Generation Interconnection

System Impact Study Report

for

Queue Project AF2-409

VIENNA 138 KV

100 MW Capacity / 100 MW Energy

June 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.

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.

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3 General

The Interconnection Customer (IC), has proposed a Storage generating facility located in Dorchester County, Maryland. The installed facilities will have a total capability of 100 MW with 100 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is June 01, 2022. This study does not imply a TO commitment to this in-service date.

Queue Number	**AF2-409**
Project Name	VIENNA 138 KV
State	Maryland
County	Dorchester
Transmission Owner	DPL
MFO	100
MWE	100
MWC	100
Fuel	Storage
Basecase Study Year	2023

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.

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4 Point of Interconnection

AF2-409 will interconnect with the DPL on transmission system at the Vienna 138 kV substation by expanding the breaker and a half substation to add a terminal position.

5 Cost Summary

The AF2-409 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	$5,775,000
Allocation towards System Network Upgrade Costs*	$243,585,492
Total Costs	$249,360,492

*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.

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6 Transmission Owner Scope of Work

Substation Interconnection Estimate

Scope: Expand the Vienna 138 kV breaker and a half substation by adding an additional terminal position for the proposed generation facility.

Major Equipment:

- Two (2) 3000A 138 kV circuit breakers
- Four (4) 3000A 138 kV breaker disconnect switches
- One (1) 3000A 138 kV line disconnect switch
- Associated Bus work
- Three (3) new relay panels

Estimated cost: $5,775,000

Estimated timeline: 24-30 months

Estimate Assumption:

- Any land necessary for the project will be provided by the developer and is not included in this estimate
- All site prep completed by the developer
- Existing control house can adequately accommodate additional relaying

The total physical interconnection costs is given in the table below:

Description	Total Cost
New terminal position at Vienna 138 kV	$5,775,000
Total Physical Interconnection Costs	**$5,775,000**

7 Schedule

Based on the scope of work for the interconnection facilities, it is expected to take a minimum of 24-30 months (populate with TO schedule) after the signing of an Interconnection Construction Service Agreement 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.

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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

New protection relays are required for the new terminals.

Front line and back-up line protection will be required. A relay panel at the generator 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 138 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.

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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 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 138 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. 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.

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11 Summer Peak Analysis

The Queue Project AF2-409 was evaluated as a 100 MW (Capacity 100.0 MW) injection at the Vienna 138 kV substation in the DPL area. Project AF2-409 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-409 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	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
102073005	232239	SHARPTWN	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT 13707	single	42.0	95.73	107.93	AC	5.89

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	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
100371752	213973	TRAINER 2	230.0	PECO	213559	DELCOTAP	230.0	PECO	1	PECO_P2-2_CHI230B1/* $ DELCO $ CHI230B1 $ B	bus	841.0	99.53	100.37	AC	7.93
100372048	213973	TRAINER 2	230.0	PECO	213559	DELCOTAP	230.0	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	841.0	99.53	100.37	AC	7.93
100372051	232005	VIENNA	230.0	DP&L	232000	STEELE	230.0	DP&L	1	DPL_P4-2_DP3	breaker	550.0	99.1	107.89	AC	52.21
112552783	232114	SHARNGTN	138.0	DP&L	232112	FELTON	138.0	DP&L	1	DPL_P4-2_DP11	breaker	242.0	98.19	102.33	AC	12.15
102072645	232121	INDRV2&3	138.0	DP&L	232119	NELSON	138.0	DP&L	1	DPL_P4-2_DP6	breaker	193.0	98.92	106.86	AC	15.22
102072646	232121	INDRV2&3	138.0	DP&L	232119	NELSON	138.0	DP&L	1	DPL_P4-2_DP3	breaker	193.0	99.32	107.7	AC	15.99
102072773	232233	PRESTON	69.0	DP&L	232234	TODD	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	94.68	111.7	AC	14.95
102072822	232270	HEBRON	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	DPL_P4-2_DP56	breaker	64.0	94.76	102.43	AC	5.13
102072746	232821	TANYARD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	99.21	116.3	AC	14.95

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	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99741595	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	143.51	145.14	AC	50.77
99741682	200064	PCHBTM1S	500.0	PJM	200004	CNASTONE	500.0	PJM	1	TS_P4_#7_FUR RUN 500_CB 3	breaker	3525.0	125.61	126.72	AC	41.51

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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|DC	MW IMPACT
99741683	200064	PCHBTM1S	500.0	PJM	200004	CNASTONE	500.0	PJM	1	TS_P4_#5_FUR RUN 500_CB 1	breaker	3525.0	125.61	126.72	AC	41.51
99741684	200064	PCHBTM1S	500.0	PJM	200004	CNASTONE	500.0	PJM	1	TS_P4_#6_FUR RUN 500_CB 2	breaker	3525.0	125.59	126.71	AC	41.51
99742240	200064	PCHBTM1S	500.0	PJM	200004	CNASTONE	500.0	PJM	1	PECO_P1-2_5007_S/* $ CHESCO $ 5007_S $ L	single	3525.0	109.1	110.14	AC	41.54
99742256	200066	PCHBTM1N	500.0	PJM	270072	FUR RUN_500	500.0	PJM	1	PECO_P1-2_5012/* $ CHESCO $ 5012 $ L	single	3525.0	104.77	105.72	AC	38.14
10037168	213559	DELCOTAP	230.0	PECO	228401	MCKLTON	230.0	AE	1	PECO_P2-2_CHI230B1/* $ DELCO $ CHI230B1 $ B	bus	725.0	107.52	108.42	AC	7.89
10037198	213559	DELCOTAP	230.0	PECO	228401	MCKLTON	230.0	AE	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	725.0	107.52	108.42	AC	7.89
10037183	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P4_LINWO225/* $ DELCO $ LINWO225 $ STBK	breaker	804.0	156.21	157.9	AC	15.36
10037218	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC	single	804.0	112.93	114.92	AC	15.41
10037184	231001	EDGEMR5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P4_LINWO225/* $ DELCO $ LINWO225 $ STBK	breaker	804.0	150.06	151.59	AC	13.93
10037220	231001	EDGEMR5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-84	single	804.0	111.61	113.54	AC	14.98
10037220	231001	EDGEMR5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	DPL_P1_2_CKT 23015	single	804.0	111.11	112.9	AC	13.96
10037220	231001	EDGEMR5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC	single	804.0	111.67	113.46	AC	13.98
10037200	231002	HARMONY	230.0	DP&L	231001	EDGEMR5	230.0	DP&L	1	PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	breaker	924.0	107.06	109.41	AC	22.05
10207268	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	breaker	378.0	132.97	135.13	AC	9.67
10207268	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH205/* $ CHESCO $ PEACH205 $ STBK	breaker	378.0	130.85	133.01	AC	9.67
10037205	232005	VIENNA	230.0	DP&L	232000	STEELE	230.0	DP&L	1	DPL_P4-2_DP6	breaker	550.0	105.9	113.49	AC	54.34
10037186	232006	INDRIV 4	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P4-2_DP36	breaker	805.0	124.79	127.84	AC	29.76
16133133	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA	tower	348.0	157.07	163.35	AC	22.6
16133134	232106	MIDLTNTP	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA	tower	348.0	153.15	159.4	AC	22.6
16133178	232107	TOWNSEND	138.0	DP&L	232106	MIDLTNTP	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA	tower	348.0	162.29	168.53	AC	22.6
10207276	232117	VIENNA 8	138.0	DP&L	232116	VIENN138	138.0	DP&L	1	DPL_P4-2_DP3	breaker	482.0	112.92	123.02	AC	52.21
10207276	232117	VIENNA 8	138.0	DP&L	232116	VIENN138	138.0	DP&L	1	DPL_P4-2_DP6	breaker	482.0	119.24	127.69	AC	54.34
10207264	232121	INDRV2&3	138.0	DP&L	232119	NELSON	138.0	DP&L	1	DPL_P4-2_DP15	breaker	193.0	117.55	128.28	AC	20.43
11255295	232127	LORETTO	138.0	DP&L	232117	VIENNA 8	138.0	DP&L	1	DPL_P4-2_DP3	breaker	247.0	109.0	115.66	AC	16.48
10207266	232128	PINEY138	138.0	DP&L	232127	LORETTO	138.0	DP&L	1	DPL_P4-2_DP58	breaker	158.0	149.33	158.82	AC	15.06
10207266	232215	KENT	69.0	DP&L	232812	NMEREDTH	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	143.15	147.79	AC	5.07
10207268	232230	TRAP ALT	69.0	DP&L	232232	TRAPPETP	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	118.9	126.97	AC	14.44
10207268	232232	TRAPPETP	69.0	DP&L	232227	EASTN_69	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	118.85	127.27	AC	14.95

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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|DC	MW IMPACT
102072523	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	247.84	263.47	AC	14.95
102072524	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P4-2_DP12	breaker	93.0	123.6	136.37	AC	12.21
102072508	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	252.62	268.26	AC	14.95
102072509	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P4-2_DP12	breaker	93.0	128.34	141.11	AC	12.21
102072635	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	DPL_P4-2_DP56	breaker	64.0	137.45	143.91	AC	5.13
102072636	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	DPL_P4-2_DP55	breaker	64.0	135.8	142.29	AC	5.19
102072694	232241	VIENN_69	69.0	DP&L	232234	TODD	69.0	DP&L	1	DPL_P4-2_DP11	breaker	143.0	120.15	128.36	AC	11.89
102072958	232241	VIENN_69	69.0	DP&L	232239	SHARPTWN	69.0	DP&L	1	DPL_P1_2_CKT 13707	single	42.0	106.18	118.37	AC	5.89
102072538	232291	ROCKAWLKN	69.0	DP&L	232271	NSALSBRY	69.0	DP&L	1	DPL_P4-2_DP56	breaker	58.0	218.57	225.6	AC	5.13
102072918	232291	ROCKAWLKN	69.0	DP&L	232271	NSALSBRY	69.0	DP&L	1	DPL_P1_2_CKT 13707	single	58.0	127.09	133.29	AC	4.5
161330618	232291	ROCKAWLKN	69.0	DP&L	232271	NSALSBRY	69.0	DP&L	1	DPL_P4-2_DP55	breaker	58.0	217.25	224.35	AC	5.18
102072772	232812	NMEREDTH	69.0	DP&L	924820	AB2-135 TAP	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	125.54	130.18	AC	5.07
102072649	232821	TANYARD	69.0	DP&L	232820	TALBOT	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	129.94	138.34	AC	14.95
102072650	232838	MARDELA	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	DPL_P4-2_DP56	breaker	64.0	127.53	133.99	AC	5.13
102072651	232838	MARDELA	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	DPL_P4-2_DP55	breaker	64.0	125.88	132.37	AC	5.19
100372037	923960	AB2-037 TAP	230.0	DP&L	231003	KEEN_230	230.0	DP&L	2	DPL_P4-2_DP8	breaker	727.0	103.59	108.23	AC	34.89
100372038	923960	AB2-037 TAP	230.0	DP&L	231003	KEEN_230	230.0	DP&L	2	DPL_P4-2_DP10	breaker	727.0	103.57	108.21	AC	34.83

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.

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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|DC	MW IMPACT
99742117	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PECO_P1-2_5038/* $ CHESCO $ 5038 $ L	operation	2905.0	141.95	143.57	AC	50.39
99742118	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	Base Case	operation	2338.0	106.61	108.41	AC	46.3
99742239	200064	PCHBTM1S	500.0	PJM	200004	CNASTONE	500.0	PJM	1	PECO_P1-2_5007_S/* $ CHESCO $ 5007_S $ L	operation	3525.0	124.19	125.31	AC	41.54
99742255	200066	PCHBTM1N	500.0	PJM	270072	FURRUN_500	500.0	PJM	1	PECO_P1-2_5012/* $ CHESCO $ 5012 $ L	operation	3525.0	118.56	119.6	AC	38.14
100372372	213489	CHICHST1	230.0	PECO	213588	EDDYSTN4	230.0	PECO	1	PECO_P1-2_220-04/* $ DELCO $ 220-04 $ L	operation	1078.0	112.42	113.32	AC	11.12
100372182	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC	operation	804.0	146.98	148.78	AC	15.41
100372185	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	Base Case	operation	650.0	103.09	104.38	AC	9.12
100372198	231001	EDGEMR 5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-84	operation	804.0	144.71	146.45	AC	14.98
100372203	231001	EDGEMR 5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	Base Case	operation	650.0	100.82	101.98	AC	8.1
100372208	231001	EDGEMR 5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC	operation	804.0	141.59	143.2	AC	13.98
100372211	231001	EDGEMR 5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	Base Case	operation	650.0	100.06	101.19	AC	7.91
100372402	231002	HARMONY	230.0	DP&L	231001	EDGEMR 5	230.0	DP&L	1	PECO_P1-2_5014/* $ CHESCO $ 5014 $ L	operation	924.0	105.66	108.0	AC	22.05
102073126	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P1-2_5014/* $ CHESCO $ 5014 $ L	operation	378.0	130.83	133.0	AC	9.67
100372380	232000	STEELE	230.0	DP&L	231003	KEEN_230	230.0	DP&L	1	DPL_P1_2_AB2-037 KEENEY_FSA	operation	552.0	112.31	117.41	AC	29.16
100372129	232001	COOLSPRS	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P1_2_CKT 23034	operation	678.0	143.62	147.3	AC	30.17
99741938	232002	CEDAR CK	230.0	DP&L	232013	SILVERRUN	230.0	PJM	1	CKT 23032B	operation	679.0	170.09	174.29	AC	33.91
99741939	232002	CEDAR CK	230.0	DP&L	232013	SILVERRUN	230.0	PJM	1	Base Case	operation	551.0	130.08	133.7	AC	24.29
99742037	232003	CARTANZA	230.0	DP&L	232013	SILVERRUN	230.0	PJM	1	CKT 23030B	operation	804.0	149.63	152.69	AC	29.61
99742038	232003	CARTANZA	230.0	DP&L	232013	SILVERRUN	230.0	PJM	1	Base Case	operation	650.0	134.97	137.4	AC	18.94
100372355	232004	MILF_230	230.0	DP&L	232002	CEDAR CK	230.0	DP&L	1	CKT 23032B	operation	804.0	105.7	108.39	AC	25.13
100372195	232006	INDRIV 4	230.0	DP&L	232001	COOLSPRS	230.0	DP&L	1	DPL_P1_2_CKT 23034	operation	800.0	128.09	130.77	AC	25.84
100372204	232006	INDRIV 4	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P1_2_CKT 23069	operation	805.0	123.05	126.12	AC	29.95
99742246	232013	SILVERRUN	230.0	PJM	231004	RL_230	230.0	DP&L	1	CKT 23032A	operation	679.0	111.44	113.82	AC	19.72
102073157	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	CKT 23032B	operation	348.0	114.91	118.33	AC	12.29
102073160	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	Base Case	operation	280.0	107.73	111.41	AC	10.56

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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|DC	MW IMPACT
102073172	232106	MIDLTNTP	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	CKT 23032B	operation	348.0	113.66	117.06	AC	12.29
102073175	232106	MIDLTNTP	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	Base Case	operation	273.0	108.92	112.68	AC	10.56
102073120	232107	TOWNSEND	138.0	DP&L	232106	MIDLTNTP	138.0	DP&L	1	CKT 23032B	operation	348.0	122.84	126.23	AC	12.29
102073122	232107	TOWNSEND	138.0	DP&L	232106	MIDLTNTP	138.0	DP&L	1	Base Case	operation	273.0	120.66	124.41	AC	10.56
102073225	232117	VIENNA 8	138.0	DP&L	232116	VIENN138	138.0	DP&L	1	Base Case	operation	390.0	97.92	110.76	AC	50.54
102073227	232117	VIENNA 8	138.0	DP&L	232116	VIENN138	138.0	DP&L	1	DPL_P1_2_CKT 23076	operation	482.0	102.04	112.29	AC	50.34
102073207	232119	NELSON	138.0	DP&L	232121	INDRV2&3	138.0	DP&L	1	DPL_P1_2_23085 &13710	operation	193.0	84.78	101.39	AC	33.97
135241940	232127	LORETTO	138.0	DP&L	232117	VIENNA 8	138.0	DP&L	1	Base Case	operation	183.0	96.72	106.18	AC	17.36
135241941	232127	LORETTO	138.0	DP&L	232117	VIENNA 8	138.0	DP&L	1	DPL_P1_2_CKT 23076	operation	247.0	94.98	102.03	AC	17.44
102073093	232128	PINEY138	138.0	DP&L	232127	LORETTO	138.0	DP&L	1	DPL_P1_2_CKT 13787	operation	158.0	149.41	158.9	AC	15.06
102073066	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P1_2_23085 &13710	operation	93.0	122.82	135.61	AC	12.24
102073047	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P1_2_23085 &13710	operation	93.0	127.56	140.35	AC	12.24
102073048	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	Base Case	operation	82.0	97.16	102.61	AC	5.41
102073000	232239	SHARPTWN	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT 13707	operation	42.0	146.21	157.09	AC	5.89
102072953	232241	VIENN_69	69.0	DP&L	232239	SHARPTWN	69.0	DP&L	1	DPL_P1_2_CKT 13707	operation	42.0	156.5	167.33	AC	5.89
102073055	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	DPL_P1_2_CKT 6705	operation	64.0	127.62	131.88	AC	3.52
102073141	232250	NELSN_69	69.0	DP&L	232828	SHORT 1	69.0	DP&L	1	DPL_P1_2_CKT 23002	operation	93.0	103.99	108.52	AC	5.47
102072911	232291	ROCKAWLKN	69.0	DP&L	232271	NSALSBRY	69.0	DP&L	1	DPL_P1_2_CKT 13707	operation	58.0	205.54	211.63	AC	4.5
102073104	232838	MARDELA	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	DPL_P1_2_CKT 6705	operation	64.0	117.81	122.07	AC	3.52
100372412	923960	AB2-037 TAP	230.0	DP&L	231003	KEEN_230	230.0	DP&L	2	DPL_P1_2_CKT 23001	operation	727.0	103.57	108.19	AC	34.76

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11.6 System Reinforcements

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>100372200,100372201</td><td>15</td><td>EDGEMR 5 230.0 kV - LINWOOD 230.0 kV Ckt 1</td><td>ProjectId: n6925
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>7.34%</td><td>$1,467,119</td></tr>
<tr><td>AF2-193</td><td>16.93</td><td>22.96%</td><td>$4,591,186</td></tr>
<tr><td>AF2-194</td><td>16.93</td><td>22.96%</td><td>$4,591,186</td></tr>
<tr><td>AF2-358</td><td>8.97</td><td>12.16%</td><td>$2,432,542</td></tr>
<tr><td>AF2-387</td><td>10.53</td><td>14.28%</td><td>$2,855,593</td></tr>
<tr><td>AF2-409</td><td>14.98</td><td>20.31%</td><td>$4,062,373</td></tr>
</table></td><td>$20,000,000</td><td>$4,062,373</td><td>N6925</td></tr>
<tr><td>102072685</td><td>26</td><td>TRAP ALT 69.0 kV - TRAPPETP 69.0 kV Ckt 1</td><td>ProjectId: n7047
Description : To mitigate the (DPL) Trappe Tap - Trappe Tap Alt 69 kV line (from bus 232232 to 232230) overload, it will require increasing the emergency rating of the line by rebuilding it with new poles, conductor, foundations, insulators, and OPGW. The disconnect switches will also need to be replaced.
Type : FAC
Total Cost : $475,000
Time Estimate : 9-12 Months
Ratings : 195.0/241.0/241.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-358</td><td>24.86</td><td>51.34%</td><td>$243,876</td></tr>
<tr><td>AF2-385</td><td>9.12</td><td>18.84%</td><td>$89,467</td></tr>
<tr><td>AF2-409</td><td>14.44</td><td>29.82%</td><td>$141,656</td></tr>
</table></td><td>$475,000</td><td>$141,656</td><td>N7047</td></tr>
<tr><td>100372048,100371752</td><td>2</td><td>TRAINER2 230.0 kV - DELCOTAP 230.0 kV Ckt 1</td><td>ProjectId : n7163
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
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-409</td><td>7.93</td><td>100.00%</td><td>$4,000,000</td></tr>
</table></td><td>$4,000,000</td><td>$4,000,000</td><td>N7163</td></tr>
<tr><td>112552783</td><td>4</td><td>SHARNGTN 138.0 kV - FELTON 138.0 kV Ckt 1</td><td>ProjectId : n7144
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 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>AF2-409</td><td>12.15</td><td>100.00%</td><td>$17,000,000</td></tr>
</table></td><td>$17,000,000</td><td>$17,000,000</td><td>N7144</td></tr>
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<table>
<tr>
<td>102072508,102 072509</td>
<td>29</td>
<td>TODD 69.0 kV - PRESTON 69.0 kV Ckt 1</td>
<td>
Project ID: n7097
Description: To mitigate the (DP&L) Preston - Todd 69 kV line (from bus 232234 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Todd 69 kV line by rebuilding the line. This includes installation of new poles, conductor, foundations, insulators and OPGW.
Type : FAC
Total Cost : $9,000,000
Time Estimate : 36-48 Months
Ratings : 184.0/222.0/222.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-194</td><td>33.08</td><td>36.94%</td><td>$3,324,252</td></tr>
<tr><td>AF2-207</td><td>6.35</td><td>7.09%</td><td>$638,120</td></tr>
<tr><td>AF2-358</td><td>25.74</td><td>28.74%</td><td>$2,586,646</td></tr>
<tr><td>AF2-385</td><td>9.44</td><td>10.54%</td><td>$948,638</td></tr>
<tr><td>AF2-409</td><td>14.95</td><td>16.69%</td><td>$1,502,345</td></tr>
</table>
project ID: n7098
Description: To mitigate the (DP&L) Preston - Todd 69 kV line (from bus 232234 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Todd 69 kV line by upgrading terminal equipment at the Todd Substation
Type: FAC
Total Cost: $100,000
Time Estimate: 9-12 Months
Ratings: 184.0/235.0/235.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-358</td><td>25.74</td><td>51.35%</td><td>$51,346</td></tr>
<tr><td>AF2-385</td><td>9.44</td><td>18.83%</td><td>$18,831</td></tr>
<tr><td>AF2-409</td><td>14.95</td><td>29.82%</td><td>$29,822</td></tr>
</table>
Project ID: b2946
Description: PJM baseline upgrade b2946 conversion of Preston station to a Ring Bus
Type: CON
Total Cost: $6,000,000
Time Estimate: 30-36 Months
Ratings: 136.0/173.0/173.0
Notes: Baseline upgrades have no cost allocation.

Project ID: n5788
Description: To mitigate the (DP&L) TODD to PRESTON 69 kV line (from bus 232234 to bus 232233 ckt 1) overload will require substation reinforcements at Todd Substation. Replace 600A Disconnect Switch at Todd
Type: FAC
Total Cost: $100,000
Time Estimate: 12.0 Months
Ratings: 95.0/130.0/130.0
Notes: This constraint is driven by a prior queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade.

Project ID: n6231
Description: To mitigate the (DP&L) TODD to PRESTON 69 kV line (from bus 232234 to bus 232233 ckt 1) overload will require substation reinforcements at Preston Substation and Todd Substation.
Type: FAC
Total Cost: $100,000
Time Estimate: 12.0 Months
Ratings: 136.0/173.0/173.0
Notes: This constraint is driven by a prior queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade.

Project ID: n7099
Description: To mitigate the (DP&L) Preston - Todd 69 kV line (from bus 232234 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Todd 69 kV line by upgrading terminal equipment at the Todd Substation
Type : FAC
Total Cost : $250,000
Time Estimate : 12-18 Months
Ratings : 274.0/349.0/349.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
</table>
</td>
<td>$15,550,000</td>
<td>$1,782,167</td>
<td>B2946
N7097
N7098
N5788
N6231
N7099</td>
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</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td></td><td></td><td></td><td><table><tr><td>AF2-409</td><td>14.95</td><td>100.00%</td><td>$250,000</td></tr></table></td><td></td><td></td><td></td></tr>
<tr><td>100372005</td><td>16</td><td>HARMONY 230.0 kV - EDGEMR 5 230.0 kV Ckt 1</td><td>Project Id: n7142
Description: Upgrade terminal equipment at Edge Moor
Type: FAC
Total Cost: $100,000
Time Estimate: 9-12 Months
Ratings: 795.0/947.0/947.0<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-248</td><td>0.46</td><td>0.56%</td><td>$558</td></tr><tr><td>AF2-358</td><td>21.9</td><td>26.46%</td><td>$26,461</td></tr><tr><td>AF2-385</td><td>16.23</td><td>19.61%</td><td>$19,610</td></tr><tr><td>AF2-387</td><td>22.12</td><td>26.73%</td><td>$26,727</td></tr><tr><td>AF2-409</td><td>22.05</td><td>26.64%</td><td>$26,643</td></tr></table>ProjectId: n7143
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>8.55%</td><td>$1,967,449</td></tr><tr><td>AF2-385</td><td>16.23</td><td>24.57%</td><td>$5,651,628</td></tr><tr><td>AF2-387</td><td>22.12</td><td>33.49%</td><td>$7,702,650</td></tr><tr><td>AF2-409</td><td>22.05</td><td>33.38%</td><td>$7,678,274</td></tr></table></td><td>$23,100,000</td><td>$7,704,917</td><td>N7142
N7143</td></tr>
<tr><td>102072746</td><td>8</td><td>TANYARD 69.0 kV - PRESTON 69.0 kV Ckt 1</td><td>Project Id: b2946
Description : PJM baseline upgrade b2946 conversion of Preston station to a Ring Bus
Type : CON
Total Cost : $6,000,000 (Repeat cost from Index 29)
Time Estimate : 30-36 Months
Ratings : 136.0/173.0/173.0</td><td>$0</td><td>$0</td><td>B2946</td></tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr>
<td>102072649</td>
<td>35</td>
<td>TANYARD 69.0 kV - TALBOT 69.0 kV Ckt 1</td>
<td>
ProjectId: n7040
Description: To mitigate the (DP&L) Tanyard - Talbot 69 kV line (from bus 232820 to bus 232821 ckt 1) overload, it will require increasing the emergency rating of the Tanyard - Talbot 69 kV line by rebuilding the line. This includes installation of new poles, foundations, insulators and OPGW.
Type : FAC
Total Cost : $7,499,000
Time Estimate : 36-48 Months
Ratings : 164.0/186.0/186.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-194</td><td>33.08</td><td>36.94%</td><td>$2,769,841</td></tr>
<tr><td>AF2-207</td><td>6.35</td><td>7.09%</td><td>$531,696</td></tr>
<tr><td>AF2-358</td><td>25.74</td><td>28.74%</td><td>$2,155,251</td></tr>
<tr><td>AF2-385</td><td>9.44</td><td>10.54%</td><td>$790,426</td></tr>
<tr><td>AF2-409</td><td>14.95</td><td>16.69%</td><td>$1,251,787</td></tr>
</table>
Project Id: n7041
Description : To mitigate the (DP&L) Tanyard - Talbot 69 kV line (from bus 232820 to bus 232821 ckt 1) overload, it will require increasing the emergency rating of the Tanyard - Talbot 69 kV line by replacing terminal equipment at the Tanyard and Talbot taps.
Type : FAC
Total Cost : $200,000
Time Estimate : 12-18 Months
Ratings : 195.0/241.0/241.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-358</td><td>25.74</td><td>51.35%</td><td>$102,693</td></tr>
<tr><td>AF2-385</td><td>9.44</td><td>18.83%</td><td>$37,662</td></tr>
<tr><td>AF2-409</td><td>14.95</td><td>29.82%</td><td>$59,645</td></tr>
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</td>
<td>$7,699,000</td>
<td>$1,311,432</td>
<td>N7040
N7041</td>
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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr>
<td>102072524,102072523</td>
<td>28</td>
<td>PRESTON 69.0 kV - TANYARD 69.0 kV Ckt 1</td>
<td>
Project Id: b2946
Description : PJM baseline upgrade b2946 conversion of Preston station to a Ring Bus
Type : CON
Total Cost : $6,000,000 (repeat cost from Index 29)
Time Estimate : 30-36 Months
Ratings : 136.0/173.0/173.0
Notes : Baseline upgrades do not receive Cost Allocation

Project Id: n7105
Description: To mitigate the (DP&L) Preston - Tanyard 69 kV line (from bus 232821 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Tanyard 69 kV line by rebuilding the line. This includes installation of new poles, foundations, insulators and OPGW.
Type : FAC
Total Cost : $11,000,000
Time Estimate : 36-48 Months
Ratings : 164.0/186.0/186.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-194</td><td>33.08</td><td>36.94%</td><td>$4,062,975</td></tr>
<tr><td>AF2-207</td><td>6.35</td><td>7.09%</td><td>$779,924</td></tr>
<tr><td>AF2-358</td><td>25.74</td><td>28.74%</td><td>$3,161,456</td></tr>
<tr><td>AF2-385</td><td>9.44</td><td>10.54%</td><td>$1,159,446</td></tr>
<tr><td>AF2-409</td><td>14.95</td><td>16.69%</td><td>$1,836,199</td></tr>
</table>
Project Id: n7106
Description: To mitigate the (DP&L) Preston - Tanyard 69 kV line (from bus 232821 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Tanyard 69 kV line by replacing the terminal equipment at the Tanyard Tap
Type : FAC
Total Cost : $100,000
Time Estimate : 9-12 Months
Ratings : 195.0/241.0/241.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-207</td><td>6.35</td><td>10.61%</td><td>$10,606</td></tr>
<tr><td>AF2-325</td><td>3.39</td><td>5.66%</td><td>$5,662</td></tr>
<tr><td>AF2-358</td><td>25.74</td><td>42.99%</td><td>$42,993</td></tr>
<tr><td>AF2-385</td><td>9.44</td><td>15.77%</td><td>$15,768</td></tr>
<tr><td>AF2-409</td><td>14.95</td><td>24.97%</td><td>$24,971</td></tr>
</table>
Project Id: n7107
Description: To mitigate the (DP&L) Preston - Tanyard 69 kV line (from bus 232821 to bus 232233ckt 1) overload, it will require increasing the emergency rating of the Preston-Tanyard 69 kV line by rebuilding the line. This includes installation of new poles, foundations, insulators and OPGW.
Type : FAC
Total Cost : $12,000,000
Time Estimate : 36-48 Months
Ratings : 274.0/349.0/349.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-409</td><td>14.95</td><td>100.00%</td><td>$12,000,000</td></tr>
</table>
</td>
<td>$23,100,000</td>
<td>$13,861,170</td>
<td>B2946
N7105
N7106
N7107</td>
</tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>102072645,102072644,102072646</td><td>5</td><td>INDRV2&3 138.0 kV - NELSON 138.0 kV Ckt 1</td><td>ProjectId: n7038
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 : $32,000,000
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>59.04</td><td>65.75%</td><td>$21,041,096</td></tr><tr><td>AF2-207</td><td>10.32</td><td>11.49%</td><td>$3,677,915</td></tr><tr><td>AF2-409</td><td>20.43</td><td>22.75%</td><td>$7,280,989</td></tr></table>
Project Id: n7039
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
Type : FAC
Total Cost : $100,000
Time Estimate : 9-12 Months
Ratings : 243.0/322.0/322.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-409</td><td>20.43</td><td>100.00%</td><td>$100,000</td></tr></table></td><td>$32,100,000</td><td>$7,380,989</td><td>N7038
N7039</td></tr>
<tr><td>100371862</td><td>18</td><td>INDRIV 4 230.0 kV - MILF_230 230.0 kV Ckt 1</td><td>Project Id: n7104
Description: To mitigate the (DPL) Indian River - Milford 230 kV line (from bus 232006 to 232004) overload it will require increasing the emergency rating of the line by rebuild with new poles, foundations, insulators, and OPGW. In addition terminal upgrades will be required at Milford and Indian River
Type : FAC
Total Cost : $60,000,000
Time Estimate : 48-60 Months
Ratings : 886.0/1089.0/1089.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-194</td><td>281.73</td><td>68.95%</td><td>$41,371,057</td></tr><tr><td>AF2-196</td><td>17.25</td><td>4.22%</td><td>$2,533,102</td></tr><tr><td>AF2-207</td><td>20.25</td><td>4.96%</td><td>$2,973,641</td></tr><tr><td>AF2-358</td><td>29.46</td><td>7.21%</td><td>$4,326,097</td></tr><tr><td>AF2-385</td><td>30.14</td><td>7.38%</td><td>$4,425,953</td></tr><tr><td>AF2-409</td><td>29.76</td><td>7.28%</td><td>$4,370,151</td></tr></table></td><td>$60,000,000</td><td>$4,370,151</td><td>N7104</td></tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>102072662</td><td>24</td><td>PINEY138 138.0 kV - LORETTO 138.0 kV Ckt 1</td><td>Project Id: n7108
Description : Upgrade terminal equipment at Loretto and Piney Grove Substations (upgrade 500 SDCU stranded bus with 954 ACSR)
Type : FAC
Total Cost : $250,000
Time Estimate : 12.0 Months
Ratings : 280.0/286.0/286.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-409</td><td>15.06</td><td>100.00%</td><td>$250,000</td></tr></table>
ProjectId : N6405
Description : Reconductor Line with 1590 ACSR and replace line disconnect switch at Loretto
Type : FAC
Total Cost : $17,300,000
Time Estimate : 32-48 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>AF1-231</td><td>6.03</td><td>5.74%</td><td>$993,231</td></tr><tr><td>AF2-055</td><td>15.76</td><td>15.01%</td><td>$2,595,906</td></tr><tr><td>AF2-061</td><td>12.52</td><td>11.92%</td><td>$2,062,230</td></tr><tr><td>AF2-193</td><td>27.83</td><td>26.50%</td><td>$4,584,014</td></tr><tr><td>AF2-194</td><td>27.83</td><td>26.50%</td><td>$4,584,014</td></tr><tr><td>AF2-409</td><td>15.06</td><td>14.34%</td><td>$2,480,606</td></tr></table></td><td>$17,550,000</td><td>$2,730,606</td><td>N7108
N6405</td></tr>
<tr><td>102072773</td><td>6</td><td>PRESTON 69.0 kV - TODD 69.0 kV Ckt 1</td><td>Project Id: b2946
Description: PJM baseline upgrade b2946 conversion of Preston station to a Ring Bus
Type: CON
Total Cost: $6,000,000 (repeat cost from Index 29)
Time Estimate: 30-36 Months
Ratings: 136.0/173.0/173.0

Project Id: n5788
Description: To mitigate the (DP&L) TODD to PRESTON 69 kV line (from bus 232234 to bus 232233 ckt 1) overload will require substation reinforcements at Todd Substation. Replace 600A Disconnect Switch at Todd
Type: FAC
Total Cost: $100,000
Time Estimate: 12.0 Months
Ratings: 95.0/130.0/130.0
Notes: This constraint is driven by a prior queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade.</td><td>$100,000</td><td>$0</td><td>B2946
N5788</td></tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>99742256</td><td>11</td><td>PCHBTM1N 500.0 kV - FUR RUN_500 500.0 kV Ckt 1</td><td>Project ID: n7081
Description: Expand Peach Bottom 500 kV station to build a new 500 kV line between Beach Bottom and Furnace Run. (The estimated cost is for PECO portion only, right of way cost not included)
Type : CON
Total Cost : $82,110,000
Time Estimate : 84.0 Months
Ratings : 2920 (new line)/3707 (new line)/4157 (new line)
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-409</td><td>38.14</td><td>100.00%</td><td>$82,110,000</td></tr></table>Project ID: 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
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-193</td><td>45.4</td><td>35.21%</td><td>$1,056,305</td></tr><tr><td>AF2-194</td><td>45.4</td><td>35.21%</td><td>$1,056,305</td></tr><tr><td>AF2-409</td><td>38.14</td><td>29.58%</td><td>$887,389</td></tr></table></td><td>$85,110,000</td><td>$82,997,389</td><td>N7081
N7078</td></tr>
<tr><td>102072822, 102072650,102 072651</td><td>7

30

36</td><td>HEBRON 69.0 kV - MARDELA 69.0 kV Ckt 1

VIENN_69 69.0 kV - MARDELA 69.0 kV Ckt 1

MARDELA 69.0 kV - HEBRON 69.0 kV Ckt 1</td><td>ProjectId: s0835
Description : Rebuild the 6708 line from Vienna - Hebron (N. Salisbury to Hebron Section already completed) with new poles, conductor, foundations, insulators and OPGW
Type : CON
Total Cost : $15,000,000
Time Estimate : 36-48 Months
Ratings : 136.0/17.0/174.0</td><td>$15,000,000</td><td>$0</td><td>S0835</td></tr>
<tr><td>100371680,100 371982</td><td>12</td><td>DELCOTAP 230.0 kV - MCKLTON 230.0 kV Ckt 1</td><td>Project Id: The Transmission Owners indicated that there is no violation for this facility.
Description :
Type : FAC
Total Cost : $0
Time Estimate : Months
Ratings : //
Notes : Not a Violation for PECO, NV#RI for AEC</td><td>$0</td><td>$0</td><td></td></tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>99741595</td><td>9</td><td>ROCKSPGS 500.0 kV - PCHBTM2S 500.0 kV Ckt 1</td><td>Project Id: n7082
Description: Expand Peach Bottom 500 kV station to build a new 500 kV line between Beach Bottom and Rock Springs. (The estimated cost is for PECO portion only, right of way cost not included)
Type : CON
Total Cost : $153,600,000
Time Estimate : 84.0 Months
Ratings : 2920 (new line)/3707 (new line)/4157 (new line)
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>96.02</td><td>13.08%</td><td>$20,084,529</td></tr>
<tr><td>AF2-193</td><td>224.39</td><td>30.56%</td><td>$46,935,716</td></tr>
<tr><td>AF2-194</td><td>224.39</td><td>30.56%</td><td>$46,935,716</td></tr>
<tr><td>AF2-358</td><td>50.68</td><td>6.90%</td><td>$10,600,749</td></tr>
<tr><td>AF2-385</td><td>38.15</td><td>5.20%</td><td>$7,979,846</td></tr>
<tr><td>AF2-387</td><td>49.93</td><td>6.80%</td><td>$10,443,871</td></tr>
<tr><td>AF2-409</td><td>50.77</td><td>6.91%</td><td>$10,619,574</td></tr>
</table></td><td>$153,600,000</td><td>$10,619,574</td><td>N7082</td></tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr>
<td>161331378</td>
<td>21</td>
<td>TOWNSEND 138.0 kV - MIDLTNTP 138.0 kV Ckt 1</td>
<td>
ProjectId: n6456
Description: Upgrade disconnect switch at Middletown Tap
Type: FAC
Total Cost: $100,000
Time Estimate: 12.0 Months
Ratings: 390.0/478.0/478.0
Notes: This constraint is driven by a prior queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade.

ProjectId: n7139
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
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-207</td><td>10.32</td><td>9.16%</td><td>$27,471</td></tr>
<tr><td>AF2-313</td><td>8.36</td><td>7.42%</td><td>$22,254</td></tr>
<tr><td>AF2-358</td><td>23.3</td><td>20.67%</td><td>$62,023</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>13.62%</td><td>$40,861</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>29.08%</td><td>$87,232</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>20.05%</td><td>$60,160</td></tr>
</table>
ProjectId: n7140
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>8.17%</td><td>$612,424</td></tr>
<tr><td>AF2-358</td><td>23.3</td><td>22.76%</td><td>$1,706,876</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>14.99%</td><td>$1,124,487</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>32.01%</td><td>$2,400,615</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>22.07%</td><td>$1,655,597</td></tr>
</table>
Project Id: n6407
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: This constraint is driven by a prior queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade.
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-093</td><td>13.25</td><td>39.28%</td><td>$39,283</td></tr>
<tr><td>AE2-112</td><td>7.5</td><td>22.24%</td><td>$22,235</td></tr>
<tr><td>AE2-209</td><td>12.98</td><td>38.48%</td><td>$38,482</td></tr>
</table>
</td>
<td>$8,000,000</td>
<td>$1,715,757</td>
<td>N6456
N7139
N7140
N6407</td>
</tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>112552957</td><td>23</td><td>LORETTO 138.0 kV - VIENNA 8 138.0 kV Ckt 1</td><td>ProjectId: n7146
Description: Upgrade terminal equipment and relays at Vienna Substation (500 SDCU stranded bus upgrade needed)
Type: FAC
Total Cost: $125,000
Time Estimate: 12.0 Months
Ratings: 327.0/327.0/327.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-194</td><td>51.33</td><td>70.09%</td><td>$87,618</td></tr><tr><td>AF2-385</td><td>5.42</td><td>7.40%</td><td>$9,252</td></tr><tr><td>AF2-409</td><td>16.48</td><td>22.50%</td><td>$28,131</td></tr></table></td><td>$125,000</td><td>$28,131</td><td>N7146</td></tr>
<tr><td>100372037,100372038</td><td>37</td><td>AB2-037 TAP 230.0 kV - KEEN_230 230.0 kV Ckt 2</td><td>ProjectId: n7138
Description : Upgrade relaying at Keeney Substation
Type : FAC
Total Cost : $230,000
Time Estimate : 12.0 Months
Ratings : 650.0/804.0/804.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-387</td><td>36.14</td><td>50.88%</td><td>$117,024</td></tr><tr><td>AF2-409</td><td>34.89</td><td>49.12%</td><td>$112,976</td></tr></table></td><td>$230,000</td><td>$112,976</td><td>N7138</td></tr>
<tr><td>100371836,100372183</td><td>13</td><td>CLAY_230 230.0 kV - LINWOOD 230.0 kV Ckt 1</td><td>Project ID: b2985
Description: Replace the 230 kV CB #225 at Linwood Substation (PECO) with a double circuit breaker (back to back circuit breakers in one device).
Type: CON
Total Cost: $1,400,000
Time Estimate: Months
Ratings: N/A
Notes: There is no cost allocation for baseline upgrades.

