Generation Interconnection

System Impact Study Report

for

Queue Project AF2-016

LEWIS 138 KV

120 MW Capacity / 300 MW Energy

April 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 AEC.

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.

3 General

The Interconnection Customer (IC), has proposed a Storage generating facility located in Atlantic County, New Jersey. The installed facilities will have a total capability of 300 MW with 120 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is May 31, 2023. This study does not imply a TO commitment to this in-service date.

Queue Number	**AF2-016**
Project Name	LEWIS 138 KV
State	New Jersey
County	Atlantic
Transmission Owner	AEC
MFO	300
MWE	300
MWC	120
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.

4 Point of Interconnection

AF2-016 will interconnect with the AEC on transmission system at the Lewis 138 kV substation.

5 Cost Summary

The AF2-016 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	$750,000
Allocation towards System Network Upgrade Costs*	$1,219,930,053
Total Costs	$1,220,680,053

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

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

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

Note 2: For customers with System Reinforcements listed: If your present cost allocation to a System Reinforcement indicates $0, then please be aware that as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc, the cost responsibilities can change and a cost allocation may be assigned to your project. In addition, although your present cost allocation to a System Reinforcement is presently $0, your project may need this system reinforcement completed to be deliverable to the PJM system. If your project comes into service prior to completion of the system reinforcement, an interim deliverability study for your project will be required.

6 Transmission Owner Scope of Work

Substation Interconnection Estimate

Scope: Install a 138 kV terminal on Lewis #3 138 kV bus.

Developer responsible for land purchase and site development for substation expansion if required, price is not included.

Required Relaying and Communications

Lewis substation:

New protection relays are required for the new terminal.

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

Description	Total Cost
Total Physical Interconnection Costs	$750,000

7 Schedule

Work estimated to take approximately 12-24 months.

8 Transmission Owner Analysis

None

9 Interconnection Customer Requirements

Interconnection Customer Scope of Direct Connection Work

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

ACE Interconnection Customer Scope of Direct Connection Work Requirements:

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

Special Operating Requirements

1. ACE will require the capability to remotely disconnect the generator from the grid by communication from its System Operations facility. Such disconnection may be facilitated by a generator breaker, or other method depending upon the specific circumstances and the evaluation by ACE.

2. ACE reserves the right to charge the Interconnection Customer operation and maintenance expenses to maintain the Interconnection Customer attachment facilities, including metering and telecommunications facilities, owned by ACE.

Additional Interconnection Customer Responsibilities:

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

2. The Interconnection Customer may be required to install and/or pay for metering as necessary to properly track real time output of the facility as well as installing metering which shall be used for billing purposes. See Section 8 of Appendix 2 to the Interconnection Service Agreement as well as Section 4 of PJM Manual 14D for additional information.
3. The Interconnection Customer seeking to interconnect a wind generation facility shall maintain meteorological data facilities as well as provide that meteorological data which is required per item 5.IV of Schedule H to the Interconnection Service Agreement.

10 Revenue Metering and SCADA Requirements

10.1 PJM Requirements

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

10.2 Meteorological Data Reporting Requirements

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

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

10.3 Interconnected Transmission Owner Requirements

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

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

A three phase 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 ACE's specifications. The secondary wiring connections at the instrument transformers will be completed by the Interconnection Customer and inspected by ACE, while the connections at the metering enclosure will be completed by ACE. The metering control cable and meter cabinets will be supplied by ACE 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. ACE 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. ACE 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 ACE within approximately three feet of the ACE metering position to facilitate remote interrogation and data collection. It is the Interconnection Customer's responsibility to send the data that PJM and ACE require directly to PJM. The Interconnection Customer will grant permission for PJM to send ACE the following telemetry that the Interconnection Customer sends to PJM: real time MW, MVAR, volts, amperes, generator status, and interval MWH and MVARH.

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

11 Summer Peak Analysis

The Queue Project AF2-016 was evaluated as a 300 MW (Capacity 120 MW) injection at the Lewis 138 kV substation in the AEC area. Project AF2-016 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-016 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)

