder	0.4
966302	AG1-499 E	0.23	Adder	0.27
966601	AG1-529 C	2.65	Adder	3.12
966602	AG1-529 E	1.41	Adder	1.66
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.36	Confirmed LTF	0.36
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.2854	Confirmed LTF	0.2854
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.6235	Confirmed LTF	0.6235
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.1827	Confirmed LTF	0.1827
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.1311	Confirmed LTF	0.1311
LTFEXP_CBM-N	LTFEXP_CBM-N->LTFIMP_CBM-N	0.8994	LTF/CBM	0.8994
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.1841	Confirmed LTF	0.1841
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.7659	Confirmed LTF	0.7659
LTFEXP_G-007A	LTFEXP_G-007A->LTFIMP_G-007A	3.9952	LTF/CMTX	3.9952
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1961	Confirmed LTF	0.1961

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.2184	Confirmed LTF	0.2184
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.9323	Confirmed LTF	0.9323
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1998	Confirmed LTF	0.1998
LTFEXP_VFT	LTFEXP_VFT->LTFIMP_VFT	6.1577	Confirmed LTF	6.1577

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
167820096	231000	CLAY_230	PECO	214235	LINWOOD84	DP&L	1	PECO_P1-2_220-85/* \$ DELCO \$ PECO_P1-2_220-85 \$ L	single	804.0	114.37	116.11	AC	17.3

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231131	BLOOM ENRGY	0.74	80 50	0.74
231505	HR4	15.04	80 50	15.04
231900	EM5	36.53	80 50	36.53
231901	EM4	10.27	80 50	10.27
231902	DC CT7	1.72	80 50	1.72
231903	GEN4	2.02	80 50	2.02
231904	DC1 NUG	5.23	80 50	5.23
231905	DC2 NUG	5.23	80 50	5.23
231906	DC3 NUG	2.15	80 50	2.15
231907	DC10	0.54	80 50	0.54
231908	HR1	7.38	80 50	7.38
231909	HR2	7.52	80 50	7.52
231910	HR3	7.38	80 50	7.38
231915	DC CT6	1.66	80 50	1.66
231916	EM3	5.17	80 50	5.17
231917	EM10	0.85	80 50	0.85
231918	WEST 1	0.9	80 50	0.9
231919	CHRIST1	1.23	80 50	1.23
231920	CHRIST2	1.23	80 50	1.23
232416	X2-083	0.11	80 50	0.11
232417	X3-008 C	0.2	80 50	0.2
232422	X3-066 C	0.06	80 50	0.06
232424	Y1-079 C	0.1	80 50	0.1
232426	Y1-080 FULL	0.03	80 50	0.03
232902	EASTMUNI	1.87	80 50	1.87
232907	VN8	3.94	80 50	3.94
232922	MR3 (Deactivation : 01/06/2021)	11.76	Adder	13.84
233915	AB1-141 C	0.38	80 50	0.38
233918	AB1-142 C	0.38	80 50	0.38
233931	AB2-179 C	6.82	80 50	6.82
919831	AA2-069	51.99	Adder	61.16
923921	AB2-032 C	2.31	80 50	2.31
923951	AB2-036 C	5.84	80 50	5.84
923961	AB2-037 C	12.85	80 50	12.85
924801	AB2-133 C O1	4.15	80 50	4.15
924821	AB2-135 C	4.9	80 50	4.9
924831	AB2-136 C	3.91	80 50	3.91
924971	AB2-153 C	1.29	80 50	1.29

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925151	AB2-172 C	3.01	80 50	3.01
925261	AB2-180 C	1.83	Adder	2.15
926131	AC1-091 C	0.85	Adder	1.0
926141	AC1-092 C	0.85	Adder	1.0
926151	AC1-093 C	0.8	Adder	0.94
926161	AC1-094 C	0.68	Adder	0.8
927031	AC1-190 C	5.54	80 50	5.54
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.42	Adder	0.49
930201	AB1-056 C	8.15	Adder	9.59
931261	AB1-176 C	0.25	80 50	0.25
932161	AC2-023 C	3.47	Adder	4.08
933631	AC2-185 C	1.72	Adder	2.02
933641	AC2-186 C	2.38	Adder	2.8
934661	AD1-097 1	-2.33	Adder	-2.74
934671	AD1-097 2	-2.33	Adder	-2.74
934681	AD1-097 3	-2.34	Adder	-2.75
934691	AD1-097 4	-1.38	Adder	-1.62
936611	AD2-076 C O1	3.15	80 50	3.15
938651	AE1-087 C	2.54	80 50	2.54
938814	AE1-107 C	5.73	80 50	5.73
938896	AE1-117 E	16.26	Adder	19.13
939151	AE1-145	2.59	Adder	3.05
941021	AE2-093 C	2.76	80 50	2.76
941181	AE2-112 C	1.09	80 50	1.09
942441	AE2-257 C	4.19	Adder	4.93
943361	AF1-007 C	0.24	Adder	0.28
943441	AF1-015 C	1.04	80 50	1.04
943651	AF1-036 C	1.42	80 50	1.42
945661	AF1-231 C	0.99	Adder	1.16
945791	AF1-244 (Withdrawn : 06/07/2021)	1.04	Adder	1.22
945931	AF1-258	0.42	Adder	0.49
945941	AF1-259	0.13	80 50	0.13
957611	AF2-055 C	4.54	Adder	5.34
957661	AF2-060	1.17	Adder	1.38
957671	AF2-061 O1	5.18	Adder	6.09
959021	AF2-193 C	15.07	Adder	17.73
959031	AF2-194 C	15.07	Adder	17.73
959051	AF2-196 C	1.14	Adder	1.34
959161	AF2-207 C O1	2.62	Adder	3.08
959581	AF2-249 C	0.08	Adder	0.09
959591	AF2-250 C	0.14	Adder	0.16
960221	AF2-313 C	2.13	80 50	2.13
960341	AF2-325 C	0.66	80 50	0.66
960671	AF2-358 C O1	9.39	80 50	9.39
960871	AF2-378 C	0.18	80 50	0.18
960881	AF2-379 C	0.21	Adder	0.25
960941	AF2-385 C	6.21	Adder	7.31
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	15.71	80 50	15.71
962161	AG1-061 C O1	8.55	Adder	10.06
962261	AG1-072	8.32	80 50	8.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962381	AG1-087 C O1	14.7	Adder	17.29
963001	AG1-149 (Withdrawn : 06/07/2021)	0.39	Adder	0.46
963011	AG1-150	5.18	Adder	6.09
964551	AG1-318 C	0.04	Adder	0.05
965321	AG1-397 C	0.54	Adder	0.64
965611	AG1-429 C O1	4.57	Adder	5.38
965821	AG1-450	3.33	Adder	3.92
965921	AG1-461 C O1	2.5	Adder	2.94
965951	AG1-464 C O1	2.51	Adder	2.95
966281	AG1-497 C O1	9.68	Adder	11.39
966601	AG1-529 C	6.09	Adder	7.16
LTFEXP_AA2-074	LTFEXP_AA2-074- >LTFIMP_AA2-074	0.0869	Confirmed LTF	0.0869
LTFEXP_CBM-S1	LTFEXP_CBM-S1- >LTFIMP_CBM-S1	0.0451	LTF/CBM	0.0451
LTFEXP_CBM-S2	LTFEXP_CBM-S2- >LTFIMP_CBM-S2	1.7821	LTF/CBM	1.7821
LTFEXP_CBM-W1	LTFEXP_CBM-W1- >LTFIMP_CBM-W1	1.1982	LTF/CBM	1.1982
LTFEXP_CBM-W2	LTFEXP_CBM-W2- >LTFIMP_CBM-W2	0.9985	LTF/CBM	0.9985
LTFEXP_CPLE	LTFEXP_CPLE- >LTFIMP_CPLE	0.1309	Confirmed LTF	0.1309
LTFEXP_LAGN	LTFEXP_LAGN- >LTFIMP_LAGN	0.2124	Confirmed LTF	0.2124
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019- >LTFIMP_LGE-0012019	0.0069	Confirmed LTF	0.0069
LTFEXP_LGEE	LTFEXP_LGEE- >LTFIMP_LGEE	0.0611	Confirmed LTF	0.0611
LTFEXP_MEC	LTFEXP_MEC- >LTFIMP_MEC	0.1568	Confirmed LTF	0.1568
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.9716	Confirmed LTF	0.9716
LTFEXP_SIGE	LTFEXP_SIGE- >LTFIMP_SIGE	0.0103	Confirmed LTF	0.0103
LTFEXP_TVA	LTFEXP_TVA- >LTFIMP_TVA	0.1729	Confirmed LTF	0.1729
LTFEXP_WEC	LTFEXP_WEC- >LTFIMP_WEC	0.0289	Confirmed LTF	0.0289

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
167820107	231001	EDGEMR 5	PECO	214236	LINWOOD85	DP&L	1	PECO_P1-2_220-84/* \$ DELCO \$ PECO_P1-2_220-84 \$ L	single	804.0	112.44	114.11	AC	16.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231131	BLOOM ENRGY	0.71	80 50	0.71
231505	HR4	14.85	80 50	14.85
231900	EM5	36.07	80 50	36.07
231901	EM4	9.64	80 50	9.64
231902	DC CT7	1.64	80 50	1.64
231903	GEN4	1.93	80 50	1.93
231904	DC1 NUG	5.0	80 50	5.0
231905	DC2 NUG	5.0	80 50	5.0
231906	DC3 NUG	2.05	80 50	2.05
231907	DC10	0.51	80 50	0.51
231908	HR1	6.93	80 50	6.93
231909	HR2	6.78	80 50	6.78
231910	HR3	6.93	80 50	6.93
231915	DC CT6	1.58	80 50	1.58
231916	EM3	4.66	80 50	4.66
231917	EM10	0.77	80 50	0.77
231918	WEST 1	0.83	80 50	0.83
231919	CHRIST1	1.16	80 50	1.16
231920	CHRIST2	1.16	80 50	1.16
232416	X2-083	0.11	80 50	0.11
232417	X3-008 C	0.19	80 50	0.19
232422	X3-066 C	0.06	80 50	0.06
232424	Y1-079 C	0.1	80 50	0.1
232426	Y1-080 FULL	0.03	80 50	0.03
232902	EASTMUNI	1.8	80 50	1.8
232907	VN8	3.81	80 50	3.81
232922	MR3 (Deactivation : 01/06/2021)	11.36	Adder	13.36
233915	AB1-141 C	0.36	80 50	0.36
233918	AB1-142 C	0.36	80 50	0.36
233931	AB2-179 C	6.53	80 50	6.53
919831	AA2-069	50.23	Adder	59.09
923921	AB2-032 C	2.22	80 50	2.22
923951	AB2-036 C	5.64	80 50	5.64
923961	AB2-037 C	12.43	80 50	12.43
924801	AB2-133 C O1	4.0	80 50	4.0
924821	AB2-135 C	4.72	80 50	4.72
924831	AB2-136 C	3.78	80 50	3.78
924971	AB2-153 C	1.24	80 50	1.24

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925151	AB2-172 C	2.91	80 50	2.91
925261	AB2-180 C	1.77	Adder	2.08
926131	AC1-091 C	0.82	Adder	0.96
926141	AC1-092 C	0.82	Adder	0.96
926151	AC1-093 C	0.78	Adder	0.92
926161	AC1-094 C	0.66	Adder	0.78
927031	AC1-190 C	5.36	80 50	5.36
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.4	Adder	0.47
930201	AB1-056 C	7.88	Adder	9.27
931261	AB1-176 C	0.24	80 50	0.24
932161	AC2-023 C	3.36	Adder	3.95
933631	AC2-185 C	1.66	Adder	1.95
933641	AC2-186 C	2.3	Adder	2.71
934661	AD1-097 1	-2.28	Adder	-2.68
934671	AD1-097 2	-2.28	Adder	-2.68
934681	AD1-097 3	-2.26	Adder	-2.66
934691	AD1-097 4	-1.34	Adder	-1.58
936611	AD2-076 C O1	3.04	80 50	3.04
938651	AE1-087 C	2.45	80 50	2.45
938814	AE1-107 C	5.48	80 50	5.48
938896	AE1-117 E	15.71	Adder	18.48
939151	AE1-145	2.5	Adder	2.94
941021	AE2-093 C	2.67	80 50	2.67
941181	AE2-112 C	1.05	80 50	1.05
942441	AE2-257 C	4.05	Adder	4.76
943361	AF1-007 C	0.23	Adder	0.27
943441	AF1-015 C	1.01	80 50	1.01
943651	AF1-036 C	1.37	80 50	1.37
945661	AF1-231 C	0.95	Adder	1.12
945791	AF1-244 (Withdrawn : 06/07/2021)	1.01	Adder	1.19
945931	AF1-258	0.4	Adder	0.47
945941	AF1-259	0.13	80 50	0.13
957611	AF2-055 C	4.39	Adder	5.16
957661	AF2-060	1.13	Adder	1.33
957671	AF2-061 O1	5.01	Adder	5.89
959021	AF2-193 C	14.56	Adder	17.13
959031	AF2-194 C	14.56	Adder	17.13
959051	AF2-196 C	1.1	Adder	1.29
959161	AF2-207 C O1	2.53	Adder	2.98
959581	AF2-249 C	0.08	Adder	0.09
959591	AF2-250 C	0.14	Adder	0.16
960221	AF2-313 C	2.06	80 50	2.06
960341	AF2-325 C	0.64	80 50	0.64
960671	AF2-358 C O1	9.08	80 50	9.08
960871	AF2-378 C	0.17	80 50	0.17
960881	AF2-379 C	0.21	Adder	0.25
960941	AF2-385 C	6.0	Adder	7.06
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	15.18	80 50	15.18
962161	AG1-061 C O1	8.26	Adder	9.72
962261	AG1-072	8.03	80 50	8.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962381	AG1-087 C O1	14.21	Adder	16.72
963001	AG1-149 (Withdrawn : 06/07/2021)	0.38	Adder	0.45
963011	AG1-150	5.01	Adder	5.89
964551	AG1-318 C	0.04	Adder	0.05
965321	AG1-397 C	0.52	Adder	0.61
965611	AG1-429 C O1	4.42	Adder	5.2
965821	AG1-450	3.21	Adder	3.78
965921	AG1-461 C O1	2.42	Adder	2.85
965951	AG1-464 C O1	2.42	Adder	2.85
966281	AG1-497 C O1	9.36	Adder	11.01
966601	AG1-529 C	5.89	Adder	6.93
LTFEXP_AA2-074	LTFEXP_AA2-074- >LTFIMP_AA2-074	0.0854	Confirmed LTF	0.0854
LTFEXP_CBM-S1	LTFEXP_CBM-S1- >LTFIMP_CBM-S1	0.0448	LTF/CBM	0.0448
LTFEXP_CBM-S2	LTFEXP_CBM-S2- >LTFIMP_CBM-S2	1.7543	LTF/CBM	1.7543
LTFEXP_CBM-W1	LTFEXP_CBM-W1- >LTFIMP_CBM-W1	1.2015	LTF/CBM	1.2015
LTFEXP_CBM-W2	LTFEXP_CBM-W2- >LTFIMP_CBM-W2	0.9928	LTF/CBM	0.9928
LTFEXP_CPLE	LTFEXP_CPLE- >LTFIMP_CPLE	0.1286	Confirmed LTF	0.1286
LTFEXP_LAGN	LTFEXP_LAGN- >LTFIMP_LAGN	0.2107	Confirmed LTF	0.2107
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019- >LTFIMP_LGE-0012019	0.0067	Confirmed LTF	0.0067
LTFEXP_LGEE	LTFEXP_LGEE- >LTFIMP_LGEE	0.061	Confirmed LTF	0.061
LTFEXP_MEC	LTFEXP_MEC- >LTFIMP_MEC	0.1565	Confirmed LTF	0.1565
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.9374	Confirmed LTF	0.9374
LTFEXP_SIGE	LTFEXP_SIGE- >LTFIMP_SIGE	0.0103	Confirmed LTF	0.0103
LTFEXP_TVA	LTFEXP_TVA- >LTFIMP_TVA	0.1714	Confirmed LTF	0.1714
LTFEXP_WEC	LTFEXP_WEC- >LTFIMP_WEC	0.0289	Confirmed LTF	0.0289

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
167820127	231001	EDGEMR5	PECO	231000	CLAY_230	PECO	1	PECO_P1-2_220-85/* \$ DELCO \$ PECO_P1-2_220-85 \$ L	single	804.0	113.08	114.62	AC	15.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231131	BLOOM ENRGY	0.62	80 50	0.62
231505	HR4	15.02	80 50	15.02
231900	EM5	36.48	80 50	36.48
231901	EM4	7.71	80 50	7.71
231902	DC CT7	1.44	80 50	1.44
231903	GEN4	1.69	80 50	1.69
231904	DC1 NUG	4.37	80 50	4.37
231905	DC2 NUG	4.37	80 50	4.37
231906	DC3 NUG	1.8	80 50	1.8
231907	DC10	0.45	80 50	0.45
231908	HR1	5.54	80 50	5.54
231909	HR2	4.21	80 50	4.21
231910	HR3	5.54	80 50	5.54
231915	DC CT6	1.38	80 50	1.38
231916	EM3	2.9	80 50	2.9
231917	EM10	0.48	80 50	0.48
231918	WEST 1	0.6	80 50	0.6
231919	CHRIST1	0.94	80 50	0.94
231920	CHRIST2	0.93	80 50	0.93
232416	X2-083	0.09	80 50	0.09
232417	X3-008 C	0.18	80 50	0.18
232422	X3-066 C	0.06	80 50	0.06
232424	Y1-079 C	0.09	80 50	0.09
232426	Y1-080 FULL	0.03	80 50	0.03
232902	EASTMUNI	1.65	80 50	1.65
232907	VN8	3.51	80 50	3.51
232922	MR3 (Deactivation : 01/06/2021)	10.46	Adder	12.31
233915	AB1-141 C	0.33	80 50	0.33
233918	AB1-142 C	0.33	80 50	0.33
233931	AB2-179 C	5.79	80 50	5.79
919831	AA2-069	46.24	Adder	54.4
923921	AB2-032 C	2.01	80 50	2.01
923951	AB2-036 C	5.15	80 50	5.15
923961	AB2-037 C	11.5	80 50	11.5
924801	AB2-133 C O1	3.61	80 50	3.61
924821	AB2-135 C	4.27	80 50	4.27
924831	AB2-136 C	3.48	80 50	3.48
924971	AB2-153 C	1.13	80 50	1.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925151	AB2-172 C	2.68	80 50	2.68
925261	AB2-180 C	1.63	Adder	1.92
926131	AC1-091 C	0.75	Adder	0.88
926141	AC1-092 C	0.75	Adder	0.88
926151	AC1-093 C	0.71	Adder	0.84
926161	AC1-094 C	0.6	Adder	0.71
927031	AC1-190 C	4.93	80 50	4.93
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.37	Adder	0.44
930201	AB1-056 C	7.26	Adder	8.54
931261	AB1-176 C	0.22	80 50	0.22
932161	AC2-023 C	3.09	Adder	3.64
933631	AC2-185 C	1.53	Adder	1.8
933641	AC2-186 C	2.11	Adder	2.48
934661	AD1-097 1	-2.08	Adder	-2.45
934671	AD1-097 2	-2.08	Adder	-2.45
934681	AD1-097 3	-2.08	Adder	-2.45
934691	AD1-097 4	-1.23	Adder	-1.45
936611	AD2-076 C O1	2.75	80 50	2.75
938651	AE1-087 C	2.26	80 50	2.26
938814	AE1-107 C	4.79	80 50	4.79
938896	AE1-117 E	14.48	Adder	17.04
939151	AE1-145	2.31	Adder	2.72
941021	AE2-093 C	2.45	80 50	2.45
941181	AE2-112 C	0.96	80 50	0.96
942441	AE2-257 C	3.73	Adder	4.39
943361	AF1-007 C	0.21	Adder	0.25
943441	AF1-015 C	0.92	80 50	0.92
943651	AF1-036 C	1.24	80 50	1.24
945661	AF1-231 C	0.88	Adder	1.04
945791	AF1-244 (Withdrawn : 06/07/2021)	0.93	Adder	1.09
945931	AF1-258	0.37	Adder	0.44
945941	AF1-259	0.12	80 50	0.12
957611	AF2-055 C	4.04	Adder	4.75
957661	AF2-060	1.04	Adder	1.22
957671	AF2-061 O1	4.62	Adder	5.44
959021	AF2-193 C	13.42	Adder	15.79
959031	AF2-194 C	13.42	Adder	15.79
959051	AF2-196 C	1.02	Adder	1.2
959161	AF2-207 C O1	2.33	Adder	2.74
959581	AF2-249 C	0.07	Adder	0.08
959591	AF2-250 C	0.13	Adder	0.15
960221	AF2-313 C	1.87	80 50	1.87
960341	AF2-325 C	0.59	80 50	0.59
960671	AF2-358 C O1	8.36	80 50	8.36
960871	AF2-378 C	0.16	80 50	0.16
960881	AF2-379 C	0.19	Adder	0.22
960941	AF2-385 C	5.53	Adder	6.51
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	14.0	80 50	14.0
962161	AG1-061 C O1	7.61	Adder	8.95
962261	AG1-072	7.37	80 50	7.37

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962381	AG1-087 C O1	13.09	Adder	15.4
963001	AG1-149 (Withdrawn : 06/07/2021)	0.35	Adder	0.41
963011	AG1-150	4.62	Adder	5.44
964551	AG1-318 C	0.03	Adder	0.04
965321	AG1-397 C	0.48	Adder	0.56
965611	AG1-429 C O1	4.07	Adder	4.79
965821	AG1-450	2.96	Adder	3.48
965921	AG1-461 C O1	2.23	Adder	2.62
965951	AG1-464 C O1	2.22	Adder	2.61
966281	AG1-497 C O1	8.61	Adder	10.13
966601	AG1-529 C	5.42	Adder	6.38
LTFEXP_AA2-074	LTFEXP_AA2-074- >LTFIMP_AA2-074	0.083	Confirmed LTF	0.083
LTFEXP_CBM-S1	LTFEXP_CBM-S1- >LTFIMP_CBM-S1	0.0449	LTF/CBM	0.0449
LTFEXP_CBM-S2	LTFEXP_CBM-S2- >LTFIMP_CBM-S2	1.7154	LTF/CBM	1.7154
LTFEXP_CBM-W1	LTFEXP_CBM-W1- >LTFIMP_CBM-W1	1.2412	LTF/CBM	1.2412
LTFEXP_CBM-W2	LTFEXP_CBM-W2- >LTFIMP_CBM-W2	1.0003	LTF/CBM	1.0003
LTFEXP_CPLE	LTFEXP_CPLE- >LTFIMP_CPLE	0.125	Confirmed LTF	0.125
LTFEXP_LAGN	LTFEXP_LAGN- >LTFIMP_LAGN	0.2108	Confirmed LTF	0.2108
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019- >LTFIMP_LGE-0012019	0.0062	Confirmed LTF	0.0062
LTFEXP_LGEE	LTFEXP_LGEE- >LTFIMP_LGEE	0.0622	Confirmed LTF	0.0622
LTFEXP_MEC	LTFEXP_MEC- >LTFIMP_MEC	0.1594	Confirmed LTF	0.1594
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.86	Confirmed LTF	0.86
LTFEXP_SIGE	LTFEXP_SIGE- >LTFIMP_SIGE	0.0105	Confirmed LTF	0.0105
LTFEXP_TVA	LTFEXP_TVA- >LTFIMP_TVA	0.1713	Confirmed LTF	0.1713
LTFEXP_WEC	LTFEXP_WEC- >LTFIMP_WEC	0.0296	Confirmed LTF	0.0296