Project Id: n7196
Description : Replace 1 line trap at Linwood station
Type : FAC
Total Cost : $900,000
Time Estimate : 3.0 Months
Ratings : 1245.0/1387.0/1585.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-193</td><td>64.16</td><td>34.41%</td><td>$309,702</td></tr><tr><td>AF2-194</td><td>64.16</td><td>34.41%</td><td>$309,702</td></tr><tr><td>AF2-358</td><td>15.33</td><td>8.22%</td><td>$73,998</td></tr><tr><td>AF2-385</td><td>11.21</td><td>6.01%</td><td>$54,111</td></tr><tr><td>AF2-387</td><td>16.23</td><td>8.70%</td><td>$78,343</td></tr><tr><td>AF2-409</td><td>15.36</td><td>8.24%</td><td>$74,143</td></tr></table>
Project Id: n7195
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
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-193</td><td>64.16</td><td>34.41%</td><td>$1,548,512</td></tr><tr><td>AF2-194</td><td>64.16</td><td>34.41%</td><td>$1,548,512</td></tr><tr><td>AF2-358</td><td>15.33</td><td>8.22%</td><td>$369,992</td></tr><tr><td>AF2-385</td><td>11.21</td><td>6.01%</td><td>$270,555</td></tr><tr><td>AF2-387</td><td>16.23</td><td>8.70%</td><td>$391,714</td></tr><tr><td>AF2-409</td><td>15.36</td><td>8.24%</td><td>$370,716</td></tr></table></td><td>$6,800,000</td><td>$444,859</td><td>B2985
N7195
N7196</td></tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>100371849,100372209</td><td>14</td><td>EDGEMR 5 230.0 kV - CLAY_230 230.0 kV Ckt 1</td><td>Project Id: b2985
Description: Replace the 230 kV CB #225 at Linwood Substation (PECO) with a double circuit breaker (back to back circuit breakers in one device).
Type : CON
Total Cost : $1,400,000 (B2985 included Index 13)
Time Estimate : Months
Ratings : N/A
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-193</td><td>58.13</td><td>34.43%</td><td>$481,978</td></tr>
<tr><td>AF2-194</td><td>58.13</td><td>34.43%</td><td>$481,978</td></tr>
<tr><td>AF2-358</td><td>13.88</td><td>8.22%</td><td>$115,084</td></tr>
<tr><td>AF2-385</td><td>10.15</td><td>6.01%</td><td>$84,158</td></tr>
<tr><td>AF2-387</td><td>14.63</td><td>8.66%</td><td>$121,303</td></tr>
<tr><td>AF2-409</td><td>13.93</td><td>8.25%</td><td>$115,499</td></tr>
</table></td><td>$0</td><td>$0</td><td>B2985</td></tr>
</table>

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<table>
<tr>
<td>102072681,102072680</td>
<td>17</td>
<td>GLASGOW 138.0 kV - CECIL138 138.0 kV Ckt 1</td>
<td>
ProjectId : n7044
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
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-194</td><td>41.06</td><td>41.20%</td><td>$41,200</td></tr>
<tr><td>AF2-208</td><td>21.1</td><td>21.17%</td><td>$21,172</td></tr>
<tr><td>AF2-358</td><td>9.8</td><td>9.83%</td><td>$9,833</td></tr>
<tr><td>AF2-385</td><td>7.15</td><td>7.17%</td><td>$7,174</td></tr>
<tr><td>AF2-387</td><td>10.88</td><td>10.92%</td><td>$10,917</td></tr>
<tr><td>AF2-409</td><td>9.67</td><td>9.70%</td><td>$9,703</td></tr>
</table>
ProjectId : n7045
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 : $200,000
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>AF2-358</td><td>9.8</td><td>26.13%</td><td>$52,267</td></tr>
<tr><td>AF2-385</td><td>7.15</td><td>19.07%</td><td>$38,133</td></tr>
<tr><td>AF2-387</td><td>10.88</td><td>29.01%</td><td>$58,027</td></tr>
<tr><td>AF2-409</td><td>9.67</td><td>25.79%</td><td>$51,573</td></tr>
</table>
Project Id: n7046
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 fully 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 : $10,500,000
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>AF2-358</td><td>3.77</td><td>11.98%</td><td>$1,257,865</td></tr>
<tr><td>AF2-385</td><td>7.15</td><td>22.72%</td><td>$2,385,605</td></tr>
<tr><td>AF2-387</td><td>10.88</td><td>34.57%</td><td>$3,630,124</td></tr>
<tr><td>AF2-409</td><td>9.67</td><td>30.73%</td><td>$3,226,406</td></tr>
</table>
Project Id: n7043
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
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-193</td><td>41.06</td><td>29.18%</td><td>$1,458,926</td></tr>
<tr><td>AF2-194</td><td>41.06</td><td>29.18%</td><td>$1,458,926</td></tr>
<tr><td>AF2-208</td><td>21.1</td><td>14.99%</td><td>$749,716</td></tr>
<tr><td>AF2-358</td><td>9.8</td><td>6.96%</td><td>$348,209</td></tr>
<tr><td>AF2-385</td><td>7.15</td><td>5.08%</td><td>$254,051</td></tr>
<tr><td>AF2-387</td><td>10.88</td><td>7.73%</td><td>$386,583</td></tr>
<tr><td>AF2-409</td><td>9.67</td><td>6.87%</td><td>$343,590</td></tr>
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</td>
<td>$15,8000,000</td>
<td>$3,631,273</td>
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N7044
N7045
N7046</td>
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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>102072694</td><td>31</td><td>VIENN_69 69.0 kV - TODD 69.0 kV Ckt 1</td><td>ProjectId : n7095
Description : To mitigate the (DPL) Vienna - Todd 69 kV line (from bus 232241 to 232234) it will require increasing the emergency rating of the line by upgrading the relays at both Todd and Vienna
Type : FAC
Total Cost : $450,000
Time Estimate : 12-18 Months
Ratings : 137.0/174.0/174.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-194</td><td>26.31</td><td>51.83%</td><td>$233,245</td></tr><tr><td>AF2-207</td><td>5.05</td><td>9.95%</td><td>$44,770</td></tr><tr><td>AF2-385</td><td>7.51</td><td>14.80%</td><td>$66,578</td></tr><tr><td>AF2-409</td><td>11.89</td><td>23.42%</td><td>$105,408</td></tr></table>
ProjectId: n7096
Description: To mitigate the (DPL) Vienna - Todd 69 kV line (from bus 232241 to 232234) it will require increasing the emergency rating of the line by rebuilding the line with new poles, conductor, insulators and OPGW. Terminal upgrades will also be needed at Todd
Type: FAC
Total Cost: $19,000,000
Time Estimate: 36-48 Months
Ratings: 145.0/186.0/186.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-409</td><td>9.68</td><td>100.00%</td><td>$19,000,000</td></tr></table></td><td>$19,450,000</td><td>$19,105,408</td><td>N7095
N7096</td></tr>
<tr><td>102072666</td><td>25</td><td>KENT 69.0 kV - NMEREDTH 69.0 kV Ckt 1</td><td>Project Id: n7042
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>45.39%</td><td>$3,449,773</td></tr><tr><td>AF2-194</td><td>24.97</td><td>45.39%</td><td>$3,449,773</td></tr><tr><td>AF2-409</td><td>5.07</td><td>9.22%</td><td>$700,454</td></tr></table></td><td>$7,600,000</td><td>$700,454</td><td>N7042</td></tr>
<tr><td>161330618,102072918,102072538</td><td>33</td><td>ROCKAWLKN 69.0 kV - NSALSBRY 69.0 kV Ckt 1</td><td>Project Id: The Transmission Owner indicated there are no violation for this facility
Description:
Type: FAC
Total Cost: $0
Time Estimate: 0.0 Months
Ratings: 0.0/0.0/
Notes: No Issue.</td><td>$0</td><td>$0</td><td></td></tr>
<tr><td>102072958</td><td>32</td><td>VIENN_69 69.0 kV - SHARPTWN 69.0 kV Ckt 1</td><td>Project Id: Transmission Owner indicated no overload for this facility.
Description :
Type : FAC
Total Cost : $0
Time Estimate : 0.0 Months
Ratings : N/A</td><td>$0</td><td>$0</td><td></td></tr>
</table>

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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr>
<td>161331383</td>
<td>19</td>
<td>CHURCH 138.0 kV - TOWNSEND 138.0 kV Ckt 1</td>
<td>
Project ID: n7102
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
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-194</td><td>79.92</td><td>40.33%</td><td>$40,333</td></tr>
<tr><td>AF2-196</td><td>5.53</td><td>2.79%</td><td>$2,791</td></tr>
<tr><td>AF2-207</td><td>10.32</td><td>5.21%</td><td>$5,208</td></tr>
<tr><td>AF2-313</td><td>8.36</td><td>4.22%</td><td>$4,219</td></tr>
<tr><td>AF2-358</td><td>23.3</td><td>11.76%</td><td>$11,759</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>7.75%</td><td>$7,747</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>16.54%</td><td>$16,538</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>11.41%</td><td>$11,406</td></tr>
</table>
Project ID: n7101
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
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-193</td><td>79.92</td><td>28.74%</td><td>$57,482</td></tr>
<tr><td>AF2-194</td><td>79.92</td><td>28.74%</td><td>$57,482</td></tr>
<tr><td>AF2-196</td><td>5.53</td><td>1.99%</td><td>$3,977</td></tr>
<tr><td>AF2-207</td><td>10.32</td><td>3.71%</td><td>$7,423</td></tr>
<tr><td>AF2-313</td><td>8.36</td><td>3.01%</td><td>$6,013</td></tr>
<tr><td>AF2-358</td><td>23.3</td><td>8.38%</td><td>$16,758</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>5.52%</td><td>$11,040</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>11.78%</td><td>$23,570</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>8.13%</td><td>$16,255</td></tr>
</table>
Project ID: n7100
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
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-193</td><td>79.92</td><td>28.74%</td><td>$143,705</td></tr>
<tr><td>AF2-194</td><td>79.92</td><td>28.74%</td><td>$143,705</td></tr>
<tr><td>AF2-196</td><td>5.53</td><td>1.99%</td><td>$9,944</td></tr>
<tr><td>AF2-207</td><td>10.32</td><td>3.71%</td><td>$18,556</td></tr>
<tr><td>AF2-313</td><td>8.36</td><td>3.01%</td><td>$15,032</td></tr>
<tr><td>AF2-358</td><td>23.3</td><td>8.38%</td><td>$41,896</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>5.52%</td><td>$27,601</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>11.78%</td><td>$58,924</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>8.13%</td><td>$40,637</td></tr>
</table>
Project ID: n7103
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>23.23%</td><td>$6,039,948</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>16.66%</td><td>$4,332,393</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>35.57%</td><td>$9,249,023</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>24.53%</td><td>$6,378,637</td></tr>
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<td>$26,800,000</td>
<td>$6,446,934</td>
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N7101
N7102
N7103</td>
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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr>
<td>161331384</td>
<td>20</td>
<td>MIDLTNTP 138.0 kV - MT PLSNT 138.0 kV Ckt 1</td>
<td>
ProjectId: n6451
Description: Upgrade disconnect switch at Middletown Tap
Type: FAC
Total Cost: $100,000
Time Estimate: 12.0 Months
Ratings: 390.0/478.0/478.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-194</td><td>79.92</td><td>40.33%</td><td>$40,333</td></tr>
<tr><td>AF2-196</td><td>5.53</td><td>2.79%</td><td>$2,791</td></tr>
<tr><td>AF2-207</td><td>10.32</td><td>5.21%</td><td>$5,208</td></tr>
<tr><td>AF2-313</td><td>8.36</td><td>4.22%</td><td>$4,219</td></tr>
<tr><td>AF2-358</td><td>23.3</td><td>11.76%</td><td>$11,759</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>7.75%</td><td>$7,747</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>16.54%</td><td>$16,538</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>11.41%</td><td>$11,406</td></tr>
</table>
Project Id: n6450
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
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-193</td><td>79.92</td><td>28.74%</td><td>$31,615</td></tr>
<tr><td>AF2-194</td><td>79.92</td><td>28.74%</td><td>$31,615</td></tr>
<tr><td>AF2-196</td><td>5.53</td><td>1.99%</td><td>$2,188</td></tr>
<tr><td>AF2-207</td><td>10.32</td><td>3.71%</td><td>$4,082</td></tr>
<tr><td>AF2-313</td><td>8.36</td><td>3.01%</td><td>$3,307</td></tr>
<tr><td>AF2-358</td><td>23.3</td><td>8.38%</td><td>$9,217</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>5.52%</td><td>$6,072</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>11.78%</td><td>$12,963</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>8.13%</td><td>$8,940</td></tr>
</table>
ProjectId: n7141
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>9.59%</td><td>$719,126</td></tr>
<tr><td>AF2-385</td><td>15.35</td><td>19.62%</td><td>$1,471,810</td></tr>
<tr><td>AF2-387</td><td>32.77</td><td>41.89%</td><td>$3,142,099</td></tr>
<tr><td>AF2-409</td><td>22.6</td><td>28.89%</td><td>$2,166,965</td></tr>
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</td>
<td>$7,710,000</td>
<td>$2,187,311</td>
<td>N6450
N6451
N7141</td>
</tr>
<tr>
<td>102072686</td>
<td>27</td>
<td>TRAPPETP 69.0 kV - EASTN_69 69.0 kV Ckt 1</td>
<td>
Project Id: n7048
Description: Rebuild the 6716-1 Easton - Trappe Tap 69 kV with new poles, conductor, foundations, insulators, and OPGW. Terminal equipment at Easton and the line disconnect at the Trappe Tap will also need to be upgraded.
Type : FAC
Total Cost : $6,500,000
Time Estimate : 36-48 Months
Ratings : 228.0/279.0/279.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-358</td><td>25.74</td><td>51.35%</td><td>$3,337,522</td></tr>
<tr><td>AF2-385</td><td>9.44</td><td>18.83%</td><td>$1,224,018</td></tr>
<tr><td>AF2-409</td><td>14.95</td><td>29.82%</td><td>$1,938,460</td></tr>
</table>
</td>
<td>$6,500,000</td>
<td>$1,938,460</td>
<td>N7048</td>
</tr>
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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>102072772</td><td>34</td><td>NMEREDTH 69.0 kV - AB2-135 TAP 69.0 kV Ckt 1</td><td>Project Id: n7091
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>83.12%</td><td>$9,143,475</td></tr><tr><td>AF2-409</td><td>5.07</td><td>16.88%</td><td>$1,856,525</td></tr></table></td><td>$11,000,000</td><td>$1,856,525</td><td>N7091</td></tr>
<tr><td>102072768,102072767</td><td>22</td><td>VIENNA 8 138.0 kV - VIENN138 138.0 kV Ckt 1</td><td>ProjectId : n7090
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
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-194</td><td>125.09</td><td>45.42%</td><td>$545,094</td></tr><tr><td>AF2-196</td><td>8.83</td><td>3.21%</td><td>$38,478</td></tr><tr><td>AF2-207</td><td>19.35</td><td>7.03%</td><td>$84,320</td></tr><tr><td>AF2-358</td><td>38.97</td><td>14.15%</td><td>$169,816</td></tr><tr><td>AF2-385</td><td>28.8</td><td>10.46%</td><td>$125,499</td></tr><tr><td>AF2-409</td><td>54.34</td><td>19.73%</td><td>$236,793</td></tr></table></td><td>$1,200,000</td><td>$236,793</td><td>N7090</td></tr>
<tr><td>99741682,99741683,99742240,99741684</td><td>10</td><td>PCHBTM1S 500.0 kV - CNASTONE 500.0 kV Ckt 1</td><td>Project Id: N6559
Description:
PECO: Expand Peach Bottom 500 kV station to build a new 500 kV line between Beach Bottom and Conastone. (The estimated cost is for PECO portion only, right of way cost not included, $130.5M, 84 Months)
BGE: Construct second line between Peach Bottom - Conastone 500 kV line ($216.8M, 84 Months)
Type : CON
Total Cost : $347,300,000
Time Estimate : 84.0 Months
Ratings : 2920/3707/4157 (new line)
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AE2-024</td><td>75.5</td><td>9.76%</td><td>$33,896,480</td></tr><tr><td>AE2-025</td><td>97.65</td><td>12.63%</td><td>$43,863,990</td></tr><tr><td>AE2-222</td><td>79.1</td><td>10.23%</td><td>$35,528,790</td></tr><tr><td>AE2-251</td><td>31.2</td><td>4.04%</td><td>$14,030,920</td></tr><tr><td>AF2-193</td><td>182.78</td><td>23.64%</td><td>$82,101,720</td></tr><tr><td>AF2-194</td><td>182.78</td><td>23.64%</td><td>$82,101,720</td></tr><tr><td>AF2-358</td><td>41.47</td><td>5.36%</td><td>$18,615,280</td></tr><tr><td>AF2-387</td><td>41.21</td><td>5.33%</td><td>$18,511,090</td></tr><tr><td>AF2-409</td><td>41.51</td><td>5.37%</td><td>$18,650,010</td></tr></table></td><td>$347,300,000</td><td>$18,650,010</td><td>N6559</td></tr>
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<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr><td>102073005</td><td>1</td><td>SHARPTWN 69.0 kV - LAUREL 69.0 kV Ckt 1</td><td>ProjectId: s2072
Description : Rebuild 6705 line from Sharptown - Laurel
Type : FAC
Total Cost : $11,700,000
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>AF2-409</td><td>5.89</td><td>100.00%</td><td>$11,700,000</td></tr></table></td><td>$11,700,000</td><td>$0</td><td>S2072</td></tr>
<tr><td>100372052,100372051</td><td>3</td><td>VIENNA 230.0 kV - STEELE 230.0 kV Ckt 1</td><td>Project ID: n7109
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 : 650.0/804.0/804.0
<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>31.91%</td><td>$19,946,155</td></tr><tr><td>AF2-385</td><td>28.8</td><td>23.59%</td><td>$14,740,807</td></tr><tr><td>AF2-409</td><td>54.34</td><td>44.50%</td><td>$27,813,037</td></tr></table></td><td>$62,500,000</td><td>$27,813,037</td><td>N7109</td></tr>
<tr><td colspan="7">*** <u>Note</u>: CON upgrades will need to be tested during the Facilities Study phase to ensure the upgrade mitigates the identified violations and also does not cause any additional violations. ***</td></tr>
<tr><td></td><td></td><td></td><td>TOTAL COST</td><td>$1,149,299,000</td><td>$242,830,352</td><td></td></tr>
</table>

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.

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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".

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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
102073005	232239	SHARPTWN	DP&L	232249	LAUREL	DP&L	1	DPL_P1_2_CKT 13707	single	42.0	95.73	107.93	AC	5.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1652	80/20	0.1652
232426	Y1-080 FULL	0.0335	80/20	0.0335
232907	VN8	1.5146	80/20	1.5146
232919	VN10	0.2864	80/20	0.2864
924831	AB2-136 C	3.6709	80/20	3.6709
925151	AB2-172 C OP	2.4584	80/20	2.4584
927031	AC1-190 C	4.6424	80/20	4.6424
932161	AC2-023 C	1.8399	80/20	1.8399
938651	AE1-087 C	2.0702	80/20	2.0702
960341	AF2-325 C	0.5941	80/20	0.5941
960671	AF2-358 C O1	9.5232	80/20	9.5232
960871	AF2-378 C	0.1610	80/20	0.1610
961181	AF2-409 O1	5.8910	80/20	5.8910
NEWTON	NEWTON	0.0032	Confirmed LTF	0.0032
FARMERCITY	FARMERCITY	0.0002	Confirmed LTF	0.0002
GIBSON	GIBSON	0.0016	Confirmed LTF	0.0016
NY	NY	0.0044	Confirmed LTF	0.0044
PRAIRIE	PRAIRIE	0.0077	Confirmed LTF	0.0077
COFFEEN	COFFEEN	0.0006	Confirmed LTF	0.0006
CHEOAH	CHEOAH	0.0015	Confirmed LTF	0.0015
EDWARDS	EDWARDS	0.0010	Confirmed LTF	0.0010
TILTON	TILTON	0.0019	Confirmed LTF	0.0019
CALDERWOOD	CALDERWOOD	0.0015	Confirmed LTF	0.0015
BLUEG	BLUEG	0.0052	Confirmed LTF	0.0052
TRIMBLE	TRIMBLE	0.0017	Confirmed LTF	0.0017
CATAWBA	CATAWBA	0.0010	Confirmed LTF	0.0010

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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
100372048	213973	TRAINER 2	PECO	213559	DELCOTAP	PECO	1	PECO_P4_CHICH045/ * $ DELCO $ CHICH045 $ STBK	breaker	841.0	99.53	100.37	AC	7.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213888	PHLISCT1	10.4822	50/50	10.4822
213889	PHLISCT2	10.4822	50/50	10.4822
213890	PHLISCT3	10.4822	50/50	10.4822
213893	PHLISST1	14.5226	50/50	14.5226
227881	GRENWCHG	-0.1404	Adder	-0.17
231505	HR4	9.0573	50/50	9.0573
231708	CHRIST3	1.6897	Adder	1.99
231900	EM5	21.9956	50/50	21.9956
231901	EM4	5.8518	50/50	5.8518
231903	GEN4	0.8952	Adder	1.05
231904	DC1 NUG	2.3193	Adder	2.73
231905	DC2 NUG	2.3193	Adder	2.73
231908	HR1	4.2039	50/50	4.2039
231909	HR2	4.1690	50/50	4.1690
231910	HR3	4.2039	50/50	4.2039
231916	EM3	2.8683	50/50	2.8683
231917	EM10	0.4769	50/50	0.4769
232405	W1-003 E	0.2923	Adder	0.34
232407	W1-004 E	0.2923	Adder	0.34
232409	W1-005 E	0.2923	Adder	0.34
232411	W1-006 E	0.2923	Adder	0.34
232412	X1-032 E	0.2609	Adder	0.31
232418	X3-008 E	0.8476	Adder	1.0
232423	X3-066 E	0.2754	Adder	0.32
232425	Y1-079 E	0.4547	Adder	0.53
232427	Y1-080 E	0.1415	Adder	0.17
232429	Y3-058 E	0.6103	Adder	0.72
232433	Z2-076 E	0.1276	Adder	0.15
232435	Z2-077 E	0.1276	Adder	0.15
232436	AB1-176 C	0.1118	Adder	0.13
912161	X4-027 CT1	0.7016	50/50	0.7016
912162	X4-027 CT2	0.7077	50/50	0.7077
912163	X4-027 CT3	0.7077	50/50	0.7077
917082	Z2-012 E	0.8049	Adder	0.95
919901	AB1-000 1	2.1597	50/50	2.1597
919911	AB1-000 2	2.1597	50/50	2.1597
919921	AB1-000 3	2.1597	50/50	2.1597
923282	AB1-137 C	0.2654	Adder	0.31
923283	AB1-137 E	0.1138	Adder	0.13
923322	AB1-141 C OP	1.0061	Adder	1.18
923323	AB1-141 E OP	0.4695	Adder	0.55

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923332	AB1-142 C OP	1.0061	Adder	1.18
923603	AB1-176 E	0.1843	Adder	0.22
923921	AB2-032 C	1.0136	Adder	1.19
923922	AB2-032 E	0.4770	Adder	0.56
923951	AB2-036 C	2.5625	Adder	3.01
923952	AB2-036 E	4.1925	Adder	4.93
923961	AB2-037 C	5.5931	Adder	6.58
923962	AB2-037 E	9.1371	Adder	10.75
924681	AB2-120 C OP	2.4661	Adder	2.9
924682	AB2-120 E OP	4.0236	Adder	4.73
924781	AB2-130 C OP	2.0772	Adder	2.44
924782	AB2-130 E OP	3.3892	Adder	3.99
924801	AB2-133 C OP	1.8382	Adder	2.16
924802	AB2-133 E OP	2.3314	Adder	2.74
924821	AB2-135 C	2.1483	Adder	2.53
924822	AB2-135 E	2.4501	Adder	2.88
924831	AB2-136 C	1.6782	Adder	1.97
924832	AB2-136 E	1.7797	Adder	2.09
924971	AB2-153 C	0.5664	Adder	0.67
924972	AB2-153 E	0.9241	Adder	1.09
925151	AB2-172 C OP	1.2988	Adder	1.53
925152	AB2-172 E OP	2.1191	Adder	2.49
925251	AB2-179 C OP	3.0627	Adder	3.6
925252	AB2-179 E OP	1.0100	Adder	1.19
925261	AB2-180 C	0.9187	Adder	1.08
925262	AB2-180 E	0.3937	Adder	0.46
925271	AB2-185 C OP	1.0269	Adder	1.21
925272	AB2-185 E OP	0.4401	Adder	0.52
927031	AC1-190 C	2.3883	Adder	2.81
927032	AC1-190 E	1.0236	Adder	1.2
927191	AC1-213 C	0.2086	Adder	0.25
927192	AC1-213 E	0.1369	Adder	0.16
930201	AB1-056 C	4.0546	Adder	4.77
930202	AB1-056 E	11.5468	Adder	13.58
930881	AB1-137 C	0.2654	Adder	0.31
930882	AB1-137 E	0.1138	Adder	0.13
930932	AB1-142 E OP	0.4695	Adder	0.55
932161	AC2-023 C	1.7468	Adder	2.06
932162	AC2-023 E	1.2722	Adder	1.5
933641	AC2-186 C	1.1819	Adder	1.39
933642	AC2-186 E	1.9283	Adder	2.27
934661	AD1-097 1	3.4843	50/50	3.4843
934671	AD1-097 2	3.4843	50/50	3.4843
934681	AD1-097 3	3.4843	50/50	3.4843
934691	AD1-097 4	2.0625	50/50	2.0625
936451	AD2-059 C	0.0270	Adder	0.03
936452	AD2-059 E	0.0847	Adder	0.1
936611	AD2-076 C O1	1.3926	Adder	1.64
936612	AD2-076 E O1	2.2722	Adder	2.67
938651	AE1-087 C	1.0937	Adder	1.29
938652	AE1-087 E	0.2734	Adder	0.32
938811	AE1-107 C	2.6036	Adder	3.06

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938812	AE1-107 E	1.8561	Adder	2.18
938873	AE1-115 BAT	1.5322	Merchant Transmission	1.5322
938891	AE1-117 C O1	2.6227	Adder	3.09
938892	AE1-117 E O1	6.9833	Adder	8.22
939151	AE1-145	1.2978	Adder	1.53
941021	AE2-093 C	1.4186	Adder	1.67
941022	AE2-093 E	2.2540	Adder	2.65
941181	AE2-112 C	0.4832	Adder	0.57
941182	AE2-112 E	0.7883	Adder	0.93
942441	AE2-257 C	2.0841	Adder	2.45
942442	AE2-257 E	5.4945	Adder	6.46
943361	AF1-007 C	0.1196	Adder	0.14
943362	AF1-007 E	0.3400	Adder	0.4
943441	AF1-015 C	0.4537	Adder	0.53
943442	AF1-015 E	0.6265	Adder	0.74
943651	AF1-036 C	0.6282	Adder	0.74
943652	AF1-036 E	0.8676	Adder	1.02
945661	AF1-231 C	0.4934	Adder	0.58
945662	AF1-231 E	0.7400	Adder	0.87
945791	AF1-244	0.5224	Adder	0.61
945931	AF1-258	0.2100	Adder	0.25
945941	AF1-259	0.0592	Adder	0.07
957293	AF2-023 BAT	3.8315	Merchant Transmission	3.8315
957303	AF2-024 BAT	5.1255	Merchant Transmission	5.1255
957611	AF2-055 C	2.2720	Adder	2.67
957612	AF2-055 E	0.9737	Adder	1.15
957661	AF2-060	0.5840	Adder	0.69
957671	AF2-061 O1	2.5956	Adder	3.05
959021	AF2-193 C	7.4922	Adder	8.81
959022	AF2-193 E	20.2100	Adder	23.78
959031	AF2-194 C	7.4922	Adder	8.81
959032	AF2-194 E	20.2100	Adder	23.78
959051	AF2-196 C	0.5684	Adder	0.67
959052	AF2-196 E	1.3263	Adder	1.56
959161	AF2-207 C O1	1.3111	Adder	1.54
959162	AF2-207 E O1	1.9666	Adder	2.31
959571	AF2-248 C	0.2213	Adder	0.26
959572	AF2-248 E	0.2474	Adder	0.29
959581	AF2-249 C	0.0391	Adder	0.05
959582	AF2-249 E	0.1562	Adder	0.18
959591	AF2-250 C	0.0716	Adder	0.08
959592	AF2-250 E	0.0553	Adder	0.07
960221	AF2-313 C	0.9402	Adder	1.11
960222	AF2-313 E	0.5331	Adder	0.63
960341	AF2-325 C	0.2852	Adder	0.34
960342	AF2-325 E	0.3939	Adder	0.46
960671	AF2-358 C O1	4.0361	Adder	4.75
960672	AF2-358 E O1	2.6908	Adder	3.17
960871	AF2-378 C	0.0752	Adder	0.09
960872	AF2-378 E	0.1044	Adder	0.12
960881	AF2-379 C	0.1072	Adder	0.13
960882	AF2-379 E	0.1478	Adder	0.17

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960941	AF2-385 C	3.1086	Adder	3.66
960942	AF2-385 E	1.7689	Adder	2.08
960961	AF2-387 C O1	4.8413	Adder	5.7
960962	AF2-387 E O1	2.4279	Adder	2.86
961181	AF2-409 O1	6.7397	Adder	7.93
NEWTON	NEWTON	0.0612	Confirmed LTF	0.0612
CPLE	CPLE	0.0060	Confirmed LTF	0.0060
FARMERCITY	FARMERCITY	0.0030	Confirmed LTF	0.0030
GIBSON	GIBSON	0.0317	Confirmed LTF	0.0317
NY	NY	0.8455	Confirmed LTF	0.8455
PRAIRIE	PRAIRIE	0.1369	Confirmed LTF	0.1369
O-066	O-066	13.8902	Confirmed LTF	13.8902
COFFEEN	COFFEEN	0.0114	Confirmed LTF	0.0114
CHEOAH	CHEOAH	0.0150	Confirmed LTF	0.0150
EDWARDS	EDWARDS	0.0213	Confirmed LTF	0.0213
TILTON	TILTON	0.0378	Confirmed LTF	0.0378
G-007	G-007	2.4565	Confirmed LTF	2.4565
MADISON	MADISON	0.0141	Confirmed LTF	0.0141
CALDERWOOD	CALDERWOOD	0.0154	Confirmed LTF	0.0154
BLUEG	BLUEG	0.1007	Confirmed LTF	0.1007
TRIMBLE	TRIMBLE	0.0323	Confirmed LTF	0.0323
CATAWBA	CATAWBA	0.0032	Confirmed LTF	0.0032

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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
100372052	232005	VIENNA	DP&L	232000	STEELE	DP&L	1	DPL_P4-2_DP6	breaker	550.0	105.9	113.49	AC	54.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	1.0221	50/50	1.0221
232405	W1-003 E	1.7669	50/50	1.7669
232406	W1-004 FULL	1.0221	50/50	1.0221
232407	W1-004 E	1.7669	50/50	1.7669
232408	W1-005 C	1.0221	50/50	1.0221
232409	W1-005 E	1.7669	50/50	1.7669
232410	W1-006 C	1.0221	50/50	1.0221
232411	W1-006 E	1.7669	50/50	1.7669
232412	X1-032 E	1.6381	50/50	1.6381
232418	X3-008 E	3.1054	Adder	3.65
232427	Y1-080 E	0.6790	Adder	0.8
232428	Y3-058 C	0.3767	50/50	0.3767
232429	Y3-058 E	3.6574	50/50	3.6574
232433	Z2-076 E	0.5299	Adder	0.62
232435	Z2-077 E	0.5299	Adder	0.62
232907	VN8	13.9705	50/50	13.9705
232912	OH NUG1	2.1222	50/50	2.1222
232914	OH NUG3	2.1222	50/50	2.1222
232915	OH NUG4	2.1222	50/50	2.1222
232916	OH NUG5	2.1222	50/50	2.1222
232917	OH NUG6	2.1128	50/50	2.1128
232919	VN10	0.7134	50/50	0.7134
232926	CRISFLD1	0.6951	50/50	0.6951
917082	Z2-012 E	4.1241	Adder	4.85
918831	AA1-102	2.6067	50/50	2.6067
923282	AB1-137 C	1.0600	Adder	1.25
923283	AB1-137 E	0.4543	Adder	0.53
924681	AB2-120 C OP	12.6038	Adder	14.83
924682	AB2-120 E OP	20.5641	Adder	24.19
924781	AB2-130 C OP	9.1969	Adder	10.82
924782	AB2-130 E OP	15.0054	Adder	17.65
924831	AB2-136 C	7.4845	Adder	8.81
924832	AB2-136 E	7.9371	Adder	9.34
925151	AB2-172 C OP	4.7583	Adder	5.6
925152	AB2-172 E OP	7.7635	Adder	9.13
925261	AB2-180 C	5.5058	50/50	5.5058
925262	AB2-180 E	2.3596	50/50	2.3596
927031	AC1-190 C	9.0794	Adder	10.68
927032	AC1-190 E	3.8912	Adder	4.58
927191	AC1-213 C	1.0517	Adder	1.24
927192	AC1-213 E	0.6902	Adder	0.81
930201	AB1-056 C	15.5626	Adder	18.31

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930202	AB1-056 E	44.3195	Adder	52.14
930881	AB1-137 C	1.0600	Adder	1.25
930882	AB1-137 E	0.4543	Adder	0.53
932161	AC2-023 C	10.5451	50/50	10.5451
932162	AC2-023 E	7.6800	50/50	7.6800
933641	AC2-186 C	3.1698	Adder	3.73
933642	AC2-186 E	5.1717	Adder	6.08
938651	AE1-087 C	4.0070	Adder	4.71
938652	AE1-087 E	1.0017	Adder	1.18
938891	AE1-117 C O1	10.4749	Adder	12.32
938892	AE1-117 E O1	27.8910	Adder	32.81
939151	AE1-145	6.6239	Adder	7.79
942441	AE2-257 C	8.2607	Adder	9.72
942442	AE2-257 E	21.7783	Adder	25.62
943361	AF1-007 C	0.4591	Adder	0.54
943362	AF1-007 E	1.3049	Adder	1.54
945661	AF1-231 C	2.5302	Adder	2.98
945662	AF1-231 E	3.7953	Adder	4.47
945791	AF1-244	3.3094	50/50	3.3094
945931	AF1-258	1.2585	50/50	1.2585
957611	AF2-055 C	11.6406	Adder	13.69
957612	AF2-055 E	4.9888	Adder	5.87
957661	AF2-060	2.9807	Adder	3.51
957671	AF2-061 O1	13.2478	Adder	15.59
959021	AF2-193 C	28.7569	Adder	33.83
959022	AF2-193 E	77.5713	Adder	91.26
959031	AF2-194 C	28.7569	Adder	33.83
959032	AF2-194 E	77.5713	Adder	91.26
959051	AF2-196 C	2.2529	Adder	2.65
959052	AF2-196 E	5.2568	Adder	6.18
959161	AF2-207 C O1	6.5792	Adder	7.74
959162	AF2-207 E O1	9.8688	Adder	11.61
959571	AF2-248 C	1.1125	Adder	1.31
959572	AF2-248 E	1.2434	Adder	1.46
959581	AF2-249 C	0.1963	Adder	0.23
959582	AF2-249 E	0.7853	Adder	0.92
959591	AF2-250 C	0.3599	Adder	0.42
959592	AF2-250 E	0.2781	Adder	0.33
960341	AF2-325 C	1.1916	Adder	1.4
960342	AF2-325 E	1.6455	Adder	1.94
960671	AF2-358 C O1	19.8752	Adder	23.38
960672	AF2-358 E O1	13.2501	Adder	15.59
960871	AF2-378 C	0.3258	Adder	0.38
960872	AF2-378 E	0.4519	Adder	0.53
960881	AF2-379 C	0.6760	50/50	0.6760
960882	AF2-379 E	0.9315	50/50	0.9315
960941	AF2-385 C	15.5995	Adder	18.35
960942	AF2-385 E	8.8767	Adder	10.44
961181	AF2-409 O1	54.3390	50/50	54.3390
NEWTON	NEWTON	0.2643	Confirmed LTF	0.2643
FARMERCITY	FARMERCITY	0.0138	Confirmed LTF	0.0138
GIBSON	GIBSON	0.1343	Confirmed LTF	0.1343

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
NY	NY	0.1123	Confirmed LTF	0.1123
PRAIRIE	PRAIRIE	0.6380	Confirmed LTF	0.6380
O-066	O-066	1.2096	Confirmed LTF	1.2096
COFFEEN	COFFEEN	0.0491	Confirmed LTF	0.0491
CHEOAH	CHEOAH	0.1236	Confirmed LTF	0.1236
EDWARDS	EDWARDS	0.0861	Confirmed LTF	0.0861
TILTON	TILTON	0.1550	Confirmed LTF	0.1550
G-007	G-007	0.1706	Confirmed LTF	0.1706
CALDERWOOD	CALDERWOOD	0.1228	Confirmed LTF	0.1228
BLUEG	BLUEG	0.4271	Confirmed LTF	0.4271
TRIMBLE	TRIMBLE	0.1369	Confirmed LTF	0.1369
CATAWBA	CATAWBA	0.0868	Confirmed LTF	0.0868

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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
112552783	232114	SHARNGTN	DP&L	232112	FELTON	DP&L	1	DPL_P4-2_DP11	breaker	242.0	98.19	102.33	AC	12.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231940	T-011	0.1212	50/50	0.1212
232405	W1-003 E	0.4704	Adder	0.55
232407	W1-004 E	0.4704	Adder	0.55
232409	W1-005 E	0.4704	Adder	0.55
232411	W1-006 E	0.4704	Adder	0.55
232412	X1-032 E	0.4177	Adder	0.49
232418	X3-008 E	0.8935	Adder	1.05
232427	Y1-080 E	0.1881	Adder	0.22
232429	Y3-058 E	0.9688	Adder	1.14
232432	Z2-076 C	0.0858	50/50	0.0858
232433	Z2-076 E	0.2571	50/50	0.2571
232434	Z2-077 C	0.0858	50/50	0.0858
232435	Z2-077 E	0.2571	50/50	0.2571
232851	DUP-SFR1	0.2919	50/50	0.2919
232905	BAYVIEW1	0.2583	50/50	0.2583
232916	OH NUG5	0.6661	50/50	0.6661
232920	IR10	0.3460	50/50	0.3460
232921	TASLEY2G	0.4471	50/50	0.4471
232922	**MR3 (Deactivation : 01/06/2021)**	**5.0373**	**Adder**	**5.93**
293670	O-025 C	0.1264	50/50	0.1264
917081	Z2-012 C	0.1570	50/50	0.1570
917082	Z2-012 E	1.5246	50/50	1.5246
919831	**AA2-069 (Suspended)**	**22.2726**	**Adder**	**26.2**
923282	AB1-137 C	0.5394	50/50	0.5394
923283	AB1-137 E	0.2312	50/50	0.2312
924681	AB2-120 C OP	4.6717	50/50	4.6717
924682	AB2-120 E OP	7.6223	50/50	7.6223
924781	AB2-130 C OP	4.7287	50/50	4.7287
924782	AB2-130 E OP	7.7153	50/50	7.7153
924831	AB2-136 C	2.0928	Adder	2.46
924832	AB2-136 E	2.2194	Adder	2.61
925151	AB2-172 C OP	1.3690	Adder	1.61
925152	AB2-172 E OP	2.2337	Adder	2.63
925261	AB2-180 C	1.4585	Adder	1.72
925262	AB2-180 E	0.6251	Adder	0.74
927031	AC1-190 C	2.5975	Adder	3.06
927032	AC1-190 E	1.1132	Adder	1.31
927191	AC1-213 C	0.4012	50/50	0.4012
927192	AC1-213 E	0.2633	50/50	0.2633
930201	AB1-056 C	6.7062	Adder	7.89
930202	AB1-056 E	19.0981	Adder	22.47

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930881	AB1-137 C	0.5394	50/50	0.5394
930882	AB1-137 E	0.2312	50/50	0.2312
932161	AC2-023 C	2.7156	Adder	3.19
932162	AC2-023 E	1.9778	Adder	2.33
933641	AC2-186 C	2.7869	50/50	2.7869
933642	AC2-186 E	4.5471	50/50	4.5471
938651	AE1-087 C	1.1529	Adder	1.36
938652	AE1-087 E	0.2882	Adder	0.34
938891	AE1-117 C O1	5.3215	50/50	5.3215
938892	AE1-117 E O1	14.1694	50/50	14.1694
939151	AE1-145	2.4594	50/50	2.4594
942441	AE2-257 C	4.2128	50/50	4.2128
942442	AE2-257 E	11.1064	50/50	11.1064
943361	AF1-007 C	0.1979	Adder	0.23
943362	AF1-007 E	0.5623	Adder	0.66
945661	AF1-231 C	0.7941	Adder	0.93
945662	AF1-231 E	1.1912	Adder	1.4
945791	AF1-244	0.8352	Adder	0.98
945931	AF1-258	0.3334	Adder	0.39
957611	AF2-055 C	4.3033	50/50	4.3033
957612	AF2-055 E	1.8443	50/50	1.8443
957661	AF2-060	1.1067	50/50	1.1067
957671	AF2-061 O1	4.9188	50/50	4.9188
959021	AF2-193 C	12.3919	Adder	14.58
959022	AF2-193 E	33.4269	Adder	39.33
959031	AF2-194 C	12.3919	Adder	14.58
959032	AF2-194 E	33.4269	Adder	39.33
959051	AF2-196 C	1.1489	50/50	1.1489
959052	AF2-196 E	2.6809	50/50	2.6809
959161	AF2-207 C O1	2.6631	50/50	2.6631
959162	AF2-207 E O1	3.9947	50/50	3.9947
959571	AF2-248 C	0.4407	50/50	0.4407
959572	AF2-248 E	0.4925	50/50	0.4925
959581	AF2-249 C	0.0778	50/50	0.0778
959582	AF2-249 E	0.3111	50/50	0.3111
959591	AF2-250 C	0.1426	50/50	0.1426
959592	AF2-250 E	0.1102	50/50	0.1102
960341	AF2-325 C	0.3362	Adder	0.4
960342	AF2-325 E	0.4643	Adder	0.55
960671	AF2-358 C O1	5.4881	Adder	6.46
960672	AF2-358 E O1	3.6587	Adder	4.3
960871	AF2-378 C	0.0915	Adder	0.11
960872	AF2-378 E	0.1269	Adder	0.15
960881	AF2-379 C	0.2027	50/50	0.2027
960882	AF2-379 E	0.2794	50/50	0.2794
960941	AF2-385 C	6.3144	50/50	6.3144
960942	AF2-385 E	3.5931	50/50	3.5931
961181	AF2-409 O1	10.3309	Adder	12.15
NEWTON	NEWTON	0.0709	Confirmed LTF	0.0709
FARMERCITY	FARMERCITY	0.0037	Confirmed LTF	0.0037
GIBSON	GIBSON	0.0360	Confirmed LTF	0.0360
NY	NY	0.0348	Confirmed LTF	0.0348