None

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
99007351	206294	28LARRABEE	230.0	JCP&L	206318	28VANHI SVL	230.0	JCP&L	1	JC-P7-1-JCC-230-11A	tower	869.0	97.15	101.66	AC	38.78
99007393	206294	28LARRABEE	230.0	JCP&L	206286	28ATLANTIC	230.0	JCP&L	1	JC-P7-1-JCC-230-7A	tower	1147.0	99.98	101.99	AC	27.35
99831155	219100	NEWFRDM	230.0	PSE&G	219704	HILLTOP_3	230.0	PSE&G	1	PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	breaker	886.0	99.22	102.18	AC	27.67
99831166	219100	NEWFRDM	230.0	PSE&G	227900	CARDIFF	230.0	AE	1	AE_P4-2 AE46	breaker	692.0	86.56	103.95	AC	116.21
101514710	227901	DOROTHY	138.0	AE	228503	MNOTLA2	138.0	AE	1	JC-P7-1-JCC-230-13	tower	478.0	90.96	101.44	DC	50.09
153107351	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P4-2 AE7	breaker	478.0	86.5	132.73	AC	228.74
153107352	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P4-2 AE6	breaker	478.0	86.45	132.68	AC	228.72
153878046	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	JC-P7-1-JCC-230-13	tower	478.0	85.34	132.76	AC	234.35
101513685	227911	CARDIFF2	69.0	AE	227922	MILL #1	69.0	AE	1	AE_P4-2 AE9	breaker	239.0	93.94	102.81	AC	21.2
101514735	227911	CARDIFF2	69.0	AE	227922	MILL #1	69.0	AE	1	AE_P7-1 AE3TOWER	tower	239.0	99.15	108.68	AC	22.78
101513415	227945	LEWIS #2	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P4-2 AE33	breaker	286.799987793	92.45	164.93	AC	213.6
101514697	227949	LEWIS #3	138.0	AE	227901	DOROTHY	138.0	AE	1	JC-P7-1-JCC-230-13	tower	478.0	94.7	105.18	DC	50.09

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
99005937	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	116.53	119.63	AC	96.02
99005834	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	2	JC-P2-3-JCC-230-15F	breaker	813.0	154.6	157.32	AC	26.77

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
99005835	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	2	JC-P2-3-JCC-230-13A	breaker	813.0	153.43	156.09	AC	26.14
99005839	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	1	JC-P2-3-JCC-230-15G	breaker	817.0	153.84	156.55	AC	26.77
99005840	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	1	JC-P2-3-JCC-230-15A	breaker	817.0	149.9	152.52	AC	26.14
99007216	206297	28MANITOU	230.0	JCP&L	206319	28WHITINGS	230.0	JCP&L	1	JC-P7-1-JCC-230-12	tower	817.0	152.61	158.24	AC	42.4
99007217	206297	28MANITOU	230.0	JCP&L	206319	28WHITINGS	230.0	JCP&L	1	JC-P7-1-JCC-230-10A	tower	817.0	176.23	176.28	AC	39.42
99005894	206302	28OYSTERC	230.0	JCP&L	227955	CEDAR	230.0	AE	1	AE_P4-2 AE46	breaker	564.0	126.99	142.01	AC	82.55
99005895	206302	28OYSTERC	230.0	JCP&L	227955	CEDAR	230.0	AE	1	JC-P2-3-JCC-230-18A	breaker	564.0	127.8	137.52	AC	55.34
99005896	206302	28OYSTERC	230.0	JCP&L	227955	CEDAR	230.0	AE	1	PJM_P4_86	breaker	564.0	122.11	134.55	AC	69.88
99005898	206302	28OYSTERC	230.0	JCP&L	227955	CEDAR	230.0	AE	1	JC-P2-3-JCC-230-11	breaker	564.0	125.15	134.71	AC	54.5
99007250	206302	28OYSTERC	230.0	JCP&L	227955	CEDAR	230.0	AE	1	JC-P7-1-JCC-230-10A	tower	564.0	144.65	152.88	AC	47.31
99007251	206302	28OYSTERC	230.0	JCP&L	227955	CEDAR	230.0	AE	1	JC-P7-1-JCC-230-12	tower	564.0	129.85	137.89	AC	46.14
140113703	206302	28OYSTERC	230.0	JCP&L	227955	CEDAR	230.0	AE	1	JC-P2-3-JCC-230-12	breaker	564.0	125.02	134.58	AC	54.51
99007234	206318	28VANHISVL	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	130.14	133.59	AC	40.56
99007235	206318	28VANHISVL	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	140.52	144.27	AC	38.4
99007247	206319	28WHITINGS	230.0	JCP&L	206720	28MANCHSTR	230.0	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	147.35	151.52	AC	39.48
99007248	206319	28WHITINGS	230.0	JCP&L	206720	28MANCHSTR	230.0	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	131.28	134.63	AC	41.89
99005774	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	2	JC-P2-3-JCC-230-15J	breaker	817.0	184.85	189.68	AC	42.86
99007254	206720	28MANCHSTR	230.0	JCP&L	206318	28VANHISVL	230.0	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	145.81	149.98	AC	39.48
99007255	206720	28MANCHSTR	230.0	JCP&L	206318	28VANHISVL	230.0	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	129.74	133.02	AC	41.89
99830796	213922	RICHMOND	230.0	PECO	214012	WANEETA3	230.0	PECO	1	PECO_P2-2_CHI230B1/* $ DELCO $ CHI230B1 $ B	bus	1180.0	128.68	133.09	AC	57.43
99831017	213922	RICHMOND	230.0	PECO	214012	WANEETA3	230.0	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	1180.0	128.68	133.09	AC	57.43
99831018	213922	RICHMOND	230.0	PECO	214012	WANEETA3	230.0	PECO	1	PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	breaker	1180.0	114.74	119.84	AC	66.53
99830821	214010	WANEETA2	230.0	PECO	213817	N PHILA	230.0	PECO	1	PECO_P2-2_CHI230B1/* $ DELCO $ CHI230B1 $ B	bus	621.0	118.77	122.82	AC	29.55
99831068	214010	WANEETA2	230.0	PECO	213817	N PHILA	230.0	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	621.0	118.78	122.83	AC	29.55
99830816	214206	RICHRE29	230.0	PECO	213922	RICHMOND	230.0	PECO	1	PECO_P2-2_CHI230B1/* $ DELCO $ CHI230B1 $ B	bus	1336.0	126.14	129.88	AC	60.01
99831053	214206	RICHRE29	230.0	PECO	213922	RICHMOND	230.0	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	1336.0	126.15	129.88	AC	60.01
99831054	214206	RICHRE29	230.0	PECO	213922	RICHMOND	230.0	PECO	1	PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	breaker	1336.0	114.75	119.1	AC	69.83