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
174170112	231002	HARMONY	DP&L	231001	EDGEM R5	PECO	1	PECO_P4_PEACH215/ * \$ CHESCO \$ PECO_P4_PEACH215 \$ STBK	breaker	924.0	101.35	109.99	AC	96.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200062	SALEM G3	3.88	Adder	4.56
231903	GEN4	1.76	Adder	2.07
231904	DC1 NUG	4.57	Adder	5.38
231905	DC2 NUG	4.57	Adder	5.38
232404	W1-003 C	0.5	80 50	0.5
232405	W1-003 E	2.8	80 50	2.8
232406	W1-004 C	0.5	80 50	0.5
232407	W1-004 E	2.8	80 50	2.8
232408	W1-005 C	0.5	80 50	0.5
232409	W1-005 E	2.8	80 50	2.8
232410	W1-006 C	0.5	80 50	0.5
232411	W1-006 E	2.8	80 50	2.8
232412	X1-032 E	0.91	80 50	0.91
232416	X2-083	0.11	80 50	0.11
232417	X3-008 C	0.29	80 50	0.29
232418	X3-008 E	2.84	80 50	2.84
232423	X3-066 E	0.55	Adder	0.65
232424	Y1-079 C	0.14	80 50	0.14
232425	Y1-079 E	1.41	80 50	1.41
232426	Y1-080 FULL	0.05	80 50	0.05
232427	Y1-080 E	0.48	80 50	0.48
232428	Y3-058 C	0.21	80 50	0.21
232429	Y3-058 E	1.38	80 50	1.38
232433	Z2-076 E	0.38	Adder	0.45
232435	Z2-077 E	0.38	Adder	0.45
232851	DUP-SFR1	1.89	Adder	2.22
232902	EASTMUNI	2.61	80 50	2.61
232907	VN8	5.78	80 50	5.78
232915	OH NUG4	1.31	80 50	1.31
232916	OH NUG5	1.31	80 50	1.31
232919	VN10	0.42	80 50	0.42
232922	MR3 (Deactivation : 01/06/2021)	18.28	Adder	21.51
232926	CRISFLD1	0.37	80 50	0.37
233916	AB1-141 E	1.17	Adder	1.38
233919	AB1-142 E	1.17	Adder	1.38
233923	AA1-102 C	2.12	80 50	2.12
233931	AB2-179 C	6.44	Adder	7.58
293670	O-025 C	0.22	80 50	0.22
917082	CHERRYDALE E	2.38	Adder	2.8
918835	AA1-102 E	21.06	80 50	21.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
919831	AA2-069	80.84	Adder	95.11
923921	AB2-032 C	2.53	Adder	2.98
923922	AB2-032 E	1.19	Adder	1.4
923951	AB2-036 C	7.97	80 50	7.97
923952	AB2-036 E	13.03	80 50	13.03
923961	AB2-037 C	18.6	80 50	18.6
923962	AB2-037 E	30.39	80 50	30.39
924801	AB2-133 C O1	4.51	Adder	5.31
924802	AB2-133 E O1	5.72	Adder	6.73
924821	AB2-135 C	5.48	Adder	6.45
924822	AB2-135 E	6.25	Adder	7.35
924831	AB2-136 C	5.67	80 50	5.67
924832	AB2-136 E	6.02	80 50	6.02
924971	AB2-153 C	1.41	Adder	1.66
924972	AB2-153 E	2.31	Adder	2.72
925151	AB2-172 C	4.35	80 50	4.35
925152	AB2-172 E	7.1	80 50	7.1
925254	AB2-179 E	2.1	Adder	2.47
925261	AB2-180 C	3.17	80 50	3.17
925262	AB2-180 E	1.36	80 50	1.36
926131	AC1-091 C	1.32	Adder	1.55
926132	AC1-091 E	2.17	Adder	2.55
926141	AC1-092 C	1.32	Adder	1.55
926142	AC1-092 E	2.17	Adder	2.55
926151	AC1-093 C	1.25	Adder	1.47
926152	AC1-093 E	2.06	Adder	2.42
926161	AC1-094 C	1.06	Adder	1.25
926162	AC1-094 E	1.75	Adder	2.06
927031	AC1-190 C	8.02	80 50	8.02
927032	AC1-190 E	3.44	80 50	3.44
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.72	80 50	0.72
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.47	80 50	0.47
930201	AB1-056 C	12.18	Adder	14.33
930202	AB1-056 E	34.7	Adder	40.82
931261	AB1-176 C	0.28	Adder	0.33
931262	AB1-176 E	0.47	Adder	0.55
932161	AC2-023 C	6.01	80 50	6.01
932162	AC2-023 E	4.38	80 50	4.38
933631	AC2-185 C	2.68	Adder	3.15
933632	AC2-185 E	4.37	Adder	5.14
933641	AC2-186 C	3.52	Adder	4.14
933642	AC2-186 E	5.75	Adder	6.76
934661	AD1-097 1	-1.38	Adder	-1.62
934671	AD1-097 2	-1.38	Adder	-1.62
934681	AD1-097 3	-1.38	Adder	-1.62
934691	AD1-097 4	-0.82	Adder	-0.96
936452	AD2-059 E	0.18	80 50	0.18
936611	AD2-076 C O1	3.49	Adder	4.11
936612	AD2-076 E O1	5.7	Adder	6.71
938651	AE1-087 C	3.67	80 50	3.67
938652	AE1-087 E	0.92	80 50	0.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938814	AE1-107 C	4.96	Adder	5.84
938815	AE1-107 E	3.54	Adder	4.16
938895	AE1-117 C	9.1	Adder	10.71
938896	AE1-117 E	24.26	Adder	28.54
939151	AE1-145	3.84	Adder	4.52
941021	AE2-093 C	3.9	80 50	3.9
941022	AE2-093 E	6.36	80 50	6.36
941181	AE2-112 C	1.21	Adder	1.42
941182	AE2-112 E	1.98	Adder	2.33
942441	AE2-257 C	6.25	Adder	7.35
942442	AE2-257 E	16.48	Adder	19.39
943361	AF1-007 C	0.36	Adder	0.42
943362	AF1-007 E	1.02	Adder	1.2
943441	AF1-015 C	1.47	80 50	1.47
943442	AF1-015 E	2.03	80 50	2.03
943651	AF1-036 C	1.58	Adder	1.86
943652	AF1-036 E	2.18	Adder	2.56
945661	AF1-231 C	1.46	Adder	1.72
945662	AF1-231 E	2.19	Adder	2.58
945791	AF1-244 (Withdrawn : 06/07/2021)	1.81	80 50	1.81
945931	AF1-258	0.72	80 50	0.72
945941	AF1-259	0.15	Adder	0.18
957611	AF2-055 C	6.72	Adder	7.91
957612	AF2-055 E	2.88	Adder	3.39
957661	AF2-060	1.73	Adder	2.04
957671	AF2-061 O1	7.68	Adder	9.04
959021	AF2-193 C	22.52	Adder	26.49
959022	AF2-193 E	60.74	Adder	71.46
959031	AF2-194 C	22.52	Adder	26.49
959032	AF2-194 E	60.74	Adder	71.46
959051	AF2-196 C	1.7	Adder	2.0
959052	AF2-196 E	3.98	Adder	4.68
959161	AF2-207 C O1	3.87	Adder	4.55
959162	AF2-207 E O1	5.8	Adder	6.82
959581	AF2-249 C	0.14	80 50	0.14
959582	AF2-249 E	0.54	80 50	0.54
959591	AF2-250 C	0.25	80 50	0.25
959592	AF2-250 E	0.19	80 50	0.19
960221	AF2-313 C	2.39	Adder	2.81
960222	AF2-313 E	1.35	Adder	1.59
960341	AF2-325 C	0.96	80 50	0.96
960342	AF2-325 E	1.33	80 50	1.33
960671	AF2-358 C O1	13.71	80 50	13.71
960672	AF2-358 E O1	9.14	80 50	9.14
960871	AF2-378 C	0.25	80 50	0.25
960872	AF2-378 E	0.35	80 50	0.35
960881	AF2-379 C	0.37	80 50	0.37
960882	AF2-379 E	0.51	80 50	0.51
960941	AF2-385 C	9.17	Adder	10.79
960942	AF2-385 E	5.22	Adder	6.14
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	23.01	80 50	23.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962161	AG1-061 C O1	14.82	80 50	14.82
962162	AG1-061 E O1	9.88	80 50	9.88
962261	AG1-072	11.57	80 50	11.57
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.27	Adder	0.32
962381	AG1-087 C O1	22.21	Adder	26.13
962382	AG1-087 E O1	59.9	Adder	70.47
963001	AG1-149 (Withdrawn : 06/07/2021)	0.68	80 50	0.68
963011	AG1-150	7.68	Adder	9.04
964551	AG1-318 C	0.06	Adder	0.07
964552	AG1-318 E	0.13	Adder	0.15
964962	AG1-360 E	1.98	80 50	1.98
965321	AG1-397 C	0.8	Adder	0.94
965322	AG1-397 E	1.11	Adder	1.31
965611	AG1-429 C O1	6.77	Adder	7.96
965612	AG1-429 E O1	4.51	Adder	5.31
965821	AG1-450	5.71	80 50	5.71
965921	AG1-461 C O1	3.71	Adder	4.36
965922	AG1-461 E O1	2.0	Adder	2.35
965951	AG1-464 C O1	3.71	Adder	4.36
965952	AG1-464 E O1	5.56	Adder	6.54
966281	AG1-497 C O1	15.06	Adder	17.72
966282	AG1-497 E O1	6.45	Adder	7.59
966601	AG1-529 C	9.13	Adder	10.74
966602	AG1-529 E	4.87	Adder	5.73
LTFEXP_AC1-056	LTFEXP_AC1-056- >LTFIMP_AC1-056	0.6562	Confirmed LTF	0.6562
LTFEXP_AC1-131	LTFEXP_AC1-131- >LTFIMP_AC1-131	0.5128	Confirmed LTF	0.5128
LTFEXP_BlueG	LTFEXP_BlueG- >LTFIMP_BlueG	1.1371	Confirmed LTF	1.1371
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD- >LTFIMP_CALDERWOOD	0.3311	Confirmed LTF	0.3311
LTFEXP_CATAWBA	LTFEXP_CATAWBA- >LTFIMP_CATAWBA	0.2365	Confirmed LTF	0.2365
LTFEXP_CBM-N	LTFEXP_CBM-N- >LTFIMP_CBM-N	0.8137	LTF/CBM	0.8137
LTFEXP_CHEOAH	LTFEXP_CHEOAH- >LTFIMP_CHEOAH	0.3336	Confirmed LTF	0.3336
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD- >LTFIMP_COTTONWOOD	1.3911	Confirmed LTF	1.3911
LTFEXP_G-007A	LTFEXP_G-007A- >LTFIMP_G-007A	3.3577	LTF/CMTX	3.3577
LTFEXP_GIBSON	LTFEXP_GIBSON- >LTFIMP_GIBSON	0.3576	Confirmed LTF	0.3576
LTFEXP_HAMLET	LTFEXP_HAMLET- >LTFIMP_HAMLET	0.3929	Confirmed LTF	0.3929
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE- >LTFIMP_PRAIRIE	1.6979	Confirmed LTF	1.6979
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE- >LTFIMP_TRIMBLE	0.3644	Confirmed LTF	0.3644
LTFEXP_VFT	LTFEXP_VFT->LTFIMP_VFT	6.6212	Confirmed LTF	6.6212

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
182589154	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH215/ * \$ CHESCO \$ PECO_P4_PEACH215 \$ STBK	breaker	378.0	109.5	118.43	AC	39.38

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200062	SALEM G3	1.72	Adder	2.02
213554	DALEVILLE	-0.31	Adder	-0.36
231131	BLOOM ENRGY	0.41	80 50	0.41
231902	DC CT7	1.01	80 50	1.01
231903	GEN4	1.19	80 50	1.19
231904	DC1 NUG	3.08	80 50	3.08
231905	DC2 NUG	3.08	80 50	3.08
231906	DC3 NUG	1.26	80 50	1.26
231907	DC10	0.32	80 50	0.32
231915	DC CT6	0.97	80 50	0.97
232405	W1-003 E	0.98	Adder	1.15
232407	W1-004 E	0.98	Adder	1.15
232409	W1-005 E	0.98	Adder	1.15
232411	W1-006 E	0.98	Adder	1.15
232412	X1-032 E	0.32	Adder	0.38
232416	X2-083	0.05	80 50	0.05
232418	X3-008 E	1.03	Adder	1.21
232422	X3-066 C	0.05	80 50	0.05
232423	X3-066 E	0.35	80 50	0.35
232424	Y1-079 C	0.07	80 50	0.07
232425	Y1-079 E	0.7	80 50	0.7
232427	Y1-080 E	0.17	Adder	0.2
232429	Y3-058 E	0.49	Adder	0.58
232433	Z2-076 E	0.16	Adder	0.19
232435	Z2-077 E	0.16	Adder	0.19
232851	DUP-SFR1	0.79	Adder	0.93
232902	EASTMUNI	1.19	80 50	1.19
232922	MR3 (Deactivation : 01/06/2021)	7.38	Adder	8.68
233915	AB1-141 C	0.28	80 50	0.28
233916	AB1-141 E	0.79	80 50	0.79
233918	AB1-142 C	0.28	80 50	0.28
233919	AB1-142 E	0.79	80 50	0.79
233931	AB2-179 C	6.07	80 50	6.07
917082	CHERRYDALE E	0.98	Adder	1.15
918835	AA1-102 E	7.36	Adder	8.66
919831	AA2-069	32.61	Adder	38.36
923921	AB2-032 C	1.7	80 50	1.7
923922	AB2-032 E	0.8	80 50	0.8
923951	AB2-036 C	3.89	80 50	3.89
923952	AB2-036 E	6.36	80 50	6.36

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923961	AB2-037 C	6.26	Adder	7.36
923962	AB2-037 E	10.22	Adder	12.02
924801	AB2-133 C O1	3.12	80 50	3.12
924802	AB2-133 E O1	3.96	80 50	3.96
924821	AB2-135 C	3.59	80 50	3.59
924822	AB2-135 E	4.1	80 50	4.1
924831	AB2-136 C	2.04	Adder	2.4
924832	AB2-136 E	2.16	Adder	2.54
924971	AB2-153 C	0.95	80 50	0.95
924972	AB2-153 E	1.55	80 50	1.55
925151	AB2-172 C	1.58	Adder	1.86
925152	AB2-172 E	2.58	Adder	3.04
925254	AB2-179 E	1.98	80 50	1.98
925261	AB2-180 C	1.12	Adder	1.32
925262	AB2-180 E	0.48	Adder	0.56
926131	AC1-091 C	0.54	Adder	0.64
926132	AC1-091 E	0.89	Adder	1.05
926141	AC1-092 C	0.54	Adder	0.64
926142	AC1-092 E	0.89	Adder	1.05
926151	AC1-093 C	0.52	Adder	0.61
926152	AC1-093 E	0.85	Adder	1.0
926161	AC1-094 C	0.44	Adder	0.52
926162	AC1-094 E	0.72	Adder	0.85
927031	AC1-190 C	2.91	Adder	3.42
927032	AC1-190 E	1.25	Adder	1.47
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.25	Adder	0.29
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.17	Adder	0.2
930201	AB1-056 C	5.0	Adder	5.88
930202	AB1-056 E	14.23	Adder	16.74
931261	AB1-176 C	0.18	80 50	0.18
931262	AB1-176 E	0.3	80 50	0.3
932161	AC2-023 C	2.12	Adder	2.49
932162	AC2-023 E	1.54	Adder	1.81
933631	AC2-185 C	1.1	Adder	1.29
933632	AC2-185 E	1.8	Adder	2.12
933641	AC2-186 C	1.52	Adder	1.79
933642	AC2-186 E	2.48	Adder	2.92
936452	AD2-059 E	0.1	80 50	0.1
936611	AD2-076 C O1	2.27	80 50	2.27
936612	AD2-076 E O1	3.71	80 50	3.71
938651	AE1-087 C	1.33	Adder	1.56
938652	AE1-087 E	0.33	Adder	0.39
938814	AE1-107 C	4.81	80 50	4.81
938815	AE1-107 E	3.43	80 50	3.43
938895	AE1-117 C	3.74	Adder	4.4
938896	AE1-117 E	9.96	Adder	11.72
939151	AE1-145	1.58	Adder	1.86
941021	AE2-093 C	1.47	Adder	1.73
941022	AE2-093 E	2.39	Adder	2.81
941181	AE2-112 C	0.79	80 50	0.79
941182	AE2-112 E	1.29	80 50	1.29

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942441	AE2-257 C	2.57	Adder	3.02
942442	AE2-257 E	6.77	Adder	7.96
943361	AF1-007 C	0.15	Adder	0.18
943362	AF1-007 E	0.42	Adder	0.49
943441	AF1-015 C	0.55	Adder	0.65
943442	AF1-015 E	0.76	Adder	0.89
943651	AF1-036 C	1.03	80 50	1.03
943652	AF1-036 E	1.42	80 50	1.42
945661	AF1-231 C	0.6	Adder	0.71
945662	AF1-231 E	0.9	Adder	1.06
945791	AF1-244 (Withdrawn : 06/07/2021)	0.63	Adder	0.74
945931	AF1-258	0.26	Adder	0.31
945941	AF1-259	0.1	80 50	0.1
957611	AF2-055 C	2.76	Adder	3.25
957612	AF2-055 E	1.18	Adder	1.39
957661	AF2-060	0.71	Adder	0.84
957671	AF2-061 O1	3.16	Adder	3.72
959021	AF2-193 C	9.23	Adder	10.86
959022	AF2-193 E	24.91	Adder	29.31
959031	AF2-194 C	9.23	Adder	10.86
959032	AF2-194 E	24.91	Adder	29.31
959051	AF2-196 C	0.7	Adder	0.82
959052	AF2-196 E	1.63	Adder	1.92
959161	AF2-207 C O1	1.6	Adder	1.88
959162	AF2-207 E O1	2.4	Adder	2.82
959173	AF2-208 BAT	20.12	80 50	20.12
959581	AF2-249 C	0.05	Adder	0.06
959582	AF2-249 E	0.19	Adder	0.22
959591	AF2-250 C	0.09	Adder	0.11
959592	AF2-250 E	0.07	Adder	0.08
960221	AF2-313 C	1.53	80 50	1.53
960222	AF2-313 E	0.86	80 50	0.86
960341	AF2-325 C	0.35	Adder	0.41
960342	AF2-325 E	0.48	Adder	0.56
960671	AF2-358 C O1	4.88	Adder	5.74
960672	AF2-358 E O1	3.25	Adder	3.82
960871	AF2-378 C	0.09	Adder	0.11
960872	AF2-378 E	0.13	Adder	0.15
960881	AF2-379 C	0.13	Adder	0.15
960882	AF2-379 E	0.18	Adder	0.21
960941	AF2-385 C	3.79	Adder	4.46
960942	AF2-385 E	2.16	Adder	2.54
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	8.05	Adder	9.47
962161	AG1-061 C O1	5.24	Adder	6.16
962162	AG1-061 E O1	3.49	Adder	4.11
962261	AG1-072	5.32	80 50	5.32
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.17	80 50	0.17
962381	AG1-087 C O1	9.05	Adder	10.65
962382	AG1-087 E O1	24.42	Adder	28.73

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963001	AG1-149 (Withdrawn : 06/07/2021)	0.24	Adder	0.28
963011	AG1-150	3.16	Adder	3.72
964551	AG1-318 C	0.02	Adder	0.02
964552	AG1-318 E	0.05	Adder	0.06
964962	AG1-360 E	0.69	Adder	0.81
965321	AG1-397 C	0.33	Adder	0.39
965322	AG1-397 E	0.46	Adder	0.54
965611	AG1-429 C O1	2.78	Adder	3.27
965612	AG1-429 E O1	1.86	Adder	2.19
965821	AG1-450	2.03	Adder	2.39
965921	AG1-461 C O1	1.54	Adder	1.81
965922	AG1-461 E O1	0.83	Adder	0.98
965951	AG1-464 C O1	1.6	Adder	1.88
965952	AG1-464 E O1	2.4	Adder	2.82
966281	AG1-497 C O1	6.07	Adder	7.14
966282	AG1-497 E O1	2.6	Adder	3.06
966601	AG1-529 C	3.79	Adder	4.46
966602	AG1-529 E	2.02	Adder	2.38
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.6199	Confirmed LTF	0.6199
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.52	Confirmed LTF	0.52
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	1.0711	Confirmed LTF	1.0711
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.3216	Confirmed LTF	0.3216
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.2353	Confirmed LTF	0.2353
LTFEXP_CBM-N	LTFEXP_CBM-N->LTFIMP_CBM-N	1.3397	LTF/CBM	1.3397
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.3243	Confirmed LTF	0.3243
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	1.3374	Confirmed LTF	1.3374
LTFEXP_G-007A	LTFEXP_G-007A->LTFIMP_G-007A	3.8129	LTF/CMTX	3.8129
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.3368	Confirmed LTF	0.3368
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.3956	Confirmed LTF	0.3956
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	1.6101	Confirmed LTF	1.6101
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.3432	Confirmed LTF	0.3432
LTFEXP_VFT	LTFEXP_VFT->LTFIMP_VFT	8.8439	Confirmed LTF	8.8439

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
182552468	232005	VIENNA	DP&L	232000	STEELE	DP&L	1	DPL_P4-2_DP3	breaker	550.0	107.93	117.17	AC	60.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.8	80 50	0.8
232405	W1-003 E	4.53	80 50	4.53
232406	W1-004 C	0.8	80 50	0.8
232407	W1-004 E	4.53	80 50	4.53
232408	W1-005 C	0.8	80 50	0.8
232409	W1-005 E	4.53	80 50	4.53
232410	W1-006 C	0.8	80 50	0.8
232411	W1-006 E	4.53	80 50	4.53
232412	X1-032 E	1.53	80 50	1.53
232418	X3-008 E	2.9	Adder	3.41
232427	Y1-080 E	0.65	Adder	0.76
232428	Y3-058 C	0.34	80 50	0.34
232429	Y3-058 E	2.23	80 50	2.23
232433	Z2-076 E	0.48	Adder	0.56
232435	Z2-077 E	0.48	Adder	0.56
232851	DUP-SFR1	2.15	Adder	2.53
232907	VN8	13.06	80 50	13.06
232912	OH NUG1	2.12	80 50	2.12
232914	OH NUG3	2.12	80 50	2.12
232915	OH NUG4	2.12	80 50	2.12
232916	OH NUG5	2.12	80 50	2.12
232919	VN10	0.72	80 50	0.72
232926	CRISFLD1	0.64	80 50	0.64
233923	AA1-102 C	3.62	80 50	3.62
917082	CHERRYDALE E	3.84	Adder	4.52
918835	AA1-102 E	35.99	80 50	35.99
924831	AB2-136 C	6.81	Adder	8.01
924832	AB2-136 E	7.22	Adder	8.49
925151	AB2-172 C	4.44	Adder	5.22
925152	AB2-172 E	7.24	Adder	8.52
925261	AB2-180 C	5.13	80 50	5.13
925262	AB2-180 E	2.2	80 50	2.2
927031	AC1-190 C	8.43	Adder	9.92
927032	AC1-190 E	3.61	Adder	4.25
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.98	Adder	1.15
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.64	Adder	0.75
930201	AB1-056 C	13.93	Adder	16.39
930202	AB1-056 E	39.67	Adder	46.67
932161	AC2-023 C	9.83	80 50	9.83
932162	AC2-023 E	7.16	80 50	7.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933641	AC2-186 C	2.41	Adder	2.84
933642	AC2-186 E	3.93	Adder	4.62
938651	AE1-087 C	3.74	Adder	4.4
938652	AE1-087 E	0.93	Adder	1.09
938895	AE1-117 C	10.84	Adder	12.75
938896	AE1-117 E	28.91	Adder	34.01
939151	AE1-145	6.16	Adder	7.25
942441	AE2-257 C	7.34	Adder	8.64
942442	AE2-257 E	19.36	Adder	22.78
943361	AF1-007 C	0.41	Adder	0.48
943362	AF1-007 E	1.17	Adder	1.38
945661	AF1-231 C	2.35	Adder	2.76
945662	AF1-231 E	3.53	Adder	4.15
945791	AF1-244 (Withdrawn : 06/07/2021)	3.1	80 50	3.1
945931	AF1-258	1.17	80 50	1.17
957611	AF2-055 C	10.83	Adder	12.74
957612	AF2-055 E	4.64	Adder	5.46
957661	AF2-060	2.77	Adder	3.26
957671	AF2-061 O1	12.32	Adder	14.49
959021	AF2-193 C	25.74	Adder	30.28
959022	AF2-193 E	69.43	Adder	81.68
959031	AF2-194 C	25.74	Adder	30.28
959032	AF2-194 E	69.43	Adder	81.68
959051	AF2-196 C	2.0	Adder	2.35
959052	AF2-196 E	4.67	Adder	5.49
959161	AF2-207 C O1	6.07	Adder	7.14
959162	AF2-207 E O1	9.11	Adder	10.72
959581	AF2-249 C	0.18	Adder	0.21
959582	AF2-249 E	0.73	Adder	0.86
959591	AF2-250 C	0.33	Adder	0.39
959592	AF2-250 E	0.26	Adder	0.31
960341	AF2-325 C	1.09	Adder	1.28
960342	AF2-325 E	1.51	Adder	1.78
960671	AF2-358 C O1	22.25	80 50	22.25
960672	AF2-358 E O1	14.84	80 50	14.84
960871	AF2-378 C	0.3	Adder	0.35
960872	AF2-378 E	0.41	Adder	0.48
960881	AF2-379 C	0.63	80 50	0.63
960882	AF2-379 E	0.87	80 50	0.87
960941	AF2-385 C	14.4	Adder	16.94
960942	AF2-385 E	8.19	Adder	9.64
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	52.03	80 50	52.03
962161	AG1-061 C O1	18.88	Adder	22.21
962162	AG1-061 E O1	12.59	Adder	14.81
962381	AG1-087 C O1	13.96	Adder	16.42
962382	AG1-087 E O1	37.66	Adder	44.31
963001	AG1-149 (Withdrawn : 06/07/2021)	1.16	80 50	1.16
963011	AG1-150	12.32	Adder	14.49
964551	AG1-318 C	0.07	Adder	0.08
964552	AG1-318 E	0.16	Adder	0.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
964962	AG1-360 E	3.35	80 50	3.35
965321	AG1-397 C	1.2	Adder	1.41
965322	AG1-397 E	1.66	Adder	1.95
965611	AG1-429 C O1	10.91	Adder	12.84
965612	AG1-429 E O1	7.27	Adder	8.55
965821	AG1-450	9.27	80 50	9.27
965921	AG1-461 C O1	4.75	Adder	5.59
965922	AG1-461 E O1	2.56	Adder	3.01
965951	AG1-464 C O1	2.53	Adder	2.98
965952	AG1-464 E O1	3.8	Adder	4.47
966601	AG1-529 C	6.37	Adder	7.49
966602	AG1-529 E	3.4	Adder	4.0
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.2443	Confirmed LTF	0.2443
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.1854	Confirmed LTF	0.1854
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.4238	Confirmed LTF	0.4238
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.1219	Confirmed LTF	0.1219
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0862	Confirmed LTF	0.0862
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.1228	Confirmed LTF	0.1228
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.5142	Confirmed LTF	0.5142
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.1265	LTF/CMTX NF	0.1265
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1333	Confirmed LTF	0.1333
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1425	Confirmed LTF	0.1425
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0969	Confirmed LTF	0.0969
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.9609	LTF/CMTX NF	0.9609
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.6311	Confirmed LTF	0.6311
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1358	Confirmed LTF	0.1358

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
164868397	232012	HOPE CREEK	PJM	200029	HOPE CRK	PJM	1	DPL_P7_1_DBL_4NC	tower	1117.0	108.7	128.29	AC	218.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	4.39	Adder	5.16
232407	W1-004 E	4.39	Adder	5.16
232409	W1-005 E	4.39	Adder	5.16
232411	W1-006 E	4.39	Adder	5.16
232412	X1-032 E	1.4	Adder	1.65
232418	X3-008 E	3.69	Adder	4.34
232423	X3-066 E	0.63	Adder	0.74
232425	Y1-079 E	1.37	Adder	1.61
232427	Y1-080 E	0.66	Adder	0.78
232429	Y3-058 E	2.09	Adder	2.46
232433	Z2-076 E	0.76	Adder	0.89
232435	Z2-077 E	0.76	Adder	0.89
232616	GEN FOOD	1.5	80 50	1.5
232813	VAUGHN	0.23	80 50	0.23
232851	DUP-SFR1	3.81	Adder	4.48
232899	W1-062	4.63	80 50	4.63
232900	DEMECSMY	4.54	80 50	4.54
232901	NORTHST	4.55	80 50	4.55
232922	MR3 (Deactivation : 01/06/2021)	61.48	80 50	61.48
233916	AB1-141 E	1.25	Adder	1.47
233919	AB1-142 E	1.25	Adder	1.47
233920	W3-032A-CTG1	19.09	80 50	19.09
233921	W3-032A-STG1	11.49	80 50	11.49
917082	CHERRYDALE E	4.39	Adder	5.16
918835	AA1-102 E	32.33	Adder	38.04
919831	AA2-069	271.82	80 50	271.82
923921	AB2-032 C	2.7	Adder	3.18
923922	AB2-032 E	1.27	Adder	1.49
923951	AB2-036 C	7.61	Adder	8.95
923952	AB2-036 E	12.45	Adder	14.65
923961	AB2-037 C	16.31	Adder	19.19
923962	AB2-037 E	26.65	Adder	31.35
924801	AB2-133 C O1	5.14	Adder	6.05
924802	AB2-133 E O1	6.52	Adder	7.67
924821	AB2-135 C	7.6	Adder	8.94
924822	AB2-135 E	8.67	Adder	10.2
924831	AB2-136 C	7.62	Adder	8.96
924832	AB2-136 E	8.08	Adder	9.51
924971	AB2-153 C	1.51	Adder	1.78
924972	AB2-153 E	2.46	Adder	2.89
925151	AB2-172 C	5.66	Adder	6.66

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925152	AB2-172 E	9.24	Adder	10.87
925261	AB2-180 C	4.8	Adder	5.65
925262	AB2-180 E	2.06	Adder	2.42
926131	AC1-091 C	4.71	80 50	4.71
926132	AC1-091 E	7.73	80 50	7.73
926141	AC1-092 C	4.71	80 50	4.71
926142	AC1-092 E	7.73	80 50	7.73
926151	AC1-093 C	4.46	80 50	4.46
926152	AC1-093 E	7.36	80 50	7.36
926161	AC1-094 C	3.77	80 50	3.77
926162	AC1-094 E	6.22	80 50	6.22
927031	AC1-190 C	10.49	Adder	12.34
927032	AC1-190 E	4.49	Adder	5.28
927191	AC1-213 C (Withdrawn : 05/24/2021)	1.12	Adder	1.32
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.73	Adder	0.86
930201	AB1-056 C	24.95	Adder	29.35
930202	AB1-056 E	71.06	Adder	83.6
931261	AB1-176 C	0.32	Adder	0.38
931262	AB1-176 E	0.53	Adder	0.62
932161	AC2-023 C	8.97	Adder	10.55
932162	AC2-023 E	6.53	Adder	7.68
933631	AC2-185 C	9.56	80 50	9.56
933632	AC2-185 E	15.59	80 50	15.59
933641	AC2-186 C	9.01	80 50	9.01
933642	AC2-186 E	14.7	80 50	14.7
936611	AD2-076 C O1	3.79	Adder	4.46
936612	AD2-076 E O1	6.18	Adder	7.27
938651	AE1-087 C	4.77	Adder	5.61
938652	AE1-087 E	1.19	Adder	1.4
938895	AE1-117 C	18.39	Adder	21.64
938896	AE1-117 E	49.04	Adder	57.69
939151	AE1-145	7.09	Adder	8.34
941021	AE2-093 C	3.94	Adder	4.64
941022	AE2-093 E	6.43	Adder	7.56
941181	AE2-112 C	1.31	Adder	1.54
941182	AE2-112 E	2.14	Adder	2.52
942441	AE2-257 C	12.67	Adder	14.91
942442	AE2-257 E	33.4	Adder	39.29
943361	AF1-007 C	0.74	Adder	0.87
943362	AF1-007 E	2.09	Adder	2.46
943441	AF1-015 C	1.48	Adder	1.74
943442	AF1-015 E	2.05	Adder	2.41
943651	AF1-036 C	1.71	Adder	2.01
943652	AF1-036 E	2.36	Adder	2.78
945661	AF1-231 C	2.69	Adder	3.16
945662	AF1-231 E	4.04	Adder	4.75
945791	AF1-244 (Withdrawn : 06/07/2021)	2.78	Adder	3.27
945931	AF1-258	1.1	Adder	1.29
945941	AF1-259	0.17	Adder	0.2
957611	AF2-055 C	12.4	Adder	14.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957612	AF2-055 E	5.31	Adder	6.25
957661	AF2-060	3.19	Adder	3.75
957671	AF2-061 O1	14.18	Adder	16.68
959021	AF2-193 C	46.11	Adder	54.25
959022	AF2-193 E	124.37	Adder	146.32
959031	AF2-194 C	46.11	Adder	54.25
959032	AF2-194 E	124.37	Adder	146.32
959051	AF2-196 C	3.45	Adder	4.06
959052	AF2-196 E	8.06	Adder	9.48
959161	AF2-207 C O1	7.1	Adder	8.35
959162	AF2-207 E O1	10.65	Adder	12.53
959581	AF2-249 C	0.21	Adder	0.25
959582	AF2-249 E	0.84	Adder	0.99
959591	AF2-250 C	0.39	Adder	0.46
959592	AF2-250 E	0.3	Adder	0.35
960221	AF2-313 C	2.72	Adder	3.2
960222	AF2-313 E	1.54	Adder	1.81
960341	AF2-325 C	1.28	Adder	1.51
960342	AF2-325 E	1.76	Adder	2.07
960671	AF2-358 C O1	18.99	Adder	22.34
960672	AF2-358 E O1	12.66	Adder	14.89
960871	AF2-378 C	0.34	Adder	0.4
960872	AF2-378 E	0.47	Adder	0.55
960881	AF2-379 C	0.57	Adder	0.67
960882	AF2-379 E	0.78	Adder	0.92
960941	AF2-385 C	16.84	Adder	19.81
960942	AF2-385 E	9.58	Adder	11.27
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	31.18	Adder	36.68
962161	AG1-061 C O1	22.7	Adder	26.71
962162	AG1-061 E O1	15.13	Adder	17.8
962261	AG1-072	11.33	Adder	13.33
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.48	Adder	0.56
962381	AG1-087 C O1	58.97	80 50	58.97
962382	AG1-087 E O1	159.07	80 50	159.07
963001	AG1-149 (Withdrawn : 06/07/2021)	1.04	Adder	1.22
963011	AG1-150	14.18	Adder	16.68
964551	AG1-318 C	0.11	Adder	0.13
964552	AG1-318 E	0.27	Adder	0.32
964962	AG1-360 E	3.05	Adder	3.59
965321	AG1-397 C	1.5	Adder	1.76
965322	AG1-397 E	2.07	Adder	2.44
965611	AG1-429 C O1	12.49	Adder	14.69
965612	AG1-429 E O1	8.32	Adder	9.79
965821	AG1-450	7.91	Adder	9.31
965921	AG1-461 C O1	7.21	Adder	8.48
965922	AG1-461 E O1	3.88	Adder	4.56
965951	AG1-464 C O1	9.48	80 50	9.48
965952	AG1-464 E O1	14.22	80 50	14.22
966281	AG1-497 C O1	50.63	80 50	50.63
966282	AG1-497 E O1	21.7	80 50	21.7