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
PRAIRIE	PRAIRIE	0.1705	Confirmed LTF	0.1705
O-066	O-066	0.4099	Confirmed LTF	0.4099
COFFEEN	COFFEEN	0.0132	Confirmed LTF	0.0132
CHEOAH	CHEOAH	0.0330	Confirmed LTF	0.0330
EDWARDS	EDWARDS	0.0231	Confirmed LTF	0.0231
TILTON	TILTON	0.0416	Confirmed LTF	0.0416
G-007	G-007	0.0624	Confirmed LTF	0.0624
CALDERWOOD	CALDERWOOD	0.0328	Confirmed LTF	0.0328
BLUEG	BLUEG	0.1146	Confirmed LTF	0.1146
TRIMBLE	TRIMBLE	0.0367	Confirmed LTF	0.0367
CATAWBA	CATAWBA	0.0231	Confirmed LTF	0.0231

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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
102072644	232121	INDRV2&3	DP&L	232119	NELSON	DP&L	1	DPL_P4-2_DP15	breaker	193.0	117.55	128.28	AC	20.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232432	Z2-076 C	0.0713	50/50	0.0713
232433	Z2-076 E	0.2137	50/50	0.2137
232434	Z2-077 C	0.0713	50/50	0.0713
232435	Z2-077 E	0.2137	50/50	0.2137
232904	IR4	9.3324	50/50	9.3324
232920	IR10	0.3970	50/50	0.3970
923282	AB1-137 C	0.6413	50/50	0.6413
923283	AB1-137 E	0.2749	50/50	0.2749
930201	AB1-056 C	8.6412	50/50	8.6412
930202	AB1-056 E	24.6086	50/50	24.6086
930881	AB1-137 C	0.6413	50/50	0.6413
930882	AB1-137 E	0.2749	50/50	0.2749
938653	AE1-087 BAT	2.4992	50/50	2.4992
938891	AE1-117 C O1	6.1636	50/50	6.1636
938892	AE1-117 E O1	16.4115	50/50	16.4115
939152	AE1-145 BAT	3.6302	50/50	3.6302
942441	AE2-257 C	4.7223	50/50	4.7223
942442	AE2-257 E	12.4497	50/50	12.4497
943361	AF1-007 C	0.2549	50/50	0.2549
943362	AF1-007 E	0.7246	50/50	0.7246
945663	AF1-231 BAT	3.4582	50/50	3.4582
945792	AF1-244 BAT	1.4733	50/50	1.4733
957613	AF2-055 BAT	5.4552	50/50	5.4552
957662	AF2-060 BAT	1.6336	50/50	1.6336
957672	AF2-061 BAT	7.2604	50/50	7.2604
959021	AF2-193 C	15.9674	50/50	15.9674
959022	AF2-193 E	43.0718	50/50	43.0718
959031	AF2-194 C	15.9674	50/50	15.9674
959032	AF2-194 E	43.0718	50/50	43.0718
959051	AF2-196 C	1.2879	50/50	1.2879
959052	AF2-196 E	3.0051	50/50	3.0051
959163	AF2-207 BAT	10.3229	50/50	10.3229
959583	AF2-249 BAT	0.5596	50/50	0.5596
961182	AF2-409 BAT	20.4260	50/50	20.4260
WEC	WEC	0.0091	Confirmed LTF	0.0091
LGEE	LGEE	0.0165	Confirmed LTF	0.0165
CPLE	CPLE	0.0192	Confirmed LTF	0.0192
G-007A	G-007A	0.1199	Confirmed LTF	0.1199
VFT	VFT	0.3031	Confirmed LTF	0.3031
CBM-W2	CBM-W2	0.2375	Confirmed LTF	0.2375
TVA	TVA	0.0406	Confirmed LTF	0.0406
CBM-S2	CBM-S2	0.1676	Confirmed LTF	0.1676

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-S1	CBM-S1	0.2471	Confirmed LTF	0.2471
MEC	MEC	0.0461	Confirmed LTF	0.0461
CBM-W1	CBM-W1	0.3628	Confirmed LTF	0.3628

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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
102072773	232233	PRESTON	DP&L	232234	TODD	DP&L	1	DPL_P4-2_DP11	breaker	93.0	94.68	111.7	AC	14.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232423	X3-066 E	0.1691	Adder	0.2
232425	Y1-079 E	0.3872	Adder	0.46
232436	AB1-176 C	0.0686	Adder	0.08
232902	EASTMUNI	2.0850	50/50	2.0850
923322	AB1-141 C OP	0.5988	Adder	0.7
923323	AB1-141 E OP	0.2794	Adder	0.33
923332	AB1-142 C OP	0.5988	Adder	0.7
923603	AB1-176 E	0.1132	Adder	0.13
923921	AB2-032 C	0.6032	Adder	0.71
923922	AB2-032 E	0.2839	Adder	0.33
923961	AB2-037 C	2.3425	Adder	2.76
923962	AB2-037 E	3.8267	Adder	4.5
924971	AB2-153 C	0.3371	Adder	0.4
924972	AB2-153 E	0.5500	Adder	0.65
925271	AB2-185 C OP	0.8744	Adder	1.03
925272	AB2-185 E OP	0.3747	Adder	0.44
930201	AB1-056 C	-4.1159	Adder	-4.84
930881	AB1-137 C	-0.2878	Adder	-0.34
930932	AB1-142 E OP	0.2794	Adder	0.33
938653	AE1-087 BAT	7.9068	50/50	7.9068
939152	AE1-145 BAT	2.2598	50/50	2.2598
941021	AE2-093 C	1.9745	50/50	1.9745
941022	AE2-093 E	3.1372	50/50	3.1372
943441	AF1-015 C	0.6314	50/50	0.6314
943442	AF1-015 E	0.8720	50/50	0.8720
945663	AF1-231 BAT	2.1529	50/50	2.1529
945792	AF1-244 BAT	0.9556	50/50	0.9556
945941	AF1-259	0.0364	Adder	0.04
957613	AF2-055 BAT	3.3993	50/50	3.3993
957662	AF2-060 BAT	1.0169	50/50	1.0169
957672	AF2-061 BAT	4.5196	50/50	4.5196
959163	AF2-207 BAT	6.3469	50/50	6.3469
959583	AF2-249 BAT	0.3864	50/50	0.3864
960221	AF2-313 C	0.5772	Adder	0.68
960222	AF2-313 E	0.3272	Adder	0.38
960961	AF2-387 C O1	3.2002	Adder	3.76
960962	AF2-387 E O1	1.6049	Adder	1.89
961182	AF2-409 BAT	14.9480	50/50	14.9480
WEC	WEC	0.0220	Confirmed LTF	0.0220
LGEE	LGEE	0.0399	Confirmed LTF	0.0399
CPLE	CPLE	0.0470	Confirmed LTF	0.0470
G-007A	G-007A	0.0863	Confirmed LTF	0.0863

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
VFT	VFT	0.2645	Confirmed LTF	0.2645
CBM-W2	CBM-W2	0.5733	Confirmed LTF	0.5733
TVA	TVA	0.0980	Confirmed LTF	0.0980
CBM-S2	CBM-S2	0.4046	Confirmed LTF	0.4046
CBM-S1	CBM-S1	0.5964	Confirmed LTF	0.5964
MEC	MEC	0.1112	Confirmed LTF	0.1112
CBM-W1	CBM-W1	0.8757	Confirmed LTF	0.8757

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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
102072822	232270	HEBRON	DP&L	232838	MARDELA	DP&L	1	DPL_P4-2_DP56	breaker	64.0	94.76	102.43	AC	5.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2624	50/50	0.2624
232405	W1-003 E	0.4536	50/50	0.4536
232406	W1-004 FULL	0.2624	50/50	0.2624
232407	W1-004 E	0.4536	50/50	0.4536
232408	W1-005 C	0.2624	50/50	0.2624
232409	W1-005 E	0.4536	50/50	0.4536
232410	W1-006 C	0.2624	50/50	0.2624
232411	W1-006 E	0.4536	50/50	0.4536
232412	X1-032 E	0.4613	50/50	0.4613
232428	Y3-058 C	0.3375	50/50	0.3375
232429	Y3-058 E	3.2766	50/50	3.2766
232433	Z2-076 E	0.0980	Adder	0.12
232435	Z2-077 E	0.0980	Adder	0.12
232905	BAYVIEW1	0.2106	50/50	0.2106
232912	OH NUG1	0.5419	50/50	0.5419
232914	OH NUG3	0.5419	50/50	0.5419
232915	OH NUG4	0.5419	50/50	0.5419
232916	OH NUG5	0.5419	50/50	0.5419
232921	TASLEY2G	0.3646	50/50	0.3646
232926	CRISFLD1	0.1997	50/50	0.1997
293670	O-025 C	0.2089	50/50	0.2089
917081	Z2-012 C	0.1281	50/50	0.1281
917082	Z2-012 E	1.2433	50/50	1.2433
918831	AA1-102	0.7489	50/50	0.7489
924681	AB2-120 C OP	3.1861	Adder	3.75
924682	AB2-120 E OP	5.1983	Adder	6.12
925261	AB2-180 C	4.9325	50/50	4.9325
925262	AB2-180 E	2.1139	50/50	2.1139
927191	AC1-213 C	0.6632	50/50	0.6632
927192	AC1-213 E	0.4352	50/50	0.4352
932161	AC2-023 C	12.0466	50/50	12.0466
932162	AC2-023 E	8.7736	50/50	8.7736
938653	AE1-087 BAT	2.8826	50/50	2.8826
939151	AE1-145	1.6929	Adder	1.99
945661	AF1-231 C	0.6461	Adder	0.76
945662	AF1-231 E	0.9691	Adder	1.14
945791	AF1-244	0.9508	50/50	0.9508
945931	AF1-258	1.1274	50/50	1.1274
957611	AF2-055 C	3.5095	50/50	3.5095
957612	AF2-055 E	1.5041	50/50	1.5041
957661	AF2-060	0.7618	Adder	0.9
957671	AF2-061 O1	3.3857	Adder	3.98

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959161	AF2-207 C O1	1.4588	Adder	1.72
959162	AF2-207 E O1	2.1882	Adder	2.57
959571	AF2-248 C	0.4435	50/50	0.4435
959572	AF2-248 E	0.4956	50/50	0.4956
959581	AF2-249 C	0.0783	50/50	0.0783
959582	AF2-249 E	0.3130	50/50	0.3130
959591	AF2-250 C	0.1435	50/50	0.1435
959592	AF2-250 E	0.1109	50/50	0.1109
960881	AF2-379 C	0.2518	50/50	0.2518
960882	AF2-379 E	0.3470	50/50	0.3470
960941	AF2-385 C	3.4588	Adder	4.07
960942	AF2-385 E	1.9682	Adder	2.32
961182	AF2-409 BAT	5.1320	Merchant Transmission	5.1320
NEWTON	NEWTON	0.0322	Confirmed LTF	0.0322
FARMERCITY	FARMERCITY	0.0017	Confirmed LTF	0.0017
GIBSON	GIBSON	0.0164	Confirmed LTF	0.0164
NY	NY	0.0144	Confirmed LTF	0.0144
PRAIRIE	PRAIRIE	0.0775	Confirmed LTF	0.0775
O-066	O-066	0.1613	Confirmed LTF	0.1613
COFFEEN	COFFEEN	0.0060	Confirmed LTF	0.0060
CHEOAH	CHEOAH	0.0150	Confirmed LTF	0.0150
EDWARDS	EDWARDS	0.0105	Confirmed LTF	0.0105
TILTON	TILTON	0.0189	Confirmed LTF	0.0189
G-007	G-007	0.0229	Confirmed LTF	0.0229
CALDERWOOD	CALDERWOOD	0.0149	Confirmed LTF	0.0149
BLUEG	BLUEG	0.0521	Confirmed LTF	0.0521
TRIMBLE	TRIMBLE	0.0167	Confirmed LTF	0.0167
CATAWBA	CATAWBA	0.0105	Confirmed LTF	0.0105

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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
102072746	232821	TANYARD	DP&L	232233	PRESTON	DP&L	1	DPL_P4-2_DP11	breaker	93.0	99.21	116.3	AC	14.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232423	X3-066 E	0.1691	Adder	0.2
232425	Y1-079 E	0.3872	Adder	0.46
232436	AB1-176 C	0.0686	Adder	0.08
232902	EASTMUNI	2.0850	50/50	2.0850
923322	AB1-141 C OP	0.5988	Adder	0.7
923323	AB1-141 E OP	0.2794	Adder	0.33
923332	AB1-142 C OP	0.5988	Adder	0.7
923603	AB1-176 E	0.1132	Adder	0.13
923921	AB2-032 C	0.6032	Adder	0.71
923922	AB2-032 E	0.2839	Adder	0.33
923961	AB2-037 C	2.3425	Adder	2.76
923962	AB2-037 E	3.8267	Adder	4.5
924971	AB2-153 C	0.3371	Adder	0.4
924972	AB2-153 E	0.5500	Adder	0.65
925271	AB2-185 C OP	0.8744	Adder	1.03
925272	AB2-185 E OP	0.3747	Adder	0.44
930201	AB1-056 C	-4.1159	Adder	-4.84
930881	AB1-137 C	-0.2878	Adder	-0.34
930932	AB1-142 E OP	0.2794	Adder	0.33
938653	AE1-087 BAT	7.9068	50/50	7.9068
939152	AE1-145 BAT	2.2598	50/50	2.2598
941021	AE2-093 C	1.9745	50/50	1.9745
941022	AE2-093 E	3.1372	50/50	3.1372
943441	AF1-015 C	0.6314	50/50	0.6314
943442	AF1-015 E	0.8720	50/50	0.8720
945663	AF1-231 BAT	2.1529	50/50	2.1529
945792	AF1-244 BAT	0.9556	50/50	0.9556
945941	AF1-259	0.0364	Adder	0.04
957613	AF2-055 BAT	3.3993	50/50	3.3993
957662	AF2-060 BAT	1.0169	50/50	1.0169
957672	AF2-061 BAT	4.5196	50/50	4.5196
959163	AF2-207 BAT	6.3469	50/50	6.3469
959583	AF2-249 BAT	0.3864	50/50	0.3864
960221	AF2-313 C	0.5772	Adder	0.68
960222	AF2-313 E	0.3272	Adder	0.38
960961	AF2-387 C O1	3.2002	Adder	3.76
960962	AF2-387 E O1	1.6049	Adder	1.89
961182	AF2-409 BAT	14.9480	50/50	14.9480
WEC	WEC	0.0220	Confirmed LTF	0.0220
LGEE	LGEE	0.0399	Confirmed LTF	0.0399
CPLE	CPLE	0.0470	Confirmed LTF	0.0470
G-007A	G-007A	0.0863	Confirmed LTF	0.0863

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
VFT	VFT	0.2645	Confirmed LTF	0.2645
CBM-W2	CBM-W2	0.5733	Confirmed LTF	0.5733
TVA	TVA	0.0980	Confirmed LTF	0.0980
CBM-S2	CBM-S2	0.4046	Confirmed LTF	0.4046
CBM-S1	CBM-S1	0.5964	Confirmed LTF	0.5964
MEC	MEC	0.1112	Confirmed LTF	0.1112
CBM-W1	CBM-W1	0.8757	Confirmed LTF	0.8757

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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
99741595	200051	ROCKSPGS	PJM	200065	PCHBTM2S	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	143.51	145.14	AC	50.77

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200052	ROCKSP 1	16.0421	50/50	16.0421
200053	ROCKSP 2	16.0421	50/50	16.0421
200054	ROCKSP 3	16.1893	50/50	16.1893
200055	ROCKSP 4	16.1893	50/50	16.1893
200062	SALEM G3	16.1894	Adder	19.05
227928	V4-067E	0.4390	Adder	0.52
228261	V4-054E	1.7704	Adder	2.08
228357	V2-046E	3.5294	Adder	4.15
228712	V2-041E	0.7360	Adder	0.87
228721	V2-035E	0.3418	Adder	0.4
228733	AB1-119 E	0.2006	Adder	0.24
231708	CHRIST3	3.8992	Adder	4.59
231903	GEN4	4.5665	Adder	5.37
231904	DC1 NUG	11.8315	Adder	13.92
231905	DC2 NUG	11.8315	Adder	13.92
231911	HR5	11.0536	50/50	11.0536
231912	HR6	11.0536	50/50	11.0536
231913	HR7	11.0536	50/50	11.0536
231914	HR8	16.8015	50/50	16.8015
232003	CARTANZA	26.7135	50/50	26.7135
232405	W1-003 E	1.9474	Adder	2.29
232407	W1-004 E	1.9474	Adder	2.29
232409	W1-005 E	1.9474	Adder	2.29
232411	W1-006 E	1.9474	Adder	2.29
232412	X1-032 E	1.7298	Adder	2.04
232418	X3-008 E	5.3255	Adder	6.27
232423	X3-066 E	1.5469	Adder	1.82
232425	Y1-079 E	2.6061	Adder	3.07
232427	Y1-080 E	0.9044	Adder	1.06
232429	Y3-058 E	4.0178	Adder	4.73
232433	Z2-076 E	0.8707	Adder	1.02
232435	Z2-077 E	0.8707	Adder	1.02
232436	AB1-176 C	0.6279	Adder	0.74
232922	**MR3 (Deactivation : 01/06/2021)**	**44.5759**	**Adder**	**52.44**
902092	W1-130E	1.5546	Adder	1.83
902432	W2-030 E	1.6368	Adder	1.93
913271	Y1-065 C	128.7157	50/50	128.7157
917082	Z2-012 E	5.3640	Adder	6.31
919831	**AA2-069 (Suspended)**	**197.0956**	**Adder**	**231.88**
923153	AB1-116 E	0.2125	Adder	0.25
923282	AB1-137 C	1.8200	Adder	2.14

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923283	AB1-137 E	0.7800	Adder	0.92
923322	AB1-141 C OP	5.6093	Adder	6.6
923323	AB1-141 E OP	2.6177	Adder	3.08
923332	AB1-142 C OP	5.6093	Adder	6.6
923603	AB1-176 E	1.0355	Adder	1.22
923921	AB2-032 C	5.6509	Adder	6.65
923922	AB2-032 E	2.6592	Adder	3.13
923951	AB2-036 C	14.6993	Adder	17.29
923952	AB2-036 E	24.0496	Adder	28.29
923961	AB2-037 C	33.0682	Adder	38.9
923962	AB2-037 E	54.0215	Adder	63.55
924051	AB2-049 C	1.0443	Adder	1.23
924052	AB2-049 E	1.7038	Adder	2.0
924531	AB2-102 C	68.2495	Adder	80.29
924532	AB2-102 E	1.5167	Adder	1.78
924681	AB2-120 C OP	16.4384	Adder	19.34
924682	AB2-120 E OP	26.8206	Adder	31.55
924701	AB2-122 C	0.1897	Adder	0.22
924702	AB2-122 E	0.3252	Adder	0.38
924781	AB2-130 C OP	13.9686	Adder	16.43
924782	AB2-130 E OP	22.7908	Adder	26.81
924801	AB2-133 C OP	10.1167	Adder	11.9
924802	AB2-133 E OP	12.8309	Adder	15.1
924821	AB2-135 C	12.4211	Adder	14.61
924822	AB2-135 E	14.1658	Adder	16.67
924831	AB2-136 C	10.6718	Adder	12.56
924832	AB2-136 E	11.3172	Adder	13.31
924971	AB2-153 C	3.1578	Adder	3.72
924972	AB2-153 E	5.1523	Adder	6.06
925151	AB2-172 C OP	8.1601	Adder	9.6
925152	AB2-172 E OP	13.3139	Adder	15.66
925251	AB2-179 C OP	14.6837	Adder	17.27
925252	AB2-179 E OP	4.8425	Adder	5.7
925261	AB2-180 C	6.0483	Adder	7.12
925262	AB2-180 E	2.5921	Adder	3.05
925271	AB2-185 C OP	5.8848	Adder	6.92
925272	AB2-185 E OP	2.5221	Adder	2.97
926131	AC1-091 C	3.2755	Adder	3.85
926132	AC1-091 E	5.3718	Adder	6.32
926141	AC1-092 C	3.2755	Adder	3.85
926142	AC1-092 E	5.3718	Adder	6.32
926151	AC1-093 C	3.1008	Adder	3.65
926152	AC1-093 E	5.1097	Adder	6.01
926161	AC1-094 C	2.6204	Adder	3.08
926162	AC1-094 E	4.3236	Adder	5.09
927031	AC1-190 C	15.0368	Adder	17.69
927032	AC1-190 E	6.4444	Adder	7.58
927191	AC1-213 C	1.3834	Adder	1.63
927192	AC1-213 E	0.9078	Adder	1.07
930201	AB1-056 C	27.9163	Adder	32.84
930202	AB1-056 E	79.5008	Adder	93.53
930881	AB1-137 C	1.8200	Adder	2.14

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930882	AB1-137 E	0.7800	Adder	0.92
930932	AB1-142 E OP	2.6177	Adder	3.08
932081	AC2-018 C1	0.5477	50/50	0.5477
932082	AC2-018 E1	21.1869	50/50	21.1869
932091	AC2-018 C2	0.5477	50/50	0.5477
932092	AC2-018 E2	21.1869	50/50	21.1869
932161	AC2-023 C	11.4434	Adder	13.46
932162	AC2-023 E	8.3342	Adder	9.8
933631	AC2-185 C	6.6383	Adder	7.81
933632	AC2-185 E	10.8309	Adder	12.74
933641	AC2-186 C	8.2040	Adder	9.65
933642	AC2-186 E	13.3855	Adder	15.75
933962	AD1-019 E	2.0591	Adder	2.42
936451	AD2-059 C	0.0913	Adder	0.11
936452	AD2-059 E	0.2865	Adder	0.34
936501	AD2-065 C	0.2912	Adder	0.34
936502	AD2-065 E	0.4017	Adder	0.47
936611	AD2-076 C O1	7.7146	Adder	9.08
936612	AD2-076 E O1	12.5869	Adder	14.81
937011	AD2-135 C	0.1691	Adder	0.2
937012	AD2-135 E	0.2875	Adder	0.34
937281	AD2-167	7.1204	50/50	7.1204
938421	AE1-061 C	0.7500	Adder	0.88
938422	AE1-061 E	0.7500	Adder	0.88
938431	AE1-062 C	2.7183	Adder	3.2
938432	AE1-062 E	2.7183	Adder	3.2
938651	AE1-087 C	6.8717	Adder	8.08
938652	AE1-087 E	1.7179	Adder	2.02
938781	AE1-104 C O1	34.1899	Adder	40.22
938782	AE1-104 E O1	87.4744	Adder	102.91
938811	AE1-107 C	12.1065	Adder	14.24
938812	AE1-107 E	8.6308	Adder	10.15
938871	AE1-115 C	2.7645	Adder	3.25
938872	AE1-115 E	2.7645	Adder	3.25
938891	AE1-117 C O1	17.9828	Adder	21.16
938892	AE1-117 E O1	47.8820	Adder	56.33
939151	AE1-145	8.6518	Adder	10.18
939301	AE1-161 C	5.4582	Adder	6.42
939302	AE1-161 E	8.1873	Adder	9.63
939501	AE1-179 C O1	10.1480	Adder	11.94
939502	AE1-179 E O1	7.1616	Adder	8.43
939821	AE1-218 C O1	0.2167	Adder	0.25
939822	AE1-218 E O1	0.3251	Adder	0.38
939931	AE1-229 C O1	24.7587	Adder	29.13
939932	AE1-229 E O1	16.7747	Adder	19.73
940001	AE1-240 C O1	8.4096	Adder	9.89
940002	AE1-240 E O1	6.0027	Adder	7.06
940361	AE2-020 C	28.5961	Adder	33.64
940362	AE2-020 E	133.8891	Adder	157.52
940371	AE2-021 C	28.5961	Adder	33.64
940372	AE2-021 E	133.8891	Adder	157.52
940381	AE2-022 C	16.6811	Adder	19.62

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940382	AE2-022 E	78.1020	Adder	91.88
940741	AE2-061	0.9585	50/50	0.9585
941021	AE2-093 C	8.4010	Adder	9.88
941022	AE2-093 E	13.3477	Adder	15.7
941181	AE2-112 C	2.6765	Adder	3.15
941182	AE2-112 E	4.3669	Adder	5.14
942101	AE2-222 C O1	23.0999	Adder	27.18
942102	AE2-222 E O1	58.0283	Adder	68.27
942381	AE2-251 C	90.5920	Adder	106.58
942382	AE2-251 E	231.7994	Adder	272.71
942441	AE2-257 C	14.3002	Adder	16.82
942442	AE2-257 E	37.7004	Adder	44.35
943071	AE2-334 C	7.8442	Adder	9.23
943072	AE2-334 E	4.1818	Adder	4.92
943361	AF1-007 C	0.8236	Adder	0.97
943362	AF1-007 E	2.3408	Adder	2.75
943441	AF1-015 C	2.6866	Adder	3.16
943442	AF1-015 E	3.7101	Adder	4.36
943651	AF1-036 C	3.4803	Adder	4.09
943652	AF1-036 E	4.8061	Adder	5.65
943732	AF1-041 E	0.6482	Adder	0.76
944951	AF1-160 C	2.7183	Adder	3.2
944952	AF1-160 E	2.8542	Adder	3.36
945431	AF1-208 C O1	7.6401	Adder	8.99
945432	AF1-208 E O1	5.0934	Adder	5.99
945661	AF1-231 C	3.2876	Adder	3.87
945662	AF1-231 E	4.9314	Adder	5.8
945731	AF1-238 C	14.8556	Adder	17.48
945732	AF1-238 E	22.2834	Adder	26.22
945741	AF1-239 C	3.4954	Adder	4.11
945742	AF1-239 E	5.2432	Adder	6.17
945791	AF1-244	3.4594	Adder	4.07
945931	AF1-258	1.3825	Adder	1.63
945941	AF1-259	0.3327	Adder	0.39
945971	AF1-262	0.2481	Adder	0.29
957221	AF2-016 C	32.6461	Adder	38.41
957222	AF2-016 E	48.9692	Adder	57.61
957251	AF2-019 C	2.3234	Adder	2.73
957252	AF2-019 E	3.4850	Adder	4.1
957261	AF2-020 C	2.2837	Adder	2.69
957262	AF2-020 E	3.4256	Adder	4.03
957291	AF2-023 C	4.6996	Adder	5.53
957292	AF2-023 E	7.0494	Adder	8.29
957311	AF2-025 C	2.1713	Adder	2.55
957312	AF2-025 E	3.2570	Adder	3.83
957611	AF2-055 C	15.1404	Adder	17.81
957612	AF2-055 E	6.4887	Adder	7.63
957661	AF2-060	3.8933	Adder	4.58
957671	AF2-061 O1	17.3036	Adder	20.36
958811	AF2-172 C	1.0942	Adder	1.29
958812	AF2-172 E	1.7853	Adder	2.1
959021	AF2-193 C	51.5845	Adder	60.69

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959022	AF2-193 E	139.1480	Adder	163.7
959031	AF2-194 C	51.5845	Adder	60.69
959032	AF2-194 E	139.1480	Adder	163.7
959051	AF2-196 C	3.9000	Adder	4.59
959052	AF2-196 E	9.1001	Adder	10.71
959161	AF2-207 C O1	8.7162	Adder	10.25
959162	AF2-207 E O1	13.0743	Adder	15.38
959571	AF2-248 C	1.4699	Adder	1.73
959572	AF2-248 E	1.6428	Adder	1.93
959581	AF2-249 C	0.2594	Adder	0.31
959582	AF2-249 E	1.0376	Adder	1.22
959591	AF2-250 C	0.4756	Adder	0.56
959592	AF2-250 E	0.3675	Adder	0.43
960221	AF2-313 C	5.2812	Adder	6.21
960222	AF2-313 E	2.9941	Adder	3.52
960341	AF2-325 C	1.8061	Adder	2.12
960342	AF2-325 E	2.4941	Adder	2.93
960671	AF2-358 C O1	25.8473	Adder	30.41
960672	AF2-358 E O1	17.2315	Adder	20.27
960871	AF2-378 C	0.4775	Adder	0.56
960872	AF2-378 E	0.6625	Adder	0.78
960881	AF2-379 C	0.7090	Adder	0.83
960882	AF2-379 E	0.9771	Adder	1.15
960941	AF2-385 C	20.6664	Adder	24.31
960942	AF2-385 E	11.7600	Adder	13.84
960961	AF2-387 C O1	28.2631	Adder	33.25
960962	AF2-387 E O1	14.1740	Adder	16.68
961181	AF2-409 O1	43.1571	Adder	50.77
999905	MARINGEN 2	1.0851	Adder	1.28
999906	PVILLEG 2	0.4590	Adder	0.54
NEWTON	NEWTON	5.7744	Confirmed LTF	5.7744
FARMERCITY	FARMERCITY	0.3018	Confirmed LTF	0.3018
G-007A	G-007A	25.3727	Confirmed LTF	25.3727
VFT	VFT	54.9669	Confirmed LTF	54.9669
DUCKCREEK /* 35% REVERSE 3023630 4273103 TURNED OFF IN CASE FOR DEACTIVATION	DUCKCREEK /* 35% REVERSE 3023630 4273103 TURNED OFF IN CASE FOR DEACTIVATION	0.0000	LTF	0.0000
GIBSON	GIBSON	2.9304	Confirmed LTF	2.9304
PRAIRIE	PRAIRIE	13.9456	Confirmed LTF	13.9456
COFFEEN	COFFEEN	1.0719	Confirmed LTF	1.0719
CHEOAH	CHEOAH	2.7718	Confirmed LTF	2.7718
EDWARDS	EDWARDS	1.8725	Confirmed LTF	1.8725
TILTON	TILTON	3.3718	Confirmed LTF	3.3718
LGE-TSR-0092018	LGE-TSR-0092018	0.0000	LTF	0.0000
CALDERWOOD	CALDERWOOD	2.7499	Confirmed LTF	2.7499
BLUEG	BLUEG	9.3188	Confirmed LTF	9.3188
TRIMBLE	TRIMBLE	2.9862	Confirmed LTF	2.9862
LGE-GI-0012019	LGE-GI-0012019	5.9026	LTF	5.9026
CATAWBA	CATAWBA	1.9845	Confirmed LTF	1.9845

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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
99741684	200064	PCHBTM1S	PJM	200004	CNASTONE	PJM	1	TS_P4_#6_FUR RUN 500_CB 2	breaker	3525.0	125.59	126.71	AC	41.51

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200034	PCHBTM 2	120.1327	50/50	120.1327
200035	PCHBTM 3	119.5518	50/50	119.5518
200052	ROCKSP 1	10.4701	50/50	10.4701
200053	ROCKSP 2	10.4701	50/50	10.4701
200054	ROCKSP 3	10.5661	50/50	10.5661
200055	ROCKSP 4	10.5661	50/50	10.5661
200192	DELTA CT1	11.7190	50/50	11.7190
200193	DELTA CT2	11.7190	50/50	11.7190
200194	DELTA CT3	11.7190	50/50	11.7190
200195	DELTA ST	18.0942	50/50	18.0942
231903	GEN4	3.8242	Adder	4.5
231904	DC1 NUG	9.9080	Adder	11.66
231905	DC2 NUG	9.9080	Adder	11.66
232405	W1-003 E	1.5890	Adder	1.87
232407	W1-004 E	1.5890	Adder	1.87
232409	W1-005 E	1.5890	Adder	1.87
232411	W1-006 E	1.5890	Adder	1.87
232412	X1-032 E	1.4117	Adder	1.66
232418	X3-008 E	4.3651	Adder	5.14
232423	X3-066 E	1.2898	Adder	1.52
232425	Y1-079 E	2.1615	Adder	2.54
232427	Y1-080 E	0.7401	Adder	0.87
232429	Y3-058 E	3.2810	Adder	3.86
232433	Z2-076 E	0.7096	Adder	0.83
232435	Z2-077 E	0.7096	Adder	0.83
232436	AB1-176 C	0.5236	Adder	0.62
232922	**MR3 (Deactivation : 01/06/2021)**	**36.0828**	**Adder**	**42.45**
913271	Y1-065 C	84.0076	50/50	84.0076
915191	DELTA2	71.2517	50/50	71.2517
917082	Z2-012 E	4.3767	Adder	5.15
918191	AA1-034 C	6.5627	50/50	6.5627
919831	**AA2-069 (Suspended)**	**159.5426**	**Adder**	**187.7**
923282	AB1-137 C	1.4829	Adder	1.74
923283	AB1-137 E	0.6355	Adder	0.75
923322	AB1-141 C OP	4.6797	Adder	5.51
923323	AB1-141 E OP	2.1839	Adder	2.57
923332	AB1-142 C OP	4.6797	Adder	5.51
923603	AB1-176 E	0.8634	Adder	1.02
923921	AB2-032 C	4.7144	Adder	5.55
923922	AB2-032 E	2.2185	Adder	2.61
923951	AB2-036 C	12.1804	Adder	14.33

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923952	AB2-036 E	19.9285	Adder	23.45
923961	AB2-037 C	27.1003	Adder	31.88
923962	AB2-037 E	44.2720	Adder	52.08
924681	AB2-120 C OP	13.4126	Adder	15.78
924682	AB2-120 E OP	21.8837	Adder	25.75
924781	AB2-130 C OP	11.3966	Adder	13.41
924782	AB2-130 E OP	18.5944	Adder	21.88
924821	AB2-135 C	10.3536	Adder	12.18
924822	AB2-135 E	11.8079	Adder	13.89
924831	AB2-136 C	8.7372	Adder	10.28
924832	AB2-136 E	9.2657	Adder	10.9
924971	AB2-153 C	2.6345	Adder	3.1
924972	AB2-153 E	4.2984	Adder	5.06
925151	AB2-172 C OP	6.6885	Adder	7.87
925152	AB2-172 E OP	10.9129	Adder	12.84
925191	AB2-175 1	2.0567	50/50	2.0567
925201	AB2-175 2	2.0468	50/50	2.0468
925261	AB2-180 C	4.9392	Adder	5.81
925262	AB2-180 E	2.1168	Adder	2.49
925271	AB2-185 C OP	4.8808	Adder	5.74
925272	AB2-185 E OP	2.0918	Adder	2.46
926131	AC1-091 C	2.6510	Adder	3.12
926132	AC1-091 E	4.3477	Adder	5.11
926141	AC1-092 C	2.6510	Adder	3.12
926142	AC1-092 E	4.3477	Adder	5.11
926151	AC1-093 C	2.5097	Adder	2.95
926152	AC1-093 E	4.1356	Adder	4.87
926161	AC1-094 C	2.1208	Adder	2.5
926162	AC1-094 E	3.4994	Adder	4.12
927031	AC1-190 C	12.3225	Adder	14.5
927032	AC1-190 E	5.2811	Adder	6.21
927191	AC1-213 C	1.1292	Adder	1.33
927192	AC1-213 E	0.7410	Adder	0.87
930201	AB1-056 C	22.7401	Adder	26.75
930202	AB1-056 E	64.7598	Adder	76.19
930881	AB1-137 C	1.4829	Adder	1.74
930882	AB1-137 E	0.6355	Adder	0.75
930932	AB1-142 E OP	2.1839	Adder	2.57
932081	AC2-018 C1	0.3575	50/50	0.3575
932082	AC2-018 E1	13.8278	50/50	13.8278
932091	AC2-018 C2	0.3575	50/50	0.3575
932092	AC2-018 E2	13.8278	50/50	13.8278
932161	AC2-023 C	9.3479	Adder	11.0
932162	AC2-023 E	6.8081	Adder	8.01
933631	AC2-185 C	5.3728	Adder	6.32
933632	AC2-185 E	8.7661	Adder	10.31
933641	AC2-186 C	6.6932	Adder	7.87
933642	AC2-186 E	10.9205	Adder	12.85
936611	AD2-076 C O1	6.4454	Adder	7.58
936612	AD2-076 E O1	10.5162	Adder	12.37
937281	AD2-167	4.6472	50/50	4.6472
938651	AE1-087 C	5.6324	Adder	6.63

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938652	AE1-087 E	1.4081	Adder	1.66
938891	AE1-117 C O1	14.6525	Adder	17.24
938892	AE1-117 E O1	39.0146	Adder	45.9
939151	AE1-145	7.0593	Adder	8.31
940741	AE2-061	0.6256	50/50	0.6256
941021	AE2-093 C	6.9175	Adder	8.14
941022	AE2-093 E	10.9908	Adder	12.93
941181	AE2-112 C	2.2362	Adder	2.63
941182	AE2-112 E	3.6485	Adder	4.29
942441	AE2-257 C	11.6514	Adder	13.71
942442	AE2-257 E	30.7174	Adder	36.14
943361	AF1-007 C	0.6709	Adder	0.79
943362	AF1-007 E	1.9068	Adder	2.24
943441	AF1-015 C	2.2122	Adder	2.6
943442	AF1-015 E	3.0549	Adder	3.59
943651	AF1-036 C	2.9077	Adder	3.42
943652	AF1-036 E	4.0154	Adder	4.72
945661	AF1-231 C	2.6825	Adder	3.16
945662	AF1-231 E	4.0238	Adder	4.73
945791	AF1-244	2.8235	Adder	3.32
945931	AF1-258	1.1290	Adder	1.33
945941	AF1-259	0.2774	Adder	0.33
957611	AF2-055 C	12.3537	Adder	14.53
957612	AF2-055 E	5.2944	Adder	6.23
957661	AF2-060	3.1767	Adder	3.74
957671	AF2-061 O1	14.1185	Adder	16.61
959021	AF2-193 C	42.0197	Adder	49.43
959022	AF2-193 E	113.3473	Adder	133.35
959031	AF2-194 C	42.0197	Adder	49.43
959032	AF2-194 E	113.3473	Adder	133.35
959051	AF2-196 C	3.1777	Adder	3.74
959052	AF2-196 E	7.4145	Adder	8.72
959161	AF2-207 C O1	7.1138	Adder	8.37
959162	AF2-207 E O1	10.6708	Adder	12.55
959571	AF2-248 C	1.1998	Adder	1.41
959572	AF2-248 E	1.3409	Adder	1.58
959581	AF2-249 C	0.2117	Adder	0.25
959582	AF2-249 E	0.8469	Adder	1.0
959591	AF2-250 C	0.3882	Adder	0.46
959592	AF2-250 E	0.2999	Adder	0.35
960221	AF2-313 C	4.4035	Adder	5.18
960222	AF2-313 E	2.4965	Adder	2.94
960341	AF2-325 C	1.4793	Adder	1.74
960342	AF2-325 E	2.0428	Adder	2.4
960671	AF2-358 C O1	21.1477	Adder	24.88
960672	AF2-358 E O1	14.0984	Adder	16.59
960871	AF2-378 C	0.3910	Adder	0.46
960872	AF2-378 E	0.5425	Adder	0.64
960881	AF2-379 C	0.5788	Adder	0.68
960882	AF2-379 E	0.7976	Adder	0.94
960941	AF2-385 C	16.8671	Adder	19.84
960942	AF2-385 E	9.5980	Adder	11.29

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960961	AF2-387 C O1	23.3312	Adder	27.45
960962	AF2-387 E O1	11.7007	Adder	13.77
961181	AF2-409 O1	35.2826	Adder	41.51
NEWTON	NEWTON	11.3876	Confirmed LTF	11.3876
FARMERCITY	FARMERCITY	0.5980	Confirmed LTF	0.5980
G-007A	G-007A	67.5639	Confirmed LTF	67.5639
VFT	VFT	173.2535	Confirmed LTF	173.2535
DUCKCREEK /* 35% REVERSE 3023630 4273103 TURNED OFF IN CASE FOR DEACTIVATION	DUCKCREEK /* 35% REVERSE 3023630 4273103 TURNED OFF IN CASE FOR DEACTIVATION	0.0000	LTF	0.0000
GIBSON	GIBSON	5.7674	Confirmed LTF	5.7674
PRAIRIE	PRAIRIE	27.6872	Confirmed LTF	27.6872
AC1-131	AC1-131	9.4425	LTF	9.4425
COFFEEN	COFFEEN	2.1133	Confirmed LTF	2.1133
CHEOAH	CHEOAH	5.7052	Confirmed LTF	5.7052
EDWARDS	EDWARDS	3.6687	Confirmed LTF	3.6687
TILTON	TILTON	6.6100	Confirmed LTF	6.6100
LGE-TSR-0092018	LGE-TSR-0092018	0.0000	LTF	0.0000
CALDERWOOD	CALDERWOOD	5.6534	Confirmed LTF	5.6534
BLUEG	BLUEG	18.3443	Confirmed LTF	18.3443
TRIMBLE	TRIMBLE	5.8761	Confirmed LTF	5.8761
LGE-GI-0012019	LGE-GI-0012019	11.6149	LTF	11.6149
CATAWBA	CATAWBA	4.2182	Confirmed LTF	4.2182
AC1-056	AC1-056	10.6090	LTF	10.6090

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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
99742256	200066	PCHBTM1N	PJM	270072	FUR RUN_500	PJM	1	PECO_P1-2_5012/* $ CHESCO $ 5012 $ L	single	3525.0	104.77	105.72	AC	38.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200034	PCHBTM 2	120.0873	80/20	120.0873
200035	PCHBTM 3	120.2191	80/20	120.2191
200052	ROCKSP 1	10.3445	80/20	10.3445
200053	ROCKSP 2	10.3445	80/20	10.3445
200054	ROCKSP 3	10.4394	80/20	10.4394
200055	ROCKSP 4	10.4394	80/20	10.4394
200192	DELTA CT1	11.6808	80/20	11.6808
200193	DELTA CT2	11.6808	80/20	11.6808
200194	DELTA CT3	11.6808	80/20	11.6808
200195	DELTA ST	18.0352	80/20	18.0352
213792	MDYRN1-2	22.4130	80/20	22.4130
213793	MDYRN3-4	22.4969	80/20	22.4969
213794	MDYRN5-6	22.4336	80/20	22.4336
213795	MDYRN7-8	22.5177	80/20	22.5177
231708	CHRIST3	3.3050	Adder	3.89
231903	GEN4	3.5064	Adder	4.13
231904	DC1 NUG	9.0849	Adder	10.69
231905	DC2 NUG	9.0849	Adder	10.69
231911	HR5	8.1564	80/20	8.1564
231912	HR6	8.1564	80/20	8.1564
231913	HR7	8.1564	80/20	8.1564
231914	HR8	12.3977	80/20	12.3977
232003	CARTANZA	19.8390	80/20	19.8390
232436	AB1-176 C	0.4805	Adder	0.57
232616	GEN FOOD	0.9753	80/20	0.9753
232901	NORTHST	2.9515	80/20	2.9515
232904	IR4	26.5325	80/20	26.5325
232922	**MR3 (Deactivation : 01/06/2021)**	**38.9467**	**80/20**	**38.9467**
913271	Y1-065 C	82.9999	80/20	82.9999
915191	DELTA2	71.0193	80/20	71.0193
918191	AA1-034 C	6.5412	80/20	6.5412
919831	**AA2-069 (Suspended)**	**172.2053**	**80/20**	**172.2053**
923282	AB1-137 C	1.3618	Adder	1.6
923322	AB1-141 C OP	4.2952	Adder	5.05
923332	AB1-142 C OP	4.2952	Adder	5.05
923921	AB2-032 C	4.3270	Adder	5.09
923951	AB2-036 C	11.1873	Adder	13.16
923961	AB2-037 C	29.3255	80/20	29.3255