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
99832085	214206	RICHRE29	230.0	PECO	213922	RICHMOND	230.0	PECO	1	JC-P7-1-JCC-230-13	tower	1336.0	114.21	118.02	AC	61.11
99831089	219110	GLOUCSTR	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	PS_P2-3_CUTB_1-4_LT	breaker	771.0	113.66	116.8	AC	29.82
99831090	219110	GLOUCSTR	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	PS_P2-3_CUTB_3-4_LT	breaker	771.0	112.08	115.18	AC	29.38
99831091	219110	GLOUCSTR	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	PS_P2-3_CUTB_1-2_LT	breaker	771.0	109.57	112.6	AC	28.78
99831092	219110	GLOUCSTR	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	PS_P2-3_CUTB_2-3_LT	breaker	771.0	107.82	110.81	AC	28.31
99830811	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	PECO_P2-2_CHI230B1/* $ DELCO $ CHI230B1 $ B	bus	1336.0	126.14	129.88	AC	60.01
99831048	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	1336.0	126.15	129.88	AC	60.01
99831049	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	breaker	1336.0	114.75	119.1	AC	69.83
99832080	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	JC-P7-1-JCC-230-13	tower	1336.0	114.21	118.02	AC	61.11
99832150	219756	BEAVERBK_2	230.0	PSE&G	219110	GLOUCSTR	230.0	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	740.0	103.29	106.72	AC	29.86
99832151	219756	BEAVERBK_2	230.0	PSE&G	219110	GLOUCSTR	230.0	PSE&G	1	AE_P7-1 W2275_O2241	tower	740.0	100.67	104.11	AC	29.98
99830955	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	AE_P4-2 AE46	breaker	692.0	199.83	215.71	AC	116.21
99830956	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	AE_P4-2 AE45	breaker	692.0	181.77	196.99	AC	104.84
99830960	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	AE_P4-2 AE6	breaker	805.0	152.99	161.27	AC	69.89
99830961	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	AE_P4-2 AE7	breaker	805.0	153.01	161.29	AC	69.87
99831002	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	AE_P4-2 AE7	breaker	805.0	118.15	128.35	AC	79.04
99831003	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	AE_P4-2 AE6	breaker	805.0	118.12	128.33	AC	79.06
99832014	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	JC-P7-1-JCC-230-13	tower	692.0	249.68	263.33	DC	102.18
99832016	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	AE_P7-1 AE15TOWER	tower	692.0	196.07	212.7	AC	119.83
99832039	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	JC-P7-1-JCC-230-13	tower	805.0	131.36	139.66	DC	66.83
101513398	227906	SCULL#2	138.0	AE	227904	MILL #2	138.0	AE	1	AE_P4-2 AE28	breaker	306.0	107.86	119.58	AC	38.27
101513484	227913	CARDIFF	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P4-2 AE9	breaker	478.0	123.93	144.47	AC	98.88
10151463 7	227934	CARDIFF2	138.0	AE	227945	LEWIS #2	138.0	AE	1	AE_P7-1 AE3TOWER	tower	478.0	135.18	155.84	AC	98.23
10151459 4	227945	LEWIS #2	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P7-1 AE3TOWER	tower	286.799987793	153.45	209.08	AC	159.76
99005749	227955	CEDAR	230.0	AE	206302	28OYSTERC	230.0	JCP&L	1	AE_P4-2 AE7	breaker	564.0	202.75	216.22	AC	84.13
99005750	227955	CEDAR	230.0	AE	206302	28OYSTERC	230.0	JCP&L	1	AE_P4-2 AE6	breaker	564.0	202.74	216.2	AC	84.14
10151338 3	228110	BLE	138.0	AE	227906	SCULL#2	138.0	AE	1	AE_P4-2 AE28	breaker	306.0	112.79	124.51	AC	38.27
99832104	228311	CHAMBERS	230.0	AE	228312	PEDRKTWN	230.0	AE	1	JC-P7-1-JCC-230-13	tower	552.0	106.27	111.03	AC	35.28
99832059	228312	PEDRKTWN	230.0	AE	228313	BRIDGPRT	230.0	AE	1	JC-P7-1-JCC-230-13	tower	552.0	122.95	127.54	AC	35.1
99832124	228313	BRIDGPRT	230.0	AE	228401	MCKLTON	230.0	AE	1	JC-P7-1-JCC-230-13	tower	804.0	109.41	112.64	AC	34.76