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966601	AG1-529 C	23.58	80 50	23.58
966602	AG1-529 E	12.59	80 50	12.59
LTFEXP_AC1-056	LTFEXP_AC1-056- >LTFIMP_AC1-056	0.2882	Confirmed LTF	0.2882
LTFEXP_AC1-131	LTFEXP_AC1-131- >LTFIMP_AC1-131	0.1956	Confirmed LTF	0.1956
LTFEXP_BlueG	LTFEXP_BlueG- >LTFIMP_BlueG	0.5016	Confirmed LTF	0.5016
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD- >LTFIMP_CALDERWOOD	0.138	Confirmed LTF	0.138
LTFEXP_CATAWBA	LTFEXP_CATAWBA- >LTFIMP_CATAWBA	0.0939	Confirmed LTF	0.0939
LTFEXP_CHEOAH	LTFEXP_CHEOAH- >LTFIMP_CHEOAH	0.1388	Confirmed LTF	0.1388
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD- >LTFIMP_COTTONWOOD	0.5913	Confirmed LTF	0.5913
LTFEXP_G-007	LTFEXP_G-007- >LTFIMP_G-007	1.5247	LTF/CMTX NF	1.5247
LTFEXP_GIBSON	LTFEXP_GIBSON- >LTFIMP_GIBSON	0.1578	Confirmed LTF	0.1578
LTFEXP_HAMLET	LTFEXP_HAMLET- >LTFIMP_HAMLET	0.1523	Confirmed LTF	0.1523
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019- >LTFIMP_LGE-0012019	0.002	Confirmed LTF	0.002
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.531	Confirmed LTF	0.531
LTFEXP_O-066	LTFEXP_O-066- >LTFIMP_O-066	8.508	LTF/CMTX NF	8.508
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE- >LTFIMP_PRAIRIE	0.7403	Confirmed LTF	0.7403
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE- >LTFIMP_TRIMBLE	0.1609	Confirmed LTF	0.1609

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174170014	232013	SILVER RUN	PJM	231004	RL_230	PJM	1	DPL_P4-2_DP11	breaker	678.0	100.14	119.81	AC	130.08

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	2.86	Adder	3.36
232407	W1-004 E	2.86	Adder	3.36
232409	W1-005 E	2.86	Adder	3.36
232411	W1-006 E	2.86	Adder	3.36
232412	X1-032 E	0.92	Adder	1.08
232418	X3-008 E	1.88	Adder	2.21
232427	Y1-080 E	0.4	Adder	0.47
232429	Y3-058 E	1.33	Adder	1.56
232433	Z2-076 E	0.48	Adder	0.56
232435	Z2-077 E	0.48	Adder	0.56
232616	GEN FOOD	0.77	80 50	0.77
232851	DUP-SFR1	2.29	Adder	2.69
232899	W1-062	2.26	80 50	2.26
232901	NORTHST	2.33	80 50	2.33
232904	IR4	19.23	80 50	19.23
232920	IR10	0.75	80 50	0.75
232922	MR3 (Deactivation : 01/06/2021)	31.48	80 50	31.48
233920	W3-032A-CTG1	9.77	80 50	9.77
233921	W3-032A-STG1	5.88	80 50	5.88
917082	CHERRYDALE E	2.86	Adder	3.36
918835	AA1-102 E	21.28	Adder	25.04
919831	AA2-069	139.18	80 50	139.18
924831	AB2-136 C	4.26	Adder	5.01
924832	AB2-136 E	4.52	Adder	5.32
925151	AB2-172 C	2.88	Adder	3.39
925152	AB2-172 E	4.69	Adder	5.52
925261	AB2-180 C	3.06	Adder	3.6
925262	AB2-180 E	1.31	Adder	1.54
926131	AC1-091 C	2.24	80 50	2.24
926132	AC1-091 E	3.67	80 50	3.67
926141	AC1-092 C	2.24	80 50	2.24
926142	AC1-092 E	3.67	80 50	3.67
926151	AC1-093 C	2.12	80 50	2.12
926152	AC1-093 E	3.49	80 50	3.49
926161	AC1-094 C	1.79	80 50	1.79
926162	AC1-094 E	2.95	80 50	2.95
927031	AC1-190 C	5.43	Adder	6.39
927032	AC1-190 E	2.33	Adder	2.74
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.72	Adder	0.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.47	Adder	0.55
930201	AB1-056 C	18.32	80 50	18.32
930202	AB1-056 E	52.17	80 50	52.17
932161	AC2-023 C	5.7	Adder	6.71
932162	AC2-023 E	4.15	Adder	4.88
933631	AC2-185 C	4.53	80 50	4.53
933632	AC2-185 E	7.4	80 50	7.4
933641	AC2-186 C	4.16	Adder	4.89
933642	AC2-186 E	6.79	Adder	7.99
938651	AE1-087 C	2.42	Adder	2.85
938652	AE1-087 E	0.61	Adder	0.72
938895	AE1-117 C	13.52	80 50	13.52
938896	AE1-117 E	36.05	80 50	36.05
939151	AE1-145	4.61	Adder	5.42
942441	AE2-257 C	9.31	80 50	9.31
942442	AE2-257 E	24.53	80 50	24.53
943361	AF1-007 C	0.54	80 50	0.54
943362	AF1-007 E	1.54	80 50	1.54
945661	AF1-231 C	1.75	Adder	2.06
945662	AF1-231 E	2.63	Adder	3.09
945791	AF1-244 (Withdrawn : 06/07/2021)	1.83	Adder	2.15
945931	AF1-258	0.7	Adder	0.82
957611	AF2-055 C	8.07	Adder	9.49
957612	AF2-055 E	3.46	Adder	4.07
957661	AF2-060	2.08	Adder	2.45
957671	AF2-061 O1	9.23	Adder	10.86
959021	AF2-193 C	33.85	80 50	33.85
959022	AF2-193 E	91.31	80 50	91.31
959031	AF2-194 C	33.85	80 50	33.85
959032	AF2-194 E	91.31	80 50	91.31
959051	AF2-196 C	2.54	80 50	2.54
959052	AF2-196 E	5.92	80 50	5.92
959161	AF2-207 C O1	4.54	Adder	5.34
959162	AF2-207 E O1	6.81	Adder	8.01
959581	AF2-249 C	0.13	Adder	0.15
959582	AF2-249 E	0.54	Adder	0.64
959591	AF2-250 C	0.25	Adder	0.29
959592	AF2-250 E	0.19	Adder	0.22
960341	AF2-325 C	0.69	Adder	0.81
960342	AF2-325 E	0.95	Adder	1.12
960671	AF2-358 C O1	11.52	Adder	13.55
960672	AF2-358 E O1	7.68	Adder	9.04
960871	AF2-378 C	0.19	Adder	0.22
960872	AF2-378 E	0.26	Adder	0.31
960881	AF2-379 C	0.37	Adder	0.44
960882	AF2-379 E	0.51	Adder	0.6
960941	AF2-385 C	10.77	Adder	12.67
960942	AF2-385 E	6.13	Adder	7.21
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	22.04	Adder	25.93
962161	AG1-061 C O1	14.09	Adder	16.58

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962162	AG1-061 E O1	9.39	Adder	11.05
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.18	Adder	0.21
962381	AG1-087 C O1	35.18	80 50	35.18
962382	AG1-087 E O1	94.9	80 50	94.9
963001	AG1-149 (Withdrawn : 06/07/2021)	0.69	Adder	0.81
963011	AG1-150	9.23	Adder	10.86
964551	AG1-318 C	0.08	80 50	0.08
964552	AG1-318 E	0.2	80 50	0.2
964962	AG1-360 E	2.01	Adder	2.36
965321	AG1-397 C	0.95	Adder	1.12
965322	AG1-397 E	1.32	Adder	1.55
965611	AG1-429 C O1	8.13	Adder	9.56
965612	AG1-429 E O1	5.42	Adder	6.38
965821	AG1-450	4.8	Adder	5.65
965921	AG1-461 C O1	4.46	Adder	5.25
965922	AG1-461 E O1	2.4	Adder	2.82
965951	AG1-464 C O1	4.38	Adder	5.15
965952	AG1-464 E O1	6.57	Adder	7.73
966281	AG1-497 C O1	25.92	80 50	25.92
966282	AG1-497 E O1	11.11	80 50	11.11
966601	AG1-529 C	13.86	80 50	13.86
966602	AG1-529 E	7.4	80 50	7.4
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.4442	Confirmed LTF	0.4442
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.3599	Confirmed LTF	0.3599
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.7687	Confirmed LTF	0.7687
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.2273	Confirmed LTF	0.2273
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.1644	Confirmed LTF	0.1644
LTFEXP_CBM-N	LTFEXP_CBM-N->LTFIMP_CBM-N	0.8528	LTF/CBM	0.8528
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.2291	Confirmed LTF	0.2291
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.9501	Confirmed LTF	0.9501
LTFEXP_G-007A	LTFEXP_G-007A->LTFIMP_G-007A	2.5778	LTF/CMTX	2.5778
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.2417	Confirmed LTF	0.2417
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.2747	Confirmed LTF	0.2747
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	1.1516	Confirmed LTF	1.1516
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.2463	Confirmed LTF	0.2463
LTFEXP_VFT	LTFEXP_VFT->LTFIMP_VFT	5.8233	Confirmed LTF	5.8233

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
182424288	232013	SILVER RUN	PJM	232014	LSPWR CABLE	PJM	1	DPL_P7_1_DBL_4NC	tower	1150.0	105.91	123.98	AC	218.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	4.39	Adder	5.16
232407	W1-004 E	4.39	Adder	5.16
232409	W1-005 E	4.39	Adder	5.16
232411	W1-006 E	4.39	Adder	5.16
232412	X1-032 E	1.4	Adder	1.65
232418	X3-008 E	3.69	Adder	4.34
232423	X3-066 E	0.63	Adder	0.74
232425	Y1-079 E	1.37	Adder	1.61
232427	Y1-080 E	0.66	Adder	0.78
232429	Y3-058 E	2.09	Adder	2.46
232433	Z2-076 E	0.76	Adder	0.89
232435	Z2-077 E	0.76	Adder	0.89
232616	GEN FOOD	1.5	80 50	1.5
232813	VAUGHN	0.23	80 50	0.23
232851	DUP-SFR1	3.81	Adder	4.48
232899	W1-062	4.63	80 50	4.63
232900	DEMECSMY	4.54	80 50	4.54
232901	NORTHST	4.55	80 50	4.55
232922	MR3 (Deactivation : 01/06/2021)	61.48	80 50	61.48
233916	AB1-141 E	1.25	Adder	1.47
233919	AB1-142 E	1.25	Adder	1.47
233920	W3-032A-CTG1	19.09	80 50	19.09
233921	W3-032A-STG1	11.49	80 50	11.49
917082	CHERRYDALE E	4.39	Adder	5.16
918835	AA1-102 E	32.33	Adder	38.04
919831	AA2-069	271.82	80 50	271.82
923921	AB2-032 C	2.7	Adder	3.18
923922	AB2-032 E	1.27	Adder	1.49
923951	AB2-036 C	7.61	Adder	8.95
923952	AB2-036 E	12.45	Adder	14.65
923961	AB2-037 C	16.31	Adder	19.19
923962	AB2-037 E	26.65	Adder	31.35
924801	AB2-133 C O1	5.14	Adder	6.05
924802	AB2-133 E O1	6.52	Adder	7.67
924821	AB2-135 C	7.6	Adder	8.94
924822	AB2-135 E	8.67	Adder	10.2
924831	AB2-136 C	7.62	Adder	8.96
924832	AB2-136 E	8.08	Adder	9.51
924971	AB2-153 C	1.51	Adder	1.78
924972	AB2-153 E	2.46	Adder	2.89
925151	AB2-172 C	5.66	Adder	6.66

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925152	AB2-172 E	9.24	Adder	10.87
925261	AB2-180 C	4.8	Adder	5.65
925262	AB2-180 E	2.06	Adder	2.42
926131	AC1-091 C	4.71	80 50	4.71
926132	AC1-091 E	7.73	80 50	7.73
926141	AC1-092 C	4.71	80 50	4.71
926142	AC1-092 E	7.73	80 50	7.73
926151	AC1-093 C	4.46	80 50	4.46
926152	AC1-093 E	7.36	80 50	7.36
926161	AC1-094 C	3.77	80 50	3.77
926162	AC1-094 E	6.22	80 50	6.22
927031	AC1-190 C	10.49	Adder	12.34
927032	AC1-190 E	4.49	Adder	5.28
927191	AC1-213 C (Withdrawn : 05/24/2021)	1.12	Adder	1.32
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.73	Adder	0.86
930201	AB1-056 C	24.95	Adder	29.35
930202	AB1-056 E	71.06	Adder	83.6
931261	AB1-176 C	0.32	Adder	0.38
931262	AB1-176 E	0.53	Adder	0.62
932161	AC2-023 C	8.97	Adder	10.55
932162	AC2-023 E	6.53	Adder	7.68
933631	AC2-185 C	9.56	80 50	9.56
933632	AC2-185 E	15.59	80 50	15.59
933641	AC2-186 C	9.01	80 50	9.01
933642	AC2-186 E	14.7	80 50	14.7
936611	AD2-076 C O1	3.79	Adder	4.46
936612	AD2-076 E O1	6.18	Adder	7.27
938651	AE1-087 C	4.77	Adder	5.61
938652	AE1-087 E	1.19	Adder	1.4
938895	AE1-117 C	18.39	Adder	21.64
938896	AE1-117 E	49.04	Adder	57.69
939151	AE1-145	7.09	Adder	8.34
941021	AE2-093 C	3.94	Adder	4.64
941022	AE2-093 E	6.43	Adder	7.56
941181	AE2-112 C	1.31	Adder	1.54
941182	AE2-112 E	2.14	Adder	2.52
942441	AE2-257 C	12.67	Adder	14.91
942442	AE2-257 E	33.4	Adder	39.29
943361	AF1-007 C	0.74	Adder	0.87
943362	AF1-007 E	2.09	Adder	2.46
943441	AF1-015 C	1.48	Adder	1.74
943442	AF1-015 E	2.05	Adder	2.41
943651	AF1-036 C	1.71	Adder	2.01
943652	AF1-036 E	2.36	Adder	2.78
945661	AF1-231 C	2.69	Adder	3.16
945662	AF1-231 E	4.04	Adder	4.75
945791	AF1-244 (Withdrawn : 06/07/2021)	2.78	Adder	3.27
945931	AF1-258	1.1	Adder	1.29
945941	AF1-259	0.17	Adder	0.2
957611	AF2-055 C	12.4	Adder	14.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957612	AF2-055 E	5.31	Adder	6.25
957661	AF2-060	3.19	Adder	3.75
957671	AF2-061 O1	14.18	Adder	16.68
959021	AF2-193 C	46.11	Adder	54.25
959022	AF2-193 E	124.37	Adder	146.32
959031	AF2-194 C	46.11	Adder	54.25
959032	AF2-194 E	124.37	Adder	146.32
959051	AF2-196 C	3.45	Adder	4.06
959052	AF2-196 E	8.06	Adder	9.48
959161	AF2-207 C O1	7.1	Adder	8.35
959162	AF2-207 E O1	10.65	Adder	12.53
959581	AF2-249 C	0.21	Adder	0.25
959582	AF2-249 E	0.84	Adder	0.99
959591	AF2-250 C	0.39	Adder	0.46
959592	AF2-250 E	0.3	Adder	0.35
960221	AF2-313 C	2.72	Adder	3.2
960222	AF2-313 E	1.54	Adder	1.81
960341	AF2-325 C	1.28	Adder	1.51
960342	AF2-325 E	1.76	Adder	2.07
960671	AF2-358 C O1	18.99	Adder	22.34
960672	AF2-358 E O1	12.66	Adder	14.89
960871	AF2-378 C	0.34	Adder	0.4
960872	AF2-378 E	0.47	Adder	0.55
960881	AF2-379 C	0.57	Adder	0.67
960882	AF2-379 E	0.78	Adder	0.92
960941	AF2-385 C	16.84	Adder	19.81
960942	AF2-385 E	9.58	Adder	11.27
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	31.18	Adder	36.68
962161	AG1-061 C O1	22.7	Adder	26.71
962162	AG1-061 E O1	15.13	Adder	17.8
962261	AG1-072	11.33	Adder	13.33
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.48	Adder	0.56
962381	AG1-087 C O1	58.97	80 50	58.97
962382	AG1-087 E O1	159.07	80 50	159.07
963001	AG1-149 (Withdrawn : 06/07/2021)	1.04	Adder	1.22
963011	AG1-150	14.18	Adder	16.68
964551	AG1-318 C	0.11	Adder	0.13
964552	AG1-318 E	0.27	Adder	0.32
964962	AG1-360 E	3.05	Adder	3.59
965321	AG1-397 C	1.5	Adder	1.76
965322	AG1-397 E	2.07	Adder	2.44
965611	AG1-429 C O1	12.49	Adder	14.69
965612	AG1-429 E O1	8.32	Adder	9.79
965821	AG1-450	7.91	Adder	9.31
965921	AG1-461 C O1	7.21	Adder	8.48
965922	AG1-461 E O1	3.88	Adder	4.56
965951	AG1-464 C O1	9.48	80 50	9.48
965952	AG1-464 E O1	14.22	80 50	14.22
966281	AG1-497 C O1	50.63	80 50	50.63
966282	AG1-497 E O1	21.7	80 50	21.7

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966601	AG1-529 C	23.58	80 50	23.58
966602	AG1-529 E	12.59	80 50	12.59
LTFEXP_AC1-056	LTFEXP_AC1-056- >LTFIMP_AC1-056	0.2882	Confirmed LTF	0.2882
LTFEXP_AC1-131	LTFEXP_AC1-131- >LTFIMP_AC1-131	0.1956	Confirmed LTF	0.1956
LTFEXP_BlueG	LTFEXP_BlueG- >LTFIMP_BlueG	0.5016	Confirmed LTF	0.5016
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD- >LTFIMP_CALDERWOOD	0.138	Confirmed LTF	0.138
LTFEXP_CATAWBA	LTFEXP_CATAWBA- >LTFIMP_CATAWBA	0.0939	Confirmed LTF	0.0939
LTFEXP_CHEOAH	LTFEXP_CHEOAH- >LTFIMP_CHEOAH	0.1388	Confirmed LTF	0.1388
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD- >LTFIMP_COTTONWOOD	0.5913	Confirmed LTF	0.5913
LTFEXP_G-007	LTFEXP_G-007- >LTFIMP_G-007	1.5247	LTF/CMTX NF	1.5247
LTFEXP_GIBSON	LTFEXP_GIBSON- >LTFIMP_GIBSON	0.1578	Confirmed LTF	0.1578
LTFEXP_HAMLET	LTFEXP_HAMLET- >LTFIMP_HAMLET	0.1523	Confirmed LTF	0.1523
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019- >LTFIMP_LGE-0012019	0.002	Confirmed LTF	0.002
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.531	Confirmed LTF	0.531
LTFEXP_O-066	LTFEXP_O-066- >LTFIMP_O-066	8.508	LTF/CMTX NF	8.508
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE- >LTFIMP_PRAIRIE	0.7403	Confirmed LTF	0.7403
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE- >LTFIMP_TRIMBLE	0.1609	Confirmed LTF	0.1609

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
182424730	232014	LSPWR CABLE	PJM	232012	HOPE CREEK	PJM	2	DPL_P7_1_DBL_4NC	tower	575.0	105.86	123.95	AC	109.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	2.19	Adder	2.58
232407	W1-004 E	2.19	Adder	2.58
232409	W1-005 E	2.19	Adder	2.58
232411	W1-006 E	2.19	Adder	2.58
232412	X1-032 E	0.7	Adder	0.82
232418	X3-008 E	1.85	Adder	2.18
232423	X3-066 E	0.31	Adder	0.36
232425	Y1-079 E	0.68	Adder	0.8
232427	Y1-080 E	0.33	Adder	0.39
232429	Y3-058 E	1.05	Adder	1.24
232433	Z2-076 E	0.38	Adder	0.45
232435	Z2-077 E	0.38	Adder	0.45
232616	GEN FOOD	0.75	80 50	0.75
232813	VAUGHN	0.11	80 50	0.11
232851	DUP-SFR1	1.9	Adder	2.24
232899	W1-062	2.32	80 50	2.32
232900	DEMECSMY	2.27	80 50	2.27
232901	NORTHST	2.27	80 50	2.27
232922	MR3 (Deactivation : 01/06/2021)	30.74	80 50	30.74
233916	AB1-141 E	0.62	Adder	0.73
233919	AB1-142 E	0.62	Adder	0.73
233920	W3-032A-CTG1	9.55	80 50	9.55
233921	W3-032A-STG1	5.75	80 50	5.75
917082	CHERRYDALE E	2.2	Adder	2.59
918835	AA1-102 E	16.17	Adder	19.02
919831	AA2-069	135.91	80 50	135.91
923921	AB2-032 C	1.35	Adder	1.59
923922	AB2-032 E	0.63	Adder	0.74
923951	AB2-036 C	3.8	Adder	4.47
923952	AB2-036 E	6.22	Adder	7.32
923961	AB2-037 C	8.16	Adder	9.6
923962	AB2-037 E	13.32	Adder	15.67
924801	AB2-133 C O1	2.57	Adder	3.02
924802	AB2-133 E O1	3.26	Adder	3.84
924821	AB2-135 C	3.8	Adder	4.47
924822	AB2-135 E	4.34	Adder	5.11
924831	AB2-136 C	3.81	Adder	4.48
924832	AB2-136 E	4.04	Adder	4.75
924971	AB2-153 C	0.75	Adder	0.88
924972	AB2-153 E	1.23	Adder	1.45
925151	AB2-172 C	2.83	Adder	3.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925152	AB2-172 E	4.62	Adder	5.44
925261	AB2-180 C	2.4	Adder	2.82
925262	AB2-180 E	1.03	Adder	1.21
926131	AC1-091 C	2.36	80 50	2.36
926132	AC1-091 E	3.87	80 50	3.87
926141	AC1-092 C	2.36	80 50	2.36
926142	AC1-092 E	3.87	80 50	3.87
926151	AC1-093 C	2.23	80 50	2.23
926152	AC1-093 E	3.68	80 50	3.68
926161	AC1-094 C	1.89	80 50	1.89
926162	AC1-094 E	3.11	80 50	3.11
927031	AC1-190 C	5.24	Adder	6.16
927032	AC1-190 E	2.25	Adder	2.65
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.56	Adder	0.66
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.37	Adder	0.44
930201	AB1-056 C	12.48	Adder	14.68
930202	AB1-056 E	35.53	Adder	41.8
931261	AB1-176 C	0.16	Adder	0.19
931262	AB1-176 E	0.27	Adder	0.32
932161	AC2-023 C	4.48	Adder	5.27
932162	AC2-023 E	3.27	Adder	3.85
933631	AC2-185 C	4.78	80 50	4.78
933632	AC2-185 E	7.8	80 50	7.8
933641	AC2-186 C	4.5	80 50	4.5
933642	AC2-186 E	7.35	80 50	7.35
936611	AD2-076 C O1	1.89	Adder	2.22
936612	AD2-076 E O1	3.09	Adder	3.64
938651	AE1-087 C	2.38	Adder	2.8
938652	AE1-087 E	0.6	Adder	0.71
938895	AE1-117 C	9.2	Adder	10.82
938896	AE1-117 E	24.52	Adder	28.85
939151	AE1-145	3.55	Adder	4.18
941021	AE2-093 C	1.97	Adder	2.32
941022	AE2-093 E	3.21	Adder	3.78
941181	AE2-112 C	0.66	Adder	0.78
941182	AE2-112 E	1.07	Adder	1.26
942441	AE2-257 C	6.33	Adder	7.45
942442	AE2-257 E	16.7	Adder	19.65
943361	AF1-007 C	0.37	Adder	0.44
943362	AF1-007 E	1.05	Adder	1.24
943441	AF1-015 C	0.74	Adder	0.87
943442	AF1-015 E	1.02	Adder	1.2
943651	AF1-036 C	0.85	Adder	1.0
943652	AF1-036 E	1.18	Adder	1.39
945661	AF1-231 C	1.35	Adder	1.59
945662	AF1-231 E	2.02	Adder	2.38
945791	AF1-244 (Withdrawn : 06/07/2021)	1.39	Adder	1.64
945931	AF1-258	0.55	Adder	0.65
945941	AF1-259	0.09	Adder	0.11
957611	AF2-055 C	6.2	Adder	7.29

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957612	AF2-055 E	2.66	Adder	3.13
957661	AF2-060	1.6	Adder	1.88
957671	AF2-061 O1	7.09	Adder	8.34
959021	AF2-193 C	23.05	Adder	27.12
959022	AF2-193 E	62.18	Adder	73.15
959031	AF2-194 C	23.05	Adder	27.12
959032	AF2-194 E	62.18	Adder	73.15
959051	AF2-196 C	1.73	Adder	2.04
959052	AF2-196 E	4.03	Adder	4.74
959161	AF2-207 C O1	3.55	Adder	4.18
959162	AF2-207 E O1	5.33	Adder	6.27
959581	AF2-249 C	0.11	Adder	0.13
959582	AF2-249 E	0.42	Adder	0.49
959591	AF2-250 C	0.19	Adder	0.22
959592	AF2-250 E	0.15	Adder	0.18
960221	AF2-313 C	1.36	Adder	1.6
960222	AF2-313 E	0.77	Adder	0.91
960341	AF2-325 C	0.64	Adder	0.75
960342	AF2-325 E	0.88	Adder	1.04
960671	AF2-358 C O1	9.5	Adder	11.18
960672	AF2-358 E O1	6.33	Adder	7.45
960871	AF2-378 C	0.17	Adder	0.2
960872	AF2-378 E	0.24	Adder	0.28
960881	AF2-379 C	0.28	Adder	0.33
960882	AF2-379 E	0.39	Adder	0.46
960941	AF2-385 C	8.42	Adder	9.91
960942	AF2-385 E	4.79	Adder	5.64
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	15.59	Adder	18.34
962161	AG1-061 C O1	11.35	Adder	13.35
962162	AG1-061 E O1	7.57	Adder	8.91
962261	AG1-072	5.67	Adder	6.67
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.24	Adder	0.28
962381	AG1-087 C O1	29.49	80 50	29.49
962382	AG1-087 E O1	79.54	80 50	79.54
963001	AG1-149 (Withdrawn : 06/07/2021)	0.52	Adder	0.61
963011	AG1-150	7.09	Adder	8.34
964551	AG1-318 C	0.06	Adder	0.07
964552	AG1-318 E	0.13	Adder	0.15
964962	AG1-360 E	1.53	Adder	1.8
965321	AG1-397 C	0.75	Adder	0.88
965322	AG1-397 E	1.03	Adder	1.21
965611	AG1-429 C O1	6.24	Adder	7.34
965612	AG1-429 E O1	4.16	Adder	4.89
965821	AG1-450	3.96	Adder	4.66
965921	AG1-461 C O1	3.61	Adder	4.25
965922	AG1-461 E O1	1.94	Adder	2.28
965951	AG1-464 C O1	4.74	80 50	4.74
965952	AG1-464 E O1	7.11	80 50	7.11
966281	AG1-497 C O1	25.31	80 50	25.31
966282	AG1-497 E O1	10.85	80 50	10.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966601	AG1-529 C	11.79	80 50	11.79
966602	AG1-529 E	6.29	80 50	6.29
LTFEXP_AC1-056	LTFEXP_AC1-056- >LTFIMP_AC1-056	0.1441	Confirmed LTF	0.1441
LTFEXP_AC1-131	LTFEXP_AC1-131- >LTFIMP_AC1-131	0.0978	Confirmed LTF	0.0978
LTFEXP_BlueG	LTFEXP_BlueG- >LTFIMP_BlueG	0.2508	Confirmed LTF	0.2508
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD- >LTFIMP_CALDERWOOD	0.069	Confirmed LTF	0.069
LTFEXP_CATAWBA	LTFEXP_CATAWBA- >LTFIMP_CATAWBA	0.047	Confirmed LTF	0.047
LTFEXP_CHEOAH	LTFEXP_CHEOAH- >LTFIMP_CHEOAH	0.0694	Confirmed LTF	0.0694
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD- >LTFIMP_COTTONWOOD	0.2956	Confirmed LTF	0.2956
LTFEXP_G-007	LTFEXP_G-007- >LTFIMP_G-007	0.7624	LTF/CMTX NF	0.7624
LTFEXP_GIBSON	LTFEXP_GIBSON- >LTFIMP_GIBSON	0.0789	Confirmed LTF	0.0789
LTFEXP_HAMLET	LTFEXP_HAMLET- >LTFIMP_HAMLET	0.0761	Confirmed LTF	0.0761
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019- >LTFIMP_LGE-0012019	0.001	Confirmed LTF	0.001
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.2655	Confirmed LTF	0.2655
LTFEXP_O-066	LTFEXP_O-066- >LTFIMP_O-066	4.254	LTF/CMTX NF	4.254
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE- >LTFIMP_PRAIRIE	0.3701	Confirmed LTF	0.3701
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE- >LTFIMP_TRIMBLE	0.0804	Confirmed LTF	0.0804