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924681	AB2-120 C OP	12.3199	Adder	14.49
924781	AB2-130 C OP	10.4667	Adder	12.31
924801	AB2-133 C OP	7.7802	Adder	9.15
924821	AB2-135 C	9.4976	Adder	11.17
924831	AB2-136 C	8.0271	Adder	9.44
924971	AB2-153 C	2.4180	Adder	2.84
925151	AB2-172 C OP	6.1449	Adder	7.23
925191	AB2-175 1	2.0560	80/20	2.0560
925201	AB2-175 2	2.0582	80/20	2.0582
925251	AB2-179 C OP	11.5826	Adder	13.63
925261	AB2-180 C	4.5371	Adder	5.34
925271	AB2-185 C OP	4.4821	Adder	5.27
926131	AC1-091 C	2.4315	Adder	2.86
926141	AC1-092 C	2.4315	Adder	2.86
926151	AC1-093 C	2.3018	Adder	2.71
926161	AC1-094 C	1.9452	Adder	2.29
927031	AC1-190 C	11.3211	Adder	13.32
927191	AC1-213 C	1.0372	Adder	1.22
930201	AB1-056 C	24.5673	80/20	24.5673
930881	AB1-137 C	1.3618	Adder	1.6
932081	AC2-018 C1	0.3532	80/20	0.3532
932091	AC2-018 C2	0.3532	80/20	0.3532
932161	AC2-023 C	8.5872	Adder	10.1
933631	AC2-185 C	4.9278	Adder	5.8
933641	AC2-186 C	6.1438	Adder	7.23
936451	AD2-059 C	0.0738	Adder	0.09
936611	AD2-076 C O1	5.9152	Adder	6.96
937281	AD2-167	4.5915	80/20	4.5915
938651	AE1-087 C	5.1747	Adder	6.09
938811	AE1-107 C	9.5585	Adder	11.25
938891	AE1-117 C O1	13.4556	Adder	15.83
939151	AE1-145	6.4841	Adder	7.63
940741	AE2-061	0.6181	80/20	0.6181
941021	AE2-093 C	6.3571	Adder	7.48
941181	AE2-112 C	2.0522	Adder	2.41
942441	AE2-257 C	10.6997	Adder	12.59
943361	AF1-007 C	0.7248	80/20	0.7248
943441	AF1-015 C	2.0330	Adder	2.39
943651	AF1-036 C	2.6685	Adder	3.14
945661	AF1-231 C	2.4640	Adder	2.9
945791	AF1-244	2.5936	Adder	3.05
945931	AF1-258	1.0371	Adder	1.22
945941	AF1-259	0.2546	Adder	0.3
957611	AF2-055 C	11.3472	Adder	13.35
957661	AF2-060	2.9179	Adder	3.43
957671	AF2-061 O1	12.9683	Adder	15.26
959021	AF2-193 C	45.3961	80/20	45.3961
959031	AF2-194 C	45.3961	80/20	45.3961
959051	AF2-196 C	2.9181	Adder	3.43
959161	AF2-207 C O1	6.5343	Adder	7.69
959571	AF2-248 C	1.1020	Adder	1.3
959581	AF2-249 C	0.1945	Adder	0.23

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959591	AF2-250 C	0.3565	Adder	0.42
960221	AF2-313 C	4.0415	Adder	4.75
960341	AF2-325 C	1.3590	Adder	1.6
960671	AF2-358 C O1	19.4290	Adder	22.86
960871	AF2-378 C	0.3592	Adder	0.42
960881	AF2-379 C	0.5316	Adder	0.63
960941	AF2-385 C	15.4930	Adder	18.23
960961	AF2-387 C O1	21.4365	Adder	25.22
961181	AF2-409 O1	32.4190	Adder	38.14
NEWTON	NEWTON	8.9624	Confirmed LTF	8.9624
FARMERCITY	FARMERCITY	0.4686	Confirmed LTF	0.4686
G-007A	G-007A	48.4055	Confirmed LTF	48.4055
VFT	VFT	119.1638	Confirmed LTF	119.1638
DUCKCREEK /* 35% REVERSE 3023630 4273103 TURNED OFF IN CASE FOR DEACTIVATION	DUCKCREEK /* 35% REVERSE 3023630 4273103 TURNED OFF IN CASE FOR DEACTIVATION	0.0000	LTF	0.0000
GIBSON	GIBSON	4.5482	Confirmed LTF	4.5482
PRAIRIE	PRAIRIE	21.6481	Confirmed LTF	21.6481
COFFEEN	COFFEEN	1.6638	Confirmed LTF	1.6638
CHEOAH	CHEOAH	4.3073	Confirmed LTF	4.3073
EDWARDS	EDWARDS	2.9057	Confirmed LTF	2.9057
TILTON	TILTON	5.2328	Confirmed LTF	5.2328
LGE-TSR-0092018	LGE-TSR-0092018	0.0000	LTF	0.0000
CALDERWOOD	CALDERWOOD	4.2737	Confirmed LTF	4.2737
BLUEG	BLUEG	14.4644	Confirmed LTF	14.4644
TRIMBLE	TRIMBLE	4.6351	Confirmed LTF	4.6351
LGE-GI-0012019	LGE-GI-0012019	9.1619	LTF	9.1619
CATAWBA	CATAWBA	3.0877	Confirmed LTF	3.0877

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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
100371982	213559	DELCOTAP	PECO	228401	MCKLTON	AE	1	PECO_P4_CHICH045/ * $ DELCO $ CHICH045 $ STBK	breaker	725.0	107.52	108.42	AC	7.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213400	COVANTA DELA	9.0429	50/50	9.0429
213888	PHLISCT1	10.4708	50/50	10.4708
213889	PHLISCT2	10.4708	50/50	10.4708
213890	PHLISCT3	10.4708	50/50	10.4708
213893	PHLISST1	14.5069	50/50	14.5069
227881	GRENWCHG	-0.1410	Adder	-0.17
231505	HR4	9.0452	50/50	9.0452
231708	CHRIST3	1.6861	Adder	1.98
231900	EM5	21.9661	50/50	21.9661
231901	EM4	5.8404	50/50	5.8404
231903	GEN4	0.8915	Adder	1.05
231904	DC1 NUG	2.3099	Adder	2.72
231905	DC2 NUG	2.3099	Adder	2.72
231908	HR1	4.1957	50/50	4.1957
231909	HR2	4.1609	50/50	4.1609
231910	HR3	4.1957	50/50	4.1957
231916	EM3	2.8627	50/50	2.8627
232412	X1-032 E	0.2596	Adder	0.31
232418	X3-008 E	0.8435	Adder	0.99
232423	X3-066 E	0.2741	Adder	0.32
232425	Y1-079 E	0.4527	Adder	0.53
232427	Y1-080 E	0.1408	Adder	0.17
232429	Y3-058 E	0.6072	Adder	0.71
232436	AB1-176 C	0.1113	Adder	0.13
912161	X4-027 CT1	0.7009	50/50	0.7009
912162	X4-027 CT2	0.7069	50/50	0.7069
912163	X4-027 CT3	0.7069	50/50	0.7069
919901	AB1-000 1	2.1574	50/50	2.1574
919911	AB1-000 2	2.1574	50/50	2.1574
919921	AB1-000 3	2.1574	50/50	2.1574
923322	AB1-141 C OP	1.0017	Adder	1.18
923323	AB1-141 E OP	0.4674	Adder	0.55
923332	AB1-142 C OP	1.0017	Adder	1.18
923603	AB1-176 E	0.1835	Adder	0.22
923921	AB2-032 C	1.0091	Adder	1.19
923922	AB2-032 E	0.4749	Adder	0.56
923951	AB2-036 C	2.5509	Adder	3.0
923952	AB2-036 E	4.1735	Adder	4.91
923961	AB2-037 C	5.5677	Adder	6.55
923962	AB2-037 E	9.0955	Adder	10.7
924801	AB2-133 C OP	1.8300	Adder	2.15

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924802	AB2-133 E OP	2.3210	Adder	2.73
924821	AB2-135 C	2.1384	Adder	2.52
924822	AB2-135 E	2.4388	Adder	2.87
924831	AB2-136 C	1.6700	Adder	1.96
924832	AB2-136 E	1.7710	Adder	2.08
924971	AB2-153 C	0.5639	Adder	0.66
924972	AB2-153 E	0.9200	Adder	1.08
925151	AB2-172 C OP	1.2925	Adder	1.52
925152	AB2-172 E OP	2.1088	Adder	2.48
925251	AB2-179 C OP	3.0503	Adder	3.59
925252	AB2-179 E OP	1.0059	Adder	1.18
925261	AB2-180 C	0.9140	Adder	1.08
925262	AB2-180 E	0.3917	Adder	0.46
925271	AB2-185 C OP	1.0222	Adder	1.2
925272	AB2-185 E OP	0.4381	Adder	0.52
927031	AC1-190 C	2.3767	Adder	2.8
927032	AC1-190 E	1.0186	Adder	1.2
927191	AC1-213 C	0.2075	Adder	0.24
927192	AC1-213 E	0.1362	Adder	0.16
930932	AB1-142 E OP	0.4674	Adder	0.55
932161	AC2-023 C	1.7380	Adder	2.04
932162	AC2-023 E	1.2658	Adder	1.49
934661	AD1-097 1	3.4805	50/50	3.4805
934671	AD1-097 2	3.4805	50/50	3.4805
934681	AD1-097 3	3.4805	50/50	3.4805
934691	AD1-097 4	2.0603	50/50	2.0603
936451	AD2-059 C	0.0269	Adder	0.03
936452	AD2-059 E	0.0845	Adder	0.1
936611	AD2-076 C O1	1.3864	Adder	1.63
936612	AD2-076 E O1	2.2621	Adder	2.66
938651	AE1-087 C	1.0884	Adder	1.28
938652	AE1-087 E	0.2721	Adder	0.32
938811	AE1-107 C	2.5934	Adder	3.05
938812	AE1-107 E	1.8488	Adder	2.18
938873	AE1-115 BAT	1.5402	Merchant Transmission	1.5402
941021	AE2-093 C	1.4121	Adder	1.66
941022	AE2-093 E	2.2436	Adder	2.64
941181	AE2-112 C	0.4810	Adder	0.57
941182	AE2-112 E	0.7848	Adder	0.92
943441	AF1-015 C	0.4516	Adder	0.53
943442	AF1-015 E	0.6236	Adder	0.73
943651	AF1-036 C	0.6255	Adder	0.74
943652	AF1-036 E	0.8637	Adder	1.02
945791	AF1-244	0.5197	Adder	0.61
945931	AF1-258	0.2089	Adder	0.25
945941	AF1-259	0.0590	Adder	0.07
957293	AF2-023 BAT	3.8510	Merchant Transmission	3.8510
957303	AF2-024 BAT	5.1450	Merchant Transmission	5.1450
959161	AF2-207 C O1	1.3042	Adder	1.53
959162	AF2-207 E O1	1.9563	Adder	2.3
959571	AF2-248 C	0.2202	Adder	0.26
959572	AF2-248 E	0.2461	Adder	0.29

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959581	AF2-249 C	0.0389	Adder	0.05
959582	AF2-249 E	0.1554	Adder	0.18
959591	AF2-250 C	0.0712	Adder	0.08
959592	AF2-250 E	0.0550	Adder	0.06
960221	AF2-313 C	0.9359	Adder	1.1
960222	AF2-313 E	0.5306	Adder	0.62
960341	AF2-325 C	0.2838	Adder	0.33
960342	AF2-325 E	0.3919	Adder	0.46
960671	AF2-358 C O1	4.0163	Adder	4.73
960672	AF2-358 E O1	2.6775	Adder	3.15
960871	AF2-378 C	0.0749	Adder	0.09
960872	AF2-378 E	0.1039	Adder	0.12
960881	AF2-379 C	0.1067	Adder	0.13
960882	AF2-379 E	0.1470	Adder	0.17
960941	AF2-385 C	3.0923	Adder	3.64
960942	AF2-385 E	1.7597	Adder	2.07
960961	AF2-387 C O1	4.8192	Adder	5.67
960962	AF2-387 E O1	2.4168	Adder	2.84
961181	AF2-409 O1	6.7065	Adder	7.89
NEWTON	NEWTON	0.1042	Confirmed LTF	0.1042
FARMERCITY	FARMERCITY	0.0053	Confirmed LTF	0.0053
GIBSON	GIBSON	0.0535	Confirmed LTF	0.0535
NY	NY	0.8677	Confirmed LTF	0.8677
PRAIRIE	PRAIRIE	0.2402	Confirmed LTF	0.2402
O-066	O-066	14.1590	Confirmed LTF	14.1590
COFFEEN	COFFEEN	0.0194	Confirmed LTF	0.0194
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0354	Confirmed LTF	0.0354
TILTON	TILTON	0.0630	Confirmed LTF	0.0630
G-007	G-007	2.4981	Confirmed LTF	2.4981
MADISON	MADISON	0.0141	Confirmed LTF	0.0141
CALDERWOOD	CALDERWOOD	0.0353	Confirmed LTF	0.0353
BLUEG	BLUEG	0.1701	Confirmed LTF	0.1701
TRIMBLE	TRIMBLE	0.0545	Confirmed LTF	0.0545
CATAWBA	CATAWBA	0.0172	Confirmed LTF	0.0172

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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
100371836	231000	CLAY_230	DP&L	213750	LINWOOD	PECO	1	PECO_P4_LINWO225/ * $ DELCO $ LINWO225 $ STBK	breaker	804.0	156.21	157.9	AC	15.36

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231505	HR4	15.4421	50/50	15.4421
231708	CHRIST3	2.9975	Adder	3.53
231900	EM5	37.5010	50/50	37.5010
231901	EM4	10.3330	50/50	10.3330
231903	GEN4	1.6791	Adder	1.98
231904	DC1 NUG	4.3503	Adder	5.12
231905	DC2 NUG	4.3503	Adder	5.12
231908	HR1	7.4231	50/50	7.4231
231909	HR2	7.4849	50/50	7.4849
231910	HR3	7.4231	50/50	7.4231
231916	EM3	5.1496	50/50	5.1496
231917	EM10	0.8563	50/50	0.8563
231919	CHRIST1	1.2390	50/50	1.2390
232405	W1-003 E	0.5712	Adder	0.67
232407	W1-004 E	0.5712	Adder	0.67
232409	W1-005 E	0.5712	Adder	0.67
232411	W1-006 E	0.5712	Adder	0.67
232412	X1-032 E	0.5092	Adder	0.6
232418	X3-008 E	1.6345	Adder	1.92
232423	X3-066 E	0.5178	Adder	0.61
232425	Y1-079 E	0.8592	Adder	1.01
232427	Y1-080 E	0.2739	Adder	0.32
232429	Y3-058 E	1.1892	Adder	1.4
232433	Z2-076 E	0.2507	Adder	0.29
232435	Z2-077 E	0.2507	Adder	0.29
232436	AB1-176 C	0.2102	Adder	0.25
232922	**MR3 (Deactivation : 01/06/2021)**	**11.5398**	**Adder**	**13.58**
917082	Z2-012 E	1.5729	Adder	1.85
919831	**AA2-069 (Suspended)**	**51.0239**	**Adder**	**60.03**
919921	AB1-000 3	-1.4300	Adder	-1.68
923282	AB1-137 C	0.5220	Adder	0.61
923283	AB1-137 E	0.2237	Adder	0.26
923322	AB1-141 C OP	1.8890	Adder	2.22
923323	AB1-141 E OP	0.8815	Adder	1.04
923332	AB1-142 C OP	1.8890	Adder	2.22
923603	AB1-176 E	0.3466	Adder	0.41
923921	AB2-032 C	1.9030	Adder	2.24
923922	AB2-032 E	0.8955	Adder	1.05
923951	AB2-036 C	4.8434	Adder	5.7
923952	AB2-036 E	7.9243	Adder	9.32
923961	AB2-037 C	10.6561	Adder	12.54

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923962	AB2-037 E	17.4082	Adder	20.48
924681	AB2-120 C OP	4.8192	Adder	5.67
924682	AB2-120 E OP	7.8628	Adder	9.25
924781	AB2-130 C OP	4.0672	Adder	4.78
924782	AB2-130 E OP	6.6359	Adder	7.81
924801	AB2-133 C OP	3.4401	Adder	4.05
924802	AB2-133 E OP	4.3631	Adder	5.13
924821	AB2-135 C	4.0618	Adder	4.78
924822	AB2-135 E	4.6324	Adder	5.45
924831	AB2-136 C	3.2446	Adder	3.82
924832	AB2-136 E	3.4409	Adder	4.05
924971	AB2-153 C	1.0634	Adder	1.25
924972	AB2-153 E	1.7351	Adder	2.04
925151	AB2-172 C OP	2.5045	Adder	2.95
925152	AB2-172 E OP	4.0864	Adder	4.81
925251	AB2-179 C OP	5.5716	Adder	6.55
925252	AB2-179 E OP	1.8374	Adder	2.16
925261	AB2-180 C	1.7902	Adder	2.11
925262	AB2-180 E	0.7672	Adder	0.9
925271	AB2-185 C OP	1.9402	Adder	2.28
925272	AB2-185 E OP	0.8315	Adder	0.98
926131	AC1-091 C	0.8340	Adder	0.98
926132	AC1-091 E	1.3678	Adder	1.61
926141	AC1-092 C	0.8340	Adder	0.98
926142	AC1-092 E	1.3678	Adder	1.61
926151	AC1-093 C	0.7896	Adder	0.93
926152	AC1-093 E	1.3011	Adder	1.53
926161	AC1-094 C	0.6672	Adder	0.78
926162	AC1-094 E	1.1009	Adder	1.3
927031	AC1-190 C	4.6077	Adder	5.42
927032	AC1-190 E	1.9747	Adder	2.32
927191	AC1-213 C	0.4072	Adder	0.48
927192	AC1-213 E	0.2672	Adder	0.31
930201	AB1-056 C	7.9822	Adder	9.39
930202	AB1-056 E	22.7319	Adder	26.74
930881	AB1-137 C	0.5220	Adder	0.61
930882	AB1-137 E	0.2237	Adder	0.26
930932	AB1-142 E OP	0.8815	Adder	1.04
932161	AC2-023 C	3.4004	Adder	4.0
932162	AC2-023 E	2.4765	Adder	2.91
933631	AC2-185 C	1.6903	Adder	1.99
933632	AC2-185 E	2.7579	Adder	3.24
933641	AC2-186 C	2.3301	Adder	2.74
933642	AC2-186 E	3.8018	Adder	4.47
936451	AD2-059 C	0.0482	Adder	0.06
936452	AD2-059 E	0.1512	Adder	0.18
936611	AD2-076 C O1	2.6110	Adder	3.07
936612	AD2-076 E O1	4.2600	Adder	5.01
938651	AE1-087 C	2.1091	Adder	2.48
938652	AE1-087 E	0.5273	Adder	0.62
938811	AE1-107 C	4.7385	Adder	5.57
938812	AE1-107 E	3.3781	Adder	3.97

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	5.1586	Adder	6.07
938892	AE1-117 E O1	13.7356	Adder	16.16
939151	AE1-145	2.5362	Adder	2.98
940271	AE2-010	-0.4736	Adder	-0.56
941021	AE2-093 C	2.7011	Adder	3.18
941022	AE2-093 E	4.2917	Adder	5.05
941181	AE2-112 C	0.9059	Adder	1.07
941182	AE2-112 E	1.4780	Adder	1.74
942441	AE2-257 C	4.0998	Adder	4.82
942442	AE2-257 E	10.8085	Adder	12.72
943361	AF1-007 C	0.2355	Adder	0.28
943362	AF1-007 E	0.6693	Adder	0.79
943441	AF1-015 C	0.8638	Adder	1.02
943442	AF1-015 E	1.1929	Adder	1.4
943651	AF1-036 C	1.1779	Adder	1.39
943652	AF1-036 E	1.6266	Adder	1.91
945661	AF1-231 C	0.9641	Adder	1.13
945662	AF1-231 E	1.4461	Adder	1.7
945791	AF1-244	1.0193	Adder	1.2
945931	AF1-258	0.4092	Adder	0.48
945941	AF1-259	0.1114	Adder	0.13
957443	AF2-038 BAT	3.5396	Merchant Transmission	3.5396
957611	AF2-055 C	4.4396	Adder	5.22
957612	AF2-055 E	1.9027	Adder	2.24
957661	AF2-060	1.1413	Adder	1.34
957671	AF2-061 O1	5.0725	Adder	5.97
959021	AF2-193 C	14.7497	Adder	17.35
959022	AF2-193 E	39.7870	Adder	46.81
959031	AF2-194 C	14.7497	Adder	17.35
959032	AF2-194 E	39.7870	Adder	46.81
959051	AF2-196 C	1.1181	Adder	1.32
959052	AF2-196 E	2.6090	Adder	3.07
959161	AF2-207 C O1	2.5605	Adder	3.01
959162	AF2-207 E O1	3.8407	Adder	4.52
959571	AF2-248 C	0.4321	Adder	0.51
959572	AF2-248 E	0.4829	Adder	0.57
959581	AF2-249 C	0.0763	Adder	0.09
959582	AF2-249 E	0.3050	Adder	0.36
959591	AF2-250 C	0.1398	Adder	0.16
959592	AF2-250 E	0.1080	Adder	0.13
960221	AF2-313 C	1.7679	Adder	2.08
960222	AF2-313 E	1.0023	Adder	1.18
960341	AF2-325 C	0.5510	Adder	0.65
960342	AF2-325 E	0.7608	Adder	0.9
960671	AF2-358 C O1	7.8163	Adder	9.2
960672	AF2-358 E O1	5.2108	Adder	6.13
960871	AF2-378 C	0.1454	Adder	0.17
960872	AF2-378 E	0.2017	Adder	0.24
960881	AF2-379 C	0.2092	Adder	0.25
960882	AF2-379 E	0.2882	Adder	0.34
960941	AF2-385 C	6.0709	Adder	7.14
960942	AF2-385 E	3.4546	Adder	4.06

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960961	AF2-387 C O1	9.1878	Adder	10.81
960962	AF2-387 E O1	4.6077	Adder	5.42
961181	AF2-409 O1	13.0543	Adder	15.36
NEWTON	NEWTON	0.0408	Confirmed LTF	0.0408
CPLE	CPLE	0.0344	Confirmed LTF	0.0344
FARMERCITY	FARMERCITY	0.0020	Confirmed LTF	0.0020
GIBSON	GIBSON	0.0218	Confirmed LTF	0.0218
NY	NY	0.9307	Confirmed LTF	0.9307
PRAIRIE	PRAIRIE	0.0852	Confirmed LTF	0.0852
O-066	O-066	14.4614	Confirmed LTF	14.4614
COFFEEN	COFFEEN	0.0076	Confirmed LTF	0.0076
CHEOAH	CHEOAH	0.0010	Confirmed LTF	0.0010
EDWARDS	EDWARDS	0.0150	Confirmed LTF	0.0150
CBM-S2	CBM-S2	0.1850	Confirmed LTF	0.1850
TILTON	TILTON	0.0271	Confirmed LTF	0.0271
G-007	G-007	2.1923	Confirmed LTF	2.1923
MADISON	MADISON	0.0181	Confirmed LTF	0.0181
CALDERWOOD	CALDERWOOD	0.0015	Confirmed LTF	0.0015
BLUEG	BLUEG	0.0694	Confirmed LTF	0.0694
TRIMBLE	TRIMBLE	0.0223	Confirmed LTF	0.0223

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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
100371849	231001	EDGEMR 5	DP&L	231000	CLAY_230	DP&L	1	PECO_P4_LINWO225/ * $ DELCO $ LINWO225 $ STBK	breaker	804.0	150.06	151.59	AC	13.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231505	HR4	15.4193	50/50	15.4193
231708	CHRIST3	2.7928	50/50	2.7928
231900	EM5	37.4458	50/50	37.4458
231901	EM4	8.1082	50/50	8.1082
231903	GEN4	1.4377	Adder	1.69
231904	DC1 NUG	3.7248	Adder	4.38
231905	DC2 NUG	3.7248	Adder	4.38
231908	HR1	5.8249	50/50	5.8249
231910	HR3	5.8249	50/50	5.8249
231918	WEST 1	0.6340	50/50	0.6340
231919	CHRIST1	0.9813	50/50	0.9813
231920	CHRIST2	0.9770	50/50	0.9770
232405	W1-003 E	0.5177	Adder	0.61
232407	W1-004 E	0.5177	Adder	0.61
232409	W1-005 E	0.5177	Adder	0.61
232411	W1-006 E	0.5177	Adder	0.61
232412	X1-032 E	0.4615	Adder	0.54
232416	X2-083	0.1043	50/50	0.1043
232418	X3-008 E	1.4789	Adder	1.74
232423	X3-066 E	0.4620	Adder	0.54
232425	Y1-079 E	0.7708	Adder	0.91
232427	Y1-080 E	0.2480	Adder	0.29
232429	Y3-058 E	1.0775	Adder	1.27
232433	Z2-076 E	0.2271	Adder	0.27
232435	Z2-077 E	0.2271	Adder	0.27
232436	AB1-176 C	0.1875	Adder	0.22
232922	**MR3 (Deactivation : 01/06/2021)**	**10.4465**	**Adder**	**12.29**
917082	Z2-012 E	1.4255	Adder	1.68
919831	**AA2-069 (Suspended)**	**46.1898**	**Adder**	**54.34**
919921	AB1-000 3	-1.2960	Adder	-1.52
923282	AB1-137 C	0.4730	Adder	0.56
923283	AB1-137 E	0.2027	Adder	0.24
923322	AB1-141 C OP	1.6852	Adder	1.98
923323	AB1-141 E OP	0.7864	Adder	0.93
923332	AB1-142 C OP	1.6852	Adder	1.98
923603	AB1-176 E	0.3092	Adder	0.36
923921	AB2-032 C	1.6977	Adder	2.0
923922	AB2-032 E	0.7989	Adder	0.94
923951	AB2-036 C	4.3501	Adder	5.12
923952	AB2-036 E	7.1172	Adder	8.37
923961	AB2-037 C	9.6965	Adder	11.41

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923962	AB2-037 E	15.8405	Adder	18.64
924681	AB2-120 C OP	4.3676	Adder	5.14
924682	AB2-120 E OP	7.1261	Adder	8.38
924781	AB2-130 C OP	3.6836	Adder	4.33
924782	AB2-130 E OP	6.0101	Adder	7.07
924801	AB2-133 C OP	3.0516	Adder	3.59
924802	AB2-133 E OP	3.8703	Adder	4.55
924821	AB2-135 C	3.6140	Adder	4.25
924822	AB2-135 E	4.1217	Adder	4.85
924831	AB2-136 C	2.9375	Adder	3.46
924832	AB2-136 E	3.1152	Adder	3.66
924971	AB2-153 C	0.9487	Adder	1.12
924972	AB2-153 E	1.5479	Adder	1.82
925151	AB2-172 C OP	2.2660	Adder	2.67
925152	AB2-172 E OP	3.6972	Adder	4.35
925251	AB2-179 C OP	4.8407	Adder	5.69
925252	AB2-179 E OP	1.5964	Adder	1.88
925261	AB2-180 C	1.6221	Adder	1.91
925262	AB2-180 E	0.6952	Adder	0.82
925271	AB2-185 C OP	1.7405	Adder	2.05
925272	AB2-185 E OP	0.7459	Adder	0.88
926131	AC1-091 C	0.7538	Adder	0.89
926132	AC1-091 E	1.2362	Adder	1.45
926141	AC1-092 C	0.7538	Adder	0.89
926142	AC1-092 E	1.2362	Adder	1.45
926151	AC1-093 C	0.7136	Adder	0.84
926152	AC1-093 E	1.1759	Adder	1.38
926161	AC1-094 C	0.6030	Adder	0.71
926162	AC1-094 E	0.9950	Adder	1.17
927031	AC1-190 C	4.1692	Adder	4.9
927032	AC1-190 E	1.7868	Adder	2.1
927191	AC1-213 C	0.3690	Adder	0.43
927192	AC1-213 E	0.2421	Adder	0.28
930201	AB1-056 C	7.2322	Adder	8.51
930202	AB1-056 E	20.5962	Adder	24.23
930881	AB1-137 C	0.4730	Adder	0.56
930882	AB1-137 E	0.2027	Adder	0.24
930932	AB1-142 E OP	0.7864	Adder	0.93
932161	AC2-023 C	3.0807	Adder	3.62
932162	AC2-023 E	2.2437	Adder	2.64
933631	AC2-185 C	1.5277	Adder	1.8
933632	AC2-185 E	2.4925	Adder	2.93
933641	AC2-186 C	2.1043	Adder	2.48
933642	AC2-186 E	3.4334	Adder	4.04
936451	AD2-059 C	0.0416	Adder	0.05
936452	AD2-059 E	0.1304	Adder	0.15
936611	AD2-076 C O1	2.3261	Adder	2.74
936612	AD2-076 E O1	3.7952	Adder	4.46
938651	AE1-087 C	1.9082	Adder	2.24
938652	AE1-087 E	0.4771	Adder	0.56
938811	AE1-107 C	4.0616	Adder	4.78
938812	AE1-107 E	2.8955	Adder	3.41

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	4.6736	Adder	5.5
938892	AE1-117 E O1	12.4441	Adder	14.64
939151	AE1-145	2.2986	Adder	2.7
940271	AE2-010	-0.4293	Adder	-0.51
941021	AE2-093 C	2.4406	Adder	2.87
941022	AE2-093 E	3.8777	Adder	4.56
941181	AE2-112 C	0.8070	Adder	0.95
941182	AE2-112 E	1.3167	Adder	1.55
942441	AE2-257 C	3.7147	Adder	4.37
942442	AE2-257 E	9.7932	Adder	11.52
943361	AF1-007 C	0.2134	Adder	0.25
943362	AF1-007 E	0.6064	Adder	0.71
943441	AF1-015 C	0.7805	Adder	0.92
943442	AF1-015 E	1.0778	Adder	1.27
943651	AF1-036 C	1.0494	Adder	1.23
943652	AF1-036 E	1.4491	Adder	1.7
945661	AF1-231 C	0.8738	Adder	1.03
945662	AF1-231 E	1.3107	Adder	1.54
945791	AF1-244	0.9238	Adder	1.09
945931	AF1-258	0.3708	Adder	0.44
945941	AF1-259	0.0993	Adder	0.12
957443	AF2-038 BAT	3.2092	Merchant Transmission	3.2092
957611	AF2-055 C	4.0237	Adder	4.73
957612	AF2-055 E	1.7244	Adder	2.03
957661	AF2-060	1.0344	Adder	1.22
957671	AF2-061 O1	4.5971	Adder	5.41
959021	AF2-193 C	13.3639	Adder	15.72
959022	AF2-193 E	36.0489	Adder	42.41
959031	AF2-194 C	13.3639	Adder	15.72
959032	AF2-194 E	36.0489	Adder	42.41
959051	AF2-196 C	1.0131	Adder	1.19
959052	AF2-196 E	2.3639	Adder	2.78
959161	AF2-207 C O1	2.3199	Adder	2.73
959162	AF2-207 E O1	3.4798	Adder	4.09
959571	AF2-248 C	0.3915	Adder	0.46
959572	AF2-248 E	0.4376	Adder	0.51
959581	AF2-249 C	0.0691	Adder	0.08
959582	AF2-249 E	0.2764	Adder	0.33
959591	AF2-250 C	0.1267	Adder	0.15
959592	AF2-250 E	0.0979	Adder	0.12
960221	AF2-313 C	1.5771	Adder	1.86
960222	AF2-313 E	0.8941	Adder	1.05
960341	AF2-325 C	0.4987	Adder	0.59
960342	AF2-325 E	0.6887	Adder	0.81
960671	AF2-358 C O1	7.0788	Adder	8.33
960672	AF2-358 E O1	4.7192	Adder	5.55
960871	AF2-378 C	0.1316	Adder	0.15
960872	AF2-378 E	0.1826	Adder	0.21
960881	AF2-379 C	0.1896	Adder	0.22
960882	AF2-379 E	0.2612	Adder	0.31
960941	AF2-385 C	5.5005	Adder	6.47
960942	AF2-385 E	3.1300	Adder	3.68

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960961	AF2-387 C O1	8.2826	Adder	9.74
960962	AF2-387 E O1	4.1537	Adder	4.89
961181	AF2-409 O1	11.8379	Adder	13.93
NEWTON	NEWTON	0.0269	Confirmed LTF	0.0269
CPLE	CPLE	0.0377	Confirmed LTF	0.0377
FARMERCITY	FARMERCITY	0.0012	Confirmed LTF	0.0012
GIBSON	GIBSON	0.0142	Confirmed LTF	0.0142
NY	NY	0.8383	Confirmed LTF	0.8383
PRAIRIE	PRAIRIE	0.0517	Confirmed LTF	0.0517
O-066	O-066	13.0435	Confirmed LTF	13.0435
COFFEEN	COFFEEN	0.0050	Confirmed LTF	0.0050
EDWARDS	EDWARDS	0.0101	Confirmed LTF	0.0101
CBM-S2	CBM-S2	0.2254	Confirmed LTF	0.2254
TILTON	TILTON	0.0183	Confirmed LTF	0.0183
G-007	G-007	1.9770	Confirmed LTF	1.9770
MADISON	MADISON	0.0161	Confirmed LTF	0.0161
BLUEG	BLUEG	0.0451	Confirmed LTF	0.0451
TRIMBLE	TRIMBLE	0.0145	Confirmed LTF	0.0145

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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
100372200	231001	EDGEMR 5	DP&L	213750	LINWOOD	PECO	1	PECO_P1-2_220-84	single	804.0	111.61	113.54	AC	14.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231131	BLOOM ENRGY	0.7119	80/20	0.7119
231505	HR4	15.3116	80/20	15.3116
231708	CHRIST3	3.3541	80/20	3.3541
231900	EM5	37.1841	80/20	37.1841
231901	EM4	9.8114	80/20	9.8114
231902	DC CT7	1.6601	80/20	1.6601
231903	GEN4	1.6205	Adder	1.91
231904	DC1 NUG	4.9396	80/20	4.9396
231905	DC2 NUG	4.9396	80/20	4.9396
231906	DC3 NUG	2.0970	80/20	2.0970
231907	DC10	0.5184	80/20	0.5184
231908	HR1	7.0484	80/20	7.0484
231909	HR2	6.8541	80/20	6.8541
231910	HR3	7.0484	80/20	7.0484
231915	DC CT6	1.6018	80/20	1.6018
231916	EM3	4.7156	80/20	4.7156
231917	EM10	0.7841	80/20	0.7841
231918	WEST 1	0.8421	80/20	0.8421
231919	CHRIST1	1.1785	80/20	1.1785
231920	CHRIST2	1.1734	80/20	1.1734
232416	X2-083	0.1159	80/20	0.1159
232436	AB1-176 C	0.2044	Adder	0.24
232922	**MR3 (Deactivation : 01/06/2021)**	**11.2615**	**Adder**	**13.25**
919831	**AA2-069 (Suspended)**	**49.7933**	**Adder**	**58.58**
919901	AB1-000 1	-1.3876	Adder	-1.63
919911	AB1-000 2	-1.3876	Adder	-1.63
919921	AB1-000 3	-1.3876	Adder	-1.63
923282	AB1-137 C	0.5094	Adder	0.6
923322	AB1-141 C OP	1.8371	Adder	2.16
923332	AB1-142 C OP	1.8371	Adder	2.16
923921	AB2-032 C	1.8508	Adder	2.18
923951	AB2-036 C	4.7164	Adder	5.55
923961	AB2-037 C	10.4019	Adder	12.24
924681	AB2-120 C OP	4.7019	Adder	5.53
924781	AB2-130 C OP	3.9678	Adder	4.67
924801	AB2-133 C OP	3.3423	Adder	3.93
924821	AB2-135 C	3.9487	Adder	4.65
924831	AB2-136 C	3.1650	Adder	3.72
924971	AB2-153 C	1.0342	Adder	1.22
925151	AB2-172 C OP	2.4425	Adder	2.87
925251	AB2-179 C OP	5.3920	Adder	6.34

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925261	AB2-180 C	1.7466	Adder	2.05
925271	AB2-185 C OP	1.8889	Adder	2.22
926131	AC1-091 C	0.8138	Adder	0.96
926141	AC1-092 C	0.8138	Adder	0.96
926151	AC1-093 C	0.7704	Adder	0.91
926161	AC1-094 C	0.6510	Adder	0.77
927031	AC1-190 C	4.4937	Adder	5.29
927191	AC1-213 C	0.3973	Adder	0.47
930201	AB1-056 C	7.7884	Adder	9.16
930881	AB1-137 C	0.5094	Adder	0.6
932161	AC2-023 C	3.3173	Adder	3.9
933631	AC2-185 C	1.6492	Adder	1.94
933641	AC2-186 C	2.2723	Adder	2.67
936451	AD2-059 C	0.0548	80/20	0.0548
936611	AD2-076 C O1	2.5387	Adder	2.99
938651	AE1-087 C	2.0569	Adder	2.42
938811	AE1-107 C	5.3816	80/20	5.3816
938891	AE1-117 C O1	5.0334	Adder	5.92
939151	AE1-145	2.4745	Adder	2.91
940271	AE2-010	-0.4591	Adder	-0.54
941021	AE2-093 C	2.6332	Adder	3.1
941181	AE2-112 C	0.8808	Adder	1.04
942441	AE2-257 C	4.0002	Adder	4.71
943361	AF1-007 C	0.2298	Adder	0.27
943441	AF1-015 C	0.8421	Adder	0.99
943651	AF1-036 C	1.1453	Adder	1.35
945661	AF1-231 C	0.9406	Adder	1.11
945791	AF1-244	0.9945	Adder	1.17
945931	AF1-258	0.3992	Adder	0.47
945941	AF1-259	0.1083	Adder	0.13
957611	AF2-055 C	4.3316	Adder	5.1
957661	AF2-060	1.1135	Adder	1.31
957671	AF2-061 O1	4.9490	Adder	5.82
959021	AF2-193 C	14.3916	Adder	16.93
959031	AF2-194 C	14.3916	Adder	16.93
959051	AF2-196 C	1.0910	Adder	1.28
959161	AF2-207 C O1	2.4981	Adder	2.94
959571	AF2-248 C	0.4216	Adder	0.5
959581	AF2-249 C	0.0744	Adder	0.09
959591	AF2-250 C	0.1364	Adder	0.16
960221	AF2-313 C	1.7194	Adder	2.02
960341	AF2-325 C	0.5374	Adder	0.63
960671	AF2-358 C O1	7.6245	Adder	8.97
960871	AF2-378 C	0.1418	Adder	0.17
960881	AF2-379 C	0.2041	Adder	0.24
960941	AF2-385 C	5.9230	Adder	6.97
960961	AF2-387 C O1	8.9529	Adder	10.53
961181	AF2-409 O1	12.7372	Adder	14.98
WEC	WEC	0.0035	Confirmed LTF	0.0035
LGEE	LGEE	0.0091	Confirmed LTF	0.0091
CPLE	CPLE	0.0695	Confirmed LTF	0.0695
CBM-W2	CBM-W2	0.2375	Confirmed LTF	0.2375

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
NY	NY	0.8743	Confirmed LTF	0.8743
TVA	TVA	0.0574	Confirmed LTF	0.0574
CBM-S2	CBM-S2	0.4913	Confirmed LTF	0.4913
CBM-S1	CBM-S1	0.3067	Confirmed LTF	0.3067
MADISON	MADISON	0.0181	Confirmed LTF	0.0181
MEC	MEC	0.0270	Confirmed LTF	0.0270
CBM-W1	CBM-W1	0.0625	Confirmed LTF	0.0625

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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
1003720005	231002	HARMONY	DP&L	231001	EDGEMR 5	DP&L	1	PECO_P4_PEACH215/ * $ CHESCO $ PEACH215 $ STBK	breaker	924.0	107.06	109.41	AC	22.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200062	SALEM G3	4.3855	Adder	5.16
231903	GEN4	1.6551	Adder	1.95
231904	DC1 NUG	4.2883	Adder	5.05
231905	DC2 NUG	4.2883	Adder	5.05
232404	W1-003 C	0.5640	50/50	0.5640
232405	W1-003 E	0.9750	50/50	0.9750
232406	W1-004 FULL	0.5640	50/50	0.5640
232407	W1-004 E	0.9750	50/50	0.9750
232408	W1-005 C	0.5640	50/50	0.5640
232409	W1-005 E	0.9750	50/50	0.9750
232410	W1-006 C	0.5640	50/50	0.5640
232411	W1-006 E	0.9750	50/50	0.9750
232412	X1-032 E	0.8681	50/50	0.8681
232416	X2-083	0.1153	50/50	0.1153
232417	X3-008 C	0.2802	50/50	0.2802
232418	X3-008 E	2.7211	50/50	2.7211
232423	X3-066 E	0.6680	Adder	0.79
232424	Y1-079 C	0.1383	50/50	0.1383
232425	Y1-079 E	1.3429	50/50	1.3429
232426	Y1-080 FULL	0.0471	50/50	0.0471
232427	Y1-080 E	0.4600	50/50	0.4600
232428	Y3-058 C	0.2081	50/50	0.2081
232429	Y3-058 E	2.0204	50/50	2.0204
232433	Z2-076 E	0.3661	Adder	0.43
232435	Z2-077 E	0.3661	Adder	0.43
232436	AB1-176 C	0.2712	Adder	0.32
232902	EASTMUNI	2.5594	50/50	2.5594
232907	VN8	5.6688	50/50	5.6688
232914	OH NUG3	1.1733	50/50	1.1733
232915	OH NUG4	1.1733	50/50	1.1733
232916	OH NUG5	1.1733	50/50	1.1733
232919	VN10	0.3769	50/50	0.3769
232922	**MR3 (Deactivation : 01/06/2021)**	**17.5888**	**Adder**	**20.69**
232926	CRISFLD1	0.3649	50/50	0.3649
293670	O-025 C	0.2185	50/50	0.2185
917082	Z2-012 E	2.2824	Adder	2.69
918831	AA1-102	1.3683	50/50	1.3683
919831	**AA2-069 (Suspended)**	**77.7702**	**Adder**	**91.49**
919901	AB1-000 1	-0.8660	Adder	-1.02
919911	AB1-000 2	-0.8660	Adder	-1.02
919921	AB1-000 3	-0.8660	Adder	-1.02