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC| DC	MW IMPACT
101514589	228503	MNOTLA 2	138.0	AE	228502	MNOTLA 1	138.0	AE	1	JC-P7-1-JCC-230-13	tower	311.0	135.52	151.63	DC	50.09
161038840	228503	MNOTLA 2	138.0	AE	228502	MNOTLA 1	138.0	AE	1	AE_P4-2 AE46	breaker	311.0	104.54	123.03	AC	56.18
161039504	228503	MNOTLA 2	138.0	AE	228502	MNOTLA 1	138.0	AE	1	PS_P7-1_R2244+M2213	tower	311.0	100.58	118.65	AC	54.64

11.4 Steady-State Voltage Requirements

To be determined

11.5 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99006459	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PECO_P1-2_5038/* $ CHESCO $ 5038 $ L	operation	2905.0	115.1	118.23	AC	97.15
99006322	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	2	JC-P1-2-JCC-230-017	operation	813.0	152.61	155.32	AC	26.77
99006323	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	2	Base Case	operation	678.0	120.22	122.33	AC	17.5
99006416	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	1	JC-P1-2-JCC-230-018	operation	817.0	138.58	141.06	AC	24.21
99006417	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	1	Base Case	operation	650.0	125.4	127.6	AC	17.5
99006502	206295	28LEISUR D	230.0	JCP&L	206323	28LAKEWOOD	230.0	JCP&L	1	JC-P1-2-JCC-230-020	operation	869.0	110.79	114.3	AC	41.19
99006400	206296	28LEISUR U	230.0	JCP&L	206323	28LAKEWOOD	230.0	JCP&L	1	JC-P1-2-JCC-230-019	operation	817.0	126.36	130.1	AC	40.99
99006316	206297	28MANITOU	230.0	JCP&L	206296	28LEISUR U	230.0	JCP&L	1	JC-P1-2-JCC-230-019	operation	817.0	138.48	142.26	AC	41.59
99006327	206297	28MANITOU	230.0	JCP&L	206295	28LEISUR D	230.0	JCP&L	1	JC-P1-2-JCC-230-020	operation	817.0	138.01	141.77	AC	41.59

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
99006180	206302	28OYSTER C	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	1	JC-P1-2-JCC-230-022	operation	817.0	224.72	231.02	AC	55.1
99006181	206302	28OYSTER C	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	1	Base Case	operation	650.0	147.54	151.43	AC	29.75
99006185	206302	28OYSTER C	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	2	JC-P1-2-JCC-230-021	operation	869.0	211.3	217.22	AC	55.11
99006187	206302	28OYSTER C	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	2	Base Case	operation	709.0	135.43	138.99	AC	29.78
99006344	206302	28OYSTER C	230.0	JCP&L	227955	CEDAR	230.0	AE	1	Base Case	operation	464.0	137.19	150.06	AC	60.26
99006345	206302	28OYSTER C	230.0	JCP&L	227955	CEDAR	230.0	AE	1	AE_P1-2 ORCHARD XF	operation	564.0	121.48	133.88	AC	69.73
99006220	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	2	JC-P1-2-JCC-230-014	operation	817.0	183.91	188.74	AC	42.88
99006221	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	2	Base Case	operation	650.0	127.15	130.46	AC	23.44
99006245	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	1	JC-P1-2-JCC-230-013	operation	869.0	174.01	178.56	AC	42.88
99006246	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	1	Base Case	operation	709.0	116.88	119.93	AC	23.51
99831313	213922	RICHMOND	230.0	PECO	214012	WANEETA3	230.0	PECO	1	Base Case	operation	760.0	138.01	144.18	AC	51.4
99831314	213922	RICHMOND	230.0	PECO	214012	WANEETA3	230.0	PECO	1	PECO_P1-2_5014/*$CHESCO$ 5014$ L	operation	1180.0	111.86	116.97	AC	66.53
99831436	214206	RICHRE29	230.0	PECO	213922	RICHMOND	230.0	PECO	1	Base Case	operation	1075.0	112.67	116.84	AC	53.93
99831437	214206	RICHRE29	230.0	PECO	213922	RICHMOND	230.0	PECO	1	PECO_P1-2_5014/*$CHESCO$ 5014$ L	operation	1336.0	112.56	116.91	AC	69.83
99831527	219100	NEWFRDM	230.0	PSE&G	219704	HILLTOP_3	230.0	PSE&G	1	PECO_P1-2_5014/*$CHESCO$ 5014$ L	operation	886.0	98.29	101.25	AC	27.67
99831408	219108	CUTHBERT	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	PS_P1-2_U-2299_LT	operation	771.0	117.64	121.01	AC	32.4
99831410	219108	CUTHBERT	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	Base Case	operation	500.0	105.79	108.89	AC	19.28
99831382	219110	GLOUCSTR	230.0	PSE&G	219755	CUTHBERT_4	230.0	PSE&G	1	PS_P1-2_C-2308	operation	758.0	123.5	126.75	AC	30.26
99831385	219110	GLOUCSTR	230.0	PSE&G	219755	CUTHBERT_4	230.0	PSE&G	1	Base Case	operation	550.0	110.62	113.54	AC	19.64
99831415	219110	GLOUCSTR	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	Base Case	operation	500.0	118.7	121.98	AC	20.06
99831416	219110	GLOUCSTR	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	PS_P1-2_D-2282	operation	771.0	104.37	107.22	AC	26.96