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
182425172	232014	LSPWR CABLE	PJM	232012	HOPE CREEK	PJM	1	DPL_P7_1_DBL_4NC	tower	575.0	105.86	123.95	AC	109.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	2.19	Adder	2.58
232407	W1-004 E	2.19	Adder	2.58
232409	W1-005 E	2.19	Adder	2.58
232411	W1-006 E	2.19	Adder	2.58
232412	X1-032 E	0.7	Adder	0.82
232418	X3-008 E	1.85	Adder	2.18
232423	X3-066 E	0.31	Adder	0.36
232425	Y1-079 E	0.68	Adder	0.8
232427	Y1-080 E	0.33	Adder	0.39
232429	Y3-058 E	1.05	Adder	1.24
232433	Z2-076 E	0.38	Adder	0.45
232435	Z2-077 E	0.38	Adder	0.45
232616	GEN FOOD	0.75	80 50	0.75
232813	VAUGHN	0.11	80 50	0.11
232851	DUP-SFR1	1.9	Adder	2.24
232899	W1-062	2.32	80 50	2.32
232900	DEMECSMY	2.27	80 50	2.27
232901	NORTHST	2.27	80 50	2.27
232922	MR3 (Deactivation : 01/06/2021)	30.74	80 50	30.74
233916	AB1-141 E	0.62	Adder	0.73
233919	AB1-142 E	0.62	Adder	0.73
233920	W3-032A-CTG1	9.55	80 50	9.55
233921	W3-032A-STG1	5.75	80 50	5.75
917082	CHERRYDALE E	2.2	Adder	2.59
918835	AA1-102 E	16.17	Adder	19.02
919831	AA2-069	135.91	80 50	135.91
923921	AB2-032 C	1.35	Adder	1.59
923922	AB2-032 E	0.63	Adder	0.74
923951	AB2-036 C	3.8	Adder	4.47
923952	AB2-036 E	6.22	Adder	7.32
923961	AB2-037 C	8.16	Adder	9.6
923962	AB2-037 E	13.32	Adder	15.67
924801	AB2-133 C O1	2.57	Adder	3.02
924802	AB2-133 E O1	3.26	Adder	3.84
924821	AB2-135 C	3.8	Adder	4.47
924822	AB2-135 E	4.34	Adder	5.11
924831	AB2-136 C	3.81	Adder	4.48
924832	AB2-136 E	4.04	Adder	4.75
924971	AB2-153 C	0.75	Adder	0.88
924972	AB2-153 E	1.23	Adder	1.45
925151	AB2-172 C	2.83	Adder	3.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925152	AB2-172 E	4.62	Adder	5.44
925261	AB2-180 C	2.4	Adder	2.82
925262	AB2-180 E	1.03	Adder	1.21
926131	AC1-091 C	2.36	80 50	2.36
926132	AC1-091 E	3.87	80 50	3.87
926141	AC1-092 C	2.36	80 50	2.36
926142	AC1-092 E	3.87	80 50	3.87
926151	AC1-093 C	2.23	80 50	2.23
926152	AC1-093 E	3.68	80 50	3.68
926161	AC1-094 C	1.89	80 50	1.89
926162	AC1-094 E	3.11	80 50	3.11
927031	AC1-190 C	5.24	Adder	6.16
927032	AC1-190 E	2.25	Adder	2.65
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.56	Adder	0.66
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.37	Adder	0.44
930201	AB1-056 C	12.48	Adder	14.68
930202	AB1-056 E	35.53	Adder	41.8
931261	AB1-176 C	0.16	Adder	0.19
931262	AB1-176 E	0.27	Adder	0.32
932161	AC2-023 C	4.48	Adder	5.27
932162	AC2-023 E	3.27	Adder	3.85
933631	AC2-185 C	4.78	80 50	4.78
933632	AC2-185 E	7.8	80 50	7.8
933641	AC2-186 C	4.5	80 50	4.5
933642	AC2-186 E	7.35	80 50	7.35
936611	AD2-076 C O1	1.89	Adder	2.22
936612	AD2-076 E O1	3.09	Adder	3.64
938651	AE1-087 C	2.38	Adder	2.8
938652	AE1-087 E	0.6	Adder	0.71
938895	AE1-117 C	9.2	Adder	10.82
938896	AE1-117 E	24.52	Adder	28.85
939151	AE1-145	3.55	Adder	4.18
941021	AE2-093 C	1.97	Adder	2.32
941022	AE2-093 E	3.21	Adder	3.78
941181	AE2-112 C	0.66	Adder	0.78
941182	AE2-112 E	1.07	Adder	1.26
942441	AE2-257 C	6.33	Adder	7.45
942442	AE2-257 E	16.7	Adder	19.65
943361	AF1-007 C	0.37	Adder	0.44
943362	AF1-007 E	1.05	Adder	1.24
943441	AF1-015 C	0.74	Adder	0.87
943442	AF1-015 E	1.02	Adder	1.2
943651	AF1-036 C	0.85	Adder	1.0
943652	AF1-036 E	1.18	Adder	1.39
945661	AF1-231 C	1.35	Adder	1.59
945662	AF1-231 E	2.02	Adder	2.38
945791	AF1-244 (Withdrawn : 06/07/2021)	1.39	Adder	1.64
945931	AF1-258	0.55	Adder	0.65
945941	AF1-259	0.09	Adder	0.11
957611	AF2-055 C	6.2	Adder	7.29

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957612	AF2-055 E	2.66	Adder	3.13
957661	AF2-060	1.6	Adder	1.88
957671	AF2-061 O1	7.09	Adder	8.34
959021	AF2-193 C	23.05	Adder	27.12
959022	AF2-193 E	62.18	Adder	73.15
959031	AF2-194 C	23.05	Adder	27.12
959032	AF2-194 E	62.18	Adder	73.15
959051	AF2-196 C	1.73	Adder	2.04
959052	AF2-196 E	4.03	Adder	4.74
959161	AF2-207 C O1	3.55	Adder	4.18
959162	AF2-207 E O1	5.33	Adder	6.27
959581	AF2-249 C	0.11	Adder	0.13
959582	AF2-249 E	0.42	Adder	0.49
959591	AF2-250 C	0.19	Adder	0.22
959592	AF2-250 E	0.15	Adder	0.18
960221	AF2-313 C	1.36	Adder	1.6
960222	AF2-313 E	0.77	Adder	0.91
960341	AF2-325 C	0.64	Adder	0.75
960342	AF2-325 E	0.88	Adder	1.04
960671	AF2-358 C O1	9.5	Adder	11.18
960672	AF2-358 E O1	6.33	Adder	7.45
960871	AF2-378 C	0.17	Adder	0.2
960872	AF2-378 E	0.24	Adder	0.28
960881	AF2-379 C	0.28	Adder	0.33
960882	AF2-379 E	0.39	Adder	0.46
960941	AF2-385 C	8.42	Adder	9.91
960942	AF2-385 E	4.79	Adder	5.64
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	15.59	Adder	18.34
962161	AG1-061 C O1	11.35	Adder	13.35
962162	AG1-061 E O1	7.57	Adder	8.91
962261	AG1-072	5.67	Adder	6.67
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.24	Adder	0.28
962381	AG1-087 C O1	29.49	80 50	29.49
962382	AG1-087 E O1	79.54	80 50	79.54
963001	AG1-149 (Withdrawn : 06/07/2021)	0.52	Adder	0.61
963011	AG1-150	7.09	Adder	8.34
964551	AG1-318 C	0.06	Adder	0.07
964552	AG1-318 E	0.13	Adder	0.15
964962	AG1-360 E	1.53	Adder	1.8
965321	AG1-397 C	0.75	Adder	0.88
965322	AG1-397 E	1.03	Adder	1.21
965611	AG1-429 C O1	6.24	Adder	7.34
965612	AG1-429 E O1	4.16	Adder	4.89
965821	AG1-450	3.96	Adder	4.66
965921	AG1-461 C O1	3.61	Adder	4.25
965922	AG1-461 E O1	1.94	Adder	2.28
965951	AG1-464 C O1	4.74	80 50	4.74
965952	AG1-464 E O1	7.11	80 50	7.11
966281	AG1-497 C O1	25.31	80 50	25.31
966282	AG1-497 E O1	10.85	80 50	10.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966601	AG1-529 C	11.79	80 50	11.79
966602	AG1-529 E	6.29	80 50	6.29
LTFEXP_AC1-056	LTFEXP_AC1-056- >LTFIMP_AC1-056	0.1441	Confirmed LTF	0.1441
LTFEXP_AC1-131	LTFEXP_AC1-131- >LTFIMP_AC1-131	0.0978	Confirmed LTF	0.0978
LTFEXP_BlueG	LTFEXP_BlueG- >LTFIMP_BlueG	0.2508	Confirmed LTF	0.2508
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD- >LTFIMP_CALDERWOOD	0.069	Confirmed LTF	0.069
LTFEXP_CATAWBA	LTFEXP_CATAWBA- >LTFIMP_CATAWBA	0.047	Confirmed LTF	0.047
LTFEXP_CHEOAH	LTFEXP_CHEOAH- >LTFIMP_CHEOAH	0.0694	Confirmed LTF	0.0694
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD- >LTFIMP_COTTONWOOD	0.2956	Confirmed LTF	0.2956
LTFEXP_G-007	LTFEXP_G-007- >LTFIMP_G-007	0.7624	LTF/CMTX NF	0.7624
LTFEXP_GIBSON	LTFEXP_GIBSON- >LTFIMP_GIBSON	0.0789	Confirmed LTF	0.0789
LTFEXP_HAMLET	LTFEXP_HAMLET- >LTFIMP_HAMLET	0.0761	Confirmed LTF	0.0761
LTFEXP_LGE-0012019	LTFEXP_LGE-0012019- >LTFIMP_LGE-0012019	0.001	Confirmed LTF	0.001
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.2655	Confirmed LTF	0.2655
LTFEXP_O-066	LTFEXP_O-066- >LTFIMP_O-066	4.254	LTF/CMTX NF	4.254
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE- >LTFIMP_PRAIRIE	0.3701	Confirmed LTF	0.3701
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE- >LTFIMP_TRIMBLE	0.0804	Confirmed LTF	0.0804

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
166669854	232100	CHURCH	DP&L	232107	TOWNSEND	DP&L	1	DPL_P7_1_DBL_1NCB_FS_A	tower	348.0	156.99	173.42	AC	70.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	2.12	Adder	2.49
232407	W1-004 E	2.12	Adder	2.49
232409	W1-005 E	2.12	Adder	2.49
232411	W1-006 E	2.12	Adder	2.49
232412	X1-032 E	0.69	Adder	0.81
232417	X3-008 C	0.31	80 50	0.31
232418	X3-008 E	3.1	80 50	3.1
232422	X3-066 C	0.16	80 50	0.16
232423	X3-066 E	1.23	80 50	1.23
232424	Y1-079 C	0.23	80 50	0.23
232425	Y1-079 E	2.3	80 50	2.3
232426	Y1-080 FULL	0.05	80 50	0.05
232427	Y1-080 E	0.49	80 50	0.49
232428	Y3-058 C	0.2	80 50	0.2
232429	Y3-058 E	1.28	80 50	1.28
232433	Z2-076 E	0.32	Adder	0.38
232435	Z2-077 E	0.32	Adder	0.38
232813	VAUGHN	0.11	80 50	0.11
232851	DUP-SFR1	1.63	Adder	1.92
232902	EASTMUNI	3.52	80 50	3.52
232907	VN8	5.63	80 50	5.63
232910	NRG_G1	1.73	80 50	1.73
232911	NRG_G2	1.73	80 50	1.73
232919	VN10	0.42	80 50	0.42
232922	MR3 (Deactivation : 01/06/2021)	9.05	Adder	10.65
232926	CRISFLD1	0.34	80 50	0.34
233915	AB1-141 C	1.02	80 50	1.02
233916	AB1-141 E	2.9	80 50	2.9
233918	AB1-142 C	1.02	80 50	1.02
233919	AB1-142 E	2.9	80 50	2.9
233923	AA1-102 C	1.91	80 50	1.91
233931	AB2-179 C	-9.25	Adder	-10.88
293670	O-025 C	0.2	80 50	0.2
917082	CHERRYDALE E	2.11	Adder	2.48
918835	AA1-102 E	19.0	80 50	19.0
919831	AA2-069	40.0	Adder	47.06
923921	AB2-032 C	6.27	80 50	6.27
923922	AB2-032 E	2.95	80 50	2.95
923951	AB2-036 C	12.66	80 50	12.66
923952	AB2-036 E	20.72	80 50	20.72
924801	AB2-133 C O1	11.54	80 50	11.54

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924802	AB2-133 E O1	14.64	80 50	14.64
924821	AB2-135 C	12.3	80 50	12.3
924822	AB2-135 E	14.03	80 50	14.03
924831	AB2-136 C	5.96	80 50	5.96
924832	AB2-136 E	6.32	80 50	6.32
924971	AB2-153 C	3.5	80 50	3.5
924972	AB2-153 E	5.72	80 50	5.72
925151	AB2-172 C	4.76	80 50	4.76
925152	AB2-172 E	7.76	80 50	7.76
925261	AB2-180 C	2.94	80 50	2.94
925262	AB2-180 E	1.26	80 50	1.26
926131	AC1-091 C	0.64	Adder	0.75
926132	AC1-091 E	1.05	Adder	1.24
926141	AC1-092 C	0.64	Adder	0.75
926142	AC1-092 E	1.05	Adder	1.24
926151	AC1-093 C	0.61	Adder	0.72
926152	AC1-093 E	1.0	Adder	1.18
926161	AC1-094 C	0.51	Adder	0.6
926162	AC1-094 E	0.85	Adder	1.0
927031	AC1-190 C	8.7	80 50	8.7
927032	AC1-190 E	3.73	80 50	3.73
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.66	80 50	0.66
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.43	80 50	0.43
930201	AB1-056 C	9.9	Adder	11.65
930202	AB1-056 E	28.18	Adder	33.15
931261	AB1-176 C	0.64	80 50	0.64
931262	AB1-176 E	1.05	80 50	1.05
932161	AC2-023 C	5.64	80 50	5.64
932162	AC2-023 E	4.11	80 50	4.11
933631	AC2-185 C	1.3	Adder	1.53
933632	AC2-185 E	2.12	Adder	2.49
933641	AC2-186 C	3.14	Adder	3.69
933642	AC2-186 E	5.12	Adder	6.02
936611	AD2-076 C O1	8.17	80 50	8.17
936612	AD2-076 E O1	13.33	80 50	13.33
938651	AE1-087 C	4.0	80 50	4.0
938652	AE1-087 E	1.0	80 50	1.0
938895	AE1-117 C	7.5	Adder	8.82
938896	AE1-117 E	20.01	Adder	23.54
939151	AE1-145	3.41	Adder	4.01
941021	AE2-093 C	5.06	80 50	5.06
941022	AE2-093 E	8.25	80 50	8.25
941181	AE2-112 C	2.83	80 50	2.83
941182	AE2-112 E	4.63	80 50	4.63
942441	AE2-257 C	5.15	Adder	6.06
942442	AE2-257 E	13.57	Adder	15.96
943361	AF1-007 C	0.29	Adder	0.34
943362	AF1-007 E	0.83	Adder	0.98
943441	AF1-015 C	1.91	80 50	1.91
943442	AF1-015 E	2.63	80 50	2.63
943651	AF1-036 C	3.69	80 50	3.69

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943652	AF1-036 E	5.09	80 50	5.09
945661	AF1-231 C	1.3	Adder	1.53
945662	AF1-231 E	1.94	Adder	2.28
945791	AF1-244 (Withdrawn : 06/07/2021)	1.63	80 50	1.63
945931	AF1-258	0.67	80 50	0.67
945941	AF1-259	0.34	80 50	0.34
957611	AF2-055 C	5.97	Adder	7.02
957612	AF2-055 E	2.56	Adder	3.01
957661	AF2-060	1.53	Adder	1.8
957671	AF2-061 O1	6.81	Adder	8.01
959021	AF2-193 C	18.29	Adder	21.52
959022	AF2-193 E	49.33	Adder	58.04
959031	AF2-194 C	18.29	Adder	21.52
959032	AF2-194 E	49.33	Adder	58.04
959051	AF2-196 C	1.4	Adder	1.65
959052	AF2-196 E	3.27	Adder	3.85
959161	AF2-207 C O1	3.49	Adder	4.11
959162	AF2-207 E O1	6.16	80 50	6.16
959581	AF2-249 C	0.12	80 50	0.12
959582	AF2-249 E	0.49	80 50	0.49
959591	AF2-250 C	0.22	80 50	0.22
959592	AF2-250 E	0.17	80 50	0.17
960221	AF2-313 C	5.36	80 50	5.36
960222	AF2-313 E	3.04	80 50	3.04
960341	AF2-325 C	1.02	80 50	1.02
960342	AF2-325 E	1.41	80 50	1.41
960671	AF2-358 C O1	13.81	80 50	13.81
960672	AF2-358 E O1	9.21	80 50	9.21
960871	AF2-378 C	0.27	80 50	0.27
960872	AF2-378 E	0.37	80 50	0.37
960881	AF2-379 C	0.34	80 50	0.34
960882	AF2-379 E	0.47	80 50	0.47
960941	AF2-385 C	9.74	80 50	9.74
960942	AF2-385 E	5.54	80 50	5.54
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	22.45	80 50	22.45
962161	AG1-061 C O1	13.78	80 50	13.78
962162	AG1-061 E O1	9.19	80 50	9.19
962261	AG1-072	16.33	80 50	16.33
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.49	80 50	0.49
962381	AG1-087 C O1	16.12	Adder	18.96
962382	AG1-087 E O1	43.48	Adder	51.15
963001	AG1-149 (Withdrawn : 06/07/2021)	0.61	80 50	0.61
963011	AG1-150	6.81	Adder	8.01
964551	AG1-318 C	0.05	Adder	0.06
964552	AG1-318 E	0.11	Adder	0.13
964962	AG1-360 E	1.51	Adder	1.78
965321	AG1-397 C	0.71	Adder	0.84
965322	AG1-397 E	0.98	Adder	1.15
965611	AG1-429 C O1	6.01	Adder	7.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965612	AG1-429 E O1	4.01	Adder	4.72
965821	AG1-450	5.75	80 50	5.75
965921	AG1-461 C O1	3.23	Adder	3.8
965922	AG1-461 E O1	1.74	Adder	2.05
965951	AG1-464 C O1	3.3	Adder	3.88
965952	AG1-464 E O1	4.96	Adder	5.84
966281	AG1-497 C O1	7.45	Adder	8.76
966282	AG1-497 E O1	3.19	Adder	3.75
966601	AG1-529 C	7.19	Adder	8.46
966602	AG1-529 E	3.84	Adder	4.52
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.1833	Confirmed LTF	0.1833
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.1408	Confirmed LTF	0.1408
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.3178	Confirmed LTF	0.3178
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.0919	Confirmed LTF	0.0919
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0652	Confirmed LTF	0.0652
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.0925	Confirmed LTF	0.0925
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.3869	Confirmed LTF	0.3869
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.0366	LTF/CMTX NF	0.0366
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1	Confirmed LTF	0.1
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1081	Confirmed LTF	0.1081
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0577	Confirmed LTF	0.0577
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.4445	LTF/CMTX NF	0.4445
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.4739	Confirmed LTF	0.4739
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1019	Confirmed LTF	0.1019

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
166669864	232106	MIDLTNTP	DP&L	232104	MT PLSNT	DP&L	1	DPL_P7_1_DBL_1NCB_FSA	tower	348.0	139.06	156.52	AC	70.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	2.12	Adder	2.49
232407	W1-004 E	2.12	Adder	2.49
232409	W1-005 E	2.12	Adder	2.49
232411	W1-006 E	2.12	Adder	2.49
232412	X1-032 E	0.69	Adder	0.81
232417	X3-008 C	0.31	80 50	0.31
232418	X3-008 E	3.1	80 50	3.1
232422	X3-066 C	0.16	80 50	0.16
232423	X3-066 E	1.23	80 50	1.23
232424	Y1-079 C	0.23	80 50	0.23
232425	Y1-079 E	2.3	80 50	2.3
232426	Y1-080 FULL	0.05	80 50	0.05
232427	Y1-080 E	0.49	80 50	0.49
232428	Y3-058 C	0.2	80 50	0.2
232429	Y3-058 E	1.28	80 50	1.28
232433	Z2-076 E	0.32	Adder	0.38
232435	Z2-077 E	0.32	Adder	0.38
232813	VAUGHN	0.11	80 50	0.11
232851	DUP-SFR1	1.63	Adder	1.92
232902	EASTMUNI	3.52	80 50	3.52
232907	VN8	5.63	80 50	5.63
232910	NRG_G1	1.73	80 50	1.73
232911	NRG_G2	1.73	80 50	1.73
232919	VN10	0.42	80 50	0.42
232922	MR3 (Deactivation : 01/06/2021)	9.05	Adder	10.65
232926	CRISFLD1	0.34	80 50	0.34
233915	AB1-141 C	1.02	80 50	1.02
233916	AB1-141 E	2.9	80 50	2.9
233918	AB1-142 C	1.02	80 50	1.02
233919	AB1-142 E	2.9	80 50	2.9
233923	AA1-102 C	1.91	80 50	1.91
233931	AB2-179 C	27.12	80 50	27.12
293670	O-025 C	0.2	80 50	0.2
917082	CHERRYDALE E	2.11	Adder	2.48
918835	AA1-102 E	19.0	80 50	19.0
919831	AA2-069	40.0	Adder	47.06
923921	AB2-032 C	6.27	80 50	6.27
923922	AB2-032 E	2.95	80 50	2.95
923951	AB2-036 C	12.66	80 50	12.66
923952	AB2-036 E	20.72	80 50	20.72
924801	AB2-133 C O1	11.54	80 50	11.54

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924802	AB2-133 E O1	14.64	80 50	14.64
924821	AB2-135 C	12.3	80 50	12.3
924822	AB2-135 E	14.03	80 50	14.03
924831	AB2-136 C	5.96	80 50	5.96
924832	AB2-136 E	6.32	80 50	6.32
924971	AB2-153 C	3.5	80 50	3.5
924972	AB2-153 E	5.72	80 50	5.72
925151	AB2-172 C	4.76	80 50	4.76
925152	AB2-172 E	7.76	80 50	7.76
925254	AB2-179 E	8.85	80 50	8.85
925261	AB2-180 C	2.94	80 50	2.94
925262	AB2-180 E	1.26	80 50	1.26
926131	AC1-091 C	0.64	Adder	0.75
926132	AC1-091 E	1.05	Adder	1.24
926141	AC1-092 C	0.64	Adder	0.75
926142	AC1-092 E	1.05	Adder	1.24
926151	AC1-093 C	0.61	Adder	0.72
926152	AC1-093 E	1.0	Adder	1.18
926161	AC1-094 C	0.51	Adder	0.6
926162	AC1-094 E	0.85	Adder	1.0
927031	AC1-190 C	8.7	80 50	8.7
927032	AC1-190 E	3.73	80 50	3.73
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.66	80 50	0.66
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.43	80 50	0.43
930201	AB1-056 C	9.9	Adder	11.65
930202	AB1-056 E	28.18	Adder	33.15
931261	AB1-176 C	0.64	80 50	0.64
931262	AB1-176 E	1.05	80 50	1.05
932161	AC2-023 C	5.64	80 50	5.64
932162	AC2-023 E	4.11	80 50	4.11
933631	AC2-185 C	1.3	Adder	1.53
933632	AC2-185 E	2.12	Adder	2.49
933641	AC2-186 C	3.14	Adder	3.69
933642	AC2-186 E	5.12	Adder	6.02
936611	AD2-076 C O1	8.17	80 50	8.17
936612	AD2-076 E O1	13.33	80 50	13.33
938651	AE1-087 C	4.0	80 50	4.0
938652	AE1-087 E	1.0	80 50	1.0
938895	AE1-117 C	7.5	Adder	8.82
938896	AE1-117 E	20.01	Adder	23.54
939151	AE1-145	3.41	Adder	4.01
941021	AE2-093 C	5.06	80 50	5.06
941022	AE2-093 E	8.25	80 50	8.25
941181	AE2-112 C	2.83	80 50	2.83
941182	AE2-112 E	4.63	80 50	4.63
942441	AE2-257 C	5.15	Adder	6.06
942442	AE2-257 E	13.57	Adder	15.96
943361	AF1-007 C	0.29	Adder	0.34
943362	AF1-007 E	0.83	Adder	0.98
943441	AF1-015 C	1.91	80 50	1.91
943442	AF1-015 E	2.63	80 50	2.63

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943651	AF1-036 C	3.69	80 50	3.69
943652	AF1-036 E	5.09	80 50	5.09
945661	AF1-231 C	1.3	Adder	1.53
945662	AF1-231 E	1.94	Adder	2.28
945791	AF1-244 (Withdrawn : 06/07/2021)	1.63	80 50	1.63
945931	AF1-258	0.67	80 50	0.67
945941	AF1-259	0.34	80 50	0.34
957611	AF2-055 C	5.97	Adder	7.02
957612	AF2-055 E	2.56	Adder	3.01
957661	AF2-060	1.53	Adder	1.8
957671	AF2-061 O1	6.81	Adder	8.01
959021	AF2-193 C	18.29	Adder	21.52
959022	AF2-193 E	49.33	Adder	58.04
959031	AF2-194 C	18.29	Adder	21.52
959032	AF2-194 E	49.33	Adder	58.04
959051	AF2-196 C	1.4	Adder	1.65
959052	AF2-196 E	3.27	Adder	3.85
959161	AF2-207 C O1	3.49	Adder	4.11
959162	AF2-207 E O1	6.16	80 50	6.16
959581	AF2-249 C	0.12	80 50	0.12
959582	AF2-249 E	0.49	80 50	0.49
959591	AF2-250 C	0.22	80 50	0.22
959592	AF2-250 E	0.17	80 50	0.17
960221	AF2-313 C	5.36	80 50	5.36
960222	AF2-313 E	3.04	80 50	3.04
960341	AF2-325 C	1.02	80 50	1.02
960342	AF2-325 E	1.41	80 50	1.41
960671	AF2-358 C O1	13.81	80 50	13.81
960672	AF2-358 E O1	9.21	80 50	9.21
960871	AF2-378 C	0.27	80 50	0.27
960872	AF2-378 E	0.37	80 50	0.37
960881	AF2-379 C	0.34	80 50	0.34
960882	AF2-379 E	0.47	80 50	0.47
960941	AF2-385 C	9.74	80 50	9.74
960942	AF2-385 E	5.54	80 50	5.54
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	22.45	80 50	22.45
962161	AG1-061 C O1	13.78	80 50	13.78
962162	AG1-061 E O1	9.19	80 50	9.19
962261	AG1-072	16.33	80 50	16.33
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.49	80 50	0.49
962381	AG1-087 C O1	16.12	Adder	18.96
962382	AG1-087 E O1	43.48	Adder	51.15
963001	AG1-149 (Withdrawn : 06/07/2021)	0.61	80 50	0.61
963011	AG1-150	6.81	Adder	8.01
964551	AG1-318 C	0.05	Adder	0.06
964552	AG1-318 E	0.11	Adder	0.13
964962	AG1-360 E	1.51	Adder	1.78
965321	AG1-397 C	0.71	Adder	0.84
965322	AG1-397 E	0.98	Adder	1.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965611	AG1-429 C O1	6.01	Adder	7.07
965612	AG1-429 E O1	4.01	Adder	4.72
965821	AG1-450	5.75	80 50	5.75
965921	AG1-461 C O1	3.23	Adder	3.8
965922	AG1-461 E O1	1.74	Adder	2.05
965951	AG1-464 C O1	3.3	Adder	3.88
965952	AG1-464 E O1	4.96	Adder	5.84
966281	AG1-497 C O1	7.45	Adder	8.76
966282	AG1-497 E O1	3.19	Adder	3.75
966601	AG1-529 C	7.19	Adder	8.46
966602	AG1-529 E	3.84	Adder	4.52
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.1833	Confirmed LTF	0.1833
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.1408	Confirmed LTF	0.1408
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.3178	Confirmed LTF	0.3178
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.0919	Confirmed LTF	0.0919
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0652	Confirmed LTF	0.0652
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.0925	Confirmed LTF	0.0925
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.3869	Confirmed LTF	0.3869
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.0366	LTF/CMTX NF	0.0366
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1	Confirmed LTF	0.1
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1081	Confirmed LTF	0.1081
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0577	Confirmed LTF	0.0577
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.4445	LTF/CMTX NF	0.4445
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.4739	Confirmed LTF	0.4739
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1019	Confirmed LTF	0.1019