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923282	AB1-137 C	0.7636	Adder	0.9
923283	AB1-137 E	0.3272	Adder	0.38
923322	AB1-141 C OP	2.4309	Adder	2.86
923323	AB1-141 E OP	1.1344	Adder	1.33
923332	AB1-142 C OP	2.4309	Adder	2.86
923603	AB1-176 E	0.4472	Adder	0.53
923921	AB2-032 C	2.4489	Adder	2.88
923922	AB2-032 E	1.1524	Adder	1.36
923951	AB2-036 C	7.6092	50/50	7.6092
923952	AB2-036 E	12.4495	50/50	12.4495
923961	AB2-037 C	17.7959	50/50	17.7959
923962	AB2-037 E	29.0721	50/50	29.0721
924681	AB2-120 C OP	6.9936	Adder	8.23
924682	AB2-120 E OP	11.4106	Adder	13.42
924781	AB2-130 C OP	5.9039	Adder	6.95
924782	AB2-130 E OP	9.6327	Adder	11.33
924801	AB2-133 C OP	4.3039	Adder	5.06
924802	AB2-133 E OP	5.4586	Adder	6.42
924821	AB2-135 C	5.2312	Adder	6.15
924822	AB2-135 E	5.9660	Adder	7.02
924831	AB2-136 C	5.4354	50/50	5.4354
924832	AB2-136 E	5.7642	50/50	5.7642
924971	AB2-153 C	1.3685	Adder	1.61
924972	AB2-153 E	2.2328	Adder	2.63
925151	AB2-172 C OP	4.1694	50/50	4.1694
925152	AB2-172 E OP	6.8026	50/50	6.8026
925251	AB2-179 C OP	6.0484	Adder	7.12
925252	AB2-179 E OP	1.9947	Adder	2.35
925261	AB2-180 C	3.0415	50/50	3.0415
925262	AB2-180 E	1.3035	50/50	1.3035
925271	AB2-185 C OP	3.0323	50/50	3.0323
925272	AB2-185 E OP	1.2995	50/50	1.2995
926131	AC1-091 C	1.2729	Adder	1.5
926132	AC1-091 E	2.0875	Adder	2.46
926141	AC1-092 C	1.2729	Adder	1.5
926142	AC1-092 E	2.0875	Adder	2.46
926151	AC1-093 C	1.2050	Adder	1.42
926152	AC1-093 E	1.9857	Adder	2.34
926161	AC1-094 C	1.0183	Adder	1.2
926162	AC1-094 E	1.6802	Adder	1.98
927031	AC1-190 C	7.6787	50/50	7.6787
927032	AC1-190 E	3.2909	50/50	3.2909
927191	AC1-213 C	0.6935	50/50	0.6935
927192	AC1-213 E	0.4551	50/50	0.4551
930201	AB1-056 C	11.6919	Adder	13.76
930202	AB1-056 E	33.2965	Adder	39.17
930881	AB1-137 C	0.7636	Adder	0.9
930882	AB1-137 E	0.3272	Adder	0.38
930932	AB1-142 E OP	1.1344	Adder	1.33
932082	AC2-018 E1	4.2028	Adder	4.94
932092	AC2-018 E2	4.2028	Adder	4.94
932161	AC2-023 C	5.7669	50/50	5.7669

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
932162	AC2-023 E	4.2001	50/50	4.2001
933631	AC2-185 C	2.5797	Adder	3.03
933632	AC2-185 E	4.2090	Adder	4.95
933641	AC2-186 C	3.3812	Adder	3.98
933642	AC2-186 E	5.5166	Adder	6.49
936451	AD2-059 C	0.0528	50/50	0.0528
936452	AD2-059 E	0.1656	50/50	0.1656
936611	AD2-076 C O1	3.3338	Adder	3.92
936612	AD2-076 E O1	5.4394	Adder	6.4
938651	AE1-087 C	3.5110	50/50	3.5110
938652	AE1-087 E	0.8778	50/50	0.8778
938811	AE1-107 C	4.6761	Adder	5.5
938812	AE1-107 E	3.3336	Adder	3.92
938891	AE1-117 C O1	7.5450	Adder	8.88
938892	AE1-117 E O1	20.0896	Adder	23.63
939151	AE1-145	3.6805	Adder	4.33
940271	AE2-010	-0.2642	Adder	-0.31
941021	AE2-093 C	4.3911	50/50	4.3911
941022	AE2-093 E	6.9768	50/50	6.9768
941181	AE2-112 C	1.1566	Adder	1.36
941182	AE2-112 E	1.8871	Adder	2.22
942441	AE2-257 C	5.9979	Adder	7.06
942442	AE2-257 E	15.8127	Adder	18.6
943361	AF1-007 C	0.3449	Adder	0.41
943362	AF1-007 E	0.9804	Adder	1.15
943441	AF1-015 C	1.4043	50/50	1.4043
943442	AF1-015 E	1.9392	50/50	1.9392
943651	AF1-036 C	1.5040	Adder	1.77
943652	AF1-036 E	2.0769	Adder	2.44
945661	AF1-231 C	1.3989	Adder	1.65
945662	AF1-231 E	2.0984	Adder	2.47
945791	AF1-244	1.7371	50/50	1.7371
945931	AF1-258	0.6952	50/50	0.6952
945941	AF1-259	0.1437	Adder	0.17
957611	AF2-055 C	6.4424	Adder	7.58
957612	AF2-055 E	2.7610	Adder	3.25
957661	AF2-060	1.6562	Adder	1.95
957671	AF2-061 O1	7.3610	Adder	8.66
959021	AF2-193 C	21.6046	Adder	25.42
959022	AF2-193 E	58.2780	Adder	68.56
959031	AF2-194 C	21.6046	Adder	25.42
959032	AF2-194 E	58.2780	Adder	68.56
959051	AF2-196 C	1.6358	Adder	1.92
959052	AF2-196 E	3.8169	Adder	4.49
959161	AF2-207 C O1	3.7091	Adder	4.36
959162	AF2-207 E O1	5.5636	Adder	6.55
959571	AF2-248 C	0.6258	Adder	0.74
959572	AF2-248 E	0.6995	Adder	0.82
959581	AF2-249 C	0.1104	Adder	0.13
959582	AF2-249 E	0.4418	Adder	0.52
959591	AF2-250 C	0.2025	Adder	0.24
959592	AF2-250 E	0.1565	Adder	0.18

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960221	AF2-313 C	2.2807	Adder	2.68
960222	AF2-313 E	1.2930	Adder	1.52
960341	AF2-325 C	0.9209	50/50	0.9209
960342	AF2-325 E	1.2717	50/50	1.2717
960671	AF2-358 C O1	13.1412	50/50	13.1412
960672	AF2-358 E O1	8.7608	50/50	8.7608
960871	AF2-378 C	0.2433	50/50	0.2433
960872	AF2-378 E	0.3376	50/50	0.3376
960881	AF2-379 C	0.3562	50/50	0.3562
960882	AF2-379 E	0.4909	50/50	0.4909
960941	AF2-385 C	8.7944	Adder	10.35
960942	AF2-385 E	5.0043	Adder	5.89
960961	AF2-387 C O1	14.7346	50/50	14.7346
960962	AF2-387 E O1	7.3894	50/50	7.3894
961181	AF2-409 O1	22.0490	50/50	22.0490
NEWTON	NEWTON	0.7317	Confirmed LTF	0.7317
FARMERCITY	FARMERCITY	0.0382	Confirmed LTF	0.0382
G-007A	G-007A	3.8983	Confirmed LTF	3.8983
VFT	VFT	7.6884	Confirmed LTF	7.6884
GIBSON	GIBSON	0.3718	Confirmed LTF	0.3718
PRAIRIE	PRAIRIE	1.7642	Confirmed LTF	1.7642
COFFEEN	COFFEEN	0.1359	Confirmed LTF	0.1359
CHEOAH	CHEOAH	0.3468	Confirmed LTF	0.3468
EDWARDS	EDWARDS	0.2380	Confirmed LTF	0.2380
TILTON	TILTON	0.4284	Confirmed LTF	0.4284
CALDERWOOD	CALDERWOOD	0.3444	Confirmed LTF	0.3444
BLUEG	BLUEG	1.1822	Confirmed LTF	1.1822
TRIMBLE	TRIMBLE	0.3790	Confirmed LTF	0.3790
CATAWBA	CATAWBA	0.2457	Confirmed LTF	0.2457

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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
10207268 0	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH215/ * $ CHESCO $ PEACH215 $ STBK	breaker	378.0	132.97	135.13	AC	9.67

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200062	SALEM G3	1.9695	Adder	2.32
231708	CHRIST3	0.9501	Adder	1.12
231902	DC CT7	1.0551	50/50	1.0551
231903	GEN4	1.2118	50/50	1.2118
231904	DC1 NUG	3.1396	50/50	3.1396
231905	DC2 NUG	3.1396	50/50	3.1396
231906	DC3 NUG	1.3328	50/50	1.3328
231907	DC10	0.3295	50/50	0.3295
231915	DC CT6	1.0181	50/50	1.0181
232405	W1-003 E	0.3632	Adder	0.43
232407	W1-004 E	0.3632	Adder	0.43
232409	W1-005 E	0.3632	Adder	0.43
232411	W1-006 E	0.3632	Adder	0.43
232412	X1-032 E	0.3234	Adder	0.38
232416	X2-083	0.0531	50/50	0.0531
232418	X3-008 E	1.0556	Adder	1.24
232422	X3-066 FULL	0.0470	50/50	0.0470
232423	X3-066 E	0.4566	50/50	0.4566
232424	Y1-079 C	0.0737	50/50	0.0737
232425	Y1-079 E	0.7152	50/50	0.7152
232427	Y1-080 E	0.1752	Adder	0.21
232429	Y3-058 E	0.7577	Adder	0.89
232433	Z2-076 E	0.1603	Adder	0.19
232435	Z2-077 E	0.1603	Adder	0.19
232436	AB1-176 C	0.1853	50/50	0.1853
232922	**MR3 (Deactivation : 01/06/2021)**	**7.5507**	**Adder**	**8.88**
917082	Z2-012 E	1.0001	Adder	1.18
919831	**AA2-069 (Suspended)**	**33.3860**	**Adder**	**39.28**
923282	AB1-137 C	0.3341	Adder	0.39
923283	AB1-137 E	0.1432	Adder	0.17
923322	AB1-141 C OP	1.6648	50/50	1.6648
923323	AB1-141 E OP	0.7769	50/50	0.7769
923332	AB1-142 C OP	1.6648	50/50	1.6648
923603	AB1-176 E	0.3056	50/50	0.3056
923921	AB2-032 C	1.6772	50/50	1.6772
923922	AB2-032 E	0.7892	50/50	0.7892
923951	AB2-036 C	3.9783	50/50	3.9783
923952	AB2-036 E	6.5088	50/50	6.5088
923961	AB2-037 C	6.3715	Adder	7.5
923962	AB2-037 E	10.4087	Adder	12.25
924681	AB2-120 C OP	3.0643	Adder	3.61

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924682	AB2-120 E OP	4.9996	Adder	5.88
924781	AB2-130 C OP	2.6093	Adder	3.07
924782	AB2-130 E OP	4.2573	Adder	5.01
924801	AB2-133 C OP	3.2046	50/50	3.2046
924802	AB2-133 E OP	4.0644	50/50	4.0644
924821	AB2-135 C	3.6864	50/50	3.6864
924822	AB2-135 E	4.2042	50/50	4.2042
924831	AB2-136 C	2.0819	Adder	2.45
924832	AB2-136 E	2.2078	Adder	2.6
924971	AB2-153 C	0.9372	50/50	0.9372
924972	AB2-153 E	1.5292	50/50	1.5292
925151	AB2-172 C OP	1.6174	Adder	1.9
925152	AB2-172 E OP	2.6390	Adder	3.1
925251	AB2-179 C OP	6.1837	50/50	6.1837
925252	AB2-179 E OP	2.0393	50/50	2.0393
925261	AB2-180 C	1.1406	Adder	1.34
925262	AB2-180 E	0.4888	Adder	0.58
925271	AB2-185 C OP	1.6150	50/50	1.6150
925272	AB2-185 E OP	0.6922	50/50	0.6922
926131	AC1-091 C	0.5577	Adder	0.66
926132	AC1-091 E	0.9147	Adder	1.08
926141	AC1-092 C	0.5577	Adder	0.66
926142	AC1-092 E	0.9147	Adder	1.08
926151	AC1-093 C	0.5280	Adder	0.62
926152	AC1-093 E	0.8701	Adder	1.02
926161	AC1-094 C	0.4462	Adder	0.52
926162	AC1-094 E	0.7362	Adder	0.87
927031	AC1-190 C	2.9723	Adder	3.5
927032	AC1-190 E	1.2739	Adder	1.5
927191	AC1-213 C	0.2594	Adder	0.31
927192	AC1-213 E	0.1702	Adder	0.2
930201	AB1-056 C	5.1078	Adder	6.01
930202	AB1-056 E	14.5461	Adder	17.11
930881	AB1-137 C	0.3341	Adder	0.39
930882	AB1-137 E	0.1432	Adder	0.17
930932	AB1-142 E OP	0.7769	50/50	0.7769
932082	AC2-018 E1	1.6515	Adder	1.94
932092	AC2-018 E2	1.6515	Adder	1.94
932161	AC2-023 C	2.1667	Adder	2.55
932162	AC2-023 E	1.5780	Adder	1.86
933631	AC2-185 C	1.1304	Adder	1.33
933632	AC2-185 E	1.8443	Adder	2.17
933641	AC2-186 C	1.5506	Adder	1.82
933642	AC2-186 E	2.5299	Adder	2.98
936451	AD2-059 C	0.0323	50/50	0.0323
936452	AD2-059 E	0.1014	50/50	0.1014
936611	AD2-076 C O1	2.3323	50/50	2.3323
936612	AD2-076 E O1	3.8054	50/50	3.8054
938651	AE1-087 C	1.3620	Adder	1.6
938652	AE1-087 E	0.3405	Adder	0.4
938811	AE1-107 C	4.9482	50/50	4.9482
938812	AE1-107 E	3.5276	50/50	3.5276

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	3.3010	Adder	3.88
938892	AE1-117 E O1	8.7895	Adder	10.34
939151	AE1-145	1.6128	Adder	1.9
941021	AE2-093 C	1.7636	Adder	2.07
941022	AE2-093 E	2.8020	Adder	3.3
941181	AE2-112 C	0.8092	50/50	0.8092
941182	AE2-112 E	1.3202	50/50	1.3202
942441	AE2-257 C	2.6238	Adder	3.09
942442	AE2-257 E	6.9173	Adder	8.14
943361	AF1-007 C	0.1507	Adder	0.18
943362	AF1-007 E	0.4283	Adder	0.5
943441	AF1-015 C	0.5640	Adder	0.66
943442	AF1-015 E	0.7788	Adder	0.92
943651	AF1-036 C	1.0522	50/50	1.0522
943652	AF1-036 E	1.4530	50/50	1.4530
945661	AF1-231 C	0.6130	Adder	0.72
945662	AF1-231 E	0.9195	Adder	1.08
945791	AF1-244	0.6472	Adder	0.76
945931	AF1-258	0.2607	Adder	0.31
945941	AF1-259	0.0982	50/50	0.0982
957611	AF2-055 C	2.8230	Adder	3.32
957612	AF2-055 E	1.2098	Adder	1.42
957661	AF2-060	0.7258	Adder	0.85
957671	AF2-061 O1	3.2256	Adder	3.79
959021	AF2-193 C	9.4383	Adder	11.1
959022	AF2-193 E	25.4596	Adder	29.95
959031	AF2-194 C	9.4383	Adder	11.1
959032	AF2-194 E	25.4596	Adder	29.95
959051	AF2-196 C	0.7156	Adder	0.84
959052	AF2-196 E	1.6697	Adder	1.96
959161	AF2-207 C O1	1.6327	Adder	1.92
959162	AF2-207 E O1	2.4491	Adder	2.88
959173	AF2-208 BAT	21.1015	50/50	21.1015
959571	AF2-248 C	0.2754	Adder	0.32
959572	AF2-248 E	0.3079	Adder	0.36
959581	AF2-249 C	0.0486	Adder	0.06
959582	AF2-249 E	0.1944	Adder	0.23
959591	AF2-250 C	0.0891	Adder	0.1
959592	AF2-250 E	0.0689	Adder	0.08
960221	AF2-313 C	1.5587	50/50	1.5587
960222	AF2-313 E	0.8837	50/50	0.8837
960341	AF2-325 C	0.3543	Adder	0.42
960342	AF2-325 E	0.4893	Adder	0.58
960671	AF2-358 C O1	4.9955	Adder	5.88
960672	AF2-358 E O1	3.3303	Adder	3.92
960871	AF2-378 C	0.0934	Adder	0.11
960872	AF2-378 E	0.1296	Adder	0.15
960881	AF2-379 C	0.1329	Adder	0.16
960882	AF2-379 E	0.1831	Adder	0.22
960941	AF2-385 C	3.8712	Adder	4.55
960942	AF2-385 E	2.2029	Adder	2.59
960961	AF2-387 C O1	7.2427	50/50	7.2427

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960962	AF2-387 E O1	3.6323	50/50	3.6323
961181	AF2-409 O1	8.2186	Adder	9.67
NEWTON	NEWTON	0.6984	Confirmed LTF	0.6984
FARMERCITY	FARMERCITY	0.0366	Confirmed LTF	0.0366
G-007A	G-007A	4.1645	Confirmed LTF	4.1645
VFT	VFT	9.5396	Confirmed LTF	9.5396
GIBSON	GIBSON	0.3544	Confirmed LTF	0.3544
PRAIRIE	PRAIRIE	1.6919	Confirmed LTF	1.6919
COFFEEN	COFFEEN	0.1297	Confirmed LTF	0.1297
CHEOAH	CHEOAH	0.3413	Confirmed LTF	0.3413
EDWARDS	EDWARDS	0.2261	Confirmed LTF	0.2261
TILTON	TILTON	0.4070	Confirmed LTF	0.4070
CALDERWOOD	CALDERWOOD	0.3385	Confirmed LTF	0.3385
BLUEG	BLUEG	1.1267	Confirmed LTF	1.1267
TRIMBLE	TRIMBLE	0.3612	Confirmed LTF	0.3612
CATAWBA	CATAWBA	0.2478	Confirmed LTF	0.2478

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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
100371862	232006	INDRIV 4	DP&L	232004	MILF_230	DP&L	1	DPL_P4-2_DP36	breaker	805.0	124.79	127.84	AC	29.76

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	1.8278	Adder	2.15
232407	W1-004 E	1.8278	Adder	2.15
232409	W1-005 E	1.8278	Adder	2.15
232411	W1-006 E	1.8278	Adder	2.15
232412	X1-032 E	1.5485	Adder	1.82
232418	X3-008 E	2.5632	Adder	3.02
232427	Y1-080 E	0.5170	Adder	0.61
232429	Y3-058 E	3.1519	Adder	3.71
232432	Z2-076 C	0.3757	50/50	0.3757
232433	Z2-076 E	1.1263	50/50	1.1263
232434	Z2-077 C	0.3757	50/50	0.3757
232435	Z2-077 E	1.1263	50/50	1.1263
232904	IR4	44.5330	50/50	44.5330
232905	BAYVIEW1	1.0060	50/50	1.0060
232915	OH NUG4	2.5938	50/50	2.5938
232916	OH NUG5	2.5938	50/50	2.5938
232920	IR10	1.5591	50/50	1.5591
232921	TASLEY2G	1.7415	50/50	1.7415
917081	Z2-012 C	0.6116	50/50	0.6116
917082	Z2-012 E	5.9386	50/50	5.9386
923282	AB1-137 C	2.4535	50/50	2.4535
923283	AB1-137 E	1.0515	50/50	1.0515
924681	AB2-120 C OP	18.2658	50/50	18.2658
924682	AB2-120 E OP	29.8022	50/50	29.8022
924781	AB2-130 C OP	9.9365	Adder	11.69
924782	AB2-130 E OP	16.2122	Adder	19.07
924831	AB2-136 C	5.8156	Adder	6.84
924832	AB2-136 E	6.1673	Adder	7.26
925151	AB2-172 C OP	3.9275	Adder	4.62
925152	AB2-172 E OP	6.4081	Adder	7.54
925261	AB2-180 C	4.7448	Adder	5.58
925262	AB2-180 E	2.0335	Adder	2.39
927031	AC1-190 C	7.4048	Adder	8.71
927032	AC1-190 E	3.1735	Adder	3.73
927191	AC1-213 C	1.1620	Adder	1.37
927192	AC1-213 E	0.7626	Adder	0.9
930201	AB1-056 C	41.2347	50/50	41.2347
930202	AB1-056 E	117.4292	50/50	117.4292
930881	AB1-137 C	2.4535	50/50	2.4535
930882	AB1-137 E	1.0515	50/50	1.0515
932161	AC2-023 C	8.5286	Adder	10.03
932162	AC2-023 E	6.2114	Adder	7.31

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938651	AE1-087 C	3.3074	Adder	3.89
938652	AE1-087 E	0.8268	Adder	0.97
938891	AE1-117 C O1	24.1144	50/50	24.1144
938892	AE1-117 E O1	64.2082	50/50	64.2082
939151	AE1-145	9.6138	50/50	9.6138
942441	AE2-257 C	18.9770	50/50	18.9770
942442	AE2-257 E	50.0302	50/50	50.0302
943361	AF1-007 C	1.2166	50/50	1.2166
943362	AF1-007 E	3.4576	50/50	3.4576
945661	AF1-231 C	3.0925	Adder	3.64
945662	AF1-231 E	4.6388	Adder	5.46
945791	AF1-244	3.0603	Adder	3.6
945931	AF1-258	1.0845	Adder	1.28
957611	AF2-055 C	16.7622	50/50	16.7622
957612	AF2-055 E	7.1838	50/50	7.1838
957661	AF2-060	4.3262	50/50	4.3262
957671	AF2-061 O1	19.2276	50/50	19.2276
959021	AF2-193 C	76.1945	50/50	76.1945
959022	AF2-193 E	205.5331	50/50	205.5331
959031	AF2-194 C	76.1945	50/50	76.1945
959032	AF2-194 E	205.5331	50/50	205.5331
959051	AF2-196 C	5.1755	50/50	5.1755
959052	AF2-196 E	12.0763	50/50	12.0763
959161	AF2-207 C O1	6.8863	Adder	8.1
959162	AF2-207 E O1	10.3294	Adder	12.15
959571	AF2-248 C	1.1885	Adder	1.4
959572	AF2-248 E	1.3284	Adder	1.56
959581	AF2-249 C	0.2097	Adder	0.25
959582	AF2-249 E	0.8390	Adder	0.99
959591	AF2-250 C	0.3845	Adder	0.45
959592	AF2-250 E	0.2971	Adder	0.35
960341	AF2-325 C	0.9438	Adder	1.11
960342	AF2-325 E	1.3033	Adder	1.53
960671	AF2-358 C O1	15.0261	Adder	17.68
960672	AF2-358 E O1	10.0174	Adder	11.79
960871	AF2-378 C	0.2553	Adder	0.3
960872	AF2-378 E	0.3542	Adder	0.42
960881	AF2-379 C	0.6040	Adder	0.71
960882	AF2-379 E	0.8323	Adder	0.98
960941	AF2-385 C	16.3276	Adder	19.21
960942	AF2-385 E	9.2910	Adder	10.93
961181	AF2-409 O1	25.2994	Adder	29.76
NEWTON	NEWTON	0.3202	Confirmed LTF	0.3202
FARMERCITY	FARMERCITY	0.0167	Confirmed LTF	0.0167
GIBSON	GIBSON	0.1627	Confirmed LTF	0.1627
NY	NY	0.1759	Confirmed LTF	0.1759
PRAIRIE	PRAIRIE	0.7697	Confirmed LTF	0.7697
O-066	O-066	2.1706	Confirmed LTF	2.1706
COFFEEN	COFFEEN	0.0595	Confirmed LTF	0.0595
CHEOAH	CHEOAH	0.1491	Confirmed LTF	0.1491
EDWARDS	EDWARDS	0.1043	Confirmed LTF	0.1043
TILTON	TILTON	0.1877	Confirmed LTF	0.1877

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007	G-007	0.3422	Confirmed LTF	0.3422
CALDERWOOD	CALDERWOOD	0.1481	Confirmed LTF	0.1481
BLUEG	BLUEG	0.5173	Confirmed LTF	0.5173
TRIMBLE	TRIMBLE	0.1658	Confirmed LTF	0.1658
CATAWBA	CATAWBA	0.1043	Confirmed LTF	0.1043

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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
161331383	232100	CHURCH	DP&L	232107	TOWNSEND	DP&L	1	DPL_P7_1_DBL_1NCB_FSA	tower	348.0	157.07	163.35	AC	22.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5258	50/50	0.5258
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5258	50/50	0.5258
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5258	50/50	0.5258
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5258	50/50	0.5258
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3221	50/50	0.3221
232418	X3-008 E	3.1274	50/50	3.1274
232422	X3-066 FULL	0.1610	50/50	0.1610
232423	X3-066 E	1.5631	50/50	1.5631
232424	Y1-079 C	0.2373	50/50	0.2373
232425	Y1-079 E	2.3037	50/50	2.3037
232426	Y1-080 FULL	0.0505	50/50	0.0505
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2024	50/50	0.2024
232429	Y3-058 E	1.9654	50/50	1.9654
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1126	50/50	0.1126
232902	EASTMUNI	3.6108	50/50	3.6108
232907	VN8	5.8097	50/50	5.8097
232910	NRG_G1	1.7729	50/50	1.7729
232911	NRG_G2	1.7729	50/50	1.7729
232916	OH NUG5	1.0932	50/50	1.0932
232919	VN10	0.3926	50/50	0.3926
232922	**MR3 (Deactivation : 01/06/2021)**	**9.0844**	**Adder**	**10.69**
232926	CRISFLD1	0.3453	50/50	0.3453
293670	O-025 C	0.2078	50/50	0.2078
917082	Z2-012 E	2.1261	Adder	2.5
918831	AA1-102	1.2949	50/50	1.2949
919831	**AA2-069 (Suspended)**	**40.1674**	**Adder**	**47.26**
923282	AB1-137 C	0.6590	Adder	0.78
923283	AB1-137 E	0.2824	Adder	0.33
923322	AB1-141 C OP	5.7564	50/50	5.7564
923323	AB1-141 E OP	2.6863	50/50	2.6863
923332	AB1-142 C OP	5.7564	50/50	5.7564
923603	AB1-176 E	1.0463	50/50	1.0463

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923921	AB2-032 C	5.7990	50/50	5.7990
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6921	50/50	12.6921
923952	AB2-036 E	20.7656	50/50	20.7656
924681	AB2-120 C OP	6.5088	Adder	7.66
924682	AB2-120 E OP	10.6196	Adder	12.49
924781	AB2-130 C OP	5.4759	Adder	6.44
924782	AB2-130 E OP	8.9344	Adder	10.51
924801	AB2-133 C OP	11.5590	50/50	11.5590
924802	AB2-133 E OP	14.6603	50/50	14.6603
924821	AB2-135 C	12.3185	50/50	12.3185
924822	AB2-135 E	14.0489	50/50	14.0489
924831	AB2-136 C	5.9518	50/50	5.9518
924832	AB2-136 E	6.3117	50/50	6.3117
924971	AB2-153 C	3.2406	50/50	3.2406
924972	AB2-153 E	5.2874	50/50	5.2874
925151	AB2-172 C OP	4.7920	50/50	4.7920
925152	AB2-172 E OP	7.8185	50/50	7.8185
925251	AB2-179 C OP	-9.1303	Adder	-10.74
925261	AB2-180 C	2.9586	50/50	2.9586
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2020	50/50	5.2020
925272	AB2-185 E OP	2.2294	50/50	2.2294
926131	AC1-091 C	0.6416	Adder	0.75
926132	AC1-091 E	1.0522	Adder	1.24
926141	AC1-092 C	0.6416	Adder	0.75
926142	AC1-092 E	1.0522	Adder	1.24
926151	AC1-093 C	0.6074	Adder	0.71
926152	AC1-093 E	1.0009	Adder	1.18
926161	AC1-094 C	0.5133	Adder	0.6
926162	AC1-094 E	0.8469	Adder	1.0
927031	AC1-190 C	8.7528	50/50	8.7528
927032	AC1-190 E	3.7512	50/50	3.7512
927191	AC1-213 C	0.6595	50/50	0.6595
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9430	Adder	11.7
930202	AB1-056 E	28.3159	Adder	33.31
930881	AB1-137 C	0.6590	Adder	0.78
930882	AB1-137 E	0.2824	Adder	0.33
930932	AB1-142 E OP	2.6863	50/50	2.6863
932161	AC2-023 C	5.6980	50/50	5.6980
932162	AC2-023 E	4.1499	50/50	4.1499
933631	AC2-185 C	1.3003	Adder	1.53
933632	AC2-185 E	2.1215	Adder	2.5
933641	AC2-186 C	3.1355	Adder	3.69
933642	AC2-186 E	5.1159	Adder	6.02
936611	AD2-076 C O1	8.1870	50/50	8.1870
936612	AD2-076 E O1	13.3578	50/50	13.3578
938651	AE1-087 C	4.0354	50/50	4.0354
938652	AE1-087 E	1.0088	50/50	1.0088
938891	AE1-117 C O1	6.5132	Adder	7.66
938892	AE1-117 E O1	17.3423	Adder	20.4

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939151	AE1-145	3.4252	Adder	4.03
941021	AE2-093 C	5.9736	50/50	5.9736
941022	AE2-093 E	9.4911	50/50	9.4911
941181	AE2-112 C	2.8404	50/50	2.8404
941182	AE2-112 E	4.6343	50/50	4.6343
942441	AE2-257 C	5.1660	Adder	6.08
942442	AE2-257 E	13.6194	Adder	16.02
943361	AF1-007 C	0.2933	Adder	0.35
943362	AF1-007 E	0.8337	Adder	0.98
943441	AF1-015 C	1.9103	50/50	1.9103
943442	AF1-015 E	2.6381	50/50	2.6381
943651	AF1-036 C	3.6934	50/50	3.6934
943652	AF1-036 E	5.1004	50/50	5.1004
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9551	Adder	2.3
945791	AF1-244	1.6439	50/50	1.6439
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
957611	AF2-055 C	6.0012	Adder	7.06
957612	AF2-055 E	2.5719	Adder	3.03
957661	AF2-060	1.5413	Adder	1.81
957671	AF2-061 O1	6.8503	Adder	8.06
959021	AF2-193 C	18.3729	Adder	21.62
959022	AF2-193 E	49.5605	Adder	58.31
959031	AF2-194 C	18.3729	Adder	21.62
959032	AF2-194 E	49.5605	Adder	58.31
959051	AF2-196 C	1.4089	Adder	1.66
959052	AF2-196 E	3.2874	Adder	3.87
959161	AF2-207 C O1	4.1270	50/50	4.1270
959162	AF2-207 E O1	6.1904	50/50	6.1904
959571	AF2-248 C	0.6977	50/50	0.6977
959572	AF2-248 E	0.7798	50/50	0.7798
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4925	50/50	0.4925
959591	AF2-250 C	0.2257	50/50	0.2257
959592	AF2-250 E	0.1744	50/50	0.1744
960221	AF2-313 C	5.3365	50/50	5.3365
960222	AF2-313 E	3.0254	50/50	3.0254
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4169	50/50	1.4169
960671	AF2-358 C O1	13.9788	50/50	13.9788
960672	AF2-358 E O1	9.3192	50/50	9.3192
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3726	50/50	0.3726
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C	9.7851	50/50	9.7851
960942	AF2-385 E	5.5681	50/50	5.5681
960961	AF2-387 C O1	21.8281	50/50	21.8281
960962	AF2-387 E O1	10.9469	50/50	10.9469
961181	AF2-409 O1	22.5970	50/50	22.5970
NEWTON	NEWTON	0.1880	Confirmed LTF	0.1880

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
FARMERCITY	FARMERCITY	0.0098	Confirmed LTF	0.0098
GIBSON	GIBSON	0.0956	Confirmed LTF	0.0956
NY	NY	0.0614	Confirmed LTF	0.0614
PRAIRIE	PRAIRIE	0.4520	Confirmed LTF	0.4520
O-066	O-066	0.5443	Confirmed LTF	0.5443
COFFEEN	COFFEEN	0.0349	Confirmed LTF	0.0349
CHEOAH	CHEOAH	0.0881	Confirmed LTF	0.0881
EDWARDS	EDWARDS	0.0613	Confirmed LTF	0.0613
TILTON	TILTON	0.1103	Confirmed LTF	0.1103
G-007	G-007	0.0541	Confirmed LTF	0.0541
CALDERWOOD	CALDERWOOD	0.0875	Confirmed LTF	0.0875
BLUEG	BLUEG	0.3038	Confirmed LTF	0.3038
TRIMBLE	TRIMBLE	0.0974	Confirmed LTF	0.0974
CATAWBA	CATAWBA	0.0623	Confirmed LTF	0.0623

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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
161331384	232106	MIDLTNTP	DP&L	232104	MT PLSNT	DP&L	1	DPL_P7_1_DBL_1NCB_FSA	tower	348.0	153.15	159.4	AC	22.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5258	50/50	0.5258
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5258	50/50	0.5258
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5258	50/50	0.5258
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5258	50/50	0.5258
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3221	50/50	0.3221
232418	X3-008 E	3.1274	50/50	3.1274
232422	X3-066 FULL	0.1610	50/50	0.1610
232423	X3-066 E	1.5631	50/50	1.5631
232424	Y1-079 C	0.2373	50/50	0.2373
232425	Y1-079 E	2.3037	50/50	2.3037
232426	Y1-080 FULL	0.0505	50/50	0.0505
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2024	50/50	0.2024
232429	Y3-058 E	1.9654	50/50	1.9654
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1126	50/50	0.1126
232902	EASTMUNI	3.6108	50/50	3.6108
232907	VN8	5.8097	50/50	5.8097
232910	NRG_G1	1.7729	50/50	1.7729
232911	NRG_G2	1.7729	50/50	1.7729
232916	OH NUG5	1.0932	50/50	1.0932
232919	VN10	0.3926	50/50	0.3926
232922	**MR3 (Deactivation : 01/06/2021)**	**9.0844**	**Adder**	**10.69**
232926	CRISFLD1	0.3453	50/50	0.3453
293670	O-025 C	0.2078	50/50	0.2078
917082	Z2-012 E	2.1261	Adder	2.5
918831	AA1-102	1.2949	50/50	1.2949
919831	**AA2-069 (Suspended)**	**40.1674**	**Adder**	**47.26**
923282	AB1-137 C	0.6590	Adder	0.78
923283	AB1-137 E	0.2824	Adder	0.33
923322	AB1-141 C OP	5.7564	50/50	5.7564
923323	AB1-141 E OP	2.6863	50/50	2.6863
923332	AB1-142 C OP	5.7564	50/50	5.7564
923603	AB1-176 E	1.0463	50/50	1.0463

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923921	AB2-032 C	5.7990	50/50	5.7990
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6921	50/50	12.6921
923952	AB2-036 E	20.7656	50/50	20.7656
924681	AB2-120 C OP	6.5088	Adder	7.66
924682	AB2-120 E OP	10.6196	Adder	12.49
924781	AB2-130 C OP	5.4759	Adder	6.44
924782	AB2-130 E OP	8.9344	Adder	10.51
924801	AB2-133 C OP	11.5590	50/50	11.5590
924802	AB2-133 E OP	14.6603	50/50	14.6603
924821	AB2-135 C	12.3185	50/50	12.3185
924822	AB2-135 E	14.0489	50/50	14.0489
924831	AB2-136 C	5.9518	50/50	5.9518
924832	AB2-136 E	6.3117	50/50	6.3117
924971	AB2-153 C	3.2406	50/50	3.2406
924972	AB2-153 E	5.2874	50/50	5.2874
925151	AB2-172 C OP	4.7920	50/50	4.7920
925152	AB2-172 E OP	7.8185	50/50	7.8185
925251	AB2-179 C OP	26.8584	50/50	26.8584
925252	AB2-179 E OP	8.8576	50/50	8.8576
925261	AB2-180 C	2.9586	50/50	2.9586
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2020	50/50	5.2020
925272	AB2-185 E OP	2.2294	50/50	2.2294
927031	AC1-190 C	8.7528	50/50	8.7528
927032	AC1-190 E	3.7512	50/50	3.7512
927191	AC1-213 C	0.6595	50/50	0.6595
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9430	Adder	11.7
930202	AB1-056 E	28.3159	Adder	33.31
930881	AB1-137 C	0.6590	Adder	0.78
930882	AB1-137 E	0.2824	Adder	0.33
930932	AB1-142 E OP	2.6863	50/50	2.6863
932161	AC2-023 C	5.6980	50/50	5.6980
932162	AC2-023 E	4.1499	50/50	4.1499
933641	AC2-186 C	3.1355	Adder	3.69
933642	AC2-186 E	5.1159	Adder	6.02
936611	AD2-076 C O1	8.1870	50/50	8.1870
936612	AD2-076 E O1	13.3578	50/50	13.3578
938651	AE1-087 C	4.0354	50/50	4.0354
938652	AE1-087 E	1.0088	50/50	1.0088
938891	AE1-117 C O1	6.5132	Adder	7.66
938892	AE1-117 E O1	17.3423	Adder	20.4
939151	AE1-145	3.4252	Adder	4.03
941021	AE2-093 C	5.9736	50/50	5.9736
941022	AE2-093 E	9.4911	50/50	9.4911
941181	AE2-112 C	2.8404	50/50	2.8404
941182	AE2-112 E	4.6343	50/50	4.6343
942441	AE2-257 C	5.1660	Adder	6.08
942442	AE2-257 E	13.6194	Adder	16.02
943361	AF1-007 C	0.2933	Adder	0.35
943362	AF1-007 E	0.8337	Adder	0.98

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943441	AF1-015 C	1.9103	50/50	1.9103
943442	AF1-015 E	2.6381	50/50	2.6381
943651	AF1-036 C	3.6934	50/50	3.6934
943652	AF1-036 E	5.1004	50/50	5.1004
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9551	Adder	2.3
945791	AF1-244	1.6439	50/50	1.6439
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
957611	AF2-055 C	6.0012	Adder	7.06
957612	AF2-055 E	2.5719	Adder	3.03
957661	AF2-060	1.5413	Adder	1.81
957671	AF2-061 O1	6.8503	Adder	8.06
959021	AF2-193 C	18.3729	Adder	21.62
959022	AF2-193 E	49.5605	Adder	58.31
959031	AF2-194 C	18.3729	Adder	21.62
959032	AF2-194 E	49.5605	Adder	58.31
959051	AF2-196 C	1.4089	Adder	1.66
959052	AF2-196 E	3.2874	Adder	3.87
959161	AF2-207 C O1	4.1270	50/50	4.1270
959162	AF2-207 E O1	6.1904	50/50	6.1904
959571	AF2-248 C	0.6977	50/50	0.6977
959572	AF2-248 E	0.7798	50/50	0.7798
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4925	50/50	0.4925
959591	AF2-250 C	0.2257	50/50	0.2257
959592	AF2-250 E	0.1744	50/50	0.1744
960221	AF2-313 C	5.3365	50/50	5.3365
960222	AF2-313 E	3.0254	50/50	3.0254
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4169	50/50	1.4169
960671	AF2-358 C O1	13.9788	50/50	13.9788
960672	AF2-358 E O1	9.3192	50/50	9.3192
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3726	50/50	0.3726
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C	9.7851	50/50	9.7851
960942	AF2-385 E	5.5681	50/50	5.5681
960961	AF2-387 C O1	21.8281	50/50	21.8281
960962	AF2-387 E O1	10.9469	50/50	10.9469
961181	AF2-409 O1	22.5970	50/50	22.5970
NEWTON	NEWTON	0.1880	Confirmed LTF	0.1880
FARMERCITY	FARMERCITY	0.0098	Confirmed LTF	0.0098
GIBSON	GIBSON	0.0956	Confirmed LTF	0.0956
NY	NY	0.0614	Confirmed LTF	0.0614
PRAIRIE	PRAIRIE	0.4520	Confirmed LTF	0.4520
O-066	O-066	0.5443	Confirmed LTF	0.5443
COFFEEN	COFFEEN	0.0349	Confirmed LTF	0.0349
CHEOAH	CHEOAH	0.0881	Confirmed LTF	0.0881
EDWARDS	EDWARDS	0.0613	Confirmed LTF	0.0613
TILTON	TILTON	0.1103	Confirmed LTF	0.1103

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007	G-007	0.0541	Confirmed LTF	0.0541
CALDERWOOD	CALDERWOOD	0.0875	Confirmed LTF	0.0875
BLUEG	BLUEG	0.3038	Confirmed LTF	0.3038
TRIMBLE	TRIMBLE	0.0974	Confirmed LTF	0.0974
CATAWBA	CATAWBA	0.0623	Confirmed LTF	0.0623

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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
161331378	232107	TOWNSEND	DP&L	232106	MIDLTNTP	DP&L	1	DPL_P7_1_DBL_1NCB_FSA	tower	348.0	162.29	168.53	AC	22.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5258	50/50	0.5258
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5258	50/50	0.5258
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5258	50/50	0.5258
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5258	50/50	0.5258
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3221	50/50	0.3221
232418	X3-008 E	3.1274	50/50	3.1274
232422	X3-066 FULL	0.1610	50/50	0.1610
232423	X3-066 E	1.5631	50/50	1.5631
232424	Y1-079 C	0.2373	50/50	0.2373
232425	Y1-079 E	2.3037	50/50	2.3037
232426	Y1-080 FULL	0.0505	50/50	0.0505
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2024	50/50	0.2024
232429	Y3-058 E	1.9654	50/50	1.9654
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1126	50/50	0.1126
232902	EASTMUNI	3.6108	50/50	3.6108
232907	VN8	5.8097	50/50	5.8097
232910	NRG_G1	1.7729	50/50	1.7729
232911	NRG_G2	1.7729	50/50	1.7729
232916	OH NUG5	1.0932	50/50	1.0932
232919	VN10	0.3926	50/50	0.3926
232922	**MR3 (Deactivation : 01/06/2021)**	**9.0844**	**Adder**	**10.69**
232926	CRISFLD1	0.3453	50/50	0.3453
293670	O-025 C	0.2078	50/50	0.2078
917082	Z2-012 E	2.1261	Adder	2.5
918831	AA1-102	1.2949	50/50	1.2949
919831	**AA2-069 (Suspended)**	**40.1674**	**Adder**	**47.26**
923282	AB1-137 C	0.6590	Adder	0.78
923283	AB1-137 E	0.2824	Adder	0.33
923322	AB1-141 C OP	5.7564	50/50	5.7564
923323	AB1-141 E OP	2.6863	50/50	2.6863
923332	AB1-142 C OP	5.7564	50/50	5.7564
923603	AB1-176 E	1.0463	50/50	1.0463