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
99831446	219110	GLOUCSTR	230.0	PSE&G	219753	CUTHBERT_2	230.0	PSE&G	1	PS_P1-2_D-2282	operation	771.0	115.31	118.34	AC	28.69
99831448	219110	GLOUCSTR	230.0	PSE&G	219753	CUTHBERT_2	230.0	PSE&G	1	Base Case	operation	500.0	106.7	109.51	AC	17.16
99831431	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	Base Case	operation	1075.0	112.67	116.84	AC	53.93
99831432	219125	CAMDEN	230.0	PSE&G	214206	RICHRE29	230.0	PECO	1	PECO_P1-2_5014/*$ CHESCO $ 5014 $ L	operation	1336.0	112.56	116.91	AC	69.83
99831452	219754	CUTHBERT_3	230.0	PSE&G	219125	CAMDEN	230.0	PSE&G	1	PS_P1-2_Z-2305_LT	operation	792.0	111.73	114.93	AC	31.6
99831265	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	JC-P1-2-JCC-230-002T	operation	692.0	177.53	191.66	AC	104.79
99831269	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	Base Case	operation	650.0	151.2	163.19	AC	78.86
99831270	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	PS_P1-2_2310	operation	805.0	152.06	160.43	AC	70.71
99831271	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	Base Case	operation	650.0	146.85	154.25	AC	47.78
99831350	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	PS_P1-2_2310	operation	805.0	116.56	126.92	AC	80.16
101513898	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P1-2 CARD-CEDAR	operation	478.0	83.7	131.08	AC	233.31
101513903	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	Base Case	operation	478.0	57.0	105.35	AC	238.88
101513790	227903	MILL #1	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P1-2 BLE-ML-LEW2	operation	306.0	88.68	101.4	AC	42.77
101513773	227905	SCULL#1	138.0	AE	227903	MILL #1	138.0	AE	1	AE_P1-2 BLE-SC-ML2	operation	306.0	100.91	114.08	AC	43.01
101513768	227906	SCULL#2	138.0	AE	227904	MILL #2	138.0	AE	1	AE_P1-2 BLE-SC-ML1	operation	306.0	102.3	115.47	AC	42.99
101513949	227913	CARDIFF	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P1-2 CARD-LEW2	operation	478.0	106.22	128.59	AC	107.75
101513950	227913	CARDIFF	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P1-3 CARD 7 XFR	operation	478.0	106.21	128.58	AC	107.75
101513952	227913	CARDIFF	138.0	AE	227902	LEWIS #1	138.0	AE	1	Base Case	operation	390.0	82.67	101.54	AC	73.92
101513957	227934	CARDIFF2	138.0	AE	227945	LEWIS #2	138.0	AE	1	AE_P1-3 CARD 6 XFR	operation	478.0	104.54	126.53	AC	105.81
101513880	227945	LEWIS #2	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P1-3 CARD 6 XFR	operation	286.799987793	104.31	161.87	AC	165.51
101513972	227948	LEWIS #3	69.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P1-2 LEWIS #1-LEWIS #3	operation	279.0	74.79	124.44	AC	201.46
101513856	227949	LEWIS #3	138.0	AE	227948	LEWIS #3	69.0	AE	1	AE_P1-2 LEWIS #1-LEWIS #3	operation	279.0	42.2	114.42	AC	201.46