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
166669849	232107	TOWNSEND	DP&L	232106	MIDLTNT P	DP&L	1	DPL_P7_1_DBL_1NCB_FS A	tower	348.0	163.18	180.65	AC	70.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	2.12	Adder	2.49
232407	W1-004 E	2.12	Adder	2.49
232409	W1-005 E	2.12	Adder	2.49
232411	W1-006 E	2.12	Adder	2.49
232412	X1-032 E	0.69	Adder	0.81
232417	X3-008 C	0.31	80 50	0.31
232418	X3-008 E	3.1	80 50	3.1
232422	X3-066 C	0.16	80 50	0.16
232423	X3-066 E	1.23	80 50	1.23
232424	Y1-079 C	0.23	80 50	0.23
232425	Y1-079 E	2.3	80 50	2.3
232426	Y1-080 FULL	0.05	80 50	0.05
232427	Y1-080 E	0.49	80 50	0.49
232428	Y3-058 C	0.2	80 50	0.2
232429	Y3-058 E	1.28	80 50	1.28
232433	Z2-076 E	0.32	Adder	0.38
232435	Z2-077 E	0.32	Adder	0.38
232813	VAUGHN	0.11	80 50	0.11
232851	DUP-SFR1	1.63	Adder	1.92
232902	EASTMUNI	3.52	80 50	3.52
232907	VN8	5.63	80 50	5.63
232910	NRG_G1	1.73	80 50	1.73
232911	NRG_G2	1.73	80 50	1.73
232919	VN10	0.42	80 50	0.42
232922	MR3 (Deactivation : 01/06/2021)	9.05	Adder	10.65
232926	CRISFLD1	0.34	80 50	0.34
233915	AB1-141 C	1.02	80 50	1.02
233916	AB1-141 E	2.9	80 50	2.9
233918	AB1-142 C	1.02	80 50	1.02
233919	AB1-142 E	2.9	80 50	2.9
233923	AA1-102 C	1.91	80 50	1.91
233931	AB2-179 C	27.12	80 50	27.12
293670	O-025 C	0.2	80 50	0.2
917082	CHERRYDALE E	2.11	Adder	2.48
918835	AA1-102 E	19.0	80 50	19.0
919831	AA2-069	40.0	Adder	47.06
923921	AB2-032 C	6.27	80 50	6.27
923922	AB2-032 E	2.95	80 50	2.95
923951	AB2-036 C	12.66	80 50	12.66
923952	AB2-036 E	20.72	80 50	20.72
924801	AB2-133 C O1	11.54	80 50	11.54

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924802	AB2-133 E O1	14.64	80 50	14.64
924821	AB2-135 C	12.3	80 50	12.3
924822	AB2-135 E	14.03	80 50	14.03
924831	AB2-136 C	5.96	80 50	5.96
924832	AB2-136 E	6.32	80 50	6.32
924971	AB2-153 C	3.5	80 50	3.5
924972	AB2-153 E	5.72	80 50	5.72
925151	AB2-172 C	4.76	80 50	4.76
925152	AB2-172 E	7.76	80 50	7.76
925254	AB2-179 E	8.85	80 50	8.85
925261	AB2-180 C	2.94	80 50	2.94
925262	AB2-180 E	1.26	80 50	1.26
926131	AC1-091 C	0.64	Adder	0.75
926132	AC1-091 E	1.05	Adder	1.24
926141	AC1-092 C	0.64	Adder	0.75
926142	AC1-092 E	1.05	Adder	1.24
926151	AC1-093 C	0.61	Adder	0.72
926152	AC1-093 E	1.0	Adder	1.18
926161	AC1-094 C	0.51	Adder	0.6
926162	AC1-094 E	0.85	Adder	1.0
927031	AC1-190 C	8.7	80 50	8.7
927032	AC1-190 E	3.73	80 50	3.73
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.66	80 50	0.66
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.43	80 50	0.43
930201	AB1-056 C	9.9	Adder	11.65
930202	AB1-056 E	28.18	Adder	33.15
931261	AB1-176 C	0.64	80 50	0.64
931262	AB1-176 E	1.05	80 50	1.05
932161	AC2-023 C	5.64	80 50	5.64
932162	AC2-023 E	4.11	80 50	4.11
933631	AC2-185 C	1.3	Adder	1.53
933632	AC2-185 E	2.12	Adder	2.49
933641	AC2-186 C	3.14	Adder	3.69
933642	AC2-186 E	5.12	Adder	6.02
936611	AD2-076 C O1	8.17	80 50	8.17
936612	AD2-076 E O1	13.33	80 50	13.33
938651	AE1-087 C	4.0	80 50	4.0
938652	AE1-087 E	1.0	80 50	1.0
938895	AE1-117 C	7.5	Adder	8.82
938896	AE1-117 E	20.01	Adder	23.54
939151	AE1-145	3.41	Adder	4.01
941021	AE2-093 C	5.06	80 50	5.06
941022	AE2-093 E	8.25	80 50	8.25
941181	AE2-112 C	2.83	80 50	2.83
941182	AE2-112 E	4.63	80 50	4.63
942441	AE2-257 C	5.15	Adder	6.06
942442	AE2-257 E	13.57	Adder	15.96
943361	AF1-007 C	0.29	Adder	0.34
943362	AF1-007 E	0.83	Adder	0.98
943441	AF1-015 C	1.91	80 50	1.91
943442	AF1-015 E	2.63	80 50	2.63

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943651	AF1-036 C	3.69	80 50	3.69
943652	AF1-036 E	5.09	80 50	5.09
945661	AF1-231 C	1.3	Adder	1.53
945662	AF1-231 E	1.94	Adder	2.28
945791	AF1-244 (Withdrawn : 06/07/2021)	1.63	80 50	1.63
945931	AF1-258	0.67	80 50	0.67
945941	AF1-259	0.34	80 50	0.34
957611	AF2-055 C	5.97	Adder	7.02
957612	AF2-055 E	2.56	Adder	3.01
957661	AF2-060	1.53	Adder	1.8
957671	AF2-061 O1	6.81	Adder	8.01
959021	AF2-193 C	18.29	Adder	21.52
959022	AF2-193 E	49.33	Adder	58.04
959031	AF2-194 C	18.29	Adder	21.52
959032	AF2-194 E	49.33	Adder	58.04
959051	AF2-196 C	1.4	Adder	1.65
959052	AF2-196 E	3.27	Adder	3.85
959161	AF2-207 C O1	3.49	Adder	4.11
959162	AF2-207 E O1	6.16	80 50	6.16
959581	AF2-249 C	0.12	80 50	0.12
959582	AF2-249 E	0.49	80 50	0.49
959591	AF2-250 C	0.22	80 50	0.22
959592	AF2-250 E	0.17	80 50	0.17
960221	AF2-313 C	5.36	80 50	5.36
960222	AF2-313 E	3.04	80 50	3.04
960341	AF2-325 C	1.02	80 50	1.02
960342	AF2-325 E	1.41	80 50	1.41
960671	AF2-358 C O1	13.81	80 50	13.81
960672	AF2-358 E O1	9.21	80 50	9.21
960871	AF2-378 C	0.27	80 50	0.27
960872	AF2-378 E	0.37	80 50	0.37
960881	AF2-379 C	0.34	80 50	0.34
960882	AF2-379 E	0.47	80 50	0.47
960941	AF2-385 C	9.74	80 50	9.74
960942	AF2-385 E	5.54	80 50	5.54
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	22.45	80 50	22.45
962161	AG1-061 C O1	13.78	80 50	13.78
962162	AG1-061 E O1	9.19	80 50	9.19
962261	AG1-072	16.33	80 50	16.33
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.49	80 50	0.49
962381	AG1-087 C O1	16.12	Adder	18.96
962382	AG1-087 E O1	43.48	Adder	51.15
963001	AG1-149 (Withdrawn : 06/07/2021)	0.61	80 50	0.61
963011	AG1-150	6.81	Adder	8.01
964551	AG1-318 C	0.05	Adder	0.06
964552	AG1-318 E	0.11	Adder	0.13
964962	AG1-360 E	1.51	Adder	1.78
965321	AG1-397 C	0.71	Adder	0.84
965322	AG1-397 E	0.98	Adder	1.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965611	AG1-429 C O1	6.01	Adder	7.07
965612	AG1-429 E O1	4.01	Adder	4.72
965821	AG1-450	5.75	80 50	5.75
965921	AG1-461 C O1	3.23	Adder	3.8
965922	AG1-461 E O1	1.74	Adder	2.05
965951	AG1-464 C O1	3.3	Adder	3.88
965952	AG1-464 E O1	4.96	Adder	5.84
966281	AG1-497 C O1	7.45	Adder	8.76
966282	AG1-497 E O1	3.19	Adder	3.75
966601	AG1-529 C	7.19	Adder	8.46
966602	AG1-529 E	3.84	Adder	4.52
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.1833	Confirmed LTF	0.1833
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.1408	Confirmed LTF	0.1408
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.3178	Confirmed LTF	0.3178
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.0919	Confirmed LTF	0.0919
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0652	Confirmed LTF	0.0652
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.0925	Confirmed LTF	0.0925
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.3869	Confirmed LTF	0.3869
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.0366	LTF/CMTX NF	0.0366
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1	Confirmed LTF	0.1
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1081	Confirmed LTF	0.1081
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0577	Confirmed LTF	0.0577
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.4445	LTF/CMTX NF	0.4445
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.4739	Confirmed LTF	0.4739
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1019	Confirmed LTF	0.1019

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
182476886	232116	VIENN138	DP&L	232005	VIENNA	DP&L	1	DPL_P4-2_DP3	breaker	530.0	112.47	122.1	AC	60.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.8	80 50	0.8
232405	W1-003 E	4.53	80 50	4.53
232406	W1-004 C	0.8	80 50	0.8
232407	W1-004 E	4.53	80 50	4.53
232408	W1-005 C	0.8	80 50	0.8
232409	W1-005 E	4.53	80 50	4.53
232410	W1-006 C	0.8	80 50	0.8
232411	W1-006 E	4.53	80 50	4.53
232412	X1-032 E	1.53	80 50	1.53
232418	X3-008 E	2.9	Adder	3.41
232427	Y1-080 E	0.65	Adder	0.76
232428	Y3-058 C	0.34	80 50	0.34
232429	Y3-058 E	2.23	80 50	2.23
232433	Z2-076 E	0.48	Adder	0.56
232435	Z2-077 E	0.48	Adder	0.56
232851	DUP-SFR1	2.15	Adder	2.53
232907	VN8	13.06	80 50	13.06
232912	OH NUG1	2.12	80 50	2.12
232914	OH NUG3	2.12	80 50	2.12
232915	OH NUG4	2.12	80 50	2.12
232916	OH NUG5	2.12	80 50	2.12
232919	VN10	0.72	80 50	0.72
232926	CRISFLD1	0.64	80 50	0.64
233923	AA1-102 C	3.62	80 50	3.62
917082	CHERRYDALE E	3.84	Adder	4.52
918835	AA1-102 E	35.99	80 50	35.99
924831	AB2-136 C	6.81	Adder	8.01
924832	AB2-136 E	7.22	Adder	8.49
925151	AB2-172 C	4.44	Adder	5.22
925152	AB2-172 E	7.24	Adder	8.52
925261	AB2-180 C	5.13	80 50	5.13
925262	AB2-180 E	2.2	80 50	2.2
927031	AC1-190 C	8.43	Adder	9.92
927032	AC1-190 E	3.61	Adder	4.25
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.98	Adder	1.15
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.64	Adder	0.75
930201	AB1-056 C	13.93	Adder	16.39
930202	AB1-056 E	39.67	Adder	46.67
932161	AC2-023 C	9.83	80 50	9.83
932162	AC2-023 E	7.16	80 50	7.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933641	AC2-186 C	2.41	Adder	2.84
933642	AC2-186 E	3.93	Adder	4.62
938651	AE1-087 C	3.74	Adder	4.4
938652	AE1-087 E	0.93	Adder	1.09
938895	AE1-117 C	10.84	Adder	12.75
938896	AE1-117 E	28.91	Adder	34.01
939151	AE1-145	6.16	Adder	7.25
942441	AE2-257 C	7.34	Adder	8.64
942442	AE2-257 E	19.36	Adder	22.78
943361	AF1-007 C	0.41	Adder	0.48
943362	AF1-007 E	1.17	Adder	1.38
945661	AF1-231 C	2.35	Adder	2.76
945662	AF1-231 E	3.53	Adder	4.15
945791	AF1-244 (Withdrawn : 06/07/2021)	3.1	80 50	3.1
945931	AF1-258	1.17	80 50	1.17
957611	AF2-055 C	10.83	Adder	12.74
957612	AF2-055 E	4.64	Adder	5.46
957661	AF2-060	2.77	Adder	3.26
957671	AF2-061 O1	12.32	Adder	14.49
959021	AF2-193 C	25.74	Adder	30.28
959022	AF2-193 E	69.43	Adder	81.68
959031	AF2-194 C	25.74	Adder	30.28
959032	AF2-194 E	69.43	Adder	81.68
959051	AF2-196 C	2.0	Adder	2.35
959052	AF2-196 E	4.67	Adder	5.49
959161	AF2-207 C O1	6.07	Adder	7.14
959162	AF2-207 E O1	9.11	Adder	10.72
959581	AF2-249 C	0.18	Adder	0.21
959582	AF2-249 E	0.73	Adder	0.86
959591	AF2-250 C	0.33	Adder	0.39
959592	AF2-250 E	0.26	Adder	0.31
960341	AF2-325 C	1.09	Adder	1.28
960342	AF2-325 E	1.51	Adder	1.78
960671	AF2-358 C O1	22.25	80 50	22.25
960672	AF2-358 E O1	14.84	80 50	14.84
960871	AF2-378 C	0.3	Adder	0.35
960872	AF2-378 E	0.41	Adder	0.48
960881	AF2-379 C	0.63	80 50	0.63
960882	AF2-379 E	0.87	80 50	0.87
960941	AF2-385 C	14.4	Adder	16.94
960942	AF2-385 E	8.19	Adder	9.64
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	52.03	80 50	52.03
962161	AG1-061 C O1	18.88	Adder	22.21
962162	AG1-061 E O1	12.59	Adder	14.81
962381	AG1-087 C O1	13.96	Adder	16.42
962382	AG1-087 E O1	37.66	Adder	44.31
963001	AG1-149 (Withdrawn : 06/07/2021)	1.16	80 50	1.16
963011	AG1-150	12.32	Adder	14.49
964551	AG1-318 C	0.07	Adder	0.08
964552	AG1-318 E	0.16	Adder	0.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
964962	AG1-360 E	3.35	80 50	3.35
965321	AG1-397 C	1.2	Adder	1.41
965322	AG1-397 E	1.66	Adder	1.95
965611	AG1-429 C O1	10.91	Adder	12.84
965612	AG1-429 E O1	7.27	Adder	8.55
965821	AG1-450	9.27	80 50	9.27
965921	AG1-461 C O1	4.75	Adder	5.59
965922	AG1-461 E O1	2.56	Adder	3.01
965951	AG1-464 C O1	2.53	Adder	2.98
965952	AG1-464 E O1	3.8	Adder	4.47
966601	AG1-529 C	6.37	Adder	7.49
966602	AG1-529 E	3.4	Adder	4.0
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.2443	Confirmed LTF	0.2443
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.1854	Confirmed LTF	0.1854
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.4238	Confirmed LTF	0.4238
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.1219	Confirmed LTF	0.1219
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0862	Confirmed LTF	0.0862
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.1228	Confirmed LTF	0.1228
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.5142	Confirmed LTF	0.5142
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.1265	LTF/CMTX NF	0.1265
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1333	Confirmed LTF	0.1333
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1425	Confirmed LTF	0.1425
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0969	Confirmed LTF	0.0969
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.9609	LTF/CMTX NF	0.9609
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.6311	Confirmed LTF	0.6311
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1358	Confirmed LTF	0.1358

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
182361082	232117	VIENNA 8	DP&L	232116	VIENN138	DP&L	1	DPL_P4-2_DP3	breaker	482.0	122.9	133.47	AC	60.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.8	80 50	0.8
232405	W1-003 E	4.53	80 50	4.53
232406	W1-004 C	0.8	80 50	0.8
232407	W1-004 E	4.53	80 50	4.53
232408	W1-005 C	0.8	80 50	0.8
232409	W1-005 E	4.53	80 50	4.53
232410	W1-006 C	0.8	80 50	0.8
232411	W1-006 E	4.53	80 50	4.53
232412	X1-032 E	1.53	80 50	1.53
232418	X3-008 E	2.9	Adder	3.41
232427	Y1-080 E	0.65	Adder	0.76
232428	Y3-058 C	0.34	80 50	0.34
232429	Y3-058 E	2.23	80 50	2.23
232433	Z2-076 E	0.48	Adder	0.56
232435	Z2-077 E	0.48	Adder	0.56
232851	DUP-SFR1	2.15	Adder	2.53
232907	VN8	13.06	80 50	13.06
232912	OH NUG1	2.12	80 50	2.12
232914	OH NUG3	2.12	80 50	2.12
232915	OH NUG4	2.12	80 50	2.12
232916	OH NUG5	2.12	80 50	2.12
232919	VN10	0.72	80 50	0.72
232926	CRISFLD1	0.64	80 50	0.64
233923	AA1-102 C	3.62	80 50	3.62
917082	CHERRYDALE E	3.84	Adder	4.52
918835	AA1-102 E	35.99	80 50	35.99
924831	AB2-136 C	6.81	Adder	8.01
924832	AB2-136 E	7.22	Adder	8.49
925151	AB2-172 C	4.44	Adder	5.22
925152	AB2-172 E	7.24	Adder	8.52
925261	AB2-180 C	5.13	80 50	5.13
925262	AB2-180 E	2.2	80 50	2.2
927031	AC1-190 C	8.43	Adder	9.92
927032	AC1-190 E	3.61	Adder	4.25
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.98	Adder	1.15
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.64	Adder	0.75
930201	AB1-056 C	13.93	Adder	16.39
930202	AB1-056 E	39.67	Adder	46.67
932161	AC2-023 C	9.83	80 50	9.83
932162	AC2-023 E	7.16	80 50	7.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933641	AC2-186 C	2.41	Adder	2.84
933642	AC2-186 E	3.93	Adder	4.62
938651	AE1-087 C	3.74	Adder	4.4
938652	AE1-087 E	0.93	Adder	1.09
938895	AE1-117 C	10.84	Adder	12.75
938896	AE1-117 E	28.91	Adder	34.01
939151	AE1-145	6.16	Adder	7.25
942441	AE2-257 C	7.34	Adder	8.64
942442	AE2-257 E	19.36	Adder	22.78
943361	AF1-007 C	0.41	Adder	0.48
943362	AF1-007 E	1.17	Adder	1.38
945661	AF1-231 C	2.35	Adder	2.76
945662	AF1-231 E	3.53	Adder	4.15
945791	AF1-244 (Withdrawn : 06/07/2021)	3.1	80 50	3.1
945931	AF1-258	1.17	80 50	1.17
957611	AF2-055 C	10.83	Adder	12.74
957612	AF2-055 E	4.64	Adder	5.46
957661	AF2-060	2.77	Adder	3.26
957671	AF2-061 O1	12.32	Adder	14.49
959021	AF2-193 C	25.74	Adder	30.28
959022	AF2-193 E	69.43	Adder	81.68
959031	AF2-194 C	25.74	Adder	30.28
959032	AF2-194 E	69.43	Adder	81.68
959051	AF2-196 C	2.0	Adder	2.35
959052	AF2-196 E	4.67	Adder	5.49
959161	AF2-207 C O1	6.07	Adder	7.14
959162	AF2-207 E O1	9.11	Adder	10.72
959581	AF2-249 C	0.18	Adder	0.21
959582	AF2-249 E	0.73	Adder	0.86
959591	AF2-250 C	0.33	Adder	0.39
959592	AF2-250 E	0.26	Adder	0.31
960341	AF2-325 C	1.09	Adder	1.28
960342	AF2-325 E	1.51	Adder	1.78
960671	AF2-358 C O1	22.25	80 50	22.25
960672	AF2-358 E O1	14.84	80 50	14.84
960871	AF2-378 C	0.3	Adder	0.35
960872	AF2-378 E	0.41	Adder	0.48
960881	AF2-379 C	0.63	80 50	0.63
960882	AF2-379 E	0.87	80 50	0.87
960941	AF2-385 C	14.4	Adder	16.94
960942	AF2-385 E	8.19	Adder	9.64
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	52.03	80 50	52.03
962161	AG1-061 C O1	18.88	Adder	22.21
962162	AG1-061 E O1	12.59	Adder	14.81
962381	AG1-087 C O1	13.96	Adder	16.42
962382	AG1-087 E O1	37.66	Adder	44.31
963001	AG1-149 (Withdrawn : 06/07/2021)	1.16	80 50	1.16
963011	AG1-150	12.32	Adder	14.49
964551	AG1-318 C	0.07	Adder	0.08
964552	AG1-318 E	0.16	Adder	0.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
964962	AG1-360 E	3.35	80 50	3.35
965321	AG1-397 C	1.2	Adder	1.41
965322	AG1-397 E	1.66	Adder	1.95
965611	AG1-429 C O1	10.91	Adder	12.84
965612	AG1-429 E O1	7.27	Adder	8.55
965821	AG1-450	9.27	80 50	9.27
965921	AG1-461 C O1	4.75	Adder	5.59
965922	AG1-461 E O1	2.56	Adder	3.01
965951	AG1-464 C O1	2.53	Adder	2.98
965952	AG1-464 E O1	3.8	Adder	4.47
966601	AG1-529 C	6.37	Adder	7.49
966602	AG1-529 E	3.4	Adder	4.0
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.2443	Confirmed LTF	0.2443
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.1854	Confirmed LTF	0.1854
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.4238	Confirmed LTF	0.4238
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.1219	Confirmed LTF	0.1219
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0862	Confirmed LTF	0.0862
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.1228	Confirmed LTF	0.1228
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.5142	Confirmed LTF	0.5142
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.1265	LTF/CMTX NF	0.1265
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1333	Confirmed LTF	0.1333
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1425	Confirmed LTF	0.1425
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0969	Confirmed LTF	0.0969
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.9609	LTF/CMTX NF	0.9609
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.6311	Confirmed LTF	0.6311
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1358	Confirmed LTF	0.1358

11.7.32 Index 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
174169917	232215	KENT	DP&L	232812	NMEREDTH	DP&L	1	DPL_P4-2_DP11	breaker	93.0	145.68	166.05	AC	22.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.58	Adder	0.68
232407	W1-004 E	0.58	Adder	0.68
232409	W1-005 E	0.58	Adder	0.68
232411	W1-006 E	0.58	Adder	0.68
232412	X1-032 E	0.19	Adder	0.22
232429	Y3-058 E	0.27	Adder	0.32
232433	Z2-076 E	0.1	Adder	0.12
232435	Z2-077 E	0.1	Adder	0.12
232813	VAUGHN	0.12	80 50	0.12
232851	DUP-SFR1	0.67	Adder	0.79
232899	W1-062	0.89	80 50	0.89
232900	DEMECSMY	0.87	80 50	0.87
232910	NRG_G1	2.19	80 50	2.19
232911	NRG_G2	2.19	80 50	2.19
233931	AB2-179 C	-2.09	Adder	-2.46
917082	CHERRYDALE E	0.58	Adder	0.68
918835	AA1-102 E	4.31	Adder	5.07
923921	AB2-032 C	-1.17	Adder	-1.38
924971	AB2-153 C	-0.65	Adder	-0.76
925261	AB2-180 C	0.62	Adder	0.73
925262	AB2-180 E	0.27	Adder	0.32
926131	AC1-091 C	0.45	Adder	0.53
926132	AC1-091 E	0.74	Adder	0.87
926141	AC1-092 C	0.45	Adder	0.53
926142	AC1-092 E	0.74	Adder	0.87
926151	AC1-093 C	0.42	Adder	0.49
926152	AC1-093 E	0.7	Adder	0.82
926161	AC1-094 C	0.36	Adder	0.42
926162	AC1-094 E	0.59	Adder	0.69
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.15	Adder	0.18
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.1	Adder	0.12
930201	AB1-056 C	3.13	Adder	3.68
930202	AB1-056 E	8.91	Adder	10.48
932161	AC2-023 C	1.14	Adder	1.34
932162	AC2-023 E	0.83	Adder	0.98
933631	AC2-185 C	0.91	Adder	1.07
933632	AC2-185 E	1.48	Adder	1.74
933641	AC2-186 C	2.85	80 50	2.85
933642	AC2-186 E	4.64	80 50	4.64
938895	AE1-117 C	2.4	Adder	2.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938896	AE1-117 E	6.39	Adder	7.52
939151	AE1-145	0.93	Adder	1.09
942441	AE2-257 C	1.64	Adder	1.93
942442	AE2-257 E	4.34	Adder	5.11
943361	AF1-007 C	0.09	Adder	0.11
943362	AF1-007 E	0.26	Adder	0.31
945661	AF1-231 C	0.35	Adder	0.41
945662	AF1-231 E	0.53	Adder	0.62
945791	AF1-244 (Withdrawn : 06/07/2021)	0.37	Adder	0.44
945931	AF1-258	0.14	Adder	0.16
945941	AF1-259	-0.08	Adder	-0.09
957611	AF2-055 C	1.63	Adder	1.92
957612	AF2-055 E	0.7	Adder	0.82
957661	AF2-060	0.42	Adder	0.49
957671	AF2-061 O1	1.87	Adder	2.2
959021	AF2-193 C	5.78	Adder	6.8
959022	AF2-193 E	15.59	Adder	18.34
959031	AF2-194 C	5.78	Adder	6.8
959032	AF2-194 E	15.59	Adder	18.34
959051	AF2-196 C	0.45	Adder	0.53
959052	AF2-196 E	1.05	Adder	1.24
959161	AF2-207 C O1	1.0	Adder	1.18
959162	AF2-207 E O1	1.5	Adder	1.76
959581	AF2-249 C	0.03	Adder	0.04
959582	AF2-249 E	0.12	Adder	0.14
959591	AF2-250 C	0.05	Adder	0.06
959592	AF2-250 E	0.04	Adder	0.05
960881	AF2-379 C	0.08	Adder	0.09
960882	AF2-379 E	0.1	Adder	0.12
960941	AF2-385 C	2.37	Adder	2.79
960942	AF2-385 E	1.35	Adder	1.59
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	4.42	Adder	5.2
962161	AG1-061 C O1	3.14	Adder	3.69
962162	AG1-061 E O1	2.09	Adder	2.46
962262	AG1-072 BAT	3.0	Adder	3.53
962381	AG1-087 C O1	5.16	Adder	6.07
962382	AG1-087 E O1	13.93	Adder	16.39
963001	AG1-149 (Withdrawn : 06/07/2021)	0.14	Adder	0.16
963011	AG1-150	1.87	Adder	2.2
964551	AG1-318 C	0.01	Adder	0.01
964552	AG1-318 E	0.03	Adder	0.04
964962	AG1-360 E	0.41	Adder	0.48
965321	AG1-397 C	0.2	Adder	0.24
965322	AG1-397 E	0.27	Adder	0.32
965611	AG1-429 C O1	1.65	Adder	1.94
965612	AG1-429 E O1	1.1	Adder	1.29
965921	AG1-461 C O1	1.05	Adder	1.24
965922	AG1-461 E O1	0.57	Adder	0.67
965951	AG1-464 C O1	3.0	80 50	3.0
965952	AG1-464 E O1	4.49	80 50	4.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966601	AG1-529 C	3.3	Adder	3.88
966602	AG1-529 E	1.76	Adder	2.07
LTFEXP_AC1-056	LTFEXP_AC1-056- >LTFIMP_AC1-056	0.0627	Confirmed LTF	0.0627
LTFEXP_AC1-131	LTFEXP_AC1-131- >LTFIMP_AC1-131	0.0483	Confirmed LTF	0.0483
LTFEXP_BlueG	LTFEXP_BlueG- >LTFIMP_BlueG	0.1086	Confirmed LTF	0.1086
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD- >LTFIMP_CALDERWOOD	0.0314	Confirmed LTF	0.0314
LTFEXP_CATAWBA	LTFEXP_CATAWBA- >LTFIMP_CATAWBA	0.0223	Confirmed LTF	0.0223
LTFEXP_CHEOAH	LTFEXP_CHEOAH- >LTFIMP_CHEOAH	0.0317	Confirmed LTF	0.0317
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD- >LTFIMP_COTTONWOOD	0.1323	Confirmed LTF	0.1323
LTFEXP_G-007A	LTFEXP_G-007A- >LTFIMP_G-007A	0.0079	LTF/CMTX	0.0079
LTFEXP_GIBSON	LTFEXP_GIBSON- >LTFIMP_GIBSON	0.0342	Confirmed LTF	0.0342
LTFEXP_HAMLET	LTFEXP_HAMLET- >LTFIMP_HAMLET	0.037	Confirmed LTF	0.037
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0147	Confirmed LTF	0.0147
LTFEXP_O-066	LTFEXP_O-066- >LTFIMP_O-066	0.0636	LTF/CMTX NF	0.0636
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE- >LTFIMP_PRAIRIE	0.162	Confirmed LTF	0.162
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE- >LTFIMP_TRIMBLE	0.0348	Confirmed LTF	0.0348