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923921	AB2-032 C	5.7990	50/50	5.7990
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6921	50/50	12.6921
923952	AB2-036 E	20.7656	50/50	20.7656
924681	AB2-120 C OP	6.5088	Adder	7.66
924682	AB2-120 E OP	10.6196	Adder	12.49
924781	AB2-130 C OP	5.4759	Adder	6.44
924782	AB2-130 E OP	8.9344	Adder	10.51
924801	AB2-133 C OP	11.5590	50/50	11.5590
924802	AB2-133 E OP	14.6603	50/50	14.6603
924821	AB2-135 C	12.3185	50/50	12.3185
924822	AB2-135 E	14.0489	50/50	14.0489
924831	AB2-136 C	5.9518	50/50	5.9518
924832	AB2-136 E	6.3117	50/50	6.3117
924971	AB2-153 C	3.2406	50/50	3.2406
924972	AB2-153 E	5.2874	50/50	5.2874
925151	AB2-172 C OP	4.7920	50/50	4.7920
925152	AB2-172 E OP	7.8185	50/50	7.8185
925251	AB2-179 C OP	26.8584	50/50	26.8584
925252	AB2-179 E OP	8.8576	50/50	8.8576
925261	AB2-180 C	2.9586	50/50	2.9586
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2020	50/50	5.2020
925272	AB2-185 E OP	2.2294	50/50	2.2294
927031	AC1-190 C	8.7528	50/50	8.7528
927032	AC1-190 E	3.7512	50/50	3.7512
927191	AC1-213 C	0.6595	50/50	0.6595
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9430	Adder	11.7
930202	AB1-056 E	28.3159	Adder	33.31
930881	AB1-137 C	0.6590	Adder	0.78
930882	AB1-137 E	0.2824	Adder	0.33
930932	AB1-142 E OP	2.6863	50/50	2.6863
932161	AC2-023 C	5.6980	50/50	5.6980
932162	AC2-023 E	4.1499	50/50	4.1499
933641	AC2-186 C	3.1355	Adder	3.69
933642	AC2-186 E	5.1159	Adder	6.02
936611	AD2-076 C O1	8.1870	50/50	8.1870
936612	AD2-076 E O1	13.3578	50/50	13.3578
938651	AE1-087 C	4.0354	50/50	4.0354
938652	AE1-087 E	1.0088	50/50	1.0088
938891	AE1-117 C O1	6.5132	Adder	7.66
938892	AE1-117 E O1	17.3423	Adder	20.4
939151	AE1-145	3.4252	Adder	4.03
941021	AE2-093 C	5.9736	50/50	5.9736
941022	AE2-093 E	9.4911	50/50	9.4911
941181	AE2-112 C	2.8404	50/50	2.8404
941182	AE2-112 E	4.6343	50/50	4.6343
942441	AE2-257 C	5.1660	Adder	6.08
942442	AE2-257 E	13.6194	Adder	16.02
943361	AF1-007 C	0.2933	Adder	0.35
943362	AF1-007 E	0.8337	Adder	0.98

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943441	AF1-015 C	1.9103	50/50	1.9103
943442	AF1-015 E	2.6381	50/50	2.6381
943651	AF1-036 C	3.6934	50/50	3.6934
943652	AF1-036 E	5.1004	50/50	5.1004
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9551	Adder	2.3
945791	AF1-244	1.6439	50/50	1.6439
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
957611	AF2-055 C	6.0012	Adder	7.06
957612	AF2-055 E	2.5719	Adder	3.03
957661	AF2-060	1.5413	Adder	1.81
957671	AF2-061 O1	6.8503	Adder	8.06
959021	AF2-193 C	18.3729	Adder	21.62
959022	AF2-193 E	49.5605	Adder	58.31
959031	AF2-194 C	18.3729	Adder	21.62
959032	AF2-194 E	49.5605	Adder	58.31
959051	AF2-196 C	1.4089	Adder	1.66
959052	AF2-196 E	3.2874	Adder	3.87
959161	AF2-207 C O1	4.1270	50/50	4.1270
959162	AF2-207 E O1	6.1904	50/50	6.1904
959571	AF2-248 C	0.6977	50/50	0.6977
959572	AF2-248 E	0.7798	50/50	0.7798
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4925	50/50	0.4925
959591	AF2-250 C	0.2257	50/50	0.2257
959592	AF2-250 E	0.1744	50/50	0.1744
960221	AF2-313 C	5.3365	50/50	5.3365
960222	AF2-313 E	3.0254	50/50	3.0254
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4169	50/50	1.4169
960671	AF2-358 C O1	13.9788	50/50	13.9788
960672	AF2-358 E O1	9.3192	50/50	9.3192
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3726	50/50	0.3726
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C	9.7851	50/50	9.7851
960942	AF2-385 E	5.5681	50/50	5.5681
960961	AF2-387 C O1	21.8281	50/50	21.8281
960962	AF2-387 E O1	10.9469	50/50	10.9469
961181	AF2-409 O1	22.5970	50/50	22.5970
NEWTON	NEWTON	0.1880	Confirmed LTF	0.1880
FARMERCITY	FARMERCITY	0.0098	Confirmed LTF	0.0098
GIBSON	GIBSON	0.0956	Confirmed LTF	0.0956
NY	NY	0.0614	Confirmed LTF	0.0614
PRAIRIE	PRAIRIE	0.4520	Confirmed LTF	0.4520
O-066	O-066	0.5443	Confirmed LTF	0.5443
COFFEEN	COFFEEN	0.0349	Confirmed LTF	0.0349
CHEOAH	CHEOAH	0.0881	Confirmed LTF	0.0881
EDWARDS	EDWARDS	0.0613	Confirmed LTF	0.0613
TILTON	TILTON	0.1103	Confirmed LTF	0.1103

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007	G-007	0.0541	Confirmed LTF	0.0541
CALDERWOOD	CALDERWOOD	0.0875	Confirmed LTF	0.0875
BLUEG	BLUEG	0.3038	Confirmed LTF	0.3038
TRIMBLE	TRIMBLE	0.0974	Confirmed LTF	0.0974
CATAWBA	CATAWBA	0.0623	Confirmed LTF	0.0623

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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
102072768	232117	VIENNA 8	DP&L	232116	VIENN138	DP&L	1	DPL_P4-2_DP6	breaker	482.0	119.24	127.69	AC	54.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	1.0221	50/50	1.0221
232405	W1-003 E	1.7669	50/50	1.7669
232406	W1-004 FULL	1.0221	50/50	1.0221
232407	W1-004 E	1.7669	50/50	1.7669
232408	W1-005 C	1.0221	50/50	1.0221
232409	W1-005 E	1.7669	50/50	1.7669
232410	W1-006 C	1.0221	50/50	1.0221
232411	W1-006 E	1.7669	50/50	1.7669
232412	X1-032 E	1.6381	50/50	1.6381
232418	X3-008 E	3.1054	Adder	3.65
232427	Y1-080 E	0.6790	Adder	0.8
232428	Y3-058 C	0.3767	50/50	0.3767
232429	Y3-058 E	3.6574	50/50	3.6574
232433	Z2-076 E	0.5299	Adder	0.62
232435	Z2-077 E	0.5299	Adder	0.62
232907	VN8	13.9705	50/50	13.9705
232912	OH NUG1	2.1222	50/50	2.1222
232914	OH NUG3	2.1222	50/50	2.1222
232915	OH NUG4	2.1222	50/50	2.1222
232916	OH NUG5	2.1222	50/50	2.1222
232917	OH NUG6	2.1128	50/50	2.1128
232919	VN10	0.7134	50/50	0.7134
232926	CRISFLD1	0.6951	50/50	0.6951
917082	Z2-012 E	4.1241	Adder	4.85
918831	AA1-102	2.6067	50/50	2.6067
923282	AB1-137 C	1.0600	Adder	1.25
923283	AB1-137 E	0.4543	Adder	0.53
924681	AB2-120 C OP	12.6038	Adder	14.83
924682	AB2-120 E OP	20.5641	Adder	24.19
924781	AB2-130 C OP	9.1969	Adder	10.82
924782	AB2-130 E OP	15.0054	Adder	17.65
924831	AB2-136 C	7.4845	Adder	8.81
924832	AB2-136 E	7.9371	Adder	9.34
925151	AB2-172 C OP	4.7583	Adder	5.6
925152	AB2-172 E OP	7.7635	Adder	9.13
925261	AB2-180 C	5.5058	50/50	5.5058
925262	AB2-180 E	2.3596	50/50	2.3596
927031	AC1-190 C	9.0794	Adder	10.68
927032	AC1-190 E	3.8912	Adder	4.58
927191	AC1-213 C	1.0517	Adder	1.24
927192	AC1-213 E	0.6902	Adder	0.81
930201	AB1-056 C	15.5626	Adder	18.31

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930202	AB1-056 E	44.3195	Adder	52.14
930881	AB1-137 C	1.0600	Adder	1.25
930882	AB1-137 E	0.4543	Adder	0.53
932161	AC2-023 C	10.5451	50/50	10.5451
932162	AC2-023 E	7.6800	50/50	7.6800
933641	AC2-186 C	3.1698	Adder	3.73
933642	AC2-186 E	5.1717	Adder	6.08
938651	AE1-087 C	4.0070	Adder	4.71
938652	AE1-087 E	1.0017	Adder	1.18
938891	AE1-117 C O1	10.4749	Adder	12.32
938892	AE1-117 E O1	27.8910	Adder	32.81
939151	AE1-145	6.6239	Adder	7.79
942441	AE2-257 C	8.2607	Adder	9.72
942442	AE2-257 E	21.7783	Adder	25.62
943361	AF1-007 C	0.4591	Adder	0.54
943362	AF1-007 E	1.3049	Adder	1.54
945661	AF1-231 C	2.5302	Adder	2.98
945662	AF1-231 E	3.7953	Adder	4.47
945791	AF1-244	3.3094	50/50	3.3094
945931	AF1-258	1.2585	50/50	1.2585
957611	AF2-055 C	11.6406	Adder	13.69
957612	AF2-055 E	4.9888	Adder	5.87
957661	AF2-060	2.9807	Adder	3.51
957671	AF2-061 O1	13.2478	Adder	15.59
959021	AF2-193 C	28.7569	Adder	33.83
959022	AF2-193 E	77.5713	Adder	91.26
959031	AF2-194 C	28.7569	Adder	33.83
959032	AF2-194 E	77.5713	Adder	91.26
959051	AF2-196 C	2.2529	Adder	2.65
959052	AF2-196 E	5.2568	Adder	6.18
959161	AF2-207 C O1	6.5792	Adder	7.74
959162	AF2-207 E O1	9.8688	Adder	11.61
959571	AF2-248 C	1.1125	Adder	1.31
959572	AF2-248 E	1.2434	Adder	1.46
959581	AF2-249 C	0.1963	Adder	0.23
959582	AF2-249 E	0.7853	Adder	0.92
959591	AF2-250 C	0.3599	Adder	0.42
959592	AF2-250 E	0.2781	Adder	0.33
960341	AF2-325 C	1.1916	Adder	1.4
960342	AF2-325 E	1.6455	Adder	1.94
960671	AF2-358 C O1	19.8752	Adder	23.38
960672	AF2-358 E O1	13.2501	Adder	15.59
960871	AF2-378 C	0.3258	Adder	0.38
960872	AF2-378 E	0.4519	Adder	0.53
960881	AF2-379 C	0.6760	50/50	0.6760
960882	AF2-379 E	0.9315	50/50	0.9315
960941	AF2-385 C	15.5995	Adder	18.35
960942	AF2-385 E	8.8767	Adder	10.44
961181	AF2-409 O1	54.3390	50/50	54.3390
NEWTON	NEWTON	0.2643	Confirmed LTF	0.2643
FARMERCITY	FARMERCITY	0.0138	Confirmed LTF	0.0138
GIBSON	GIBSON	0.1343	Confirmed LTF	0.1343

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
NY	NY	0.1123	Confirmed LTF	0.1123
PRAIRIE	PRAIRIE	0.6380	Confirmed LTF	0.6380
O-066	O-066	1.2096	Confirmed LTF	1.2096
COFFEEN	COFFEEN	0.0491	Confirmed LTF	0.0491
CHEOAH	CHEOAH	0.1236	Confirmed LTF	0.1236
EDWARDS	EDWARDS	0.0861	Confirmed LTF	0.0861
TILTON	TILTON	0.1550	Confirmed LTF	0.1550
G-007	G-007	0.1706	Confirmed LTF	0.1706
CALDERWOOD	CALDERWOOD	0.1228	Confirmed LTF	0.1228
BLUEG	BLUEG	0.4271	Confirmed LTF	0.4271
TRIMBLE	TRIMBLE	0.1369	Confirmed LTF	0.1369
CATAWBA	CATAWBA	0.0868	Confirmed LTF	0.0868

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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
112552957	232127	LORETTO	DP&L	232117	VIENNA 8	DP&L	1	DPL_P4-2_DP3	breaker	247.0	109.0	115.66	AC	16.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.9309	50/50	0.9309
232405	W1-003 E	1.6093	50/50	1.6093
232406	W1-004 FULL	0.9309	50/50	0.9309
232407	W1-004 E	1.6093	50/50	1.6093
232408	W1-005 C	0.9309	50/50	0.9309
232409	W1-005 E	1.6093	50/50	1.6093
232410	W1-006 C	0.9309	50/50	0.9309
232411	W1-006 E	1.6093	50/50	1.6093
232412	X1-032 E	1.6236	50/50	1.6236
232429	Y3-058 E	0.9022	Adder	1.06
232433	Z2-076 E	0.1903	Adder	0.22
232435	Z2-077 E	0.1903	Adder	0.22
232912	OH NUG1	1.9253	50/50	1.9253
232914	OH NUG3	1.9253	50/50	1.9253
232915	OH NUG4	1.9253	50/50	1.9253
232916	OH NUG5	1.9253	50/50	1.9253
232917	OH NUG6	1.9167	50/50	1.9167
232918	OH NUG7	1.9124	50/50	1.9124
232926	CRISFLD1	0.7019	50/50	0.7019
917082	Z2-012 E	3.7239	Adder	4.38
918831	AA1-102	2.6320	50/50	2.6320
923282	AB1-137 C	0.3638	Adder	0.43
923283	AB1-137 E	0.1559	Adder	0.18
924681	AB2-120 C OP	11.3509	Adder	13.35
924682	AB2-120 E OP	18.5198	Adder	21.79
925261	AB2-180 C	1.3581	Adder	1.6
925262	AB2-180 E	0.5821	Adder	0.68
927191	AC1-213 C	0.4513	Adder	0.53
927192	AC1-213 E	0.2962	Adder	0.35
930201	AB1-056 C	6.3854	Adder	7.51
930202	AB1-056 E	18.1846	Adder	21.39
930881	AB1-137 C	0.3638	Adder	0.43
930882	AB1-137 E	0.1559	Adder	0.18
932161	AC2-023 C	1.7486	Adder	2.06
932162	AC2-023 E	1.2735	Adder	1.5
938891	AE1-117 C O1	3.5977	Adder	4.23
938892	AE1-117 E O1	9.5794	Adder	11.27
939151	AE1-145	5.9078	Adder	6.95
942441	AE2-257 C	2.8165	Adder	3.31
942442	AE2-257 E	7.4253	Adder	8.74
943361	AF1-007 C	0.1884	Adder	0.22
943362	AF1-007 E	0.5354	Adder	0.63

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945661	AF1-231 C	2.2954	Adder	2.7
945662	AF1-231 E	3.4431	Adder	4.05
945791	AF1-244	3.3414	50/50	3.3414
945931	AF1-258	0.3104	Adder	0.37
957611	AF2-055 C	10.5110	Adder	12.37
957612	AF2-055 E	4.5047	Adder	5.3
957661	AF2-060	2.6585	Adder	3.13
957671	AF2-061 O1	11.8157	Adder	13.9
959021	AF2-193 C	11.7991	Adder	13.88
959022	AF2-193 E	31.8280	Adder	37.44
959031	AF2-194 C	11.7991	Adder	13.88
959032	AF2-194 E	31.8280	Adder	37.44
959051	AF2-196 C	0.7681	Adder	0.9
959052	AF2-196 E	1.7923	Adder	2.11
959161	AF2-207 C O1	1.2374	Adder	1.46
959162	AF2-207 E O1	1.8561	Adder	2.18
959571	AF2-248 C	0.3092	Adder	0.36
959572	AF2-248 E	0.3455	Adder	0.41
959581	AF2-249 C	0.0546	Adder	0.06
959582	AF2-249 E	0.2182	Adder	0.26
959591	AF2-250 C	0.1000	Adder	0.12
959592	AF2-250 E	0.0773	Adder	0.09
960881	AF2-379 C	0.5853	50/50	0.5853
960882	AF2-379 E	0.8065	50/50	0.8065
960941	AF2-385 C	2.9339	Adder	3.45
960942	AF2-385 E	1.6695	Adder	1.96
961182	AF2-409 BAT	16.4770	Merchant Transmission	16.4770
NEWTON	NEWTON	0.1300	Confirmed LTF	0.1300
FARMERCITY	FARMERCITY	0.0068	Confirmed LTF	0.0068
GIBSON	GIBSON	0.0661	Confirmed LTF	0.0661
NY	NY	0.0559	Confirmed LTF	0.0559
PRAIRIE	PRAIRIE	0.3125	Confirmed LTF	0.3125
O-066	O-066	0.6115	Confirmed LTF	0.6115
COFFEEN	COFFEEN	0.0241	Confirmed LTF	0.0241
CHEOAH	CHEOAH	0.0606	Confirmed LTF	0.0606
EDWARDS	EDWARDS	0.0424	Confirmed LTF	0.0424
TILTON	TILTON	0.0762	Confirmed LTF	0.0762
G-007	G-007	0.0863	Confirmed LTF	0.0863
CALDERWOOD	CALDERWOOD	0.0601	Confirmed LTF	0.0601
BLUEG	BLUEG	0.2101	Confirmed LTF	0.2101
TRIMBLE	TRIMBLE	0.0673	Confirmed LTF	0.0673
CATAWBA	CATAWBA	0.0424	Confirmed LTF	0.0424

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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
102072662	232128	PINEY138	DP&L	232127	LORETTO	DP&L	1	DPL_P4-2_DP58	breaker	158.0	149.33	158.82	AC	15.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	1.2123	Adder	1.43
232407	W1-004 E	1.2123	Adder	1.43
232409	W1-005 E	1.2123	Adder	1.43
232411	W1-006 E	1.2123	Adder	1.43
232912	OH NUG1	1.7187	50/50	1.7187
232913	OH NUG2	1.6958	50/50	1.6958
232914	OH NUG3	1.7187	50/50	1.7187
232915	OH NUG4	1.7187	50/50	1.7187
232916	OH NUG5	1.7187	50/50	1.7187
232917	OH NUG6	1.7110	50/50	1.7110
232918	OH NUG7	1.7072	50/50	1.7072
917082	Z2-012 E	3.3222	Adder	3.91
924681	AB2-120 C OP	12.0688	50/50	12.0688
924682	AB2-120 E OP	19.6912	50/50	19.6912
930201	AB1-056 C	3.4618	Adder	4.07
930202	AB1-056 E	9.8585	Adder	11.6
938653	AE1-087 BAT	1.4798	Merchant Transmission	1.4798
939151	AE1-145	5.3208	Adder	6.26
943361	AF1-007 C	0.1021	Adder	0.12
943362	AF1-007 E	0.2903	Adder	0.34
945661	AF1-231 C	2.0491	Adder	2.41
945662	AF1-231 E	3.6161	50/50	3.6161
945792	AF1-244 BAT	3.6112	50/50	3.6112
957611	AF2-055 C	9.3772	Adder	11.03
957612	AF2-055 E	4.0188	Adder	4.73
957661	AF2-060	2.3944	Adder	2.82
957671	AF2-061 O1	10.6417	Adder	12.52
959021	AF2-193 C	6.3967	Adder	7.53
959022	AF2-193 E	17.2550	Adder	20.3
959031	AF2-194 C	6.3967	Adder	7.53
959032	AF2-194 E	17.2550	Adder	20.3
961182	AF2-409 BAT	15.0650	Merchant Transmission	15.0650
NEWTON	NEWTON	0.0731	Confirmed LTF	0.0731
FARMERCITY	FARMERCITY	0.0038	Confirmed LTF	0.0038
GIBSON	GIBSON	0.0371	Confirmed LTF	0.0371
NY	NY	0.0332	Confirmed LTF	0.0332
PRAIRIE	PRAIRIE	0.1756	Confirmed LTF	0.1756
O-066	O-066	0.3763	Confirmed LTF	0.3763
COFFEEN	COFFEEN	0.0136	Confirmed LTF	0.0136
CHEOAH	CHEOAH	0.0340	Confirmed LTF	0.0340
EDWARDS	EDWARDS	0.0238	Confirmed LTF	0.0238
TILTON	TILTON	0.0428	Confirmed LTF	0.0428

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007	G-007	0.0551	Confirmed LTF	0.0551
CALDERWOOD	CALDERWOOD	0.0338	Confirmed LTF	0.0338
BLUEG	BLUEG	0.1180	Confirmed LTF	0.1180
TRIMBLE	TRIMBLE	0.0378	Confirmed LTF	0.0378
CATAWBA	CATAWBA	0.0238	Confirmed LTF	0.0238

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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
102072666	232215	KENT	DP&L	232812	NMEREDTH	DP&L	1	DPL_P4-2_DP11	breaker	93.0	143.15	147.79	AC	5.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.2067	Adder	0.24
232407	W1-004 E	0.2067	Adder	0.24
232409	W1-005 E	0.2067	Adder	0.24
232411	W1-006 E	0.2067	Adder	0.24
232412	X1-032 E	0.1823	Adder	0.21
232429	Y3-058 E	0.4017	Adder	0.47
232433	Z2-076 E	0.0983	Adder	0.12
232435	Z2-077 E	0.0983	Adder	0.12
232813	VAUGHN	0.1246	50/50	0.1246
232899	W1-062	0.9091	50/50	0.9091
232900	DEMECSMY	0.9091	50/50	0.9091
232910	NRG_G1	2.2495	50/50	2.2495
232911	NRG_G2	2.2495	50/50	2.2495
917082	Z2-012 E	0.5697	Adder	0.67
923282	AB1-137 C	0.2078	Adder	0.24
923283	AB1-137 E	0.0891	Adder	0.1
923322	AB1-141 C OP	-1.0388	Adder	-1.22
923332	AB1-142 C OP	-1.0388	Adder	-1.22
923921	AB2-032 C	-1.0465	Adder	-1.23
924681	AB2-120 C OP	1.7465	Adder	2.05
924682	AB2-120 E OP	2.8495	Adder	3.35
924781	AB2-130 C OP	1.7505	Adder	2.06
924782	AB2-130 E OP	2.8561	Adder	3.36
924971	AB2-153 C	-0.5848	Adder	-0.69
925251	AB2-179 C OP	-2.0560	Adder	-2.42
925261	AB2-180 C	0.6046	Adder	0.71
925262	AB2-180 E	0.2591	Adder	0.3
926131	AC1-091 C	0.4457	Adder	0.52
926132	AC1-091 E	0.7309	Adder	0.86
926141	AC1-092 C	0.4457	Adder	0.52
926142	AC1-092 E	0.7309	Adder	0.86
926151	AC1-093 C	0.4219	Adder	0.5
926152	AC1-093 E	0.6953	Adder	0.82
926161	AC1-094 C	0.3565	Adder	0.42
926162	AC1-094 E	0.5883	Adder	0.69
927191	AC1-213 C	0.1456	Adder	0.17
927192	AC1-213 E	0.0956	Adder	0.11
930201	AB1-056 C	3.1065	Adder	3.65
930202	AB1-056 E	8.8468	Adder	10.41
930881	AB1-137 C	0.2078	Adder	0.24
930882	AB1-137 E	0.0891	Adder	0.1
933631	AC2-185 C	0.9032	Adder	1.06

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933632	AC2-185 E	1.4737	Adder	1.73
933641	AC2-186 C	2.7814	50/50	2.7814
933642	AC2-186 E	4.5381	50/50	4.5381
938891	AE1-117 C O1	2.0512	Adder	2.41
938892	AE1-117 E O1	5.4617	Adder	6.43
939151	AE1-145	0.9194	Adder	1.08
942441	AE2-257 C	1.6286	Adder	1.92
942442	AE2-257 E	4.2935	Adder	5.05
943361	AF1-007 C	0.0917	Adder	0.11
943362	AF1-007 E	0.2605	Adder	0.31
945661	AF1-231 C	0.3491	Adder	0.41
945662	AF1-231 E	0.5236	Adder	0.62
945791	AF1-244	0.3640	Adder	0.43
945931	AF1-258	0.1382	Adder	0.16
957611	AF2-055 C	1.6080	Adder	1.89
957612	AF2-055 E	0.6891	Adder	0.81
957661	AF2-060	0.4137	Adder	0.49
957671	AF2-061 O1	1.8387	Adder	2.16
959021	AF2-193 C	5.7403	Adder	6.75
959022	AF2-193 E	15.4842	Adder	18.22
959031	AF2-194 C	5.7403	Adder	6.75
959032	AF2-194 E	15.4842	Adder	18.22
959051	AF2-196 C	0.4442	Adder	0.52
959052	AF2-196 E	1.0364	Adder	1.22
959161	AF2-207 C O1	0.9764	Adder	1.15
959162	AF2-207 E O1	1.4646	Adder	1.72
959571	AF2-248 C	0.1610	Adder	0.19
959572	AF2-248 E	0.1799	Adder	0.21
959581	AF2-249 C	0.0284	Adder	0.03
959582	AF2-249 E	0.1136	Adder	0.13
959591	AF2-250 C	0.0521	Adder	0.06
959592	AF2-250 E	0.0402	Adder	0.05
960881	AF2-379 C	0.0744	Adder	0.09
960882	AF2-379 E	0.1025	Adder	0.12
960941	AF2-385 C	2.3151	Adder	2.72
960942	AF2-385 E	1.3174	Adder	1.55
961181	AF2-409 O1	4.3104	Adder	5.07
NEWTON	NEWTON	0.0666	Confirmed LTF	0.0666
FARMERCITY	FARMERCITY	0.0035	Confirmed LTF	0.0035
GIBSON	GIBSON	0.0339	Confirmed LTF	0.0339
NY	NY	0.0188	Confirmed LTF	0.0188
PRAIRIE	PRAIRIE	0.1601	Confirmed LTF	0.1601
O-066	O-066	0.1478	Confirmed LTF	0.1478
COFFEEN	COFFEEN	0.0124	Confirmed LTF	0.0124
CHEOAH	CHEOAH	0.0310	Confirmed LTF	0.0310
EDWARDS	EDWARDS	0.0217	Confirmed LTF	0.0217
TILTON	TILTON	0.0391	Confirmed LTF	0.0391
G-007	G-007	0.0114	Confirmed LTF	0.0114
CALDERWOOD	CALDERWOOD	0.0308	Confirmed LTF	0.0308
BLUEG	BLUEG	0.1076	Confirmed LTF	0.1076
TRIMBLE	TRIMBLE	0.0345	Confirmed LTF	0.0345
CATAWBA	CATAWBA	0.0221	Confirmed LTF	0.0221

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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
102072685	232230	TRAP ALT	DP&L	232232	TRAPPETP	DP&L	1	DPL_P4-2_DP11	breaker	173.0	118.9	126.97	AC	14.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2856	50/50	0.2856
232405	W1-003 E	0.4937	50/50	0.4937
232406	W1-004 FULL	0.2856	50/50	0.2856
232407	W1-004 E	0.4937	50/50	0.4937
232408	W1-005 C	0.2856	50/50	0.2856
232409	W1-005 E	0.4937	50/50	0.4937
232410	W1-006 C	0.2856	50/50	0.2856
232411	W1-006 E	0.4937	50/50	0.4937
232412	X1-032 E	0.4570	50/50	0.4570
232417	X3-008 C	0.4876	50/50	0.4876
232418	X3-008 E	4.7346	50/50	4.7346
232426	Y1-080 FULL	0.0563	50/50	0.0563
232427	Y1-080 E	0.5493	50/50	0.5493
232428	Y3-058 C	0.1431	50/50	0.1431
232429	Y3-058 E	1.3891	50/50	1.3891
232433	Z2-076 E	0.1460	Adder	0.17
232435	Z2-077 E	0.1460	Adder	0.17
232905	BAYVIEW1	0.2299	50/50	0.2299
232907	VN8	3.7117	50/50	3.7117
232916	OH NUG5	0.5929	50/50	0.5929
232919	VN10	0.3685	50/50	0.3685
232921	TASLEY2G	0.3980	50/50	0.3980
232926	CRISFLD1	0.1939	50/50	0.1939
293670	O-025 C	0.1301	50/50	0.1301
917081	Z2-012 C	0.1398	50/50	0.1398
917082	Z2-012 E	1.3571	50/50	1.3571
918831	AA1-102	0.7270	50/50	0.7270
923282	AB1-137 C	0.2780	Adder	0.33
923283	AB1-137 E	0.1191	Adder	0.14
924681	AB2-120 C OP	3.5210	Adder	4.14
924682	AB2-120 E OP	5.7448	Adder	6.76
924781	AB2-130 C OP	3.7190	50/50	3.7190
924782	AB2-130 E OP	6.0679	50/50	6.0679
924831	AB2-136 C	7.3691	50/50	7.3691
924832	AB2-136 E	7.8148	50/50	7.8148
925151	AB2-172 C OP	7.2546	50/50	7.2546
925152	AB2-172 E OP	11.8364	50/50	11.8364
925261	AB2-180 C	2.0912	50/50	2.0912
925262	AB2-180 E	0.8962	50/50	0.8962
927031	AC1-190 C	12.8457	50/50	12.8457
927032	AC1-190 E	5.5053	50/50	5.5053
927191	AC1-213 C	0.4130	50/50	0.4130

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927192	AC1-213 E	0.2710	50/50	0.2710
930201	AB1-056 C	3.9752	Adder	4.68
930202	AB1-056 E	11.3207	Adder	13.32
930881	AB1-137 C	0.2780	Adder	0.33
930882	AB1-137 E	0.1191	Adder	0.14
932161	AC2-023 C	4.3375	50/50	4.3375
932162	AC2-023 E	3.1590	50/50	3.1590
938651	AE1-087 C	6.1091	50/50	6.1091
938652	AE1-087 E	1.5273	50/50	1.5273
938891	AE1-117 C O1	2.7539	Adder	3.24
938892	AE1-117 E O1	7.3327	Adder	8.63
939151	AE1-145	1.8552	Adder	2.18
942441	AE2-257 C	2.1683	Adder	2.55
942442	AE2-257 E	5.7163	Adder	6.73
943361	AF1-007 C	0.1173	Adder	0.14
943362	AF1-007 E	0.3333	Adder	0.39
945661	AF1-231 C	0.7069	Adder	0.83
945662	AF1-231 E	1.0604	Adder	1.25
945791	AF1-244	0.9230	50/50	0.9230
945931	AF1-258	0.4780	50/50	0.4780
957611	AF2-055 C	3.8304	50/50	3.8304
957612	AF2-055 E	1.6416	50/50	1.6416
957661	AF2-060	0.8348	Adder	0.98
957671	AF2-061 O1	3.7104	Adder	4.37
959021	AF2-193 C	7.3455	Adder	8.64
959022	AF2-193 E	19.8144	Adder	23.31
959031	AF2-194 C	7.3455	Adder	8.64
959032	AF2-194 E	19.8144	Adder	23.31
959051	AF2-196 C	0.5913	Adder	0.7
959052	AF2-196 E	1.3798	Adder	1.62
959161	AF2-207 C O1	2.4521	50/50	2.4521
959162	AF2-207 E O1	3.6781	50/50	3.6781
959571	AF2-248 C	0.4229	50/50	0.4229
959572	AF2-248 E	0.4726	50/50	0.4726
959581	AF2-249 C	0.0746	50/50	0.0746
959582	AF2-249 E	0.2985	50/50	0.2985
959591	AF2-250 C	0.1368	50/50	0.1368
959592	AF2-250 E	0.1057	50/50	0.1057
960341	AF2-325 C	1.3732	50/50	1.3732
960342	AF2-325 E	1.8963	50/50	1.8963
960671	AF2-358 C O1	14.9130	50/50	14.9130
960672	AF2-358 E O1	9.9420	50/50	9.9420
960871	AF2-378 C	0.3450	50/50	0.3450
960872	AF2-378 E	0.4787	50/50	0.4787
960881	AF2-379 C	0.1996	50/50	0.1996
960882	AF2-379 E	0.2751	50/50	0.2751
960941	AF2-385 C	5.8139	50/50	5.8139
960942	AF2-385 E	3.3083	50/50	3.3083
961181	AF2-409 O1	14.4370	50/50	14.4370
NEWTON	NEWTON	0.0731	Confirmed LTF	0.0731
FARMERCITY	FARMERCITY	0.0038	Confirmed LTF	0.0038
GIBSON	GIBSON	0.0371	Confirmed LTF	0.0371

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
NY	NY	0.0277	Confirmed LTF	0.0277
PRAIRIE	PRAIRIE	0.1756	Confirmed LTF	0.1756
O-066	O-066	0.2822	Confirmed LTF	0.2822
COFFEEN	COFFEEN	0.0136	Confirmed LTF	0.0136
CHEOAH	CHEOAH	0.0340	Confirmed LTF	0.0340
EDWARDS	EDWARDS	0.0238	Confirmed LTF	0.0238
TILTON	TILTON	0.0428	Confirmed LTF	0.0428
G-007	G-007	0.0364	Confirmed LTF	0.0364
CALDERWOOD	CALDERWOOD	0.0338	Confirmed LTF	0.0338
BLUEG	BLUEG	0.1180	Confirmed LTF	0.1180
TRIMBLE	TRIMBLE	0.0378	Confirmed LTF	0.0378
CATAWBA	CATAWBA	0.0238	Confirmed LTF	0.0238

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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
102072686	232232	TRAPPETP	DP&L	232227	EASTN_69	DP&L	1	DPL_P4-2_DP11	breaker	173.0	118.85	127.27	AC	14.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2957	50/50	0.2957
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.2957	50/50	0.2957
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.2957	50/50	0.2957
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.2957	50/50	0.2957
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5049	50/50	0.5049
232418	X3-008 E	4.9022	50/50	4.9022
232426	Y1-080 FULL	0.0583	50/50	0.0583
232427	Y1-080 E	0.5687	50/50	0.5687
232428	Y3-058 C	0.1481	50/50	0.1481
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232907	VN8	3.8431	50/50	3.8431
232914	OH NUG3	0.6139	50/50	0.6139
232915	OH NUG4	0.6139	50/50	0.6139
232916	OH NUG5	0.6139	50/50	0.6139
232919	VN10	0.3816	50/50	0.3816
232926	CRISFLD1	0.2007	50/50	0.2007
293670	O-025 C	0.1347	50/50	0.1347
917082	Z2-012 E	1.1943	Adder	1.41
918831	AA1-102	0.7527	50/50	0.7527
923282	AB1-137 C	0.2878	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6457	Adder	4.29
924682	AB2-120 E OP	5.9482	Adder	7.0
924781	AB2-130 C OP	3.8508	50/50	3.8508
924782	AB2-130 E OP	6.2829	50/50	6.2829
924831	AB2-136 C	7.6300	50/50	7.6300
924832	AB2-136 E	8.0915	50/50	8.0915
925151	AB2-172 C OP	7.5115	50/50	7.5115
925152	AB2-172 E OP	12.2555	50/50	12.2555
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3007	50/50	13.3007
927032	AC1-190 E	5.7003	50/50	5.7003
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1159	Adder	4.84
930202	AB1-056 E	11.7214	Adder	13.79
930881	AB1-137 C	0.2878	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4910	50/50	4.4910
932162	AC2-023 E	3.2708	50/50	3.2708
938651	AE1-087 C	6.3254	50/50	6.3254
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
939151	AE1-145	1.9208	Adder	2.26
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3451	Adder	0.41
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945791	AF1-244	0.9556	50/50	0.9556
945931	AF1-258	0.4949	50/50	0.4949
957611	AF2-055 C	3.3710	Adder	3.97
957612	AF2-055 E	1.4447	Adder	1.7
957661	AF2-060	0.8644	Adder	1.02
957671	AF2-061 O1	3.8417	Adder	4.52
959021	AF2-193 C	7.6055	Adder	8.95
959022	AF2-193 E	20.5156	Adder	24.14
959031	AF2-194 C	7.6055	Adder	8.95
959032	AF2-194 E	20.5156	Adder	24.14
959051	AF2-196 C	0.6123	Adder	0.72
959052	AF2-196 E	1.4287	Adder	1.68
959161	AF2-207 C O1	2.5387	50/50	2.5387
959162	AF2-207 E O1	3.8081	50/50	3.8081
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O1	15.4410	50/50	15.4410
960672	AF2-358 E O1	10.2940	50/50	10.2940
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C	6.0195	50/50	6.0195
960942	AF2-385 E	3.4253	50/50	3.4253
961181	AF2-409 O1	14.9480	50/50	14.9480
NEWTON	NEWTON	0.0752	Confirmed LTF	0.0752
FARMERCITY	FARMERCITY	0.0039	Confirmed LTF	0.0039
GIBSON	GIBSON	0.0382	Confirmed LTF	0.0382
NY	NY	0.0288	Confirmed LTF	0.0288

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
PRAIRIE	PRAIRIE	0.1808	Confirmed LTF	0.1808
O-066	O-066	0.2890	Confirmed LTF	0.2890
COFFEEN	COFFEEN	0.0140	Confirmed LTF	0.0140
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0245	Confirmed LTF	0.0245
TILTON	TILTON	0.0441	Confirmed LTF	0.0441
G-007	G-007	0.0374	Confirmed LTF	0.0374
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
BLUEG	BLUEG	0.1215	Confirmed LTF	0.1215
TRIMBLE	TRIMBLE	0.0390	Confirmed LTF	0.0390
CATAWBA	CATAWBA	0.0245	Confirmed LTF	0.0245

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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
102072523	232233	PRESTON	DP&L	232821	TANYARD	DP&L	1	DPL_P4-2_DP11	breaker	93.0	247.84	263.47	AC	14.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2957	50/50	0.2957
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.2957	50/50	0.2957
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.2957	50/50	0.2957
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.2957	50/50	0.2957
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5049	50/50	0.5049
232418	X3-008 E	4.9022	50/50	4.9022
232426	Y1-080 FULL	0.0583	50/50	0.0583
232427	Y1-080 E	0.5687	50/50	0.5687
232428	Y3-058 C	0.1481	50/50	0.1481
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232907	VN8	3.8431	50/50	3.8431
232914	OH NUG3	0.6139	50/50	0.6139
232915	OH NUG4	0.6139	50/50	0.6139
232916	OH NUG5	0.6139	50/50	0.6139
232919	VN10	0.3816	50/50	0.3816
232926	CRISFLD1	0.2007	50/50	0.2007
293670	O-025 C	0.1347	50/50	0.1347
917082	Z2-012 E	1.1943	Adder	1.41
918831	AA1-102	0.7527	50/50	0.7527
923282	AB1-137 C	0.2878	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6457	Adder	4.29
924682	AB2-120 E OP	5.9482	Adder	7.0
924781	AB2-130 C OP	3.8508	50/50	3.8508
924782	AB2-130 E OP	6.2829	50/50	6.2829
924831	AB2-136 C	7.6300	50/50	7.6300
924832	AB2-136 E	8.0915	50/50	8.0915
925151	AB2-172 C OP	7.5115	50/50	7.5115
925152	AB2-172 E OP	12.2555	50/50	12.2555
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3007	50/50	13.3007
927032	AC1-190 E	5.7003	50/50	5.7003
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1159	Adder	4.84
930202	AB1-056 E	11.7214	Adder	13.79
930881	AB1-137 C	0.2878	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4910	50/50	4.4910
932162	AC2-023 E	3.2708	50/50	3.2708
938651	AE1-087 C	6.3254	50/50	6.3254
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
939151	AE1-145	1.9208	Adder	2.26
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3451	Adder	0.41
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945791	AF1-244	0.9556	50/50	0.9556
945931	AF1-258	0.4949	50/50	0.4949
957611	AF2-055 C	3.3710	Adder	3.97
957612	AF2-055 E	1.4447	Adder	1.7
957661	AF2-060	0.8644	Adder	1.02
957671	AF2-061 O1	3.8417	Adder	4.52
959021	AF2-193 C	7.6055	Adder	8.95
959022	AF2-193 E	20.5156	Adder	24.14
959031	AF2-194 C	7.6055	Adder	8.95
959032	AF2-194 E	20.5156	Adder	24.14
959051	AF2-196 C	0.6123	Adder	0.72
959052	AF2-196 E	1.4287	Adder	1.68
959161	AF2-207 C O1	2.5387	50/50	2.5387
959162	AF2-207 E O1	3.8081	50/50	3.8081
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O1	15.4410	50/50	15.4410
960672	AF2-358 E O1	10.2940	50/50	10.2940
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C	6.0195	50/50	6.0195
960942	AF2-385 E	3.4253	50/50	3.4253
961181	AF2-409 O1	14.9480	50/50	14.9480
NEWTON	NEWTON	0.0752	Confirmed LTF	0.0752
FARMERCITY	FARMERCITY	0.0039	Confirmed LTF	0.0039
GIBSON	GIBSON	0.0382	Confirmed LTF	0.0382
NY	NY	0.0288	Confirmed LTF	0.0288

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
PRAIRIE	PRAIRIE	0.1808	Confirmed LTF	0.1808
O-066	O-066	0.2890	Confirmed LTF	0.2890
COFFEEN	COFFEEN	0.0140	Confirmed LTF	0.0140
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0245	Confirmed LTF	0.0245
TILTON	TILTON	0.0441	Confirmed LTF	0.0441
G-007	G-007	0.0374	Confirmed LTF	0.0374
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
BLUEG	BLUEG	0.1215	Confirmed LTF	0.1215
TRIMBLE	TRIMBLE	0.0390	Confirmed LTF	0.0390
CATAWBA	CATAWBA	0.0245	Confirmed LTF	0.0245