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
99006175	227955	CEDAR	230.0	AE	206302	28OYSTER C	230.0	JCP&L	1	PS_P1-2_2310	operation	564.0	201.96	215.5	AC	84.62
99006176	227955	CEDAR	230.0	AE	206302	28OYSTER C	230.0	JCP&L	1	Base Case	operation	464.0	188.41	200.73	AC	60.26
101513758	228110	BLE	138.0	AE	227905	SCULL#1	138.0	AE	1	AE_P1-2 BLE-SC-ML2	operation	306.0	107.8	120.98	AC	43.01
101513763	228110	BLE	138.0	AE	227906	SCULL#2	138.0	AE	1	AE_P1-2 BLE-SC-ML1	operation	306.0	107.23	120.4	AC	42.99
101514009	228210	UNION	138.0	AE	228108	CORSON 3	138.0	AE	1	AE_P1-2 CUMB-DENN	operation	400.0	104.28	114.36	AC	41.01
99831441	228311	CHAMBERS	230.0	AE	228312	PEDRKTWN	230.0	AE	1	AE_P1-2 ORCHARD XF	operation	552.0	128.95	129.05	AC	56.35
99831361	228312	PEDRKTWN	230.0	AE	228313	BRIDGPRT	230.0	AE	1	AE_P1-2 ORCHARD XF	operation	552.0	117.64	125.72	AC	56.16
99831457	228313	BRIDGPRT	230.0	AE	228401	MCKLTON	230.0	AE	1	AE_P1-2 ORCHARD XF	operation	804.0	104.79	110.36	AC	55.82
99831458	228313	BRIDGPRT	230.0	AE	228401	MCKLTON	230.0	AE	1	Base Case	operation	650.0	104.36	107.58	AC	28.39
161039109	228503	MNOTLA 2	138.0	AE	228502	MNOTLA 1	138.0	AE	1	PS_P1-2_2310	operation	311.0	100.67	118.67	AC	54.65
101513912	940000	AE1-240 TAP	69.0	AE	228226	SHRMAN#2	69.0	AE	1	AE_P1-2 ORCH-CUMB	operation	93.0	121.78	131.76	AC	8.91
101513916	940000	AE1-240 TAP	69.0	AE	228226	SHRMAN#2	69.0	AE	1	Base Case	operation	82.0	100.34	105.72	AC	4.28

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 AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>101514710</td><td>5</td><td>DOROTHY 138.0 kV - MNOTLA 2 138.0 kV Ckt 1</td><td>ProjectId: n7057
Description: To mitigate the (ACE) Dorothy - Minotola 69 kV line (from bus 227901 to bus 228503 ckt 1) overload, it will require increasing the emergency rating of the Dorothy to Minotola 69 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor.
Type: FAC
Total Cost: $21,000,000
Time Estimate: 24-48 Months
Ratings: 478.0/559.0/559.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>6.88</td><td>100.00%</td><td>$21,000,000</td></tr></table></td><td>$21,000,000</td><td>$21,000,000</td><td>N7057</td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>99832080,99831048,99831049,99830811</td>
<td>23</td>
<td>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: 1181/1354/1586
Notes: Per PJM Cost Allocation Rules, this reinforcement is in the previous AE2 Queue. No cost allocation for AF2-016.

ProjectId: 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: 1245/1387/1586
Notes: Per PJM Cost Allocation Rules, this reinforcement is in the previous AE2 Queue. No cost allocation for AF2-016.

ProjectId: n6582
Description: Replace 8 pieces of station cable in Richmond substation on Richmond-Camden tie line
Type: FAC
Total Cost: $363,000
Time Estimate: 36.0 Months
Ratings: 1462/1770/1970
Notes: Per PJM Cost Allocation Rules, this reinforcement is in the previous AE2 Queue. No cost allocation for AF2-016.

ProjectId: n6583
Description : Reconductor PECO portion of line using 'Pecos' conductor on this bifurcated line (conductors run on parallel towers and remain tied together as they are today, which remains a 6-wire line) and also rebuild the Richmond 230 kV substation ring bus to increase bus rating (Does not include permitting or ROW acquisition). Cost & Ratings for PECO portion of the line only.
Type : FAC
Total Cost : $15,653,000
Time Estimate : 36.0 Months
Ratings : 1612/2016/2257
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-251</td><td>44.17</td><td>24.55%</td><td>$3,842,353</td></tr>
<tr><td>AF1-126</td><td>47.3</td><td>26.29%</td><td>$4,114,632</td></tr>
<tr><td>AF1-238</td><td>28.46</td><td>15.82%</td><td>$2,475,738</td></tr>
<tr><td>AF2-016</td><td>60.01</td><td>33.35%</td><td>$5,220,276</td></tr>
</table>

Project Id: n6474
Description: Replace 2 circuit breakers in Richmond substation on Richmond-Camden tie line
Type: FAC
Total Cost: $752,000
Time Estimate: 36.0 Months
Ratings: 1296/1557/1805
Notes: Per PJM Cost Allocation Rules, this reinforcement is in the previous AE2 Queue. No cost allocation for AF2-016.