11.7.33 Index 33

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
173975288	232812	NMEREDTH	DP&L	924820	AB2-135 TAP	DP&L	1	DPL_P4-2_DP11	breaker	93.0	125.61	145.7	AC	22.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.58	Adder	0.68
232407	W1-004 E	0.58	Adder	0.68
232409	W1-005 E	0.58	Adder	0.68
232411	W1-006 E	0.58	Adder	0.68
232412	X1-032 E	0.19	Adder	0.22
232429	Y3-058 E	0.27	Adder	0.32
232433	Z2-076 E	0.1	Adder	0.12
232435	Z2-077 E	0.1	Adder	0.12
232813	VAUGHN	0.12	80 50	0.12
232851	DUP-SFR1	0.67	Adder	0.79
232899	W1-062	0.89	80 50	0.89
232900	DEMECSMY	0.87	80 50	0.87
232910	NRG_G1	2.19	80 50	2.19
232911	NRG_G2	2.19	80 50	2.19
233931	AB2-179 C	-2.09	Adder	-2.46
917082	CHERRYDALE E	0.58	Adder	0.68
918835	AA1-102 E	4.31	Adder	5.07
923921	AB2-032 C	-1.17	Adder	-1.38
924971	AB2-153 C	-0.65	Adder	-0.76
925261	AB2-180 C	0.62	Adder	0.73
925262	AB2-180 E	0.27	Adder	0.32
926131	AC1-091 C	0.45	Adder	0.53
926132	AC1-091 E	0.74	Adder	0.87
926141	AC1-092 C	0.45	Adder	0.53
926142	AC1-092 E	0.74	Adder	0.87
926151	AC1-093 C	0.42	Adder	0.49
926152	AC1-093 E	0.7	Adder	0.82
926161	AC1-094 C	0.36	Adder	0.42
926162	AC1-094 E	0.59	Adder	0.69
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.15	Adder	0.18
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.1	Adder	0.12
930201	AB1-056 C	3.13	Adder	3.68
930202	AB1-056 E	8.91	Adder	10.48
932161	AC2-023 C	1.14	Adder	1.34
932162	AC2-023 E	0.83	Adder	0.98
933631	AC2-185 C	0.91	Adder	1.07
933632	AC2-185 E	1.48	Adder	1.74
933641	AC2-186 C	2.85	80 50	2.85
933642	AC2-186 E	4.64	80 50	4.64
938895	AE1-117 C	2.4	Adder	2.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938896	AE1-117 E	6.39	Adder	7.52
939151	AE1-145	0.93	Adder	1.09
942441	AE2-257 C	1.64	Adder	1.93
942442	AE2-257 E	4.34	Adder	5.11
943361	AF1-007 C	0.09	Adder	0.11
943362	AF1-007 E	0.26	Adder	0.31
945661	AF1-231 C	0.35	Adder	0.41
945662	AF1-231 E	0.53	Adder	0.62
945791	AF1-244 (Withdrawn : 06/07/2021)	0.37	Adder	0.44
945931	AF1-258	0.14	Adder	0.16
945941	AF1-259	-0.08	Adder	-0.09
957611	AF2-055 C	1.63	Adder	1.92
957612	AF2-055 E	0.7	Adder	0.82
957661	AF2-060	0.42	Adder	0.49
957671	AF2-061 O1	1.87	Adder	2.2
959021	AF2-193 C	5.78	Adder	6.8
959022	AF2-193 E	15.59	Adder	18.34
959031	AF2-194 C	5.78	Adder	6.8
959032	AF2-194 E	15.59	Adder	18.34
959051	AF2-196 C	0.45	Adder	0.53
959052	AF2-196 E	1.05	Adder	1.24
959161	AF2-207 C O1	1.0	Adder	1.18
959162	AF2-207 E O1	1.5	Adder	1.76
959581	AF2-249 C	0.03	Adder	0.04
959582	AF2-249 E	0.12	Adder	0.14
959591	AF2-250 C	0.05	Adder	0.06
959592	AF2-250 E	0.04	Adder	0.05
960881	AF2-379 C	0.08	Adder	0.09
960882	AF2-379 E	0.1	Adder	0.12
960941	AF2-385 C	2.37	Adder	2.79
960942	AF2-385 E	1.35	Adder	1.59
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	4.42	Adder	5.2
962161	AG1-061 C O1	3.14	Adder	3.69
962162	AG1-061 E O1	2.09	Adder	2.46
962262	AG1-072 BAT	3.0	Adder	3.53
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.75	80 50	0.75
962381	AG1-087 C O1	5.16	Adder	6.07
962382	AG1-087 E O1	13.93	Adder	16.39
963001	AG1-149 (Withdrawn : 06/07/2021)	0.14	Adder	0.16
963011	AG1-150	1.87	Adder	2.2
964551	AG1-318 C	0.01	Adder	0.01
964552	AG1-318 E	0.03	Adder	0.04
964962	AG1-360 E	0.41	Adder	0.48
965321	AG1-397 C	0.2	Adder	0.24
965322	AG1-397 E	0.27	Adder	0.32
965611	AG1-429 C O1	1.65	Adder	1.94
965612	AG1-429 E O1	1.1	Adder	1.29
965921	AG1-461 C O1	1.05	Adder	1.24
965922	AG1-461 E O1	0.57	Adder	0.67

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965951	AG1-464 C O1	3.0	80 50	3.0
965952	AG1-464 E O1	4.49	80 50	4.49
966601	AG1-529 C	3.3	Adder	3.88
966602	AG1-529 E	1.76	Adder	2.07
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.0627	Confirmed LTF	0.0627
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.0483	Confirmed LTF	0.0483
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.1086	Confirmed LTF	0.1086
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.0314	Confirmed LTF	0.0314
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0223	Confirmed LTF	0.0223
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.0317	Confirmed LTF	0.0317
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.1323	Confirmed LTF	0.1323
LTFEXP_G-007A	LTFEXP_G-007A->LTFIMP_G-007A	0.0079	LTF/CMTX	0.0079
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.0342	Confirmed LTF	0.0342
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.037	Confirmed LTF	0.037
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0147	Confirmed LTF	0.0147
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.0636	LTF/CMTX NF	0.0636
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.162	Confirmed LTF	0.162
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.0348	Confirmed LTF	0.0348

11.7.34 Index 34

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
182619652	923960	AB2-037 TAP	DP&L	231003	KEEN_230	DP&L	2	DPL_P4-2_DP10	breaker	727.0	101.64	113.75	AC	106.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.67	80 50	0.67
232405	W1-003 E	3.79	80 50	3.79
232406	W1-004 C	0.67	80 50	0.67
232407	W1-004 E	3.79	80 50	3.79
232408	W1-005 C	0.67	80 50	0.67
232409	W1-005 E	3.79	80 50	3.79
232410	W1-006 C	0.67	80 50	0.67
232411	W1-006 E	3.79	80 50	3.79
232412	X1-032 E	1.24	80 50	1.24
232417	X3-008 C	0.42	80 50	0.42
232418	X3-008 E	4.21	80 50	4.21
232423	X3-066 E	0.72	Adder	0.85
232424	Y1-079 C	0.21	80 50	0.21
232425	Y1-079 E	2.06	80 50	2.06
232426	Y1-080 FULL	0.07	80 50	0.07
232427	Y1-080 E	0.7	80 50	0.7
232428	Y3-058 C	0.29	80 50	0.29
232429	Y3-058 E	1.91	80 50	1.91
232433	Z2-076 E	0.48	Adder	0.56
232435	Z2-077 E	0.48	Adder	0.56
232851	DUP-SFR1	2.32	Adder	2.73
232902	EASTMUNI	4.08	80 50	4.08
232907	VN8	8.7	80 50	8.7
232912	OH NUG1	1.78	80 50	1.78
232915	OH NUG4	1.78	80 50	1.78
232919	VN10	0.61	80 50	0.61
232922	MR3 (Deactivation : 01/06/2021)	13.6	Adder	16.0
232926	CRISFLD1	0.51	80 50	0.51
233916	AB1-141 E	1.46	Adder	1.72
233919	AB1-142 E	1.46	Adder	1.72
233923	AA1-102 C	2.91	80 50	2.91
233931	AB2-179 C	4.4	Adder	5.18
293670	O-025 C	0.3	80 50	0.3
917082	CHERRYDALE E	3.21	Adder	3.78
918835	AA1-102 E	28.94	80 50	28.94
919831	AA2-069	60.13	Adder	70.74
923921	AB2-032 C	3.15	Adder	3.71
923922	AB2-032 E	1.48	Adder	1.74
923951	AB2-036 C	11.98	80 50	11.98
923952	AB2-036 E	19.6	80 50	19.6
923961	AB2-037 C	37.9	80 50	37.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923962	AB2-037 E	61.92	80 50	61.92
924801	AB2-133 C O1	5.19	Adder	6.11
924802	AB2-133 E O1	6.59	Adder	7.75
924821	AB2-135 C	6.06	Adder	7.13
924822	AB2-135 E	6.91	Adder	8.13
924831	AB2-136 C	8.33	80 50	8.33
924832	AB2-136 E	8.83	80 50	8.83
924971	AB2-153 C	1.76	Adder	2.07
924972	AB2-153 E	2.88	Adder	3.39
925151	AB2-172 C	6.45	80 50	6.45
925152	AB2-172 E	10.52	80 50	10.52
925254	AB2-179 E	1.44	Adder	1.69
925261	AB2-180 C	4.38	80 50	4.38
925262	AB2-180 E	1.88	80 50	1.88
926131	AC1-091 C	0.8	Adder	0.94
926132	AC1-091 E	1.31	Adder	1.54
926141	AC1-092 C	0.8	Adder	0.94
926142	AC1-092 E	1.31	Adder	1.54
926151	AC1-093 C	0.76	Adder	0.89
926152	AC1-093 E	1.25	Adder	1.47
926161	AC1-094 C	0.64	Adder	0.75
926162	AC1-094 E	1.06	Adder	1.25
927031	AC1-190 C	11.85	80 50	11.85
927032	AC1-190 E	5.08	80 50	5.08
927191	AC1-213 C (Withdrawn : 05/24/2021)	0.98	80 50	0.98
927192	AC1-213 E (Withdrawn : 05/24/2021)	0.65	80 50	0.65
930201	AB1-056 C	14.96	Adder	17.6
930202	AB1-056 E	42.61	Adder	50.13
931261	AB1-176 C	0.37	Adder	0.44
931262	AB1-176 E	0.61	Adder	0.72
932161	AC2-023 C	8.38	80 50	8.38
932162	AC2-023 E	6.1	80 50	6.1
933631	AC2-185 C	1.62	Adder	1.91
933632	AC2-185 E	2.65	Adder	3.12
933641	AC2-186 C	3.78	Adder	4.45
933642	AC2-186 E	6.17	Adder	7.26
936611	AD2-076 C O1	4.55	Adder	5.35
936612	AD2-076 E O1	7.43	Adder	8.74
938651	AE1-087 C	5.43	80 50	5.43
938652	AE1-087 E	1.36	80 50	1.36
938895	AE1-117 C	11.29	Adder	13.28
938896	AE1-117 E	30.12	Adder	35.44
939151	AE1-145	5.18	Adder	6.09
941021	AE2-093 C	6.33	80 50	6.33
941022	AE2-093 E	10.32	80 50	10.32
941181	AE2-112 C	1.58	Adder	1.86
941182	AE2-112 E	2.58	Adder	3.04
942441	AE2-257 C	7.75	Adder	9.12
942442	AE2-257 E	20.42	Adder	24.02
943361	AF1-007 C	0.44	Adder	0.52
943362	AF1-007 E	1.25	Adder	1.47

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943441	AF1-015 C	2.38	80 50	2.38
943442	AF1-015 E	3.29	80 50	3.29
943651	AF1-036 C	2.05	Adder	2.41
943652	AF1-036 E	2.84	Adder	3.34
945661	AF1-231 C	1.97	Adder	2.32
945662	AF1-231 E	2.96	Adder	3.48
945791	AF1-244 (Withdrawn : 06/07/2021)	2.49	80 50	2.49
945931	AF1-258	1.0	80 50	1.0
945941	AF1-259	0.2	Adder	0.24
957611	AF2-055 C	9.07	Adder	10.67
957612	AF2-055 E	3.89	Adder	4.58
957661	AF2-060	2.33	Adder	2.74
957671	AF2-061 O1	10.35	Adder	12.18
959021	AF2-193 C	27.65	Adder	32.53
959022	AF2-193 E	74.59	Adder	87.75
959031	AF2-194 C	27.65	Adder	32.53
959032	AF2-194 E	74.59	Adder	87.75
959051	AF2-196 C	2.11	Adder	2.48
959052	AF2-196 E	4.93	Adder	5.8
959161	AF2-207 C O1	5.22	Adder	6.14
959162	AF2-207 E O1	7.82	Adder	9.2
959581	AF2-249 C	0.18	80 50	0.18
959582	AF2-249 E	0.73	80 50	0.73
959591	AF2-250 C	0.34	80 50	0.34
959592	AF2-250 E	0.26	80 50	0.26
960221	AF2-313 C	3.11	Adder	3.66
960222	AF2-313 E	1.76	Adder	2.07
960341	AF2-325 C	1.42	80 50	1.42
960342	AF2-325 E	1.95	80 50	1.95
960671	AF2-358 C O1	19.94	80 50	19.94
960672	AF2-358 E O1	13.29	80 50	13.29
960871	AF2-378 C	0.37	80 50	0.37
960872	AF2-378 E	0.52	80 50	0.52
960881	AF2-379 C	0.51	80 50	0.51
960882	AF2-379 E	0.71	80 50	0.71
960941	AF2-385 C	12.37	Adder	14.55
960942	AF2-385 E	7.04	Adder	8.28
961181	AF2-409 O1 (Withdrawn : 07/06/2021)	34.67	80 50	34.67
962161	AG1-061 C O1	20.15	80 50	20.15
962162	AG1-061 E O1	13.43	80 50	13.43
962261	AG1-072	18.35	80 50	18.35
962302	AG1-079 E (Withdrawn : 08/03/2021)	0.28	Adder	0.33
962381	AG1-087 C O1	24.55	Adder	28.88
962382	AG1-087 E O1	66.22	Adder	77.91
963001	AG1-149 (Withdrawn : 06/07/2021)	0.93	80 50	0.93
963011	AG1-150	10.35	Adder	12.18
964551	AG1-318 C	0.07	Adder	0.08
964552	AG1-318 E	0.17	Adder	0.2
964962	AG1-360 E	2.71	80 50	2.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965321	AG1-397 C	1.07	Adder	1.26
965322	AG1-397 E	1.47	Adder	1.73
965611	AG1-429 C O1	9.14	Adder	10.75
965612	AG1-429 E O1	6.09	Adder	7.16
965821	AG1-450	8.31	80 50	8.31
965921	AG1-461 C O1	4.75	Adder	5.59
965922	AG1-461 E O1	2.56	Adder	3.01
965951	AG1-464 C O1	3.98	Adder	4.68
965952	AG1-464 E O1	5.97	Adder	7.02
966281	AG1-497 C O1	11.2	Adder	13.18
966282	AG1-497 E O1	4.8	Adder	5.65
966601	AG1-529 C	10.23	Adder	12.04
966602	AG1-529 E	5.46	Adder	6.42
LTFEXP_AC1-056	LTFEXP_AC1-056->LTFIMP_AC1-056	0.2809	Confirmed LTF	0.2809
LTFEXP_AC1-131	LTFEXP_AC1-131->LTFIMP_AC1-131	0.2139	Confirmed LTF	0.2139
LTFEXP_BlueG	LTFEXP_BlueG->LTFIMP_BlueG	0.4871	Confirmed LTF	0.4871
LTFEXP_CALDERWOOD	LTFEXP_CALDERWOOD->LTFIMP_CALDERWOOD	0.1403	Confirmed LTF	0.1403
LTFEXP_CATAWBA	LTFEXP_CATAWBA->LTFIMP_CATAWBA	0.0993	Confirmed LTF	0.0993
LTFEXP_CHEOAH	LTFEXP_CHEOAH->LTFIMP_CHEOAH	0.1413	Confirmed LTF	0.1413
LTFEXP_COTTONWOOD	LTFEXP_COTTONWOOD->LTFIMP_COTTONWOOD	0.5917	Confirmed LTF	0.5917
LTFEXP_G-007	LTFEXP_G-007->LTFIMP_G-007	0.064	LTF/CMTX NF	0.064
LTFEXP_GIBSON	LTFEXP_GIBSON->LTFIMP_GIBSON	0.1532	Confirmed LTF	0.1532
LTFEXP_HAMLET	LTFEXP_HAMLET->LTFIMP_HAMLET	0.1643	Confirmed LTF	0.1643
LTFEXP_NY	LTFEXP_NY->LTFIMP_NY	0.0859	Confirmed LTF	0.0859
LTFEXP_O-066	LTFEXP_O-066->LTFIMP_O-066	0.6541	LTF/CMTX NF	0.6541
LTFEXP_PRAIRIE	LTFEXP_PRAIRIE->LTFIMP_PRAIRIE	0.7257	Confirmed LTF	0.7257
LTFEXP_TRIMBLE	LTFEXP_TRIMBLE->LTFIMP_TRIMBLE	0.1561	Confirmed LTF	0.1561

11.8 Queue Dependencies

The Queue Projects below are listed in one or more indices for the overloads identified in your report. These projects contribute to the loading of the overloaded facilities identified in your report. The percent overload of a facility and cost allocation you may have towards a particular reinforcement could vary depending on the action of these earlier projects. The status of each project at the time of the analysis is presented in the table. This list may change as earlier projects withdraw or modify their requests.

Queue Number	Project Name	Status
AA1-102	Kings Creek-Loretto 138kV	Partially in Service - Under Construction
AA2-069	Cartanza 230kV	Engineering and Procurement
AA2-074	CPLP-PJM	Confirmed
AB1-001	Absecon 12 kV	In Service
AB1-056	Indian River 230kV I	Engineering and Procurement
AB1-116	Egg Harbor Road 12kV	In Service
AB1-119	Tansboro Road 12kV	In Service
AB1-141	Church-Wye Mills 138 kV I	Engineering and Procurement
AB1-142	Church-Wye Mills 138 kV II	Engineering and Procurement
AB1-176	Price 25kV II	Engineering and Procurement
AB2-032	Church-Wye Mills 138 kV	Engineering and Procurement
AB2-036	Church - Oil City 138kV	Engineering and Procurement
AB2-037	Keeney-Steele 230kV	Active
AB2-049	Gloucester Township 12kV	Engineering and Procurement
AB2-102	Cumberland 230kV	Active
AB2-133	Chestertown-Church 69kV	Engineering and Procurement
AB2-135	Church-Kent 69kV	Engineering and Procurement
AB2-136	Cambridge-West Cambridge 69kV	Engineering and Procurement
AB2-153	Church-Wye Mills 138 kV	Engineering and Procurement
AB2-172	Todd 69kV	Engineering and Procurement
AB2-179	Townsend 138kV	Engineering and Procurement
AB2-180	Rockawalkin 69kV	Engineering and Procurement
AC1-010	Gloucester 26kV	Engineering and Procurement
AC1-056	PJM-AMIL	Confirmed
AC1-091	Cedar Creek 138kV I	Engineering and Procurement
AC1-092	Cedar Creek 138kV II	Engineering and Procurement
AC1-093	Cedar Creek 138kV III	Engineering and Procurement
AC1-094	Cedar Creek 138kV IV	Engineering and Procurement
AC1-131	PJM-CPLP	Confirmed
AC1-190	East New Market 69kV	Active
AC1-213	North Salisbury 25kV	Withdrawn
AC2-023	Hebron 69kV	Active
AC2-050	Tabernacle 12kV	Active
AC2-185	Cedar Creek 138kV II	Engineering and Procurement
AC2-186	Harrington 25kV	Engineering and Procurement
AD1-019	Ontario 23 kV	Active
AD1-097	Linwood 230 kV II	In Service
AD2-059	Chapel Street 138 kV	Active
AD2-065	Atco 12 kV	Engineering and Procurement

Queue Number	Project Name	Status
AD2-076	Carville 138 kV	Engineering and Procurement
AD2-135	Williamstown 12kV	Active
AE1-061	Minotola 12 kV	Active
AE1-062	Silver Lake 69 kV	Active
AE1-087	Todd 69 kV	Engineering and Procurement
AE1-104	BL England 138 kV	Active
AE1-107	Mt. Pleasant-Lums Pond 138 kV	Active
AE1-115	Churchtown 69 kV	Active
AE1-117	Bethany 138 kV	Active
AE1-145	Wallops Island 69 kV	Active
AE1-161	Landis 138 kV	Active
AE1-179	South Millville-Newport 69 kV	Active
AE1-218	Glassboro 12 kV	Engineering and Procurement
AE1-229	Deepwater-Upper Pittsgrove 138 kV	Active
AE1-240	Carlls Corner-Sherman Avenue 69 kV	Active
AE2-020	Cardiff 230 kV I	Active
AE2-021	Cardiff 230 kV II	Active
AE2-022	Cardiff 230 kV III	Active
AE2-093	Easton-Steele 138 kV	Active
AE2-112	Carville 138 kV II	Active
AE2-222	Higbee 69 kV	Active
AE2-251	Cardiff 230 kV	Active
AE2-257	Cedar Neck 69 kV	Active
AE2-334	Clayton-Williamstown 69 kV	Active
AF1-007	Indian River 230 kV I	Active
AF1-015	Easton-Steele 138 kV II	Active
AF1-036	Carville 138 kV III	Active
AF1-041	Absecon 12.47 kV	In Service
AF1-137	Newlinville 34.5 kV	Engineering and Procurement
AF1-160	Silver Lake 69 kV	Active
AF1-174	Newlinville 34.5 kV II	Engineering and Procurement
AF1-208	Quinton-Roadstown 69 kV	Active
AF1-231	New Church 138 kV	Active
AF1-238	Sherman Ave. 69 kV	Active
AF1-239	Sherman Ave-Vineland 69 kV	Active
AF1-244	Kingston 12 kV	Withdrawn
AF1-258	Rockawalkin 69 kV	Partially in Service - Under Construction
AF1-259	Price 25 kV	In Service
AF1-262	Upper Pittsgrove 12 kV	Active
AF1-264	Runnemed 13 kV	Partially in Service - Under Construction
AF2-016	Lewis 138 kV	Active
AF2-019	Middle 69 kV	Active
AF2-020	Carll's Corner 69 kV	Active
AF2-021	Cedar 69 kV	Active
AF2-023	Churchtown 69 kV	Active
AF2-024	Mickleton 69 kV	Active
AF2-025	Missouri Ave 69 kV	Active
AF2-038	Printz 230 kV	Withdrawn
AF2-055	Plantation Creek 69 kV	Active
AF2-060	Wattsville 12 kV	Active
AF2-061	Wattsville 69kV	Active
AF2-193	Indian River 230 kV I	Active

Queue Number	Project Name	Status
AF2-194	Indian River 230 kV II	Active
AF2-196	Cedar Neck 69 kV II	Active
AF2-207	Nelson 69 kV	Active
AF2-208	Colora 230 kV	Active
AF2-249	Edgewood 12 kV II	Active
AF2-250	Edgewood 12 kV III	Active
AF2-313	Price 69 kV	Active
AF2-325	Jacktown 12 kV	Active
AF2-358	Airey-Vienna 69 kV	Active
AF2-378	Cambridge 12 kV	Engineering and Procurement
AF2-379	Princess Anne 25 kV	Engineering and Procurement
AF2-385	Nelson 69 kV	Active
AF2-409	Vienna 138 kV	Withdrawn
AG1-001	US Silica-Unimin 69 kV	Active
AG1-061	Laurel-Sharptown 69 kV	Active
AG1-072	Hillsboro-Steele 138 kV II	Active
AG1-079	New Meredith 69 kV	Withdrawn
AG1-087	Milford-Cartanza 230 kV	Active
AG1-110	Silver Lake 69 kV	Active
AG1-129	US Silica - Unimin 69 kV	Active
AG1-149	Kingston 12 kV II	Withdrawn
AG1-150	Wattsville 69 kV II	Active
AG1-158	Middletown 34.5 kV	Active
AG1-254	Salem-Woodstown 69 kV	Active
AG1-255	Churchtown-Orchard 230 kV	Active
AG1-263	Gloucester 230 kV	Active
AG1-299	U.S. Silica 12.47 kV	Active
AG1-300	U.S Silica II 12.47 kV	Active
AG1-318	Ocean Bay 12 kV	Engineering and Procurement
AG1-360	Costen 25 kV	Active
AG1-397	Walston 12 kV	Active
AG1-429	Tasley - Oak Hall 69 kV	Active
AG1-450	Airey-Vienna 69 kV II	Active
AG1-461	Mumford 69 kV	Active
AG1-464	Harrington 69 kV	Active
AG1-476	Mickelton 230 kV II	Active
AG1-497	Cartanza 230 kV	Active
AG1-499	Henry Harris 69 kV	Active
AG1-529	Farmview 138 kV	Active
V2-035	Pittsgrove	In Service
V2-041	Clayville 12kV	In Service
V2-046	Piles Grove Township 12kV	In Service
V4-054	Fairfield Township 12kV	In Service
V4-067	Cates Road Egg Harbor Township 12kV	In Service
W1-003	Oak Hall	In Service
W1-004	Oak Hall	In Service
W1-005	Oak Hall	In Service
W1-006	Oak Hall	In Service
W1-062	Clayton 138kV	In Service
W1-130	Vine Road 12kV	In Service
W2-030	Egg Harbor Township	In Service
W3-032A	Cartanza 230kV	In Service

Queue Number	Project Name	Status
X1-032	Costen 25kV	In Service
X2-083	Newark 12kV	In Service
X3-008	Todd 69kV	Partially in Service - Under Construction
X3-066	Church Hill 69kV	
Y1-065	Rock Springs 500kV	In Service
Y1-079	Wye Mills 69kV	In Service
Y1-080	Dorchester 12kV	In Service
Y3-058	Rockawalkin 69kV	In Service
Z1-082	Lawnside 13kV	In Service
Z2-076	Worcester South 25kV	In Service
Z2-077	Worcester North 25kV	In Service

11.9 Contingency Descriptions

Contingency Name	Contingency Definition
TS_P4_#T5_FUR RUN 500_CB 1	CONTINGENCY 'TS_P4_#T5_FUR RUN 500_CB 1' OPEN BRANCH FROM BUS 270072 TO BUS 270073 CKT 1 /*FUR RUN 500/230 KV TRANSFORMER #1 OPEN BRANCH FROM BUS 270072 TO BUS 270073 CKT 2 /*FUR RUN 500/230 KV TRANSFORMER #2 OPEN BRANCH FROM BUS 270072 TO BUS 200066 CKT 1 /*FUR RUN - PEACH BOTTOM 500 END
PECO_P1-2_220-84	CONTINGENCY 'PECO_P1-2_220-84' /* \$ DELCO \$ 220-84 \$ LB TRIP BRANCH FROM BUS 214235 TO BUS 231000 CKT 1 /* LINWOOD 230.00 CLAY_230 230.00 \$ DELCO \$ 220-84 \$ L END
PECO_P1-2_220-97/* \$ DELCO \$ PECO_P1-2_220-97 \$ L	
DPL_P4-2_DP3	CONTINGENCY 'DPL_P4-2_DP3' /*MILFORD BUS BREAKER TO STEELE DISCONNECT BRANCH FROM BUS 232004 TO BUS 232000 CKT 1 /*MILFORD STEELE 230 230 DISCONNECT BRANCH FROM BUS 232006 TO BUS 232004 CKT 1 /*MILFORD INDIAN RIVER 230 230 END
TS_P1-2_#T6	CONTINGENCY 'TS_P1-2_#T6' OPEN BRANCH FROM BUS 200066 TO BUS 270072 CKT 1 / 200066 PCHBTM1N 500 270072 FUR RUN_500 500 1 END
DPL_P4-2_DP8	CONTINGENCY 'DPL_P4-2_DP8' /*STEELE BUS BREAKER TO KEENEY DISCONNECT BRANCH FROM BUS 231003 TO BUS 232000 CKT 1 /*KEENEY STEELE 230 230 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232103 CKT 1 /*STEELE STEELE 230 138 END
Base Case	