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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
102072508	232234	TODD	DP&L	232233	PRESTON	DP&L	1	DPL_P4-2_DP11	breaker	93.0	252.62	268.26	AC	14.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2957	50/50	0.2957
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.2957	50/50	0.2957
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.2957	50/50	0.2957
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.2957	50/50	0.2957
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5049	50/50	0.5049
232418	X3-008 E	4.9022	50/50	4.9022
232426	Y1-080 FULL	0.0583	50/50	0.0583
232427	Y1-080 E	0.5687	50/50	0.5687
232428	Y3-058 C	0.1481	50/50	0.1481
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232907	VN8	3.8431	50/50	3.8431
232914	OH NUG3	0.6139	50/50	0.6139
232915	OH NUG4	0.6139	50/50	0.6139
232916	OH NUG5	0.6139	50/50	0.6139
232919	VN10	0.3816	50/50	0.3816
232926	CRISFLD1	0.2007	50/50	0.2007
293670	O-025 C	0.1347	50/50	0.1347
917082	Z2-012 E	1.1943	Adder	1.41
918831	AA1-102	0.7527	50/50	0.7527
923282	AB1-137 C	0.2878	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6457	Adder	4.29
924682	AB2-120 E OP	5.9482	Adder	7.0
924781	AB2-130 C OP	3.8508	50/50	3.8508
924782	AB2-130 E OP	6.2829	50/50	6.2829
924831	AB2-136 C	7.6300	50/50	7.6300
924832	AB2-136 E	8.0915	50/50	8.0915
925151	AB2-172 C OP	7.5115	50/50	7.5115
925152	AB2-172 E OP	12.2555	50/50	12.2555
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3007	50/50	13.3007
927032	AC1-190 E	5.7003	50/50	5.7003
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1159	Adder	4.84
930202	AB1-056 E	11.7214	Adder	13.79
930881	AB1-137 C	0.2878	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4910	50/50	4.4910
932162	AC2-023 E	3.2708	50/50	3.2708
938651	AE1-087 C	6.3254	50/50	6.3254
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
939151	AE1-145	1.9208	Adder	2.26
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3451	Adder	0.41
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945791	AF1-244	0.9556	50/50	0.9556
945931	AF1-258	0.4949	50/50	0.4949
957611	AF2-055 C	3.3710	Adder	3.97
957612	AF2-055 E	1.4447	Adder	1.7
957661	AF2-060	0.8644	Adder	1.02
957671	AF2-061 O1	3.8417	Adder	4.52
959021	AF2-193 C	7.6055	Adder	8.95
959022	AF2-193 E	20.5156	Adder	24.14
959031	AF2-194 C	7.6055	Adder	8.95
959032	AF2-194 E	20.5156	Adder	24.14
959051	AF2-196 C	0.6123	Adder	0.72
959052	AF2-196 E	1.4287	Adder	1.68
959161	AF2-207 C O1	2.5387	50/50	2.5387
959162	AF2-207 E O1	3.8081	50/50	3.8081
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O1	15.4410	50/50	15.4410
960672	AF2-358 E O1	10.2940	50/50	10.2940
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C	6.0195	50/50	6.0195
960942	AF2-385 E	3.4253	50/50	3.4253
961181	AF2-409 O1	14.9480	50/50	14.9480
NEWTON	NEWTON	0.0752	Confirmed LTF	0.0752
FARMERCITY	FARMERCITY	0.0039	Confirmed LTF	0.0039
GIBSON	GIBSON	0.0382	Confirmed LTF	0.0382
NY	NY	0.0288	Confirmed LTF	0.0288

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
PRAIRIE	PRAIRIE	0.1808	Confirmed LTF	0.1808
O-066	O-066	0.2890	Confirmed LTF	0.2890
COFFEEN	COFFEEN	0.0140	Confirmed LTF	0.0140
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0245	Confirmed LTF	0.0245
TILTON	TILTON	0.0441	Confirmed LTF	0.0441
G-007	G-007	0.0374	Confirmed LTF	0.0374
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
BLUEG	BLUEG	0.1215	Confirmed LTF	0.1215
TRIMBLE	TRIMBLE	0.0390	Confirmed LTF	0.0390
CATAWBA	CATAWBA	0.0245	Confirmed LTF	0.0245

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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
102072635	232241	VIENN_69	DP&L	232838	MARDELA	DP&L	1	DPL_P4-2_DP56	breaker	64.0	137.45	143.91	AC	5.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1841	50/50	0.1841
232418	X3-008 E	1.7872	50/50	1.7872
232426	Y1-080 FULL	0.0374	50/50	0.0374
232427	Y1-080 E	0.3652	50/50	0.3652
232919	VN10	0.3197	50/50	0.3197
924831	AB2-136 C	4.0945	50/50	4.0945
924832	AB2-136 E	4.3421	50/50	4.3421
925151	AB2-172 C OP	2.7385	50/50	2.7385
925152	AB2-172 E OP	4.4680	50/50	4.4680
927031	AC1-190 C	5.1726	50/50	5.1726
927032	AC1-190 E	2.2169	50/50	2.2169
938651	AE1-087 C	2.3061	50/50	2.3061
938652	AE1-087 E	0.5765	50/50	0.5765
939152	AE1-145 BAT	1.9916	Merchant Transmission	1.9916
945663	AF1-231 BAT	1.9002	50/50	1.9002
945792	AF1-244 BAT	0.9508	50/50	0.9508
957613	AF2-055 BAT	3.0081	50/50	3.0081
957662	AF2-060 BAT	0.8962	Merchant Transmission	0.8962
957672	AF2-061 BAT	3.9832	Merchant Transmission	3.9832
959163	AF2-207 BAT	4.2906	Merchant Transmission	4.2906
959583	AF2-249 BAT	0.3913	50/50	0.3913
960341	AF2-325 C	0.6624	50/50	0.6624
960342	AF2-325 E	0.9148	50/50	0.9148
960671	AF2-358 C O1	10.6278	50/50	10.6278
960672	AF2-358 E O1	7.0852	50/50	7.0852
960871	AF2-378 C	0.1795	50/50	0.1795
960872	AF2-378 E	0.2490	50/50	0.2490
961181	AF2-409 O1	4.3622	Adder	5.13
WEC	WEC	0.0095	Confirmed LTF	0.0095
LGEE	LGEE	0.0171	Confirmed LTF	0.0171
CPLE	CPLE	0.0198	Confirmed LTF	0.0198
G-007A	G-007A	0.0527	Confirmed LTF	0.0527
VFT	VFT	0.1548	Confirmed LTF	0.1548
CBM-W2	CBM-W2	0.2457	Confirmed LTF	0.2457
TVA	TVA	0.0420	Confirmed LTF	0.0420
CBM-S2	CBM-S2	0.1734	Confirmed LTF	0.1734
CBM-S1	CBM-S1	0.2556	Confirmed LTF	0.2556
MEC	MEC	0.0477	Confirmed LTF	0.0477
CBM-W1	CBM-W1	0.3753	Confirmed LTF	0.3753

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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
102072694	232241	VIENN_69	DP&L	232234	TODD	DP&L	1	DPL_P4-2_DP11	breaker	143.0	120.15	128.36	AC	11.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.3455	Adder	0.41
232407	W1-004 E	0.3455	Adder	0.41
232409	W1-005 E	0.3455	Adder	0.41
232411	W1-006 E	0.3455	Adder	0.41
232412	X1-032 E	0.3198	Adder	0.38
232428	Y3-058 C	0.1178	50/50	0.1178
232429	Y3-058 E	1.1435	50/50	1.1435
232433	Z2-076 E	0.1202	Adder	0.14
232435	Z2-077 E	0.1202	Adder	0.14
232907	VN8	3.0556	50/50	3.0556
232919	VN10	0.3033	50/50	0.3033
293670	O-025 C	0.1071	50/50	0.1071
917082	Z2-012 E	0.9497	Adder	1.12
923282	AB1-137 C	0.2289	Adder	0.27
923283	AB1-137 E	0.0981	Adder	0.12
924681	AB2-120 C OP	2.8989	Adder	3.41
924682	AB2-120 E OP	4.7298	Adder	5.56
924781	AB2-130 C OP	2.6027	Adder	3.06
924782	AB2-130 E OP	4.2466	Adder	5.0
925261	AB2-180 C	1.7214	50/50	1.7214
925262	AB2-180 E	0.7378	50/50	0.7378
927191	AC1-213 C	0.3400	50/50	0.3400
927192	AC1-213 E	0.2231	50/50	0.2231
930201	AB1-056 C	3.2735	Adder	3.85
930202	AB1-056 E	9.3222	Adder	10.97
930881	AB1-137 C	0.2289	Adder	0.27
930882	AB1-137 E	0.0981	Adder	0.12
932161	AC2-023 C	3.5706	50/50	3.5706
932162	AC2-023 E	2.6005	50/50	2.6005
938653	AE1-087 BAT	9.6116	50/50	9.6116
938891	AE1-117 C O1	2.2678	Adder	2.67
938892	AE1-117 E O1	6.0384	Adder	7.1
939151	AE1-145	1.5275	Adder	1.8
942441	AE2-257 C	1.7854	Adder	2.1
942442	AE2-257 E	4.7069	Adder	5.54
943361	AF1-007 C	0.0966	Adder	0.11
943362	AF1-007 E	0.2745	Adder	0.32
945661	AF1-231 C	0.5820	Adder	0.68
945662	AF1-231 E	0.8730	Adder	1.03
945791	AF1-244	0.6459	Adder	0.76
945931	AF1-258	0.3935	50/50	0.3935
957611	AF2-055 C	2.6805	Adder	3.15

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957612	AF2-055 E	1.1488	Adder	1.35
957661	AF2-060	0.6874	Adder	0.81
957671	AF2-061 O1	3.0549	Adder	3.59
959021	AF2-193 C	6.0488	Adder	7.12
959022	AF2-193 E	16.3164	Adder	19.2
959031	AF2-194 C	6.0488	Adder	7.12
959032	AF2-194 E	16.3164	Adder	19.2
959051	AF2-196 C	0.4869	Adder	0.57
959052	AF2-196 E	1.1362	Adder	1.34
959161	AF2-207 C O1	2.0186	50/50	2.0186
959162	AF2-207 E O1	3.0279	50/50	3.0279
959571	AF2-248 C	0.3482	50/50	0.3482
959572	AF2-248 E	0.3891	50/50	0.3891
959581	AF2-249 C	0.0614	50/50	0.0614
959582	AF2-249 E	0.2458	50/50	0.2458
959591	AF2-250 C	0.1126	50/50	0.1126
959592	AF2-250 E	0.0870	50/50	0.0870
960881	AF2-379 C	0.1644	50/50	0.1644
960882	AF2-379 E	0.2265	50/50	0.2265
960941	AF2-385 C	4.7862	50/50	4.7862
960942	AF2-385 E	2.7235	50/50	2.7235
961181	AF2-409 O1	11.8850	50/50	11.8850
NEWTON	NEWTON	0.0569	Confirmed LTF	0.0569
FARMERCITY	FARMERCITY	0.0030	Confirmed LTF	0.0030
GIBSON	GIBSON	0.0289	Confirmed LTF	0.0289
NY	NY	0.0210	Confirmed LTF	0.0210
PRAIRIE	PRAIRIE	0.1369	Confirmed LTF	0.1369
O-066	O-066	0.2150	Confirmed LTF	0.2150
COFFEEN	COFFEEN	0.0106	Confirmed LTF	0.0106
CHEOAH	CHEOAH	0.0265	Confirmed LTF	0.0265
EDWARDS	EDWARDS	0.0186	Confirmed LTF	0.0186
TILTON	TILTON	0.0334	Confirmed LTF	0.0334
G-007	G-007	0.0270	Confirmed LTF	0.0270
CALDERWOOD	CALDERWOOD	0.0263	Confirmed LTF	0.0263
BLUEG	BLUEG	0.0920	Confirmed LTF	0.0920
TRIMBLE	TRIMBLE	0.0295	Confirmed LTF	0.0295
CATAWBA	CATAWBA	0.0186	Confirmed LTF	0.0186

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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
102072958	232241	VIENN_69	DP&L	232239	SHARPTWN	DP&L	1	DPL_P1_2_CKT 13707	single	42.0	106.18	118.37	AC	5.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1652	80/20	0.1652
232426	Y1-080 FULL	0.0335	80/20	0.0335
232907	VN8	1.5146	80/20	1.5146
232919	VN10	0.2864	80/20	0.2864
924831	AB2-136 C	3.6709	80/20	3.6709
925151	AB2-172 C OP	2.4584	80/20	2.4584
927031	AC1-190 C	4.6424	80/20	4.6424
932161	AC2-023 C	1.8399	80/20	1.8399
938651	AE1-087 C	2.0702	80/20	2.0702
960341	AF2-325 C	0.5941	80/20	0.5941
960671	AF2-358 C O1	9.5232	80/20	9.5232
960871	AF2-378 C	0.1610	80/20	0.1610
961181	AF2-409 O1	5.8910	80/20	5.8910
NEWTON	NEWTON	0.0032	Confirmed LTF	0.0032
FARMERCITY	FARMERCITY	0.0002	Confirmed LTF	0.0002
GIBSON	GIBSON	0.0016	Confirmed LTF	0.0016
NY	NY	0.0044	Confirmed LTF	0.0044
PRAIRIE	PRAIRIE	0.0077	Confirmed LTF	0.0077
COFFEEN	COFFEEN	0.0006	Confirmed LTF	0.0006
CHEOAH	CHEOAH	0.0015	Confirmed LTF	0.0015
EDWARDS	EDWARDS	0.0010	Confirmed LTF	0.0010
TILTON	TILTON	0.0019	Confirmed LTF	0.0019
CALDERWOOD	CALDERWOOD	0.0015	Confirmed LTF	0.0015
BLUEG	BLUEG	0.0052	Confirmed LTF	0.0052
TRIMBLE	TRIMBLE	0.0017	Confirmed LTF	0.0017
CATAWBA	CATAWBA	0.0010	Confirmed LTF	0.0010

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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
102072538	232291	ROCKAWLKN	DP&L	232271	NSALSBRY	DP&L	1	DPL_P4-2_DP56	breaker	58.0	218.57	225.6	AC	5.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1840	50/50	0.1840
232418	X3-008 E	1.7868	50/50	1.7868
232426	Y1-080 FULL	0.0374	50/50	0.0374
232427	Y1-080 E	0.3651	50/50	0.3651
232428	Y3-058 C	0.6203	50/50	0.6203
232429	Y3-058 E	6.0231	50/50	6.0231
232919	VN10	0.3197	50/50	0.3197
924831	AB2-136 C	4.0937	50/50	4.0937
924832	AB2-136 E	4.3413	50/50	4.3413
925151	AB2-172 C OP	2.7379	50/50	2.7379
925152	AB2-172 E OP	4.4671	50/50	4.4671
925261	AB2-180 C	9.0671	50/50	9.0671
925262	AB2-180 E	3.8859	50/50	3.8859
927031	AC1-190 C	5.1716	50/50	5.1716
927032	AC1-190 E	2.2164	50/50	2.2164
932161	AC2-023 C	14.4526	50/50	14.4526
932162	AC2-023 E	10.5258	50/50	10.5258
938651	AE1-087 C	2.3056	50/50	2.3056
938652	AE1-087 E	0.5764	50/50	0.5764
939152	AE1-145 BAT	1.9922	Merchant Transmission	1.9922
945663	AF1-231 BAT	1.9008	50/50	1.9008
945792	AF1-244 BAT	0.9510	50/50	0.9510
945931	AF1-258	2.0725	50/50	2.0725
957613	AF2-055 BAT	3.0090	50/50	3.0090
957662	AF2-060 BAT	0.8965	Merchant Transmission	0.8965
957672	AF2-061 BAT	3.9844	Merchant Transmission	3.9844
959163	AF2-207 BAT	4.2921	Merchant Transmission	4.2921
959583	AF2-249 BAT	0.3914	50/50	0.3914
960341	AF2-325 C	0.6623	50/50	0.6623
960342	AF2-325 E	0.9146	50/50	0.9146
960671	AF2-358 C O1	10.6260	50/50	10.6260
960672	AF2-358 E O1	7.0840	50/50	7.0840
960871	AF2-378 C	0.1795	50/50	0.1795
960872	AF2-378 E	0.2490	50/50	0.2490
961181	AF2-409 O1	4.3597	Adder	5.13
WEC	WEC	0.0085	Confirmed LTF	0.0085
LGEE	LGEE	0.0154	Confirmed LTF	0.0154
CPLE	CPLE	0.0179	Confirmed LTF	0.0179
G-007A	G-007A	0.0456	Confirmed LTF	0.0456
VFT	VFT	0.1354	Confirmed LTF	0.1354
CBM-W2	CBM-W2	0.2211	Confirmed LTF	0.2211
TVA	TVA	0.0378	Confirmed LTF	0.0378

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-S2	CBM-S2	0.1561	Confirmed LTF	0.1561
CBM-S1	CBM-S1	0.2300	Confirmed LTF	0.2300
MEC	MEC	0.0429	Confirmed LTF	0.0429
CBM-W1	CBM-W1	0.3378	Confirmed LTF	0.3378

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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
102072772	232812	NMEREDTH	DP&L	924820	AB2-135 TAP	DP&L	1	DPL_P4-2_DP11	breaker	93.0	125.54	130.18	AC	5.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.2067	Adder	0.24
232407	W1-004 E	0.2067	Adder	0.24
232409	W1-005 E	0.2067	Adder	0.24
232411	W1-006 E	0.2067	Adder	0.24
232412	X1-032 E	0.1823	Adder	0.21
232429	Y3-058 E	0.4017	Adder	0.47
232433	Z2-076 E	0.0983	Adder	0.12
232435	Z2-077 E	0.0983	Adder	0.12
232813	VAUGHN	0.1246	50/50	0.1246
232899	W1-062	0.9091	50/50	0.9091
232900	DEMECSMY	0.9091	50/50	0.9091
232910	NRG_G1	2.2495	50/50	2.2495
232911	NRG_G2	2.2495	50/50	2.2495
917082	Z2-012 E	0.5697	Adder	0.67
923282	AB1-137 C	0.2078	Adder	0.24
923283	AB1-137 E	0.0891	Adder	0.1
923322	AB1-141 C OP	-1.0388	Adder	-1.22
923332	AB1-142 C OP	-1.0388	Adder	-1.22
923921	AB2-032 C	-1.0465	Adder	-1.23
924681	AB2-120 C OP	1.7465	Adder	2.05
924682	AB2-120 E OP	2.8495	Adder	3.35
924781	AB2-130 C OP	1.7505	Adder	2.06
924782	AB2-130 E OP	2.8561	Adder	3.36
924971	AB2-153 C	-0.5848	Adder	-0.69
925251	AB2-179 C OP	-2.0560	Adder	-2.42
925261	AB2-180 C	0.6046	Adder	0.71
925262	AB2-180 E	0.2591	Adder	0.3
926131	AC1-091 C	0.4457	Adder	0.52
926132	AC1-091 E	0.7309	Adder	0.86
926141	AC1-092 C	0.4457	Adder	0.52
926142	AC1-092 E	0.7309	Adder	0.86
926151	AC1-093 C	0.4219	Adder	0.5
926152	AC1-093 E	0.6953	Adder	0.82
926161	AC1-094 C	0.3565	Adder	0.42
926162	AC1-094 E	0.5883	Adder	0.69
927191	AC1-213 C	0.1456	Adder	0.17
927192	AC1-213 E	0.0956	Adder	0.11
930201	AB1-056 C	3.1065	Adder	3.65
930202	AB1-056 E	8.8468	Adder	10.41
930881	AB1-137 C	0.2078	Adder	0.24
930882	AB1-137 E	0.0891	Adder	0.1

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933631	AC2-185 C	0.9032	Adder	1.06
933632	AC2-185 E	1.4737	Adder	1.73
933641	AC2-186 C	2.7814	50/50	2.7814
933642	AC2-186 E	4.5381	50/50	4.5381
938891	AE1-117 C O1	2.0512	Adder	2.41
938892	AE1-117 E O1	5.4617	Adder	6.43
939151	AE1-145	0.9194	Adder	1.08
942441	AE2-257 C	1.6286	Adder	1.92
942442	AE2-257 E	4.2935	Adder	5.05
943361	AF1-007 C	0.0917	Adder	0.11
943362	AF1-007 E	0.2605	Adder	0.31
945661	AF1-231 C	0.3491	Adder	0.41
945662	AF1-231 E	0.5236	Adder	0.62
945791	AF1-244	0.3640	Adder	0.43
945931	AF1-258	0.1382	Adder	0.16
957611	AF2-055 C	1.6080	Adder	1.89
957612	AF2-055 E	0.6891	Adder	0.81
957661	AF2-060	0.4137	Adder	0.49
957671	AF2-061 O1	1.8387	Adder	2.16
959021	AF2-193 C	5.7403	Adder	6.75
959022	AF2-193 E	15.4842	Adder	18.22
959031	AF2-194 C	5.7403	Adder	6.75
959032	AF2-194 E	15.4842	Adder	18.22
959051	AF2-196 C	0.4442	Adder	0.52
959052	AF2-196 E	1.0364	Adder	1.22
959161	AF2-207 C O1	0.9764	Adder	1.15
959162	AF2-207 E O1	1.4646	Adder	1.72
959571	AF2-248 C	0.1610	Adder	0.19
959572	AF2-248 E	0.1799	Adder	0.21
959581	AF2-249 C	0.0284	Adder	0.03
959582	AF2-249 E	0.1136	Adder	0.13
959591	AF2-250 C	0.0521	Adder	0.06
959592	AF2-250 E	0.0402	Adder	0.05
960881	AF2-379 C	0.0744	Adder	0.09
960882	AF2-379 E	0.1025	Adder	0.12
960941	AF2-385 C	2.3151	Adder	2.72
960942	AF2-385 E	1.3174	Adder	1.55
961181	AF2-409 O1	4.3104	Adder	5.07
NEWTON	NEWTON	0.0666	Confirmed LTF	0.0666
FARMERCITY	FARMERCITY	0.0035	Confirmed LTF	0.0035
GIBSON	GIBSON	0.0339	Confirmed LTF	0.0339
NY	NY	0.0188	Confirmed LTF	0.0188
PRAIRIE	PRAIRIE	0.1601	Confirmed LTF	0.1601
O-066	O-066	0.1478	Confirmed LTF	0.1478
COFFEEN	COFFEEN	0.0124	Confirmed LTF	0.0124
CHEOAH	CHEOAH	0.0310	Confirmed LTF	0.0310
EDWARDS	EDWARDS	0.0217	Confirmed LTF	0.0217
TILTON	TILTON	0.0391	Confirmed LTF	0.0391
G-007	G-007	0.0114	Confirmed LTF	0.0114
CALDERWOOD	CALDERWOOD	0.0308	Confirmed LTF	0.0308
BLUEG	BLUEG	0.1076	Confirmed LTF	0.1076
TRIMBLE	TRIMBLE	0.0345	Confirmed LTF	0.0345

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.0221	Confirmed LTF	0.0221

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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
102072649	232821	TANYARD	DP&L	232820	TALBOT	DP&L	1	DPL_P4-2_DP11	breaker	173.0	129.94	138.34	AC	14.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2957	50/50	0.2957
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.2957	50/50	0.2957
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.2957	50/50	0.2957
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.2957	50/50	0.2957
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5049	50/50	0.5049
232418	X3-008 E	4.9022	50/50	4.9022
232426	Y1-080 FULL	0.0583	50/50	0.0583
232427	Y1-080 E	0.5687	50/50	0.5687
232428	Y3-058 C	0.1481	50/50	0.1481
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232907	VN8	3.8431	50/50	3.8431
232914	OH NUG3	0.6139	50/50	0.6139
232915	OH NUG4	0.6139	50/50	0.6139
232916	OH NUG5	0.6139	50/50	0.6139
232919	VN10	0.3816	50/50	0.3816
232926	CRISFLD1	0.2007	50/50	0.2007
293670	O-025 C	0.1347	50/50	0.1347
917082	Z2-012 E	1.1943	Adder	1.41
918831	AA1-102	0.7527	50/50	0.7527
923282	AB1-137 C	0.2878	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6457	Adder	4.29
924682	AB2-120 E OP	5.9482	Adder	7.0
924781	AB2-130 C OP	3.8508	50/50	3.8508
924782	AB2-130 E OP	6.2829	50/50	6.2829
924831	AB2-136 C	7.6300	50/50	7.6300
924832	AB2-136 E	8.0915	50/50	8.0915
925151	AB2-172 C OP	7.5115	50/50	7.5115
925152	AB2-172 E OP	12.2555	50/50	12.2555
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3007	50/50	13.3007
927032	AC1-190 E	5.7003	50/50	5.7003
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1159	Adder	4.84
930202	AB1-056 E	11.7214	Adder	13.79
930881	AB1-137 C	0.2878	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4910	50/50	4.4910
932162	AC2-023 E	3.2708	50/50	3.2708
938651	AE1-087 C	6.3254	50/50	6.3254
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
939151	AE1-145	1.9208	Adder	2.26
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3451	Adder	0.41
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945791	AF1-244	0.9556	50/50	0.9556
945931	AF1-258	0.4949	50/50	0.4949
957611	AF2-055 C	3.3710	Adder	3.97
957612	AF2-055 E	1.4447	Adder	1.7
957661	AF2-060	0.8644	Adder	1.02
957671	AF2-061 O1	3.8417	Adder	4.52
959021	AF2-193 C	7.6055	Adder	8.95
959022	AF2-193 E	20.5156	Adder	24.14
959031	AF2-194 C	7.6055	Adder	8.95
959032	AF2-194 E	20.5156	Adder	24.14
959051	AF2-196 C	0.6123	Adder	0.72
959052	AF2-196 E	1.4287	Adder	1.68
959161	AF2-207 C O1	2.5387	50/50	2.5387
959162	AF2-207 E O1	3.8081	50/50	3.8081
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O1	15.4410	50/50	15.4410
960672	AF2-358 E O1	10.2940	50/50	10.2940
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C	6.0195	50/50	6.0195
960942	AF2-385 E	3.4253	50/50	3.4253
961181	AF2-409 O1	14.9480	50/50	14.9480
NEWTON	NEWTON	0.0752	Confirmed LTF	0.0752
FARMERCITY	FARMERCITY	0.0039	Confirmed LTF	0.0039
GIBSON	GIBSON	0.0382	Confirmed LTF	0.0382
NY	NY	0.0288	Confirmed LTF	0.0288

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
PRAIRIE	PRAIRIE	0.1808	Confirmed LTF	0.1808
O-066	O-066	0.2890	Confirmed LTF	0.2890
COFFEEN	COFFEEN	0.0140	Confirmed LTF	0.0140
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0245	Confirmed LTF	0.0245
TILTON	TILTON	0.0441	Confirmed LTF	0.0441
G-007	G-007	0.0374	Confirmed LTF	0.0374
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
BLUEG	BLUEG	0.1215	Confirmed LTF	0.1215
TRIMBLE	TRIMBLE	0.0390	Confirmed LTF	0.0390
CATAWBA	CATAWBA	0.0245	Confirmed LTF	0.0245

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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
102072650	232838	MARDELA	DP&L	232270	HEBRON	DP&L	1	DPL_P4-2_DP56	breaker	64.0	127.53	133.99	AC	5.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1841	50/50	0.1841
232418	X3-008 E	1.7872	50/50	1.7872
232426	Y1-080 FULL	0.0374	50/50	0.0374
232427	Y1-080 E	0.3652	50/50	0.3652
232919	VN10	0.3197	50/50	0.3197
924831	AB2-136 C	4.0945	50/50	4.0945
924832	AB2-136 E	4.3421	50/50	4.3421
925151	AB2-172 C OP	2.7385	50/50	2.7385
925152	AB2-172 E OP	4.4680	50/50	4.4680
927031	AC1-190 C	5.1726	50/50	5.1726
927032	AC1-190 E	2.2169	50/50	2.2169
938651	AE1-087 C	2.3061	50/50	2.3061
938652	AE1-087 E	0.5765	50/50	0.5765
939152	AE1-145 BAT	1.9916	Merchant Transmission	1.9916
945663	AF1-231 BAT	1.9002	50/50	1.9002
945792	AF1-244 BAT	0.9508	50/50	0.9508
957613	AF2-055 BAT	3.0081	50/50	3.0081
957662	AF2-060 BAT	0.8962	Merchant Transmission	0.8962
957672	AF2-061 BAT	3.9832	Merchant Transmission	3.9832
959163	AF2-207 BAT	4.2906	Merchant Transmission	4.2906
959583	AF2-249 BAT	0.3913	50/50	0.3913
960341	AF2-325 C	0.6624	50/50	0.6624
960342	AF2-325 E	0.9148	50/50	0.9148
960671	AF2-358 C O1	10.6278	50/50	10.6278
960672	AF2-358 E O1	7.0852	50/50	7.0852
960871	AF2-378 C	0.1795	50/50	0.1795
960872	AF2-378 E	0.2490	50/50	0.2490
961181	AF2-409 O1	4.3622	Adder	5.13
WEC	WEC	0.0095	Confirmed LTF	0.0095
LGEE	LGEE	0.0171	Confirmed LTF	0.0171
CPLE	CPLE	0.0198	Confirmed LTF	0.0198
G-007A	G-007A	0.0527	Confirmed LTF	0.0527
VFT	VFT	0.1548	Confirmed LTF	0.1548
CBM-W2	CBM-W2	0.2457	Confirmed LTF	0.2457
TVA	TVA	0.0420	Confirmed LTF	0.0420
CBM-S2	CBM-S2	0.1734	Confirmed LTF	0.1734
CBM-S1	CBM-S1	0.2556	Confirmed LTF	0.2556
MEC	MEC	0.0477	Confirmed LTF	0.0477
CBM-W1	CBM-W1	0.3753	Confirmed LTF	0.3753

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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
100372038	923960	AB2-037 TAP	DP&L	231003	KEEN_230	DP&L	2	DPL_P4-2_DP10	breaker	727.0	103.57	108.21	AC	34.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.7975	50/50	0.7975
232405	W1-003 E	1.3786	50/50	1.3786
232406	W1-004 FULL	0.7975	50/50	0.7975
232407	W1-004 E	1.3786	50/50	1.3786
232408	W1-005 C	0.7975	50/50	0.7975
232409	W1-005 E	1.3786	50/50	1.3786
232410	W1-006 C	0.7975	50/50	0.7975
232411	W1-006 E	1.3786	50/50	1.3786
232412	X1-032 E	1.2444	50/50	1.2444
232417	X3-008 C	0.4353	50/50	0.4353
232418	X3-008 E	4.2263	50/50	4.2263
232423	X3-066 E	0.9196	Adder	1.08
232424	Y1-079 C	0.2120	50/50	0.2120
232425	Y1-079 E	2.0582	50/50	2.0582
232426	Y1-080 FULL	0.0720	50/50	0.0720
232427	Y1-080 E	0.7034	50/50	0.7034
232428	Y3-058 C	0.3009	50/50	0.3009
232429	Y3-058 E	2.9214	50/50	2.9214
232433	Z2-076 E	0.4815	Adder	0.57
232435	Z2-077 E	0.4815	Adder	0.57
232436	AB1-176 C	0.3733	Adder	0.44
232902	EASTMUNI	4.1835	50/50	4.1835
232907	VN8	8.9538	50/50	8.9538
232914	OH NUG3	1.6579	50/50	1.6579
232915	OH NUG4	1.6579	50/50	1.6579
232916	OH NUG5	1.6579	50/50	1.6579
232919	VN10	0.5728	50/50	0.5728
232922	**MR3 (Deactivation : 01/06/2021)**	**13.5998**	**Adder**	**16.0**
232926	CRISFLD1	0.5248	50/50	0.5248
293670	O-025 C	0.3108	50/50	0.3108
917082	Z2-012 E	3.2242	Adder	3.79
918831	AA1-102	1.9678	50/50	1.9678
919831	**AA2-069 (Suspended)**	**60.1323**	**Adder**	**70.74**
923282	AB1-137 C	0.9896	Adder	1.16
923283	AB1-137 E	0.4241	Adder	0.5
923322	AB1-141 C OP	3.4107	Adder	4.01
923323	AB1-141 E OP	1.5917	Adder	1.87
923332	AB1-142 C OP	3.4107	Adder	4.01
923603	AB1-176 E	0.6155	Adder	0.72
923921	AB2-032 C	3.4360	Adder	4.04
923922	AB2-032 E	1.6169	Adder	1.9

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923951	AB2-036 C	12.0004	50/50	12.0004
923952	AB2-036 E	19.6338	50/50	19.6338
923961	AB2-037 C	37.9542	50/50	37.9542
923962	AB2-037 E	62.0035	50/50	62.0035
924681	AB2-120 C OP	9.8699	Adder	11.61
924682	AB2-120 E OP	16.1035	Adder	18.95
924781	AB2-130 C OP	7.9856	Adder	9.39
924782	AB2-130 E OP	13.0291	Adder	15.33
924801	AB2-133 C OP	5.2024	Adder	6.12
924802	AB2-133 E OP	6.5982	Adder	7.76
924821	AB2-135 C	6.0668	Adder	7.14
924822	AB2-135 E	6.9190	Adder	8.14
924831	AB2-136 C	8.3504	50/50	8.3504
924832	AB2-136 E	8.8555	50/50	8.8555
924971	AB2-153 C	1.9201	Adder	2.26
924972	AB2-153 E	3.1328	Adder	3.69
925151	AB2-172 C OP	6.4758	50/50	6.4758
925152	AB2-172 E OP	10.5657	50/50	10.5657
925251	AB2-179 C OP	4.3693	Adder	5.14
925252	AB2-179 E OP	1.4409	Adder	1.7
925261	AB2-180 C	4.3978	50/50	4.3978
925262	AB2-180 E	1.8848	50/50	1.8848
925271	AB2-185 C OP	4.6476	50/50	4.6476
925272	AB2-185 E OP	1.9918	50/50	1.9918
926131	AC1-091 C	0.7982	Adder	0.94
926132	AC1-091 E	1.3091	Adder	1.54
926141	AC1-092 C	0.7982	Adder	0.94
926142	AC1-092 E	1.3091	Adder	1.54
926151	AC1-093 C	0.7556	Adder	0.89
926152	AC1-093 E	1.2452	Adder	1.46
926161	AC1-094 C	0.6386	Adder	0.75
926162	AC1-094 E	1.0536	Adder	1.24
927031	AC1-190 C	11.9039	50/50	11.9039
927032	AC1-190 E	5.1017	50/50	5.1017
927191	AC1-213 C	0.9866	50/50	0.9866
927192	AC1-213 E	0.6474	50/50	0.6474
930201	AB1-056 C	14.9944	Adder	17.64
930202	AB1-056 E	42.7014	Adder	50.24
930881	AB1-137 C	0.9896	Adder	1.16
930882	AB1-137 E	0.4241	Adder	0.5
930932	AB1-142 E OP	1.5917	Adder	1.87
932161	AC2-023 C	8.4331	50/50	8.4331
932162	AC2-023 E	6.1418	50/50	6.1418
933631	AC2-185 C	1.6177	Adder	1.9
933632	AC2-185 E	2.6394	Adder	3.11
933641	AC2-186 C	3.7982	Adder	4.47
933642	AC2-186 E	6.1970	Adder	7.29
936611	AD2-076 C O1	4.5626	Adder	5.37
936612	AD2-076 E O1	7.4443	Adder	8.76
938651	AE1-087 C	5.4533	50/50	5.4533
938652	AE1-087 E	1.3633	50/50	1.3633
938891	AE1-117 C O1	9.7807	Adder	11.51

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938892	AE1-117 E O1	26.0426	Adder	30.64
939151	AE1-145	5.1926	Adder	6.11
941021	AE2-093 C	7.4655	50/50	7.4655
941022	AE2-093 E	11.8614	50/50	11.8614
941181	AE2-112 C	1.5829	Adder	1.86
941182	AE2-112 E	2.5827	Adder	3.04
942441	AE2-257 C	7.7589	Adder	9.13
942442	AE2-257 E	20.4553	Adder	24.07
943361	AF1-007 C	0.4424	Adder	0.52
943362	AF1-007 E	1.2573	Adder	1.48
943441	AF1-015 C	2.3874	50/50	2.3874
943442	AF1-015 E	3.2970	50/50	3.2970
943651	AF1-036 C	2.0583	Adder	2.42
943652	AF1-036 E	2.8424	Adder	3.34
945661	AF1-231 C	1.9767	Adder	2.33
945662	AF1-231 E	2.9650	Adder	3.49
945791	AF1-244	2.4982	50/50	2.4982
945931	AF1-258	1.0052	50/50	1.0052
945941	AF1-259	0.1978	Adder	0.23
957611	AF2-055 C	9.1005	Adder	10.71
957612	AF2-055 E	3.9002	Adder	4.59
957661	AF2-060	2.3367	Adder	2.75
957671	AF2-061 O1	10.3853	Adder	12.22
959021	AF2-193 C	27.7070	Adder	32.6
959022	AF2-193 E	74.7391	Adder	87.93
959031	AF2-194 C	27.7070	Adder	32.6
959032	AF2-194 E	74.7391	Adder	87.93
959051	AF2-196 C	2.1161	Adder	2.49
959052	AF2-196 E	4.9375	Adder	5.81
959161	AF2-207 C O1	5.2330	Adder	6.16
959162	AF2-207 E O1	7.8495	Adder	9.23
959571	AF2-248 C	1.0420	50/50	1.0420
959572	AF2-248 E	1.1645	50/50	1.1645
959581	AF2-249 C	0.1839	50/50	0.1839
959582	AF2-249 E	0.7355	50/50	0.7355
959591	AF2-250 C	0.3371	50/50	0.3371
959592	AF2-250 E	0.2605	50/50	0.2605
960221	AF2-313 C	3.1395	Adder	3.69
960222	AF2-313 E	1.7799	Adder	2.09
960341	AF2-325 C	1.4203	50/50	1.4203
960342	AF2-325 E	1.9613	50/50	1.9613
960671	AF2-358 C O1	20.0604	50/50	20.0604
960672	AF2-358 E O1	13.3736	50/50	13.3736
960871	AF2-378 C	0.3745	50/50	0.3745
960872	AF2-378 E	0.5195	50/50	0.5195
960881	AF2-379 C	0.5134	50/50	0.5134
960882	AF2-379 E	0.7075	50/50	0.7075
960941	AF2-385 C	12.4076	Adder	14.6
960942	AF2-385 E	7.0604	Adder	8.31
960961	AF2-387 C O1	24.4802	50/50	24.4802
960962	AF2-387 E O1	12.2768	50/50	12.2768
961181	AF2-409 O1	34.8260	50/50	34.8260

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
NEWTON	NEWTON	0.2880	Confirmed LTF	0.2880
FARMERCITY	FARMERCITY	0.0150	Confirmed LTF	0.0150
GIBSON	GIBSON	0.1463	Confirmed LTF	0.1463
NY	NY	0.1006	Confirmed LTF	0.1006
PRAIRIE	PRAIRIE	0.6922	Confirmed LTF	0.6922
O-066	O-066	0.9610	Confirmed LTF	0.9610
COFFEEN	COFFEEN	0.0535	Confirmed LTF	0.0535
CHEOAH	CHEOAH	0.1346	Confirmed LTF	0.1346
EDWARDS	EDWARDS	0.0938	Confirmed LTF	0.0938
TILTON	TILTON	0.1688	Confirmed LTF	0.1688
G-007	G-007	0.1196	Confirmed LTF	0.1196
CALDERWOOD	CALDERWOOD	0.1337	Confirmed LTF	0.1337
BLUEG	BLUEG	0.4652	Confirmed LTF	0.4652
TRIMBLE	TRIMBLE	0.1491	Confirmed LTF	0.1491
CATAWBA	CATAWBA	0.0945	Confirmed LTF	0.0945

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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
AA1-034	Peach Bottom 500kV	In Service
AA1-102	Kings Creek-Loretto 138kV	Partially in Service - Under Construction
AA2-069	Cartanza 230kV	Suspended
AB1-000	N/A	N/A
AB1-056	Indian River 230kV I	Engineering and Procurement
AB1-116	Egg Harbor Road 12kV	In Service
AB1-119	Tansboro Road 12kV	In Service
AB1-137	Frankford 25kV	Engineering and Procurement
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	Active
AB2-032	Church-Wye Mills 138 kV	Engineering and Procurement
AB2-036	Church-Steele 138kV	Active
AB2-037	Keeney-Steele 230kV	Active
AB2-049	Gloucester Township 12kV	Engineering and Procurement
AB2-102	Cumberland 230kV	Active
AB2-120	Piney Grove-New Church 138kV	Active
AB2-122	Egg Harbor 12kV	Engineering and Procurement
AB2-130	Laurel 69kV	Active
AB2-133	Chestertown-Church 69kV	Engineering and Procurement
AB2-135	Church-Kent 69kV	Active
AB2-136	West Cambridge-Vienna 69kV	Active
AB2-153	Church-Wye Mills 138 kV	Engineering and Procurement
AB2-172	Todd 69kV	Active
AB2-175	Peach Bottom 500kV	Partially in Service - Under Construction
AB2-179	Townsend 138kV	Engineering and Procurement
AB2-180	Rockawalkin 69kV	Engineering and Procurement
AB2-185	Wye Mills 25kV	Active
AC1-056	PJM-AMIL	Confirmed
AC1-091	Cedar Creek 138kV I	Active
AC1-092	Cedar Creek 138kV II	Active
AC1-093	Cedar Creek 138kV III	Active
AC1-094	Cedar Creek 138kV IV	Active
AC1-131	PJM-CPLE	Confirmed
AC1-190	East New Market 69kV	Active
AC1-213	North Salisbury 25kV	Active
AC2-018	Rock Springs 500kV	In Service
AC2-023	Hebron 69kV	Active
AC2-185	Cedar Creek 138kV II	Active

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Queue Number	Project Name	Status
AC2-186	Harrington 25kV	Active
AD1-019	Ontario 23 kV	Active
AD1-097	Linwood 230 kV II	Active
AD2-059	Chapel Street 138 kV	Active
AD2-065	Berlin 12kV	Engineering and Procurement
AD2-076	Centreville 69 kV	Active
AD2-135	Williamstown 12kV	Active
AD2-167	Rock Springs 500kV	In Service
AE1-061	Minotola 12 kV	Active
AE1-062	Silver Lake 69 kV	Active
AE1-087	Todd 69 kV	Active
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
AE2-010	Paper Tap 69 kV	In Service
AE2-020	Cardiff 230 kV I	Active
AE2-021	Cardiff 230 kV II	Active
AE2-022	Cardiff 230 kV III	Active
AE2-061	Rock Springs 500 kV	In Service
AE2-093	Easton-Steele 138 kV	Active
AE2-112	Carville 138 kV	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	Active
AF1-036	Carville 138 kV	Active
AF1-041	Absecon 12.47 kV	In Service
AF1-160	Silver Lake 69 kV	Active
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	Active
AF1-258	Rockawalkin 69 kV	Engineering and Procurement
AF1-259	Price 25 kV	Engineering and Procurement
AF1-262	Upper Pittsgrove 12 kV	Active
AF2-016	Lewis 138 kV	Active
AF2-019	Middle 69 kV	Active
AF2-020	Carll's Corner 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	Active