Project Id: n6475
Description: Replace 6 disconnect switches in Richmond substation on Richmond-Camden tie line
Type: FAC
Total Cost: $1,241,000
Time Estimate: 36.0 Months
Ratings: 1296/1645/1823
Notes: Per PJM Cost Allocation Rules, this reinforcement is in the previous AE2 Queue. No cost allocation for AF2-016.
</td>
<td>$20,308,000</td>
<td>$5,220,276</td>
<td>N6471
N6473
N6582
N6583
N6474
N6475</td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>99005834,99005835</td>
<td>11</td>
<td>28LARRABEE 230.0 kV - 28SMITHBRG 230.0 kV Ckt 2</td>
<td>Project Id: n7222
Description: Reconductor section of 1590 ACSR 45/7 sub conductor circular at Larrabee with 1590 ACSS.
Reconductor 11.8 miles of 1590 ACSR 45/7 transmission line from Larrabee to Smithburg, and at Larrabee and Smithburg, with 1590 ACSS.
Reconductor section of 795 ACSR 26/7 sub conductor circular at Smithburg with 1590 ACSS.
Replace (1) 2000 A wave trap at Larrabee and at Smithburg.
Type : FAC
Total Cost : $55,948,688
Time Estimate : 60.0 Months
Ratings : 913.0/1147.0/1147.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>26.77</td><td>100.00%</td><td>$55,948,688</td></tr>
</table>
Project Id: n7223
Description: Replace (2) 2000 A disconnect switches at Larrabee.
Replace 3000 A GIB at Smithburg.
Replace (4) 3000 A current transformers at Smithburg.
Type : FAC
Total Cost : $3,826,125
Time Estimate : 12.0 Months
Ratings : 1245.0/1499.0/1499.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>26.77</td><td>100.00%</td><td>$3,826,125</td></tr>
</table>
</td>
<td>$59,774,812</td>
<td>$59,774,812</td>
<td>N7222
N7223</td>
</tr>
<tr>
<td>99005839,99005840</td>
<td>12</td>
<td>28LARRABEE 230.0 kV - 28SMITHBRG 230.0 kV Ckt 1</td>
<td>Project Id: N6487
Description: Reconductor section of 1590 ACSR 45/7 MTDL at Larrabee with 1590 ACSS.

Reconductor 11.8 miles of 1590 ACSR transmission line from Larrabee to Smithburg with 1590 ACSS.

Reconductor sections of 1590 ACSR transmission line at Smithburg with 1590 ACSS.

Replace (1) 2000 A Trench wave trap at Larrabee.