Contingency Name	Contingency Definition
DPL_P7_1_DBL_3NC	CONTINGENCY 'DPL_P7_1_DBL_3NC' /* HARMNY-KEENY 230;KEENY-CHRYSLR 230 OPEN LINE FROM BUS 231002 TO BUS 231003 CKT 1 OPEN LINE FROM BUS 231123 TO BUS 231115 CKT 1 /*MOVE 100 PERCENT LOAD FROM BUS 231810 TO BUS 231115 /*MOVE 100 PERCENT LOAD FROM BUS 231811 TO BUS 231115 /*MOVE 100 PERCENT LOAD FROM BUS 231812 TO BUS 231115 /*MOVE 100 PERCENT LOAD FROM BUS 231813 TO BUS 231115 END
PECO_P1-2_220-04/* \$ DELCO \$ PECO_P1-2_220-04 \$ L	
JC-P1-2-JCC-500-003	CONTINGENCY 'JC-P1-2-JCC-500-003' /* NEWFRDM - WINDSOR 500.00 LINE DISCONNECT BRANCH FROM BUS 200012 TO BUS 200028 CKT 1 /* NEWFRDM - WINDSOR 500.00 LINE END
PJM500_PS_P1-2_HOPE-SILVER	CONTINGENCY 'PJM500_PS_P1-2_HOPE-SILVER' /* HOPE CREEK TO SILVER RUN DISCONNECT BUS 232012 DISCONNECT BUS 232014 END
TS_P4_#T7_FUR RUN 500_CB 3	CONTINGENCY 'TS_P4_#T7_FUR RUN 500_CB 3' OPEN BRANCH FROM BUS 270072 TO BUS 200066 CKT 1 /*FUR RUN - PEACH BOTTOM 500 OPEN BRANCH FROM BUS 270072 TO BUS 200016 CKT 1 /*FUR RUN - 3MILEI 500 END
DPL_P1_1_232904 IR4 26	CONTINGENCY 'DPL_P1_1_232904 IR4 26' REMOVE MACHINE 4 FROM BUS 232904 // PMAX=427.8 MW / PGEN=413.9 MW 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
DPL_P4-2_DP10	CONTINGENCY 'DPL_P4-2_DP10' /*STEELE BUS BREAKER TO VIENNA DISCONNECT BRANCH FROM BUS 231003 TO BUS 232000 CKT 1 /*KEENEY STEELE 230 230 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232103 CKT 2 /*STEELE STEELE 230 138 AT21 END
PECO_P1-2_220-85/* \$ DELCO \$ PECO_P1-2_220-85 \$ L	

Contingency Name	Contingency Definition
DPL_P7_1_DBL_4NC	CONTINGENCY 'DPL_P7_1_DBL_4NC' /* RED LION-SILVER RUN 230;RED LION-SILVER RUN 230 OPEN LINE FROM BUS 231004 TO BUS 232013 CKT 1 OPEN LINE FROM BUS 231004 TO BUS 232013 CKT 2 END
DPL_P1_2_AB2-037 KEENEY	CONTINGENCY 'DPL_P1_2_AB2-037 KEENEY' OPEN LINE FROM BUS 923960 TO BUS 231003 CIRCUIT 2 END
PECO_P2-1_CHIC435/* \$ DELCO \$ PECO_P2-1_CHIC435 \$ K	
PECO_P2-2_CHI230B1/* \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B	
DPL_P7_1_DBL_1NCB_FSA	CONTINGENCY 'DPL_P7_1_DBL_1NCB_FSA' /* #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 OPEN LINE FROM BUS 232000 TO BUS 923960 CKT 2 DISCONNECT BUS 923961 DISCONNECT BUS 923962 END
PECO_P4_PEACH205/* \$ CHESCO \$ PECO_P4_PEACH205 \$ STBK	
PECO_P4_POST475/* \$ DELCO \$ PECO_P4_POST475 \$ STBK	
PJM500_PS_P1-2_5015	CONTINGENCY 'PJM500_PS_P1-2_5015' /* HOPE CREEK TO RED LION TRIP LINE FROM BUS 200027 TO BUS 200029 CKT 1 /* HOPE CREEK TO RED LION END
CKT 23030B	CONTINGENCY 'CKT 23030B' OPEN LINE FROM BUS 232002 TO BUS 232013 CIRCUIT 1 /CEDAR CREEK - SILVER RUN 230 END
TS_P4_#T6_FUR RUN 500_CB 2	CONTINGENCY 'TS_P4_#T6_FUR RUN 500_CB 2' OPEN BRANCH FROM BUS 270072 TO BUS 270073 CKT 1 /*FUR RUN 500/230 KV TRANSFORMER #1 OPEN BRANCH FROM BUS 270072 TO BUS 270073 CKT 2 /*FUR RUN 500/230 KV TRANSFORMER #2 OPEN BRANCH FROM BUS 270072 TO BUS 200016 CKT 1 /*FUR RUN - 3MILEI 500 END
PECO_P1-2_5012/* \$ CHESCO \$ PECO_P1-2_5012 \$ L	

Contingency Name	Contingency Definition
CKT 23032B	CONTINGENCY 'CKT 23032B' OPEN LINE FROM BUS 232013 TO BUS 232003 CIRCUIT 1 /SILVER RUN - CARTANZA 230 END
PECO_P1-2_220-84/* \$ DELCO \$ PECO_P1-2_220-84 \$ L	
DPL_P1_2_CKT 23033-B	CONTINGENCY 'DPL_P1_2_CKT 23033-B' OPEN LINE FROM BUS 962380 TO BUS 232004 CIRCUIT 1 /AG1-087 TAP - MILFORD 230 END
PECO_P1-2_5014/* \$ CHESCO \$ PECO_P1-2_5014 \$ L	
PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	
PJM500_PS_P2-3_NFRD5_910	CONTINGENCY 'PJM500_PS_P2-3_NFRD5_910' DISCONNECT BRANCH FROM BUS 200012 TO BUS 219100 CKT 4 /* NEW FREEDOM 500- 4 TRIP LINE FROM BUS 200012 TO BUS 200028 CKT 1 /* 5038 NEW FREEDOM TO EAST WINDSOR END
PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	
PJM500_PS_P1-2_5023	CONTINGENCY 'PJM500_PS_P1-2_5023' /* NEW FREEDOM TO HOPE CREEK TRIP LINE FROM BUS 200012 TO BUS 200029 CKT 1 /* NEW FREEDOM TO HOPE CREEK END
PECO_P4_PEACH215/* \$ CHESCO \$ PECO_P4_PEACH215 \$ STBK	
DPL_P1_2_CKT 23076	CONTINGENCY 'DPL_P1_2_CKT 23076' OPEN LINE FROM BUS 232004 TO BUS 232000 CIRCUIT 1 /MILFORD - STEELE 230 END
PECO_P4_PEACH245/* \$ CHESCO \$ PECO_P4_PEACH245 \$ STBK	
PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	

Contingency Name	Contingency Definition
PJM500_DPL_P4_2_REDLION-HOPE AT51	CONTINGENCY 'PJM500_DPL_P4_2_REDLION-HOPE AT51' /* RED LION CB 505 OPEN LINE FROM BUS 200027 TO BUS 200029 CIRCUIT 1 /RED LION - HOPE CREEK OPEN LINE FROM BUS 200027 TO BUS 231004 CIRCUIT 2 /RED LION AT51 500/230 END
PJM500_DPL_P4_2_REDLION-HOPE AT50	CONTINGENCY 'PJM500_DPL_P4_2_REDLION-HOPE AT50' /* RED LION CB 503 OPEN LINE FROM BUS 200027 TO BUS 200029 CIRCUIT 1 /RED LION - HOPE CREEK OPEN LINE FROM BUS 200027 TO BUS 231004 CIRCUIT 1 /RED LION AT50 500/230 END
DPL_P1_2_CKT 23001	CONTINGENCY 'DPL_P1_2_CKT 23001' OPEN LINE FROM BUS 231003 TO BUS 232000 CIRCUIT 1 /#1 KEENEY EHV - STEELE 230 END

12 Light Load Analysis

The Queue Project AG1-087 was evaluated as a 440 MW (Capacity 119 MW) injection tapping the Milford to Cartanza 230 kV Line in the DPL area. Project AG1-087 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-087 was studied with a commercial probability of 100.0 %. Potential network impacts were as follows:

12.1 Light Load Deliverability

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

None

12.2 Multiple Facility Contingency

(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies)

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE T LOADIN G %	POST PROJE T LOADIN G %	AC/D C	MW IMPA CT
165231372	214206	RICHRE29	230.0	PECO	214274	RICHMOND29	230.0	PECO	1	PECO_P2-2_CHI230B1/* \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B	bus	1344.0	99.93	101.91	AC	35.57
174170113	214206	RICHRE29	230.0	PECO	214274	RICHMOND29	230.0	PECO	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	breaker	1344.0	99.94	101.91	AC	35.57
179280680	214206	RICHRE29	230.0	PECO	214274	RICHMOND29	230.0	PECO	1	PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	breaker	1344.0	99.93	101.91	AC	35.57
165231367	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	PECO_P2-2_CHI230B1/* \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B	bus	1344.0	99.93	101.9	AC	35.57
174170114	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	breaker	1344.0	99.94	101.91	AC	35.57
179280690	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	breaker	1344.0	99.93	101.91	AC	35.57

12.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
1785363 69	2062 52	28VERNON D	115.0	JCP&L	9422 50	AE2-237 TAP	115.0	JCP&L	1	Base Case	single	64.0	433.59	439.87	AC	4.79
1785363 71	2062 52	28VERNON D	115.0	JCP&L	9422 50	AE2-237 TAP	115.0	JCP&L	1	EXT_128842 NEPTCONV 345 128847 NWBRG 345 EQ	single	92.0	306.78	311.15	AC	4.79
1785373 58	2142 06	RICHRE29	230.0	PECO	2142 74	RICHMON D29	230.0	PECO	1	JC-P1-2-JCC-500-003	single	1344 .0	102.3	102.32	AC	25.69
1652313 50	2142 77	RICHMON D35	230.0	PECO	2140 12	WANEETA 3	230.0	PECO	1	PECO_P2-2_CHI230B1/* \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B	bus	1180 .0	101.77	104.48	AC	33.19
1741700 83	2142 77	RICHMON D35	230.0	PECO	2140 12	WANEETA 3	230.0	PECO	1	PECO_P4_CHICH0 45/* \$ DELCO \$ PECO_P4_CHICH0 45 \$ STBK	breaker	1180 .0	101.77	104.49	AC	33.19
1792801 24	2142 77	RICHMON D35	230.0	PECO	2140 12	WANEETA 3	230.0	PECO	1	PECO_P4_CHICH4 35/* \$ DELCO \$ PECO_P4_CHICH4 35 \$ STBK	breaker	1180 .0	101.77	104.48	AC	33.19
1785373 51	2191 25	CAMDEN	230.0	PSE&G	2142 06	RICHRE29	230.0	PECO	1	JC-P1-2-JCC-500-003	single	1344 .0	102.3	102.32	AC	25.69
1739753 93	2321 21	INDRV2&3	138.0	DP&L	2321 19	NELSON	138.0	DP&L	1	DPL_P4-2_DPIR235	breaker	193.0	133.52	138.53	DC	11.37
1785368 91	2321 21	INDRV2&3	138.0	DP&L	2321 19	NELSON	138.0	DP&L	1	DPL_P1_2_CKT 23002	single	193.0	116.49	122.06	DC	12.66
1792799 73	2321 21	INDRV2&3	138.0	DP&L	2321 19	NELSON	138.0	DP&L	1	DPL_P4-2_DPPINEY8870	breaker	193.0	106.52	112.1	DC	12.66
1785363 79	9422 50	AE2-237 TAP	115.0	JCP&L	1250 18	SUGARLF	115.0	NYISO	1	Base Case	single	64.0	430.91	437.27	AC	4.79
1785363 81	9422 50	AE2-237 TAP	115.0	JCP&L	1250 18	SUGARLF	115.0	NYISO	1	EXT_128842 NEPTCONV 345 128847 NWBRG 345 EQ	single	92.0	304.13	308.56	AC	4.79

12.4 Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

12.5 System Reinforcements

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number																																																												
179279973,178 536891,173975 393	2	INDRV2&3 138.0 kV - NELSON 138.0 kV Ckt 1	ProjectId : n7038 (dt13703r0001) Description : To mitigate the (DP&L) Indian River to Nelson 138 kV line (from bus 232121 to bus 232119 ckt 1) overload, it will require increasing the emergency rating of the Indian River - Nelson 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. Type : FAC Total Cost : \$43,000,000 Time Estimate : 48-60 Months Ratings : 183.0/247.0/247.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AF2-194</td><td>18.23</td><td>45.67%</td><td>\$19,636,523</td></tr><tr><td>AF2-207</td><td>10.32</td><td>25.85%</td><td>\$11,116,232</td></tr><tr><td>AG1-087</td><td>11.37</td><td>28.48%</td><td>\$12,247,244</td></tr></table> ProjectId : n7039 (ds13703r0001) Description : To mitigate the (DPL) Indian River - Nelson 138 kV line (from bus 232121 to 232119) overload, it will require increasing the emergency rating of the Indian River - Nelson 138 kV line by replacing terminal equipment at Nelson (Upgrade 477AAC Stranded Bus to 954 ACSR) Type : FAC Total Cost : \$250,000 Time Estimate : 9-12 Months Ratings : 139.0/193.0/193.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AG1-087</td><td>11.37</td><td>100.00%</td><td>\$250,000</td></tr></table>	Queue	MW	Cost %	Cost \$	AF2-194	18.23	45.67%	\$19,636,523	AF2-207	10.32	25.85%	\$11,116,232	AG1-087	11.37	28.48%	\$12,247,244	Queue	MW	Cost %	Cost \$	AG1-087	11.37	100.00%	\$250,000	\$43,250,000	\$12,497,244	N7038 N7039																																				
Queue	MW	Cost %	Cost \$																																																															
AF2-194	18.23	45.67%	\$19,636,523																																																															
AF2-207	10.32	25.85%	\$11,116,232																																																															
AG1-087	11.37	28.48%	\$12,247,244																																																															
Queue	MW	Cost %	Cost \$																																																															
AG1-087	11.37	100.00%	\$250,000																																																															
165231350,179 280124,174170 083	3	RICHMOND35 230.0 kV - WANEETA3 230.0 kV Ckt 1	ProjectId : N6477 (pe010) Description : Add a second pair of underground cables in parallel with the existing underground portion of the Richmond - Waneeta 230 kV line (Does not include permitting) Type : FAC Total Cost : \$19,000,000 Time Estimate : 84.0 Months Ratings : 1026.0/1247.0/1337.0 <table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost \$</th></tr><tr><td>AE2-021</td><td>102.21</td><td>13.67%</td><td>\$2,597,737</td></tr><tr><td>AE2-022</td><td>64.84</td><td>8.67%</td><td>\$1,647,953</td></tr><tr><td>AE2-222</td><td>56.6</td><td>7.57%</td><td>\$1,438,528</td></tr><tr><td>AE2-251</td><td>220.56</td><td>29.50%</td><td>\$5,605,682</td></tr><tr><td>AF1-222</td><td>33.04</td><td>4.42%</td><td>\$839,734</td></tr><tr><td>AF1-237</td><td>10.68</td><td>1.43%</td><td>\$271,439</td></tr><tr><td>AF1-238</td><td>26.79</td><td>3.58%</td><td>\$680,886</td></tr><tr><td>AF2-016</td><td>57.43</td><td>7.68%</td><td>\$1,459,623</td></tr><tr><td>AF2-023</td><td>9.12</td><td>1.22%</td><td>\$231,791</td></tr><tr><td>AF2-193</td><td>46.55</td><td>6.23%</td><td>\$1,183,100</td></tr><tr><td>AF2-194</td><td>46.55</td><td>6.23%</td><td>\$1,183,100</td></tr><tr><td>AF2-413</td><td>21.23</td><td>2.84%</td><td>\$539,575</td></tr><tr><td>AF2-414</td><td>18.78</td><td>2.51%</td><td>\$477,306</td></tr><tr><td>AG1-087</td><td>33.19</td><td>4.44%</td><td>\$843,546</td></tr></table>	Queue	MW	Cost %	Cost \$	AE2-021	102.21	13.67%	\$2,597,737	AE2-022	64.84	8.67%	\$1,647,953	AE2-222	56.6	7.57%	\$1,438,528	AE2-251	220.56	29.50%	\$5,605,682	AF1-222	33.04	4.42%	\$839,734	AF1-237	10.68	1.43%	\$271,439	AF1-238	26.79	3.58%	\$680,886	AF2-016	57.43	7.68%	\$1,459,623	AF2-023	9.12	1.22%	\$231,791	AF2-193	46.55	6.23%	\$1,183,100	AF2-194	46.55	6.23%	\$1,183,100	AF2-413	21.23	2.84%	\$539,575	AF2-414	18.78	2.51%	\$477,306	AG1-087	33.19	4.44%	\$843,546	\$19,000,000	\$843,546	N6477
Queue	MW	Cost %	Cost \$																																																															
AE2-021	102.21	13.67%	\$2,597,737																																																															
AE2-022	64.84	8.67%	\$1,647,953																																																															
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AF1-238	26.79	3.58%	\$680,886																																																															
AF2-016	57.43	7.68%	\$1,459,623																																																															
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AF2-414	18.78	2.51%	\$477,306																																																															
AG1-087	33.19	4.44%	\$843,546																																																															

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AG1-087	Upgrade Number				
174170113,179 280680,178537 358,165231372, 174170114,178 537351,179280 690,165231367	4	RICHRE29 230.0 kV - RICHMOND29 230.0 kV Ckt 1	ProjectId: N6471 (pe002) Description : Replace 1 piece of station cable in Richmond substation on Richmond-Camden tie line Type : FAC Total Cost : \$45,000 Time Estimate : 24.0 Months Ratings : 1181.0/1354.0/1586.0 Notes : Per PJM cost allocation rules, this reinforcement cost is driven by previous AE2 queue. AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.	\$2,299,000	\$2,254,000	N6471 N6473				
	1	CAMDEN 230.0 kV - RICHRE29 230.0 kV Ckt 1	ProjectId : N6473 (pe003) Description : Replace reactor in Richmond substation on Richmond-Camden tie line Type : FAC Total Cost : \$2,254,000 Time Estimate : 36.0 Months Ratings : 1245.0/1387.0/1586.0 <table><tr><td>Queue</td><td>MW</td><td>Cost %</td><td>Cost \$</td></tr><tr><td>AG1-087</td><td>25.69</td><td>100.00%</td><td>\$2,254,000</td></tr></table>				Queue	MW	Cost %	Cost \$
Queue	MW	Cost %	Cost \$							
AG1-087	25.69	100.00%	\$2,254,000							
178536371,178 536369	5	28VERNON D 115.0 kV - AE2- 237 TAP 115.0 kV Ckt 1	ProjectId: JC-AG1-L-0003 Description: Reconductor 4.8 miles of 4/0 ACSR 6/1 transmission line from Vernon to New York/New Jersey Border with a conductor able to meet or exceed 287 MVA STE. Central Hudson will also need to provide appropriate upgrades on Central Hudson Owned portion of the line. Type: FAC Total Cost: \$0 (\$16,888,650 – same cost as Index 6) Time Estimate: 36.0 Months Ratings: 274/344/344 Notes: Per PJM cost allocation rules, AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw.	\$0	\$0					
178536381,178 536379	6	AE2-237 TAP 115.0 kV - SUGARLF 115.0 kV Ckt 1	ProjectId: JC-AG1-L-0003 Description: Reconductor 4.8 miles of 4/0 ACSR 6/1 transmission line from Vernon to New York/New Jersey Border with a conductor able to meet or exceed 287 MVA STE. Central Hudson will also need to provide appropriate upgrades on Central Hudson Owned portion of the line. Type: FAC Total Cost: \$16,888,650 Time Estimate: 36.0 Months Ratings: 274/344/344 Notes: Per PJM cost allocation rules, AG1-087 presently does not receive cost allocation for this upgrade. This may change with future re-tools as projects withdraw. **NYISO upgrades to be provided during FAC study phase.	\$16,888,6500	\$0					
			TOTAL COST	\$233,435,500	\$15,594,790					

Note: For customers with System Reinforcements listed: If your present cost allocation to a System Reinforcement indicates \$0, then please be aware that as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc, the cost responsibilities can change and a cost allocation may be assigned to your project. In addition, although your present cost allocation to a System Reinforcement is presently \$0, your project may need this system reinforcement completed to be deliverable to the PJM system. If your project comes into service prior to completion of the system reinforcement, an interim deliverability study for your project will be required.

12.6 Flow Gate Details

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

12.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
178537351	219125	CAMDEN	PSE&G	214206	RICHRE29	PECO	1	JC-P1-2-JCC-500-003	single	1344.0	102.3	102.32	AC	25.69

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232616	GEN FOOD	0.5365	80/20	0.5365
919662	AA2-048 E	0.4994	80/20	0.4994
930201	AB1-056 C	1.8274	80/20	1.8274
930202	AB1-056 E	5.2042	80/20	5.2042
938421	AE1-061 C	0.6522	80/20	0.6522
938422	AE1-061 E	0.6522	80/20	0.6522
938431	AE1-062 C	2.4180	80/20	2.4180
938651	AE1-087 C	0.8873	Adder	1.04
938652	AE1-087 E	0.2218	Adder	0.26
938781	AE1-104 C O1	23.1426	80/20	23.1426
938782	AE1-104 E O1	59.2013	80/20	59.2013
938871	AE1-115 C	2.5636	80/20	2.5636
938872	AE1-115 E	2.5636	80/20	2.5636
939151	AE1-145	1.3796	80/20	1.3796
939301	AE1-161 C	4.9190	80/20	4.9190
939302	AE1-161 E	7.3785	80/20	7.3785
940161	AE2-000 C O1	18.8595	80/20	18.8595
940162	AE2-000 E O1	48.2549	80/20	48.2549
940361	AE2-020 C	16.7937	80/20	16.7937
940362	AE2-020 E	78.6292	80/20	78.6292
940371	AE2-021 C	16.7937	80/20	16.7937
940372	AE2-021 E	78.6292	80/20	78.6292
940381	AE2-022 C	9.7963	80/20	9.7963
940382	AE2-022 E	45.8671	80/20	45.8671
940401	AE2-024 C O1	8.7003	80/20	8.7003
940402	AE2-024 E O1	40.7340	80/20	40.7340
940411	AE2-025 C	4.3919	80/20	4.3919
940412	AE2-025 E	20.5606	80/20	20.5606
942101	AE2-222 C	13.6937	80/20	13.6937
942102	AE2-222 E	35.0383	80/20	35.0383
942381	AE2-251 C	53.2021	80/20	53.2021
942382	AE2-251 E	136.1291	80/20	136.1291
942441	AE2-257 C	1.8670	80/20	1.8670
942442	AE2-257 E	4.9221	80/20	4.9221
943361	AF1-007 C	0.1078	80/20	0.1078
943362	AF1-007 E	0.3065	80/20	0.3065
943561	AF1-027	0.2275	80/20	0.2275
944331	AF1-101 C O1	18.4894	80/20	18.4894
944332	AF1-101 E O1	47.3091	80/20	47.3091
944951	AF1-160 C	2.4180	80/20	2.4180
945431	AF1-208 C O1	0.0002	80/20	0.0002
945432	AF1-208 E O1	2.4283	80/20	2.4283
945571	AF1-222 C	2.0909	Adder	2.46
945572	AF1-222 E	5.5125	Adder	6.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945661	AF1-231 C	0.4454	Adder	0.52
945662	AF1-231 E	0.7860	80/20	0.7860
945721	AF1-237 C	4.6519	Adder	5.47
945722	AF1-237 E	6.9778	Adder	8.21
945731	AF1-238 C O1	11.5428	80/20	11.5428
945732	AF1-238 E O1	17.3142	80/20	17.3142
945741	AF1-239 C	2.7160	80/20	2.7160
945742	AF1-239 E	4.0739	80/20	4.0739
945791	AF1-244	0.4663	Adder	0.55
957221	AF2-016 C	24.5496	80/20	24.5496
957222	AF2-016 E	36.8244	80/20	36.8244
957251	AF2-019 C	1.6799	80/20	1.6799
957252	AF2-019 E	2.5199	80/20	2.5199
957261	AF2-020 C	1.8938	80/20	1.8938
957262	AF2-020 E	2.8406	80/20	2.8406
957271	AF2-021 C	1.0957	80/20	1.0957
957272	AF2-021 E	1.6435	80/20	1.6435
957291	AF2-023 C	4.3590	80/20	4.3590
957292	AF2-023 E	6.5385	80/20	6.5385
957301	AF2-024 C	2.7756	80/20	2.7756
957302	AF2-024 E	4.1633	80/20	4.1633
957311	AF2-025 C	1.6245	80/20	1.6245
957312	AF2-025 E	2.4367	80/20	2.4367
957443	AF2-038 BAT (Withdrawn : 04/20/2021)	1.6160	80/20	1.6160
957611	AF2-055 C	0.0001	Adder	0.0
957612	AF2-055 E	2.0685	80/20	2.0685
957661	AF2-060	0.6208	80/20	0.6208
957671	AF2-061 O1	2.7592	80/20	2.7592
957781	AF2-072 C	1.7515	80/20	1.7515
957782	AF2-072 E	1.7515	80/20	1.7515
959021	AF2-193 C	6.7535	80/20	6.7535
959022	AF2-193 E	18.2174	80/20	18.2174
959031	AF2-194 C	6.7535	80/20	6.7535
959032	AF2-194 E	18.2174	80/20	18.2174
959051	AF2-196 C	0.5092	80/20	0.5092
959052	AF2-196 E	1.1881	80/20	1.1881
959161	AF2-207 C O1	1.1790	Adder	1.39
959162	AF2-207 E O1	1.7684	Adder	2.08
959581	AF2-249 C	0.0351	Adder	0.04
959582	AF2-249 E	0.1402	Adder	0.16
960341	AF2-325 C	0.0001	Adder	0.0
960342	AF2-325 E	0.6697	Adder	0.79
960871	AF2-378 C	0.0001	Adder	0.0
960872	AF2-378 E	0.2237	Adder	0.26
960881	AF2-379 C	0.0001	Adder	0.0
960882	AF2-379 E	0.1746	Adder	0.21
961181	AF2-409 O1	5.6482	Adder	6.64
962261	AG1-072	2.5598	Adder	3.01
962381	AG1-087 C	6.9486	80/20	6.9486
962382	AG1-087 E	18.7438	80/20	18.7438
962392	AG1-088 E	3.4326	80/20	3.4326
962542	AG1-103 E	3.8015	80/20	3.8015

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962591	AG1-108	1.7515	80/20	1.7515
962611	AG1-110	4.8360	80/20	4.8360
962672	AG1-116 E	4.5768	80/20	4.5768
962682	AG1-117 E	12.3330	80/20	12.3330
962811	AG1-130 C	0.3520	80/20	0.3520
962812	AG1-130 E	0.5280	80/20	0.5280
963001	AG1-149	0.1749	Adder	0.21
963011	AG1-150	2.7592	80/20	2.7592
964002	AG1-254 E	4.8727	80/20	4.8727
964012	AG1-255 E	6.9388	80/20	6.9388
964081	AG1-263 C	3.1431	80/20	3.1431
964082	AG1-263 E	4.7147	80/20	4.7147
964551	AG1-318 C	0.0212	80/20	0.0212
964552	AG1-318 E	0.0494	80/20	0.0494
965322	AG1-397 E	0.2074	80/20	0.2074
965821	AG1-450	1.4142	Adder	1.66
965951	AG1-464 C	1.4272	80/20	1.4272
965952	AG1-464 E	2.1408	80/20	2.1408
966281	AG1-497 C	0.9413	80/20	0.9413
966282	AG1-497 E	1.4119	80/20	1.4119

12.6.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
173975393	232121	INDRV2&3	DP&L	232119	NELSON	DP&L	1	DPL_P4-2_DPIR235	breaker	193.0	133.52	138.53	DC	11.37

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	3.4655	50/50	3.4655
930202	AB1-056 E	9.8691	50/50	9.8691
938651	AE1-087 C	-1.7275	Adder	-2.03
938653	AE1-087 BAT	2.5404	50/50	2.5404
939152	AE1-145 BAT	3.6566	50/50	3.6566
942441	AE2-257 C	3.8087	50/50	3.8087
942442	AE2-257 E	10.0412	50/50	10.0412
943361	AF1-007 C	0.2045	50/50	0.2045
943362	AF1-007 E	0.5812	50/50	0.5812
945663	AF1-231 BAT	3.4848	50/50	3.4848
945792	AF1-244 BAT	1.4861	50/50	1.4861
957613	AF2-055 BAT	5.4960	50/50	5.4960
957662	AF2-060 BAT	1.6455	50/50	1.6455
957672	AF2-061 BAT	7.3132	50/50	7.3132
959021	AF2-193 C	12.8073	50/50	12.8073
959022	AF2-193 E	34.5473	50/50	34.5473
959031	AF2-194 C	12.8073	50/50	12.8073
959032	AF2-194 E	34.5473	50/50	34.5473
959051	AF2-196 C	1.0387	50/50	1.0387
959052	AF2-196 E	2.4237	50/50	2.4237
959163	AF2-207 BAT	10.0215	50/50	10.0215
959583	AF2-249 BAT	0.5465	50/50	0.5465
961182	AF2-409 BAT	20.7980	50/50	20.7980
962381	AG1-087 C	2.6137	Adder	3.07
962382	AG1-087 E	7.0504	Adder	8.29
963002	AG1-149 BAT	0.5573	50/50	0.5573
963012	AG1-150 BAT	7.3132	50/50	7.3132
964551	AG1-318 C	0.0435	50/50	0.0435
964552	AG1-318 E	0.1016	50/50	0.1016
965822	AG1-450 BAT	3.8183	50/50	3.8183