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Queue Number	Project Name	Status
AF2-055	Plaintation Creek 69 kV	Active
AF2-060	Wattsville 12 kV	Active
AF2-061	Wattsville 69kV	Active
AF2-172	Newport 12 kV	Active
AF2-193	Indian River 230 kV I	Active
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
AF2-248	Edgewood 12 kV I	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	Active
AF2-379	Princess Anne 25 kV	Engineering and Procurement
AF2-385	Nelson 69 kV	Active
AF2-387	Hillsboro-Steele 138 kV	Active
AF2-409	Vienna 138 kV	Active
V2-035	Pittsgrove	In Service
V2-041	Clayville 12kV	In Service
V2-046	Pilesgrove 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
X1-032	Costen 25kV	In Service
X2-083	Newark 12kV	In Service
X3-008	Todd 69kV	Under Construction
X3-066	Church Hill 69kV	In Service
X4-027	Linwood 230kV	In Service
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
Z2-012	Weirwood-Eastville 69kV	In Service
Z2-076	Worcester South 25kV	In Service
Z2-077	Worcester North 25kV	In Service

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11.9 Contingency Descriptions

Contingency Name	Contingency Definition
PECO_P1-2_220-84	CONTINGENCY 'PECO_P1-2_220-84' /* $ DELCO $ 220-84 $ LB TRIP BRANCH FROM BUS 213750 TO BUS 231000 CKT 1 /* LINWOOD 230.00 CLAY_230 230.00 $ DELCO $ 220-84 $ L END
DPL_P4-2_DP6	CONTINGENCY 'DPL_P4-2_DP6' /*MILFORD BUS BREAKER TO STEELE DISCONNECT BRANCH FROM BUS 232000 TO BUS 232004 CKT 1 /*MILFORD STEELE 230 230 DISCONNECT BRANCH FROM BUS 232003 TO BUS 232004 CKT 1 /*CARTANZA MILFORD 230 230 END
DPL_P1_2_AB2-037 KEENEY_FSA	CONTINGENCY 'DPL_P1_2_AB2-037 KEENEY_FSA' OPEN LINE FROM BUS 923960 TO BUS 231003 CIRCUIT 2 END
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
DPL_P1_2_23085 &13710	CONTINGENCY 'DPL_P1_2_23085 &13710' DISCONNECT BUS 232005 /STEELE - VIENNA 230 & VIENNA AT20 DISCONNECT BUS 232116 /VIENNA XFMR - VIENNA 138 END
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_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	CONTINGENCY 'PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK' DISCONNECT BUS 213489 /* CHICHST1 230.00 $ DELCO $ CHICH045 $ STBK DISCONNECT BUS 213627 /* FOULK8 230.00 $ DELCO $ CHICH045 $ STBK END

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Contingency Name	Contingency Definition
DPL_P4-2_DP56	CONTINGENCY 'DPL_P4-2_DP56' /*LORETTO BUS BREAKER DISCONNECT BRANCH FROM BUS 232127 TO BUS 232117 CKT 1 /*LORETTO VIENNA 138 1380 DISCONNECT BRANCH FROM BUS 232127 TO BUS 232128 CKT 1 /*LORETTO PINEY GROVE 138 138 END
DPL_P4-2_DP55	CONTINGENCY 'DPL_P4-2_DP55' /*LORETTO BUS BREAKER DISCONNECT BRANCH FROM BUS 232117 TO BUS 232127 CKT 1 /*VIENNA LORETTO 138 138 DISCONNECT BRANCH FROM BUS 232129 TO BUS 232127 CKT 1 /*LORETTO KINGS CREEK 138 138 END
DPL_P1_2_CKT 13707	CONTINGENCY 'DPL_P1_2_CKT 13707' OPEN LINE FROM BUS 232119 TO BUS 232117 CIRCUIT 1 /NELSON - VIENNA 138 END
TS_P4_#7_FUR RUN 500_CB 3	CONTINGENCY 'TS_P4_#7_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_P4-2_DP12	CONTINGENCY 'DPL_P4-2_DP12' /*STEELE BUS BREAKER TO VIENNA DISCONNECT BRANCH FROM BUS 232000 TO BUS 232103 CKT 2 /*STEELE STEELE 230 138 AT21 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
DPL_P4-2_DP11	CONTINGENCY 'DPL_P4-2_DP11' /*STEELE BUS BREAKER TO MILFORD DISCONNECT BRANCH FROM BUS 232004 TO BUS 232000 CKT 1 /*MILFORD STEELE 230 230 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
DPL_P4-2_DP36	CONTINGENCY 'DPL_P4-2_DP36' /*COOL SPRINGS BUS BREAKER TO IR 2 DISCONNECT BRANCH FROM BUS 232001 TO BUS 232006 CKT 1 /*COOL SPRINGS INDRIV 4 230 230 DISCONNECT BRANCH FROM BUS 232001 TO BUS 232004 CKT 1 /*COOL SPRINGS MILFORD 230 230 END

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Contingency Name	Contingency Definition
DPL_P1_2_CKT 23069	CONTINGENCY 'DPL_P1_2_CKT 23069' OPEN LINE FROM BUS 232001 TO BUS 232004 CIRCUIT 1 /COOL SPRINGS - MILFORD 230 END
DPL_P4-2_DP15	CONTINGENCY 'DPL_P4-2_DP15' /*INDIAN RIVER BUS BREAKER TO PINEY GROVE 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
DPL_P1_2_CKT 23002	CONTINGENCY 'DPL_P1_2_CKT 23002' DISCONNECT BUS 232007 /INDIAN RIVER - PINEY GROVE 230 & PNY GRV AT-20 XFMER 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
PECO_P1-2_220-04/* $ DELCO $ 220-04 $ L	CONTINGENCY 'PECO_P1-2_220-04/* $ DELCO $ 220-04 $ L' DISCONNECT BUS 213627 /* CHICHST1 230.00 FOULK8 230.00 $ DELCO $ 220-04 $ L END
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_P1-2_5012/* $ CHESCO $ 5012 $ L	CONTINGENCY 'PECO_P1-2_5012/* $ CHESCO $ 5012 $ L' TRIP BRANCH FROM BUS 200064 TO BUS 200004 CKT 1 /* PCHBTM1S 500.00 CNASTONE 500.00 $ CHESCO $ 5012 $ L END

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Contingency Name	Contingency Definition
TS_P4_#5_FUR RUN 500_CB 1	CONTINGENCY 'TS_P4_#5_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
CKT 23030B	CONTINGENCY 'CKT 23030B' OPEN LINE FROM BUS 232002 TO BUS 232013 CIRCUIT 1 /CEDAR CREEK - SILVER RUN 230 END
CKT 23032A	CONTINGENCY 'CKT 23032A' OPEN LINE FROM BUS 231004 TO BUS 232013 CIRCUIT 2 /RED LION - SILVER RUN 230 END
CKT 23032B	CONTINGENCY 'CKT 23032B' OPEN LINE FROM BUS 232013 TO BUS 232003 CIRCUIT 1 /SILVER RUN - CARTANZA 230 END
PECO_P1-2_5038/* $ CHESCO $ 5038 $ L	CONTINGENCY 'PECO_P1-2_5038/* $ CHESCO $ 5038 $ L' TRIP BRANCH FROM BUS 200012 TO BUS 200028 CKT 1 /* NFREEDOM 500.00 WINDSOR 500.00 $ CHESCO $ 5038 $ L END
PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	CONTINGENCY 'PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 $ CHESCO $ PEACH215 $ STBK REMOVE MACHINE 1 FROM BUS 200034 /* PCHBTM 2 22.00 $ CHESCO $ PEACH215 $ STBK END
PECO_P2-2_CHI230B1/* $ DELCO $ CHI230B1 $ B	CONTINGENCY 'PECO_P2-2_CHI230B1/* $ DELCO $ CHI230B1 $ B' DISCONNECT BUS 213489 /* CHICHST1 230.00 $ DELCO $ CHI230B1 $ B END
PJM500_PS_P2-3_NFRD5_910	CONTINGENCY 'PJM500_PS_P2-3_NFRD5_910' DISCONNECT BRANCH FROM BUS 200012 TO BUS 219100 CKT 4 /* 500/230 KV TX NEW FREED TRIP LINE FROM BUS 200012 TO BUS 200028 CKT 1 /* 5038 NEW FREEDOM TO WINSOR END

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Contingency Name	Contingency Definition
PECO_P1-2_5014/* $ CHESCO $ 5014 $ L	CONTINGENCY 'PECO_P1-2_5014/* $ CHESCO $ 5014 $ L' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 $ CHESCO $ 5014 $ L END
Base Case	
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
DPL_P4-2_DP58	CONTINGENCY 'DPL_P4-2_DP58' /*OAK HALL BUS BREAKER DISCONNECT BRANCH FROM BUS 232132 TO BUS 232130 CKT 1 /*OAK HALL POCOMOKE 138 138 DISCONNECT BRANCH FROM BUS 232132 TO BUS 232131 CKT 1 /*OAK HALL NEW CHURCH 138 138 END
DPL_P1_2_CKT 6705	CONTINGENCY 'DPL_P1_2_CKT 6705' DISCONNECT BUS 232239 / LAUREL - SHARPTOWN - VIENNA 69 & SHARPTOWN XFMR DISCONNECT BUS 232607 / SHARPTOWN 12 END
DPL_P1_2_CKT 23015	CONTINGENCY 'DPL_P1_2_CKT 23015' OPEN LINE FROM BUS 231000 TO BUS 231001 CIRCUIT 1 /CLAYMONT - EDGE MOOR 230 END
PECO_P4_PEACH205/* $ CHESCO $ PEACH205 $ STBK	CONTINGENCY 'PECO_P4_PEACH205/* $ CHESCO $ PEACH205 $ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 1 /* PCHBTM2S 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH205 $ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z1 /* PCHBTM1S 500.00 PCHBTM2S 500.00 $ CHESCO $ PEACH205 $ STBK TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z1 /* PCHBTM2N 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH205 $ STBK TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 $ CHESCO $ PEACH205 $ STBK END
DPL_P1_2_CKT 23034	CONTINGENCY 'DPL_P1_2_CKT 23034' OPEN LINE FROM BUS 232006 TO BUS 232004 CIRCUIT 1 /INDIAN RIVER - MILFORD 230 END

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Contingency Name	Contingency Definition
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_LINWO225/* $ DELCO $ LINWO225 $ STBK	CONTINGENCY 'PECO_P4_LINWO225/* $ DELCO $ LINWO225 $ STBK' TRIP BRANCH FROM BUS 213750 TO BUS 231001 CKT 1 /* LINWOOD 230.00 EDGEMR5 230.00 $ DELCO $ LINWO225 $ STBK DISCONNECT BUS 213892 /* PHLISL87 230.00 $ DELCO $ LINWO225 $ STBK DISCONNECT BUS 213888 /* PHLISCT1 18.00 $ DELCO $ LINWO225 $ STBK DISCONNECT BUS 213889 /* PHLISCT2 18.00 $ DELCO $ LINWO225 $ STBK END
PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC	CONTINGENCY 'PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC' TRIP BRANCH FROM BUS 213750 TO BUS 231001 CKT 1 /* LINWOOD 230.00 EDGEMR5 230.00 $ DELCO $ 220-85 $ L END
DPL_P1_2_CKT 13787	CONTINGENCY 'DPL_P1_2_CKT 13787' OPEN LINE FROM BUS 232132 TO BUS 232130 CIRCUIT 1 /OAK HALL - POCOMOKE 138 END
TS_P4_#6_FUR RUN 500_CB 2	CONTINGENCY 'TS_P4_#6_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_5007_S/* $ CHESCO $ 5007_S $ L	CONTINGENCY 'PECO_P1-2_5007_S/* $ CHESCO $ 5007_S $ L' TRIP BRANCH FROM BUS 200066 TO BUS 270072 CKT 1 /* PCHBTM1N 500.00 FUR RUN_500 500.00 $ CHESCO $ 5007_S $ L END

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12 Light Load Analysis

The Queue Project AF2-409 was evaluated as a 100 MW injection at the Vienna 138 kV substation in the DPL area. Project AF2-409 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-409 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)

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|DC	MW IMPACT
13990255 6	23212 1	INDRV2& 3	138. 0	DP&L	23211 9	NELSO N	138. 0	DP& L	1	DPL_P1_2_CK T 23002	singl e	193.0	97.91	109.22	DC	21.82

12.2 Multiple Facility Contingency

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

None

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|DC	MW IMPACT
1003718 22	21392 2	RICHMO ND	230. 0	PECO	21401 2	WANEET A3	230. 0	PEC O	1	PECO_P4_PEACH2 15/* $ CHESCO $ PEACH215 $ STBK	break er	1180. 0	111.06	112.53	AC	12.85
1003718 58	21420 6	RICHRE2 9	230. 0	PECO	21392 2	RICHMO ND	230. 0	PEC O	1	PECO_P4_PEACH2 15/* $ CHESCO $ PEACH215 $ STBK	break er	1336. 0	102.27	103.32	AC	13.97
1003718 53	21912 5	CAMDEN	230. 0	PSE& G	21420 6	RICHRE2 9	230. 0	PEC O	1	PECO_P4_PEACH2 15/* $ CHESCO $ PEACH215 $ STBK	break er	1336. 0	102.27	103.32	AC	13.97
1020726 44	23212 1	INDRV2& 3	138. 0	DP&L	23211 9	NELSON	138. 0	DP& L	1	DPL_P4-2_DP15	break er	193.0	115.56	126.18	DC	20.49

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.

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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|DC	MW IMPACT
100372241	214206	RICHRE29	230.0	PECO	213922	RICHMOND	230.0	PECO	1	PECO_P1-2_5014/* $ CHESCO $ 5014 $ L	operation	1336.0	101.22	102.34	AC	13.97
100372236	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	PECO_P1-2_5014/* $ CHESCO $ 5014 $ L	operation	1336.0	101.22	102.34	AC	13.97
112836144	232121	INDRV2&3	138.0	DP&L	232119	NELSON	138.0	DP&L	1	DPL_P1_2_CKT 23002	operation	193.0	91.49	102.8	DC	21.82

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.

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12.5 System Reinforcements

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-409</th><th>Upgrade Number</th></tr>
<tr>
<td>100371822</td>
<td>4</td>
<td>RICHMOND 230.0 kV - WANEETA3 230.0 kV Ckt 1</td>
<td>
ProjectId : N6482
Description : Rebuild the aerial portion of the Richmond-Waneeta 230 kV line with bundled Pecos conductors (Does not include permitting)
Type : FAC
Total Cost : $15,855,000
Time Estimate : 84.0 Months
Ratings : 1245.0/1387.0/1586.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-021</td><td>23.89</td><td>4.69%</td><td>$743,412</td></tr>
<tr><td>AE2-022</td><td>64.84</td><td>12.73%</td><td>$2,017,700</td></tr>
<tr><td>AE2-222</td><td>56.6</td><td>11.11%</td><td>$1,761,286</td></tr>
<tr><td>AE2-251</td><td>220.56</td><td>43.29%</td><td>$6,863,415</td></tr>
<tr><td>AF1-238</td><td>26.79</td><td>5.26%</td><td>$833,655</td></tr>
<tr><td>AF2-016</td><td>57.43</td><td>11.27%</td><td>$1,787,114</td></tr>
<tr><td>AF2-194</td><td>46.55</td><td>9.14%</td><td>$1,448,549</td></tr>
<tr><td>AF2-409</td><td>12.85</td><td>2.52%</td><td>$399,868</td></tr>
</table>
ProjectId : N6477
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>14.87%</td><td>$2,825,864</td></tr>
<tr><td>AE2-022</td><td>64.84</td><td>9.44%</td><td>$1,792,672</td></tr>
<tr><td>AE2-222</td><td>56.6</td><td>8.24%</td><td>$1,564,856</td></tr>
<tr><td>AE2-251</td><td>220.56</td><td>32.09%</td><td>$6,097,960</td></tr>
<tr><td>AF1-222</td><td>33.04</td><td>4.81%</td><td>$913,477</td></tr>
<tr><td>AF1-237</td><td>10.68</td><td>1.55%</td><td>$295,277</td></tr>
<tr><td>AF1-238</td><td>26.79</td><td>3.90%</td><td>$740,680</td></tr>
<tr><td>AF2-016</td><td>57.43</td><td>8.36%</td><td>$1,587,803</td></tr>
<tr><td>AF2-023</td><td>9.12</td><td>1.33%</td><td>$252,146</td></tr>
<tr><td>AF2-193</td><td>46.55</td><td>6.77%</td><td>$1,286,997</td></tr>
<tr><td>AF2-194</td><td>46.55</td><td>6.77%</td><td>$1,286,997</td></tr>
<tr><td>AF2-409</td><td>12.85</td><td>1.87%</td><td>$355,272</td></tr>
</table>
</td>
<td>$34,855,000</td>
<td>$755,140</td>
<td>N6482
N6477</td>
</tr>
<tr>
<td>100371853,170347837</td>
<td>1

2</td>
<td>RICHRE29 230.0 kV - RICHMOND 230.0 kV Ckt 1

CAMDEN 230.0 kV - RICHRE29 230.0 kV Ckt 1</td>
<td>
Project Id: N6471
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 is in the previous AE2 Queue.

Project Id: N6473
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
Notes: Per PJM Cost Allocation Rules, this reinforcement is in the previous AE2 Queue.
</td>
<td>$2,299,000</td>
<td>$0</td>
<td>N6471
N6473</td>
</tr>
</table>

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ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AF2-409	Upgrade Number
139902556,102072644	3	**INDRV2&3 138.0 kV - NELSON 138.0 kV Ckt 1**	Please refer to Summer Peak Analysis for Reinforcement.	$0	$0	
			TOTAL COST	**$37,154,000**	$755,140	

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.

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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".

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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
100371858	214206	RICHRE29	PECO	213922	RICHMOND	PECO	1	PECO_P4_PEACH215/ * $ CHESCO $ PEACH215 $ STBK	breaker	1336.0	102.27	103.32	AC	13.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	27.6818	Adder	32.57
936192	AD2-025 E	0.0936	Adder	0.11
936451	AD2-059 C	0.0214	Adder	0.03
936452	AD2-059 E	0.0670	Adder	0.08
938281	AE1-041 C	0.0000	Adder	0.0
938282	AE1-041 E	0.0248	Adder	0.03
938421	AE1-061 C	0.7354	50/50	0.7354
938422	AE1-061 E	0.7354	50/50	0.7354
938431	AE1-062 C	2.7025	50/50	2.7025
938432	AE1-062 E	2.7025	50/50	2.7025
938651	AE1-087 C	1.8805	Adder	2.21
938652	AE1-087 E	0.4701	Adder	0.55
938781	AE1-104 C O1	19.6399	Adder	23.11
938782	AE1-104 E O1	50.2485	Adder	59.12
938871	AE1-115 C	2.8792	50/50	2.8792
938872	AE1-115 E	2.8792	50/50	2.8792
938891	AE1-117 C O1	4.0374	Adder	4.75
938892	AE1-117 E O1	10.7503	Adder	12.65
939151	AE1-145 C	0.9636	Adder	1.13
939152	AE1-145 E	1.4454	Adder	1.7
939301	AE1-161 C	5.5194	50/50	5.5194
939302	AE1-161 E	8.2791	50/50	8.2791
939981	AE1-238 C	15.4591	Adder	18.19
939982	AE1-238 E	40.6060	Adder	47.77
940161	AE2-000 C O1	22.5887	Adder	26.57
940162	AE2-000 E O1	57.7968	Adder	68.0
940361	AE2-020 C	16.5278	Adder	19.44
940362	AE2-020 E	77.3843	Adder	91.04
940371	AE2-021 C	16.5278	Adder	19.44
940372	AE2-021 E	77.3843	Adder	91.04
940381	AE2-022 C	9.6412	Adder	11.34
940382	AE2-022 E	45.1409	Adder	53.11
940401	AE2-024 C O1	12.1970	Adder	14.35
940402	AE2-024 E O1	57.1052	Adder	67.18
940411	AE2-025 C	6.1571	Adder	7.24
940412	AE2-025 E	28.8241	Adder	33.91
942101	AE2-222 C O1	13.5845	Adder	15.98
942102	AE2-222 E O1	34.1250	Adder	40.15
942381	AE2-251 C	52.3597	Adder	61.6
942382	AE2-251 E	133.9739	Adder	157.62
943361	AF1-007 C	0.1851	Adder	0.22

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943362	AF1-007 E	0.5262	Adder	0.62
943561	AF1-027	0.2667	Adder	0.31
944332	AF1-101 E O1	56.6639	Adder	66.66
944951	AF1-160 C	2.7025	50/50	2.7025
944952	AF1-160 E	2.7025	50/50	2.7025
945201	AF1-185 1	0.2819	Adder	0.33
945211	AF1-185 2	0.0626	Adder	0.07
945431	AF1-208 C O1	0.0003	50/50	0.0003
945432	AF1-208 E O1	2.7295	50/50	2.7295
945571	AF1-222 C	9.6362	Adder	11.34
945572	AF1-222 E	25.4045	Adder	29.89
945661	AF1-231 C	0.9153	Adder	1.08
945662	AF1-231 E	1.3729	Adder	1.62
945721	AF1-237 C	8.2926	Adder	9.76
945722	AF1-237 E	0.0001	Adder	0.0
945731	AF1-238 C	13.0892	50/50	13.0892
945732	AF1-238 E	19.6337	50/50	19.6337
945741	AF1-239 C	2.6178	Adder	3.08
945742	AF1-239 E	4.6197	50/50	4.6197
945791	AF1-244	0.9614	Adder	1.13
957221	AF2-016 C	23.9996	Adder	28.23
957222	AF2-016 E	35.9994	Adder	42.35
957251	AF2-019 C	1.6362	Adder	1.92
957252	AF2-019 E	2.4543	Adder	2.89
957261	AF2-020 C	2.1423	50/50	2.1423
957262	AF2-020 E	3.2135	50/50	3.2135
957271	AF2-021 C	1.1927	Adder	1.4
957272	AF2-021 E	1.7891	Adder	2.1
957291	AF2-023 C	4.8948	50/50	4.8948
957292	AF2-023 E	7.3422	50/50	7.3422
957301	AF2-024 C	3.0842	50/50	3.0842
957302	AF2-024 E	4.6263	50/50	4.6263
957311	AF2-025 C	1.5909	Adder	1.87
957312	AF2-025 E	2.3863	Adder	2.81
957661	AF2-060	1.0841	Adder	1.28
957671	AF2-061 O1	4.8181	Adder	5.67
957771	AF2-071	7.3550	Adder	8.65
957781	AF2-072 C	2.4554	Adder	2.89
957782	AF2-072 E	2.4554	Adder	2.89
959021	AF2-193 C	11.5950	Adder	13.64
959022	AF2-193 E	31.2773	Adder	36.8
959031	AF2-194 C	11.5950	Adder	13.64
959032	AF2-194 E	31.2773	Adder	36.8
959051	AF2-196 C	0.8758	Adder	1.03
959052	AF2-196 E	2.0436	Adder	2.4
959161	AF2-207 C O1	2.4251	Adder	2.85
959162	AF2-207 E O1	3.6376	Adder	4.28
959581	AF2-249 C	0.0721	Adder	0.08
959582	AF2-249 E	0.2886	Adder	0.34
961181	AF2-409 O1	11.8745	Adder	13.97
961221	AF2-413	15.6613	Adder	18.43
961231	AF2-414 O1	12.8826	Adder	15.16

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
10037185 3	21912 5	CAMDE N	PSE& G	21420 6	RICHRE2 9	PECO	1	PECO_P4_PEACH215/ * $ CHESCO $ PEACH215 $ STBK	breake r	1336. 0	102.27	103.32	AC	13.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	27.6818	Adder	32.57
936192	AD2-025 E	0.0936	Adder	0.11
936451	AD2-059 C	0.0214	Adder	0.03
936452	AD2-059 E	0.0670	Adder	0.08
938281	AE1-041 C	0.0000	Adder	0.0
938282	AE1-041 E	0.0248	Adder	0.03
938421	AE1-061 C	0.7354	50/50	0.7354
938422	AE1-061 E	0.7354	50/50	0.7354
938431	AE1-062 C	2.7025	50/50	2.7025
938432	AE1-062 E	2.7025	50/50	2.7025
938651	AE1-087 C	1.8805	Adder	2.21
938652	AE1-087 E	0.4701	Adder	0.55
938781	AE1-104 C O1	19.6399	Adder	23.11
938782	AE1-104 E O1	50.2485	Adder	59.12
938871	AE1-115 C	2.8792	50/50	2.8792
938872	AE1-115 E	2.8792	50/50	2.8792
938891	AE1-117 C O1	4.0374	Adder	4.75
938892	AE1-117 E O1	10.7503	Adder	12.65
939151	AE1-145 C	0.9636	Adder	1.13
939152	AE1-145 E	1.4454	Adder	1.7
939301	AE1-161 C	5.5194	50/50	5.5194
939302	AE1-161 E	8.2791	50/50	8.2791
939981	AE1-238 C	15.4591	Adder	18.19
939982	AE1-238 E	40.6060	Adder	47.77
940161	AE2-000 C O1	22.5887	Adder	26.57
940162	AE2-000 E O1	57.7968	Adder	68.0
940361	AE2-020 C	16.5278	Adder	19.44
940362	AE2-020 E	77.3843	Adder	91.04
940371	AE2-021 C	16.5278	Adder	19.44
940372	AE2-021 E	77.3843	Adder	91.04
940381	AE2-022 C	9.6412	Adder	11.34
940382	AE2-022 E	45.1409	Adder	53.11
940401	AE2-024 C O1	12.1970	Adder	14.35
940402	AE2-024 E O1	57.1052	Adder	67.18
940411	AE2-025 C	6.1571	Adder	7.24
940412	AE2-025 E	28.8241	Adder	33.91
942101	AE2-222 C O1	13.5845	Adder	15.98
942102	AE2-222 E O1	34.1250	Adder	40.15
942381	AE2-251 C	52.3597	Adder	61.6
942382	AE2-251 E	133.9739	Adder	157.62
943361	AF1-007 C	0.1851	Adder	0.22

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943362	AF1-007 E	0.5262	Adder	0.62
943561	AF1-027	0.2667	Adder	0.31
944332	AF1-101 E O1	56.6639	Adder	66.66
944951	AF1-160 C	2.7025	50/50	2.7025
944952	AF1-160 E	2.7025	50/50	2.7025
945201	AF1-185 1	0.2819	Adder	0.33
945211	AF1-185 2	0.0626	Adder	0.07
945431	AF1-208 C O1	0.0003	50/50	0.0003
945432	AF1-208 E O1	2.7295	50/50	2.7295
945571	AF1-222 C	9.6362	Adder	11.34
945572	AF1-222 E	25.4045	Adder	29.89
945661	AF1-231 C	0.9153	Adder	1.08
945662	AF1-231 E	1.3729	Adder	1.62
945721	AF1-237 C	8.2926	Adder	9.76
945722	AF1-237 E	0.0001	Adder	0.0
945731	AF1-238 C	13.0892	50/50	13.0892
945732	AF1-238 E	19.6337	50/50	19.6337
945741	AF1-239 C	2.6178	Adder	3.08
945742	AF1-239 E	4.6197	50/50	4.6197
945791	AF1-244	0.9614	Adder	1.13
957221	AF2-016 C	23.9996	Adder	28.23
957222	AF2-016 E	35.9994	Adder	42.35
957251	AF2-019 C	1.6362	Adder	1.92
957252	AF2-019 E	2.4543	Adder	2.89
957261	AF2-020 C	2.1423	50/50	2.1423
957262	AF2-020 E	3.2135	50/50	3.2135
957271	AF2-021 C	1.1927	Adder	1.4
957272	AF2-021 E	1.7891	Adder	2.1
957291	AF2-023 C	4.8948	50/50	4.8948
957292	AF2-023 E	7.3422	50/50	7.3422
957301	AF2-024 C	3.0842	50/50	3.0842
957302	AF2-024 E	4.6263	50/50	4.6263
957311	AF2-025 C	1.5909	Adder	1.87
957312	AF2-025 E	2.3863	Adder	2.81
957661	AF2-060	1.0841	Adder	1.28
957671	AF2-061 O1	4.8181	Adder	5.67
957771	AF2-071	7.3550	Adder	8.65
957781	AF2-072 C	2.4554	Adder	2.89
957782	AF2-072 E	2.4554	Adder	2.89
959021	AF2-193 C	11.5950	Adder	13.64
959022	AF2-193 E	31.2773	Adder	36.8
959031	AF2-194 C	11.5950	Adder	13.64
959032	AF2-194 E	31.2773	Adder	36.8
959051	AF2-196 C	0.8758	Adder	1.03
959052	AF2-196 E	2.0436	Adder	2.4
959161	AF2-207 C O1	2.4251	Adder	2.85
959162	AF2-207 E O1	3.6376	Adder	4.28
959581	AF2-249 C	0.0721	Adder	0.08
959582	AF2-249 E	0.2886	Adder	0.34
961181	AF2-409 O1	11.8745	Adder	13.97
961221	AF2-413	15.6613	Adder	18.43
961231	AF2-414 O1	12.8826	Adder	15.16

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
102072644	232121	INDRV2&3	DP&L	232119	NELSON	DP&L	1	DPL_P4-2_DP15	breaker	193.0	115.56	126.18	DC	20.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	3.4395	50/50	3.4395
930202	AB1-056 E	9.7950	50/50	9.7950
938653	AE1-087 BAT	2.5124	50/50	2.5124
938891	AE1-117 C O1	4.9090	50/50	4.9090
938892	AE1-117 E O1	13.0708	50/50	13.0708
939153	AE1-145 BAT	3.6434	50/50	3.6434
943361	AF1-007 C	0.2030	50/50	0.2030
943362	AF1-007 E	0.5768	50/50	0.5768
945663	AF1-231 BAT	3.4707	50/50	3.4707
945792	AF1-244 BAT	1.4786	50/50	1.4786
957613	AF2-055 BAT	5.4750	50/50	5.4750
957662	AF2-060 BAT	1.6395	50/50	1.6395
957672	AF2-061 BAT	7.2868	50/50	7.2868
959021	AF2-193 C	12.7111	50/50	12.7111
959022	AF2-193 E	34.2879	50/50	34.2879
959031	AF2-194 C	12.7111	50/50	12.7111
959032	AF2-194 E	34.2879	50/50	34.2879
959051	AF2-196 C	1.0256	50/50	1.0256
959052	AF2-196 E	2.3932	50/50	2.3932
959163	AF2-207 BAT	10.3562	50/50	10.3562
959583	AF2-249 BAT	0.5616	50/50	0.5616
961182	AF2-409 BAT	20.4920	50/50	20.4920

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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
10037182 2	21392 2	RICHMOND	PECO	21401 2	WANEETA 3	PECO	1	PECO_P4_PEACH215/ * $ CHESCO $ PEACH215 $ STBK	breaker	1180. 0	111.06	112.53	AC	12.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	28.8645	Adder	33.96
936192	AD2-025 E	0.1180	Adder	0.14
936451	AD2-059 C	0.0189	Adder	0.02
936452	AD2-059 E	0.0592	Adder	0.07
937512	**AD2-210 E (Suspended)**	**0.0935**	**Adder**	**0.11**
938281	AE1-041 C	0.0001	Adder	0.0
938282	AE1-041 E	0.0310	Adder	0.04
938421	AE1-061 C	0.6926	50/50	0.6926
938422	AE1-061 E	0.6926	50/50	0.6926
938431	AE1-062 C	2.6278	50/50	2.6278
938432	AE1-062 E	2.6278	50/50	2.6278
938651	AE1-087 C	1.7283	Adder	2.03
938652	AE1-087 E	0.4321	Adder	0.51
938781	AE1-104 C O1	18.7236	Adder	22.03
938782	AE1-104 E O1	47.9041	Adder	56.36
938871	AE1-115 C	2.6637	50/50	2.6637
938872	AE1-115 E	2.6637	50/50	2.6637
938891	AE1-117 C O1	3.7253	Adder	4.38
938892	AE1-117 E O1	9.9192	Adder	11.67
939151	AE1-145 C	0.8881	Adder	1.04
939152	AE1-145 E	1.3321	Adder	1.57
939301	AE1-161 C	5.1794	50/50	5.1794
939302	AE1-161 E	7.7691	50/50	7.7691
939981	AE1-238 C	17.1115	Adder	20.13
939982	AE1-238 E	44.9463	Adder	52.88
940161	AE2-000 C O1	23.5539	Adder	27.71
940162	AE2-000 E O1	60.2663	Adder	70.9
940361	AE2-020 C	15.9061	Adder	18.71
940362	AE2-020 E	74.4733	Adder	87.62
940371	AE2-021 C	15.9061	Adder	18.71
940372	AE2-021 E	74.4733	Adder	87.62
940381	AE2-022 C	9.2785	Adder	10.92
940382	AE2-022 E	43.4428	Adder	51.11
940401	AE2-024 C O1	13.2906	Adder	15.64
940402	AE2-024 E O1	62.2252	Adder	73.21
940411	AE2-025 C	6.7091	Adder	7.89
940412	AE2-025 E	31.4084	Adder	36.95
942101	AE2-222 C O1	13.0152	Adder	15.31
942102	AE2-222 E O1	32.6950	Adder	38.46
942381	AE2-251 C	50.3901	Adder	59.28
942382	AE2-251 E	128.9341	Adder	151.69

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943361	AF1-007 C	0.1709	Adder	0.2
943362	AF1-007 E	0.4856	Adder	0.57
943561	AF1-027	0.2865	Adder	0.34
944332	AF1-101 E O1	59.0850	Adder	69.51
944431	AF1-108 O1	0.8514	Adder	1.0
944441	AF1-109	1.1126	Adder	1.31
944951	AF1-160 C	2.6278	50/50	2.6278
944952	AF1-160 E	2.6278	50/50	2.6278
945201	AF1-185 1	0.3248	Adder	0.38
945211	AF1-185 2	0.0722	Adder	0.08
945431	AF1-208 C O1	0.0003	50/50	0.0003
945432	AF1-208 E O1	2.5479	50/50	2.5479
945571	AF1-222 C	10.6662	Adder	12.55
945572	AF1-222 E	28.1199	Adder	33.08
945661	AF1-231 C	0.8435	Adder	0.99
945662	AF1-231 E	1.2653	Adder	1.49
945721	AF1-237 C	11.6178	Adder	13.67
945722	AF1-237 E	0.0001	Adder	0.0
945731	AF1-238 C	12.3395	50/50	12.3395
945732	AF1-238 E	18.5092	50/50	18.5092
945741	AF1-239 C	2.4679	Adder	2.9
945742	AF1-239 E	4.3551	50/50	4.3551
945791	AF1-244	0.8858	Adder	1.04
945801	AF1-245 C O1	4.0249	Adder	4.74
945802	AF1-245 E O1	6.0374	Adder	7.1
957221	AF2-016 C	22.9714	Adder	27.03
957222	AF2-016 E	34.4571	Adder	40.54
957251	AF2-019 C	1.5539	Adder	1.83
957252	AF2-019 E	2.3309	Adder	2.74
957261	AF2-020 C	2.0058	50/50	2.0058
957262	AF2-020 E	3.0088	50/50	3.0088
957271	AF2-021 C	1.1979	Adder	1.41
957272	AF2-021 E	1.7968	Adder	2.11
957291	AF2-023 C	4.5285	50/50	4.5285
957292	AF2-023 E	6.7927	50/50	6.7927
957301	AF2-024 C	2.8220	50/50	2.8220
957302	AF2-024 E	4.2330	50/50	4.2330
957311	AF2-025 C	1.5239	Adder	1.79
957312	AF2-025 E	2.2858	Adder	2.69
957661	AF2-060	0.9991	Adder	1.18
957671	AF2-061 O1	4.4404	Adder	5.22
957771	AF2-071	8.6564	Adder	10.18
957781	AF2-072 C	2.6756	Adder	3.15
957782	AF2-072 E	2.6756	Adder	3.15
959021	AF2-193 C	10.7009	Adder	12.59
959022	AF2-193 E	28.8653	Adder	33.96
959031	AF2-194 C	10.7009	Adder	12.59
959032	AF2-194 E	28.8653	Adder	33.96
959051	AF2-196 C	0.8081	Adder	0.95
959052	AF2-196 E	1.8857	Adder	2.22
959161	AF2-207 C O1	2.2347	Adder	2.63
959162	AF2-207 E O1	3.3521	Adder	3.94

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959581	AF2-249 C	0.0665	Adder	0.08
959582	AF2-249 E	0.2660	Adder	0.31
961181	AF2-409 O1	10.9250	Adder	12.85
961221	AF2-413	18.0434	Adder	21.23
961231	AF2-414 O1	15.9630	Adder	18.78
961241	AF2-415 O1	7.6895	Adder	9.05
961251	AF2-416	0.5042	Adder	0.59

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12.7 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
AB1-056	Indian River 230kV I	Engineering and Procurement
AB2-175	Peach Bottom 500kV	Partially in Service - Under Construction
AC1-056	PJM-AMIL	Confirmed
AC1-131	PJM-CPLE	Confirmed
AD2-025	Hillsborough 13 kV	Engineering and Procurement
AD2-059	Chapel Street 138 kV	Active
AD2-077	Buxmont 69 kV	Active
AD2-098	PJM-WEC	Confirmed
AD2-210	Cedar Knolls 12.5 kV	Suspended
AD2-213	East Flemington-Lebanon 34.5 kV	Active
AE1-041	Edison 4kV	In Service
AE1-061	Minotola 12 kV	Active
AE1-062	Silver Lake 69 kV	Active
AE1-087	Todd 69 kV	Active
AE1-104	BL England 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
AE1-221	North Wales 34.5 kV	In Service
AE1-238	Oceanview Wind 230 kV	Active
AE2-000	N/A	N/A
AE2-020	Cardiff 230 kV I	Active
AE2-021	Cardiff 230 kV II	Active
AE2-022	Cardiff 230 kV III	Active
AE2-024	Larrabee 230 kV I	Active
AE2-025	Larrabee 230 kV II	Active
AE2-222	Higbee 69 kV	Active
AE2-251	Cardiff 230 kV	Active
AF1-007	Indian River 230 kV I	Active
AF1-027	Plumsted 537 Energy Storage (CIRs)	In Service
AF1-101	Oyster Creek 230 kV III	Active
AF1-108	East Flemington 34.5 kV	Active
AF1-109	Pleasant Valley 230 kV	Active
AF1-160	Silver Lake 69 kV	Active
AF1-185	Sayreville 1-2-3 230 kV	In Service
AF1-208	Quinton-Roadstown 69 kV	Active
AF1-222	Oceanview Wind 2 230 kV	Active
AF1-231	New Church 138 kV	Active
AF1-237	Mercer 230 kV	Active
AF1-238	Sherman Ave. 69 kV	Active
AF1-239	Sherman Ave-Vineland 69 kV	Active
AF1-244	Kingston 12 kV	Active

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Queue Number	Project Name	Status
AF1-245	Hudson 230 kV	Active
AF1-324	Greystone-West Denville 34.5 kV	Engineering and Procurement
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	Active
AF2-055	Plaintation Creek 69 kV	Active
AF2-060	Wattsville 12 kV	Active
AF2-061	Wattsville 69kV	Active
AF2-071	Windsor 230 kV	Active
AF2-072	Larrabee 230 kV	Active
AF2-193	Indian River 230 kV I	Active
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
AF2-409	Vienna 138 kV	Active
AF2-413	Raritan River 230 kV	Active
AF2-414	Bergen 345 kV	Active
AF2-415	Bergen 138 kV	Active
AF2-416	Bergen 26 kV	Active

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12.8 Contingency Descriptions

Contingency Name	Contingency Definition
PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	CONTINGENCY 'PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 $ CHESCO $ PEACH215 $ STBK REMOVE MACHINE 1 FROM BUS 200034 /* PCHBTM 2 22.00 $ CHESCO $ PEACH215 $ STBK END
DPL_P4-2_DP15	CONTINGENCY 'DPL_P4-2_DP15' /*INDIAN RIVER BUS BREAKER TO PINEY GROVE 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
DPL_P1_2_CKT 23002	CONTINGENCY 'DPL_P1_2_CKT 23002' DISCONNECT BUS 232007 /INDIAN RIVER - PINEY GROVE 230 & PNY GRV AT-20 XFMER END
PECO_P1-2_5014/* $ CHESCO $ 5014 $ L	CONTINGENCY 'PECO_P1-2_5014/* $ CHESCO $ 5014 $ L' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 $ CHESCO $ 5014 $ L END

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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

None

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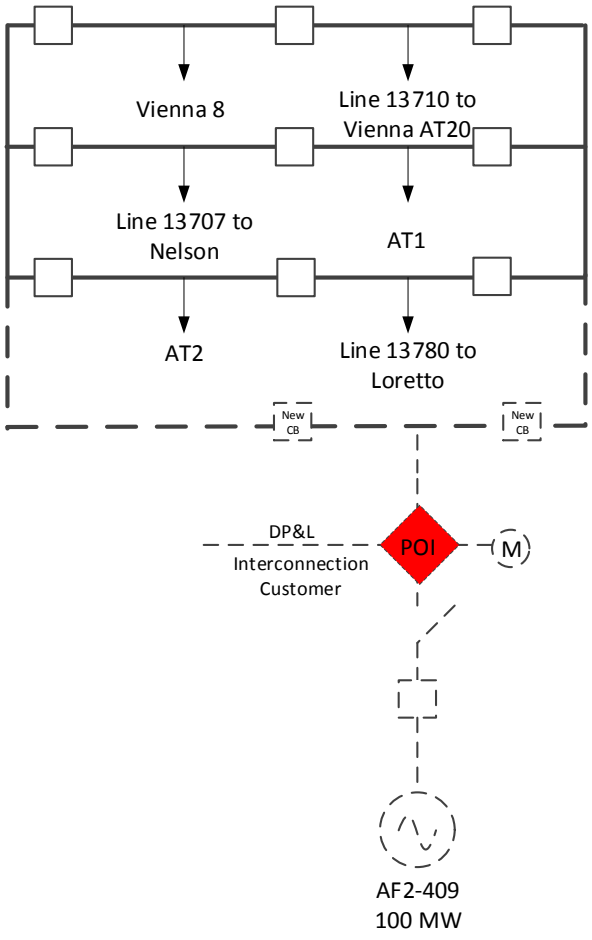
16 Attachment 1: One Line Diagram

AF2-409
Vienna 138 kV



DPL will require a circuit breaker within 500 feet of the POI

POI Point of Interconnection

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