12.6.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPAC T
179280124	214277	RICHMOND35	PECO	214012	WANEETA3	PECO	1	PECO_P4_CHICH435/ *\$ DELCO \$ PECO_P4_CHICH435 \$ STBK	breaker	1180.0	101.77	104.48	AC	33.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
207400	28PL_AA1-060	2.7650	Merchant Transmission	2.7650
231901	EM4	7.3929	Adder	8.7
231916	EM3	3.6441	Adder	4.29
232616	GEN FOOD	0.5599	Adder	0.66
919662	AA2-048 E	0.7081	Merchant Transmission	0.7081
936452	AD2-059 E	0.0583	Adder	0.07
938421	AE1-061 C	0.6033	50/50	0.6033
938422	AE1-061 E	0.6033	50/50	0.6033
938431	AE1-062 C	2.2396	50/50	2.2396
938651	AE1-087 C	1.2398	Adder	1.46
938652	AE1-087 E	0.3099	Adder	0.36
938781	AE1-104 C O1	18.2693	Adder	21.49
938782	AE1-104 E O1	46.7347	Adder	54.98
938871	AE1-115 C	2.3782	50/50	2.3782
938872	AE1-115 E	2.3782	50/50	2.3782
939151	AE1-145	1.5774	Adder	1.86
939301	AE1-161 C	4.5392	50/50	4.5392
939302	AE1-161 E	6.8088	50/50	6.8088
940161	AE2-000 C O1	19.1911	Adder	22.58
940162	AE2-000 E O1	49.1035	Adder	57.77
940361	AE2-020 C	13.4054	Adder	15.77
940362	AE2-020 E	62.7648	Adder	73.84
940371	AE2-021 C	13.4054	Adder	15.77
940372	AE2-021 E	62.7648	Adder	73.84
940381	AE2-022 C	7.8198	Adder	9.2
940382	AE2-022 E	36.6128	Adder	43.07
940401	AE2-024 C O1	10.6053	Adder	12.48
940402	AE2-024 E O1	49.6526	Adder	58.41
940411	AE2-025 C	5.3535	Adder	6.3
940412	AE2-025 E	25.0624	Adder	29.49
942101	AE2-222 C	10.9036	Adder	12.83
942102	AE2-222 E	27.8992	Adder	32.82
942381	AE2-251 C	42.4679	Adder	49.96
942382	AE2-251 E	108.6635	Adder	127.84
942441	AE2-257 C	2.0963	Adder	2.47
942442	AE2-257 E	5.5267	Adder	6.5
943361	AF1-007 C	0.1208	Adder	0.14
943362	AF1-007 E	0.3434	Adder	0.4
943561	AF1-027	0.2350	Adder	0.28
944331	AF1-101 C O1	18.8145	Adder	22.13
944332	AF1-101 E O1	48.1410	Adder	56.64
944951	AF1-160 C	2.2396	50/50	2.2396
945431	AF1-208 C O1	0.0002	50/50	0.0002

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945432	AF1-208 E O1	2.2444	50/50	2.2444
945571	AF1-222 C	8.3554	Adder	9.83
945572	AF1-222 E	22.0278	Adder	25.92
945661	AF1-231 C	0.5994	Adder	0.71
945662	AF1-231 E	0.8990	Adder	1.06
945721	AF1-237 C	8.1124	Adder	9.54
945722	AF1-237 E	12.1686	Adder	14.32
945731	AF1-238 C O1	9.0207	Adder	10.61
945732	AF1-238 E O1	13.5311	Adder	15.92
945741	AF1-239 C	2.1225	Adder	2.5
945742	AF1-239 E	3.1838	Adder	3.75
945791	AF1-244	0.6300	Adder	0.74
957221	AF2-016 C	19.5136	Adder	22.96
957222	AF2-016 E	29.2704	Adder	34.44
957251	AF2-019 C	1.3193	Adder	1.55
957252	AF2-019 E	1.9790	Adder	2.33
957261	AF2-020 C	1.7474	50/50	1.7474
957262	AF2-020 E	2.6210	50/50	2.6210
957271	AF2-021 C	0.9906	Adder	1.17
957272	AF2-021 E	1.4858	Adder	1.75
957291	AF2-023 C	4.0438	50/50	4.0438
957292	AF2-023 E	6.0657	50/50	6.0657
957301	AF2-024 C	2.6045	50/50	2.6045
957302	AF2-024 E	3.9067	50/50	3.9067
957311	AF2-025 C	1.2934	Adder	1.52
957312	AF2-025 E	1.9400	Adder	2.28
957443	AF2-038 BAT (Withdrawn : 04/20/2021)	4.5636	50/50	4.5636
957611	AF2-055 C	0.0001	Adder	0.0
957612	AF2-055 E	2.3659	Adder	2.78
957661	AF2-060	0.7098	Adder	0.84
957671	AF2-061 O1	3.1549	Adder	3.71
957771	AF2-071	6.9428	Adder	8.17
957781	AF2-072 C	2.1350	Adder	2.51
957782	AF2-072 E	2.1350	Adder	2.51
959021	AF2-193 C	7.5668	Adder	8.9
959022	AF2-193 E	20.4114	Adder	24.01
959031	AF2-194 C	7.5668	Adder	8.9
959032	AF2-194 E	20.4114	Adder	24.01
959051	AF2-196 C	0.5717	Adder	0.67
959052	AF2-196 E	1.3340	Adder	1.57
959161	AF2-207 C O1	1.5883	Adder	1.87
959162	AF2-207 E O1	2.3825	Adder	2.8
959581	AF2-249 C	0.0473	Adder	0.06
959582	AF2-249 E	0.1890	Adder	0.22
960341	AF2-325 C	0.0001	Adder	0.0
960342	AF2-325 E	0.9319	Adder	1.1
960871	AF2-378 C	0.0001	Adder	0.0
960872	AF2-378 E	0.3108	Adder	0.37
960881	AF2-379 C	0.0001	Adder	0.0
960882	AF2-379 E	0.2361	Adder	0.28
961181	AF2-409 O1	7.8098	Adder	9.19
961221	AF2-413	12.7521	Adder	15.0

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962261	AG1-072	3.7736	Adder	4.44
962381	AG1-087 C	7.6299	Adder	8.98
962382	AG1-087 E	20.5816	Adder	24.21
962392	AG1-088 E	3.1599	50/50	3.1599
962542	AG1-103 E	3.4961	50/50	3.4961
962591	AG1-108	2.1350	Adder	2.51
962611	AG1-110	4.4792	50/50	4.4792
962672	AG1-116 E	3.5809	Adder	4.21
962682	AG1-117 E	11.3855	50/50	11.3855
962811	AG1-130 C	0.4922	50/50	0.4922
962812	AG1-130 E	0.7382	50/50	0.7382
963001	AG1-149	0.2362	Adder	0.28
963011	AG1-150	3.1549	Adder	3.71
964002	AG1-254 E	4.5193	50/50	4.5193
964012	AG1-255 E	6.4303	50/50	6.4303
964081	AG1-263 C	2.7490	50/50	2.7490
964082	AG1-263 E	4.1234	50/50	4.1234
964551	AG1-318 C	0.0238	Adder	0.03
964552	AG1-318 E	0.0556	Adder	0.07
965322	AG1-397 E	0.2367	Adder	0.28
965821	AG1-450	1.9503	Adder	2.29
965951	AG1-464 C	1.5864	Adder	1.87
965952	AG1-464 E	2.3797	Adder	2.8
966281	AG1-497 C	0.9824	Adder	1.16
966282	AG1-497 E	1.4735	Adder	1.73

12.6.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
178537358	214206	RICHRE29	PECO	214274	RICHMOND29	PECO	1	JC-P1-2-JCC-500-003	single	1344.0	102.3	102.32	AC	25.69

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232616	GEN FOOD	0.5365	80/20	0.5365
919662	AA2-048 E	0.4994	80/20	0.4994
930201	AB1-056 C	1.8274	80/20	1.8274
930202	AB1-056 E	5.2042	80/20	5.2042
938421	AE1-061 C	0.6522	80/20	0.6522
938422	AE1-061 E	0.6522	80/20	0.6522
938431	AE1-062 C	2.4180	80/20	2.4180
938651	AE1-087 C	0.8873	Adder	1.04
938652	AE1-087 E	0.2218	Adder	0.26
938781	AE1-104 C O1	23.1426	80/20	23.1426
938782	AE1-104 E O1	59.2013	80/20	59.2013
938871	AE1-115 C	2.5636	80/20	2.5636
938872	AE1-115 E	2.5636	80/20	2.5636
939151	AE1-145	1.3796	80/20	1.3796
939301	AE1-161 C	4.9190	80/20	4.9190
939302	AE1-161 E	7.3785	80/20	7.3785
940161	AE2-000 C O1	18.8595	80/20	18.8595
940162	AE2-000 E O1	48.2549	80/20	48.2549
940361	AE2-020 C	16.7937	80/20	16.7937
940362	AE2-020 E	78.6292	80/20	78.6292
940371	AE2-021 C	16.7937	80/20	16.7937
940372	AE2-021 E	78.6292	80/20	78.6292
940381	AE2-022 C	9.7963	80/20	9.7963
940382	AE2-022 E	45.8671	80/20	45.8671
940401	AE2-024 C O1	8.7003	80/20	8.7003
940402	AE2-024 E O1	40.7340	80/20	40.7340
940411	AE2-025 C	4.3919	80/20	4.3919
940412	AE2-025 E	20.5606	80/20	20.5606
942101	AE2-222 C	13.6937	80/20	13.6937
942102	AE2-222 E	35.0383	80/20	35.0383
942381	AE2-251 C	53.2021	80/20	53.2021
942382	AE2-251 E	136.1291	80/20	136.1291
942441	AE2-257 C	1.8670	80/20	1.8670
942442	AE2-257 E	4.9221	80/20	4.9221
943361	AF1-007 C	0.1078	80/20	0.1078
943362	AF1-007 E	0.3065	80/20	0.3065
943561	AF1-027	0.2275	80/20	0.2275
944331	AF1-101 C O1	18.4894	80/20	18.4894
944332	AF1-101 E O1	47.3091	80/20	47.3091
944951	AF1-160 C	2.4180	80/20	2.4180
945431	AF1-208 C O1	0.0002	80/20	0.0002
945432	AF1-208 E O1	2.4283	80/20	2.4283
945571	AF1-222 C	2.0909	Adder	2.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945572	AF1-222 E	5.5125	Adder	6.49
945661	AF1-231 C	0.4454	Adder	0.52
945662	AF1-231 E	0.7860	80/20	0.7860
945721	AF1-237 C	4.6519	Adder	5.47
945722	AF1-237 E	6.9778	Adder	8.21
945731	AF1-238 C O1	11.5428	80/20	11.5428
945732	AF1-238 E O1	17.3142	80/20	17.3142
945741	AF1-239 C	2.7160	80/20	2.7160
945742	AF1-239 E	4.0739	80/20	4.0739
945791	AF1-244	0.4663	Adder	0.55
957221	AF2-016 C	24.5496	80/20	24.5496
957222	AF2-016 E	36.8244	80/20	36.8244
957251	AF2-019 C	1.6799	80/20	1.6799
957252	AF2-019 E	2.5199	80/20	2.5199
957261	AF2-020 C	1.8938	80/20	1.8938
957262	AF2-020 E	2.8406	80/20	2.8406
957271	AF2-021 C	1.0957	80/20	1.0957
957272	AF2-021 E	1.6435	80/20	1.6435
957291	AF2-023 C	4.3590	80/20	4.3590
957292	AF2-023 E	6.5385	80/20	6.5385
957301	AF2-024 C	2.7756	80/20	2.7756
957302	AF2-024 E	4.1633	80/20	4.1633
957311	AF2-025 C	1.6245	80/20	1.6245
957312	AF2-025 E	2.4367	80/20	2.4367
957443	AF2-038 BAT (Withdrawn : 04/20/2021)	1.6160	80/20	1.6160
957611	AF2-055 C	0.0001	Adder	0.0
957612	AF2-055 E	2.0685	80/20	2.0685
957661	AF2-060	0.6208	80/20	0.6208
957671	AF2-061 O1	2.7592	80/20	2.7592
957781	AF2-072 C	1.7515	80/20	1.7515
957782	AF2-072 E	1.7515	80/20	1.7515
959021	AF2-193 C	6.7535	80/20	6.7535
959022	AF2-193 E	18.2174	80/20	18.2174
959031	AF2-194 C	6.7535	80/20	6.7535
959032	AF2-194 E	18.2174	80/20	18.2174
959051	AF2-196 C	0.5092	80/20	0.5092
959052	AF2-196 E	1.1881	80/20	1.1881
959161	AF2-207 C O1	1.1790	Adder	1.39
959162	AF2-207 E O1	1.7684	Adder	2.08
959581	AF2-249 C	0.0351	Adder	0.04
959582	AF2-249 E	0.1402	Adder	0.16
960341	AF2-325 C	0.0001	Adder	0.0
960342	AF2-325 E	0.6697	Adder	0.79
960871	AF2-378 C	0.0001	Adder	0.0
960872	AF2-378 E	0.2237	Adder	0.26
960881	AF2-379 C	0.0001	Adder	0.0
960882	AF2-379 E	0.1746	Adder	0.21
961181	AF2-409 O1	5.6482	Adder	6.64
962261	AG1-072	2.5598	Adder	3.01
962381	AG1-087 C	6.9486	80/20	6.9486
962382	AG1-087 E	18.7438	80/20	18.7438
962392	AG1-088 E	3.4326	80/20	3.4326

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962542	AG1-103 E	3.8015	80/20	3.8015
962591	AG1-108	1.7515	80/20	1.7515
962611	AG1-110	4.8360	80/20	4.8360
962672	AG1-116 E	4.5768	80/20	4.5768
962682	AG1-117 E	12.3330	80/20	12.3330
962811	AG1-130 C	0.3520	80/20	0.3520
962812	AG1-130 E	0.5280	80/20	0.5280
963001	AG1-149	0.1749	Adder	0.21
963011	AG1-150	2.7592	80/20	2.7592
964002	AG1-254 E	4.8727	80/20	4.8727
964012	AG1-255 E	6.9388	80/20	6.9388
964081	AG1-263 C	3.1431	80/20	3.1431
964082	AG1-263 E	4.7147	80/20	4.7147
964551	AG1-318 C	0.0212	80/20	0.0212
964552	AG1-318 E	0.0494	80/20	0.0494
965322	AG1-397 E	0.2074	80/20	0.2074
965821	AG1-450	1.4142	Adder	1.66
965951	AG1-464 C	1.4272	80/20	1.4272
965952	AG1-464 E	2.1408	80/20	2.1408
966281	AG1-497 C	0.9413	80/20	0.9413
966282	AG1-497 E	1.4119	80/20	1.4119

12.6.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
178536369	206252	28VERNON D	JCP&L	942250	AE2-237 TAP	JCP&L	1	Base Case	single	64.0	433.59	439.87	AC	4.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200665	26SHAWVL 3	-1.7058	Adder	-2.01
200666	26SHAWVL 4	-1.6692	Adder	-1.96
207412	28AA2-060 E	0.6462	80/20	0.6462
207413	28AA2-061 E	0.8616	80/20	0.8616
937561	AD2-077 C O1	1.4331	Adder	1.69
937562	AD2-077 E O1	1.4331	Adder	1.69
938781	AE1-104 C O1	1.5612	Adder	1.84
938782	AE1-104 E O1	3.9938	Adder	4.7
940161	AE2-000 C O1	2.9142	Adder	3.43
940162	AE2-000 E O1	7.4565	Adder	8.77
940361	AE2-020 C	1.2095	Adder	1.42
940362	AE2-020 E	5.6628	Adder	6.66
940371	AE2-021 C	1.2095	Adder	1.42
940372	AE2-021 E	5.6628	Adder	6.66
940381	AE2-022 C	0.7055	Adder	0.83
940382	AE2-022 E	3.3033	Adder	3.89
940401	AE2-024 C O1	2.0415	Adder	2.4
940402	AE2-024 E O1	9.5579	Adder	11.24
940411	AE2-025 C	1.0305	Adder	1.21
940412	AE2-025 E	4.8244	Adder	5.68
942101	AE2-222 C	0.9533	Adder	1.12
942102	AE2-222 E	2.4392	Adder	2.87
942253	AE2-237 BAT	53.7065	80/20	53.7065
942381	AE2-251 C	3.8315	Adder	4.51
942382	AE2-251 E	9.8038	Adder	11.53
943482	AF1-019 E	1.6252	80/20	1.6252
944331	AF1-101 C O1	2.8570	Adder	3.36
944332	AF1-101 E O1	7.3103	Adder	8.6
944412	AF1-106 BAT	1.8196	80/20	1.8196
945571	AF1-222 C	1.9169	Adder	2.26
945572	AF1-222 E	5.0537	Adder	5.95
945721	AF1-237 C	1.2954	Adder	1.52
945722	AF1-237 E	1.9431	Adder	2.29
945801	AF1-245 C O1	1.7925	Adder	2.11
945802	AF1-245 E O1	2.6887	Adder	3.16
946612	AF1-325 E	3.1566	80/20	3.1566
957221	AF2-016 C	1.6942	Adder	1.99
957222	AF2-016 E	2.5413	Adder	2.99
959021	AF2-193 C	1.1005	Adder	1.29
959022	AF2-193 E	2.9686	Adder	3.49
959031	AF2-194 C	1.1005	Adder	1.29
959032	AF2-194 E	2.9686	Adder	3.49
959063	AF2-197 BAT	6.5238	80/20	6.5238
961142	AF2-405 BAT	0.9098	80/20	0.9098

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961152	AF2-406 BAT	6.8235	80/20	6.8235
961212	AF2-412 BAT	10.3116	80/20	10.3116
961221	AF2-413	4.7472	Adder	5.58
961231	AF2-414 O1	6.5356	Adder	7.69
961241	AF2-415 O1	3.3265	Adder	3.91
962381	AG1-087 C	1.1021	Adder	1.3
962382	AG1-087 E	2.9730	Adder	3.5
964703	AG1-333 BAT (Withdrawn : 05/13/2021)	0.4258	80/20	0.4258

12.6.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
178536379	942250	AE2-237 TAP	JCP&L	125018	SUGARLF	NYISO	1	Base Case	single	64.0	430.91	437.27	AC	4.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200665	26SHAWVL 3	-1.7058	Adder	-2.01
200666	26SHAWVL 4	-1.6692	Adder	-1.96
207412	28AA2-060 E	0.6462	80/20	0.6462
207413	28AA2-061 E	0.8616	80/20	0.8616
937561	AD2-077 C O1	1.4331	Adder	1.69
937562	AD2-077 E O1	1.4331	Adder	1.69
938781	AE1-104 C O1	1.5612	Adder	1.84
938782	AE1-104 E O1	3.9938	Adder	4.7
940161	AE2-000 C O1	2.9142	Adder	3.43
940162	AE2-000 E O1	7.4565	Adder	8.77
940361	AE2-020 C	1.2095	Adder	1.42
940362	AE2-020 E	5.6628	Adder	6.66
940371	AE2-021 C	1.2095	Adder	1.42
940372	AE2-021 E	5.6628	Adder	6.66
940381	AE2-022 C	0.7055	Adder	0.83
940382	AE2-022 E	3.3033	Adder	3.89
940401	AE2-024 C O1	2.0415	Adder	2.4
940402	AE2-024 E O1	9.5579	Adder	11.24
940411	AE2-025 C	1.0305	Adder	1.21
940412	AE2-025 E	4.8244	Adder	5.68
942101	AE2-222 C	0.9533	Adder	1.12
942102	AE2-222 E	2.4392	Adder	2.87
942251	AE2-237 C	10.6587	80/20	10.6587
942252	AE2-237 E	42.6348	80/20	42.6348
942381	AE2-251 C	3.8315	Adder	4.51
942382	AE2-251 E	9.8038	Adder	11.53
943482	AF1-019 E	1.6252	80/20	1.6252
944331	AF1-101 C O1	2.8570	Adder	3.36
944332	AF1-101 E O1	7.3103	Adder	8.6
944412	AF1-106 BAT	1.8196	80/20	1.8196
945571	AF1-222 C	1.9169	Adder	2.26
945572	AF1-222 E	5.0537	Adder	5.95
945721	AF1-237 C	1.2954	Adder	1.52
945722	AF1-237 E	1.9431	Adder	2.29
945801	AF1-245 C O1	1.7925	Adder	2.11
945802	AF1-245 E O1	2.6887	Adder	3.16
946612	AF1-325 E	3.1566	80/20	3.1566
957221	AF2-016 C	1.6942	Adder	1.99
957222	AF2-016 E	2.5413	Adder	2.99
959021	AF2-193 C	1.1005	Adder	1.29
959022	AF2-193 E	2.9686	Adder	3.49
959031	AF2-194 C	1.1005	Adder	1.29
959032	AF2-194 E	2.9686	Adder	3.49
959063	AF2-197 BAT	6.5238	80/20	6.5238

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961142	AF2-405 BAT	0.9098	80/20	0.9098
961152	AF2-406 BAT	6.8235	80/20	6.8235
961212	AF2-412 BAT	10.3116	80/20	10.3116
961221	AF2-413	4.7472	Adder	5.58
961231	AF2-414 O1	6.5356	Adder	7.69
961241	AF2-415 O1	3.3265	Adder	3.91
962381	AG1-087 C	1.1021	Adder	1.3
962382	AG1-087 E	2.9730	Adder	3.5
964703	AG1-333 BAT (Withdrawn : 05/13/2021)	0.4258	80/20	0.4258

12.7 Contingency Descriptions

Contingency Name	Contingency Definition
DICK TO EDFERRY	CONTINGENCY 'DICK TO EDFERRY' /* MODIFIED BY PEPco 1/29/17 DISCONNECT BRANCH FROM BUS 223937 TO BUS 314290 CKT 1 /* STATIONH 230 EDFERRY 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
DPL_P1_2_CKT 6768	CONTINGENCY 'DPL_P1_2_CKT 6768' DISCONNECT BUS 232212 /*CHESWOLD - KENT 69 & CHESWOLD AT1 XFMR END
PECO_P4_CHICH045/* \$ DELCO \$ 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
DPL_P1_2_CKT 23002	CONTINGENCY 'DPL_P1_2_CKT 23002' DISCONNECT BUS 232007 /*INDIAN RIVER - PINEY GROVE 230 & PNY GRV AT-20 XFMR END
AP-P1-2-PE-500-407T	CONTINGENCY 'AP-P1-2-PE-500-407T' /* 01DOUBS 500 8GOOSE CREEK 500 1 DISCONNECT BRANCH FROM BUS 235105 TO BUS 314939 CKT 1 /* 01DOUBS 500 8GOOSE CREEK500 END
PECO_P2-2_CHI230B1/* \$ DELCO \$ 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

Contingency Name	Contingency Definition
PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK	CONTINGENCY 'PECO_P4_CHICH435/* \$ DELCO \$ PECO_P4_CHICH435 \$ STBK' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ PECO_P4_CHICH435 \$ STBK DISCONNECT BUS 214221 /* CHIREACT_43 230.00 \$ DELCO \$ PECO_P4_CHICH435 \$ STBK DISCONNECT BUS 213750 /* LINWOOD43 230.00 \$ DELCO \$ PECO_P4_CHICH435 \$ STBK DISCONNECT BUS 214154 /* CHI9 TER 13.80 \$ DELCO \$ PECO_P4_CHICH435 \$ STBK DISCONNECT BUS 214204 /* CHI2 TER 13.80 \$ DELCO \$ PECO_P4_CHICH435 \$ STBK END
DVP_P1-4: BURCHES_8POSSUM_1	CONTINGENCY 'DVP_P1-4: BURCHES_8POSSUM_1' OPEN BRANCH FROM BUS 200019 TO BUS 314922 CKT 1 /* BURCHES 500.00 - 8POSSUM 500.00 END
Base Case	None
JC-P1-2-JCC-500-003	CONTINGENCY 'JC-P1-2-JCC-500-003' /* NEWFRDM - WINDSOR 500.00 LINE DISCONNECT BRANCH FROM BUS 200012 TO BUS 200028 CKT 1 /* NEWFRDM - WINDSOR 500.00 LINE END
EXT_NEPTUNE - RAR NEPTUNE	CONTINGENCY 'EXT_NEPTUNE - RAR NEPTUNE' / 18181 OPEN BRANCH FROM BUS 128842 TO BUS 128847 CKT EQ / 128842 NEPTCONV 345 128847 NWBRG 345 EQ OPEN BRANCH FROM BUS 128847 TO BUS 129310 CKT 1 / 128847 NWBRG 345 129310 NEWBRGE 138 1 OPEN BRANCH FROM BUS 128847 TO BUS 129310 CKT 2 / 128847 NWBRG 345 129310 NEWBRGE 138 2 OPEN BRANCH FROM BUS 99210 TO BUS 206400 CKT 1 / 99210 G07 NFTWR 230 206400 28NEPTUNE 230 1 OPEN BRANCH FROM BUS 99211 TO BUS 206400 CKT 1 / 99211 G07 REV_FTWR 230 206400 28NEPTUNE 230 1 OPEN BRANCH FROM BUS 206305 TO BUS 206400 CKT 1 / 206305 28RAR RVR 230 206400 28NEPTUNE 230 1 REMOVE SWSHUNT FROM BUS 128842 /* 128842 NEPTCONV 345 END
DPL_P4-2_DPPINEY8870	CONTINGENCY 'DPL_P4-2_DPPINEY8870' /*PINEY GROVE BUS BREAKER 8870 DISCONNECT BRANCH FROM BUS 232128 TO BUS 232133 CKT 1 /*PINEY GROVE WATTSVILLE 138 138 DISCONNECT BRANCH FROM BUS 232007 TO BUS 232006 CKT 1 /*PINEY GROVE INDIAN RIVER 230 230 DISCONNECT BRANCH FROM BUS 232007 TO BUS 232128 CKT 1 /*PINEY GROVE PINEY GROVE 230 138 END

Contingency Name	Contingency Definition
DPL_P4-2_DPIR235	CONTINGENCY 'DPL_P4-2_DPIR235' /*INDIAN RIVER BUS BREAKER 235 DISCONNECT BRANCH FROM BUS 232007 TO BUS 232006 CKT 1 /*PINEY GR INDRIV 4 230 230 DISCONNECT BRANCH FROM BUS 232007 TO BUS 232128 CKT 1 /*PINEY GR PINEY GR 230 138 DISCONNECT BRANCH FROM BUS 232006 TO BUS 232004 CKT 1 /*MILFORD INDIAN RIVER 230 230 END
EXT_128842 NEPTCONV 345 128847 NWBRG 345 EQ	CONTINGENCY 'EXT_128842 NEPTCONV 345 128847 NWBRG 345 EQ' OPEN BRANCH FROM BUS 128842 TO BUS 128847 CKT EQ END

13 Short Circuit Analysis

The following Breakers are overdutied:

None

13.1 System Reinforcements - Short Circuit

None

14 Stability and Reactive Power

To be determined in the Facilities Study Phase.

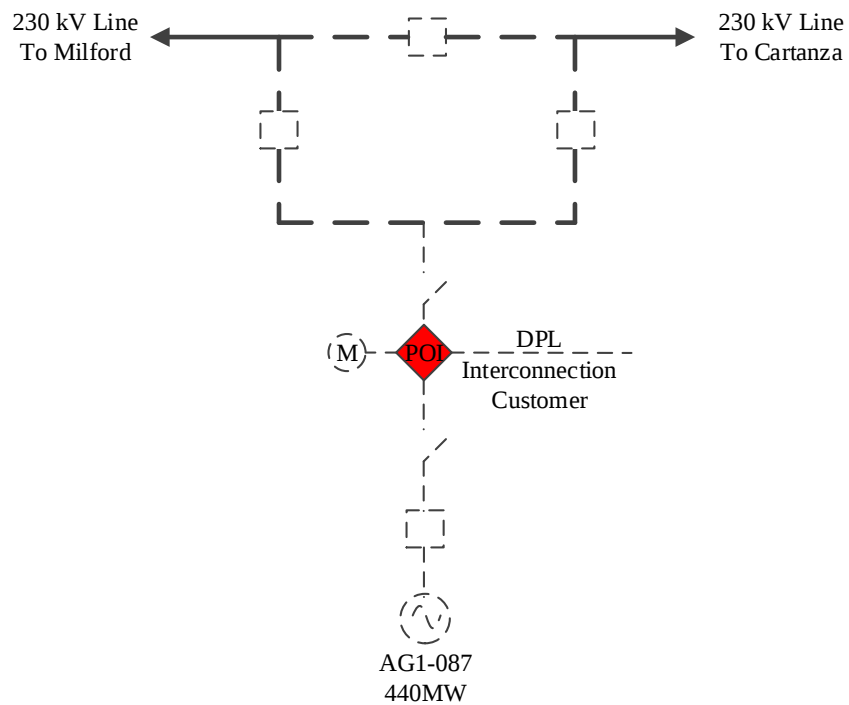
15 Affected Systems

15.1 NYISO

There is one facility which is a NYISO tie: AE2-237 TAP – SUGARLF. The NYISO upgrade reinforcement cost will be provided during the Facility study phase.

16 Attachment 1: One Line Diagram

AG1-087 Milford – Cartanza 230kV



An Interconnection Customer circuit breaker will be required no more than 500 feet from the DPL substation.

 Point of Interconnection