Replace (2) 1600 A disconnect switches at Larrabee.
Type : FAC
Total Cost : $56,351,438
Time Estimate : 60.0 Months
Ratings : 913.0/1147.0/1147.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-025</td><td>125.2</td><td>16.71%</td><td>$9,413,586</td></tr>
<tr><td>AE2-222</td><td>27.5</td><td>3.67%</td><td>$2,067,681</td></tr>
<tr><td>AE2-232</td><td>120.1</td><td>16.02%</td><td>$9,030,125</td></tr>
<tr><td>AE2-251</td><td>119.0</td><td>15.88%</td><td>$8,947,418</td></tr>
<tr><td>AF1-101</td><td>173.05</td><td>23.09%</td><td>$13,011,350</td></tr>
<tr><td>AF1-126</td><td>52.15</td><td>6.96%</td><td>$3,921,074</td></tr>
<tr><td>AF1-222</td><td>105.7</td><td>14.10%</td><td>$7,947,412</td></tr>
<tr><td>AF2-016</td><td>26.77</td><td>3.57%</td><td>$2,012,793</td></tr>
</table>
</td>
<td>$56,351,438</td>
<td>$2,012,793</td>
<td>N6487</td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>99831091,99831090,99831092,99831089</td><td>22</td><td>GLOUCSTR 230.0 kV - CAMDEN 230.0 kV Ckt 1</td><td>Project Id: n7113
Description: Expand Beaver Brook 230kV to accommodate new cable. Construct new U/G Cable from Beaver Brook 230kV to Camden 230kV (Single Conductor).
Type : CON
Total Cost : $185,051,931
Time Estimate : 45.0 Months
Ratings : 550.0/750.0/
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>29.82</td><td>100.00%</td><td>$185,051,931</td></tr></table></td><td>$185,051,931</td><td>$185,051,931</td><td>N7113</td></tr>
<tr><td>99832151,99832150</td><td>24</td><td>BEAVERBK_2 230.0 kV - GLOUCSTR 230.0 kV Ckt 1</td><td>PSEG has indicated that there is no violation for this facility.</td><td>$0</td><td>$0</td><td></td></tr>
<tr><td>99831155</td><td>3</td><td>NEWFRDM 230.0 kV - HILLTOP_3 230.0 kV Ckt 1</td><td>ProjectId : n6455
Description : Reconductor to 1080MVA SER
Type : FAC
Total Cost : $29,523,000
Time Estimate : 33.0 Months
Ratings : 934.0/1080.0/
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AE2-021</td><td>25.17</td><td>9.29%</td><td>$2,743,259</td></tr><tr><td>AE2-022</td><td>37.1</td><td>13.70%</td><td>$4,043,500</td></tr><tr><td>AE2-222</td><td>31.4</td><td>11.59%</td><td>$3,422,262</td></tr><tr><td>AE2-251</td><td>126.0</td><td>46.52%</td><td>$13,732,642</td></tr><tr><td>AE2-257</td><td>9.6</td><td>3.54%</td><td>$1,046,297</td></tr><tr><td>AF1-238</td><td>13.94</td><td>5.15%</td><td>$1,519,310</td></tr><tr><td>AF2-016</td><td>27.67</td><td>10.21%</td><td>$3,015,732</td></tr></table></td><td>$29,523,000</td><td>$3,015,732</td><td>N6455</td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>99005749,990055750, 140113703,99005896,9900589 4,99005895,99007250,990072501,99005898</td>
<td>31 & 14</td>
<td>CEDAR 230.0 kV - 28OYSTER C 230.0 kV Ckt 1</td>
<td>
Project Id: n7055
Description : To mitigate the (ACE) Cedar Oyster Creek 230 kV line (from bus 227955 to bus 206302 ckt 1) overload, it will require a 230 kV strand bus upgrade at Cedar.
Type: FAC
Total Cost: $300,000
Time Estimate: 24-36 Months
Ratings: 650.0/804.0/925.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>84.13</td><td>100.00%</td><td>$300,000</td></tr>
</table>
ProjectId: N6512
Description: To mitigate the (ACE) Cedar Oyster Creek 230 kV line (from bus 227955 to bus 206302 ckt 1) overload, it will require increasing the emergency rating of the Cedar to Oyster Creek 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at Cedar.
Type: FAC
Total Cost: $63,000,000
Time Estimate: 36-60 Months
Ratings: 1195.0/1195.0/1195.0
Notes: Per PJM cost allocation rules, [Queue#] 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>AE2-000</td><td>184.75</td><td>16.40%</td><td>$10,330,050</td></tr>
<tr><td>AE2-021</td><td>201.66</td><td>17.90%</td><td>$11,275,551</td></tr>
<tr><td>AE2-022</td><td>117.64</td><td>10.44%</td><td>$6,577,516</td></tr>
<tr><td>AE2-222</td><td>85.7</td><td>7.61%</td><td>$4,791,801</td></tr>
<tr><td>AE2-251</td><td>400.1</td><td>35.51%</td><td>$22,371,059</td></tr>
<tr><td>AE2-314</td><td>24.0</td><td>2.13%</td><td>$1,341,928</td></tr>
<tr><td>AF1-126</td><td>12.63</td><td>1.12%</td><td>$706,190</td></tr>
<tr><td>AF1-238</td><td>16.13</td><td>1.43%</td><td>$901,887</td></tr>
<tr><td>AF2-016</td><td>84.13</td><td>7.47%</td><td>$4,704,017</td></tr>
</table>
ProjectId : N6513
Description : To mitigate the (ACE) Cedar Oyster Creek 230 kV line (from bus 227955 to bus 206302 ckt 1) overload, it will require various terminal reinforcements at Cedar.
Type: FAC
Total Cost: $700,000
Time Estimate: 24-48 Months
Ratings: 1283.0/1509.0/1509.0
Notes: This reinforcement is driven by the AE2 Queue. Per PJM cost allocation rules, AF12 presently does not receive cost allocation for this upgrade.
</td>
<td>$64,000,000</td>
<td>$5,004,017</td>
<td>N7055
N6512
N6513</td>
</tr>
<tr>
<td>101513383</td>
<td>32</td>
<td>BLE 138.0 kV - SCULL#2 138.0 kV Ckt 1</td>
<td>
Project Id: s0812.2
Description: To mitigate the #2 BLE-Scull 138 kV line overload a prorated portion of s0812.2 is estimated based upon the distance and the rationing of half the foundation and pole costs to both the #1 and #1 138 kV line rebuilds.
Type : FAC
Total Cost : $3,500,000
Time Estimate : 48.0 Months
Ratings : 390.0/478.0/478.0
Notes : Supplemental Projects do not receive Cost Allocation
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>38.27</td><td>100.00%</td><td>$3,500,000</td></tr>
</table>
</td>
<td>$3,500,000</td>
<td>$0</td>
<td>S0812.2</td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>99831018,99831017,99830796</td>
<td>19</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>5.31%</td><td>$841,519</td></tr>
<tr><td>AE2-022</td><td>64.84</td><td>14.41%</td><td>$2,283,971</td></tr>
<tr><td>AE2-222</td><td>56.6</td><td>12.57%</td><td>$1,993,719</td></tr>
<tr><td>AE2-251</td><td>220.56</td><td>49.00%</td><td>$7,769,165</td></tr>
<tr><td>AF1-238</td><td>26.79</td><td>5.95%</td><td>$943,670</td></tr>
<tr><td>AF2-016</td><td>57.43</td><td>12.76%</td><td>$2,022,956</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>17.86%</td><td>$3,394,197</td></tr>
<tr><td>AE2-022</td><td>64.84</td><td>11.33%</td><td>$2,153,212</td></tr>
<tr><td>AE2-222</td><td>56.6</td><td>9.89%</td><td>$1,879,577</td></tr>
<tr><td>AE2-251</td><td>220.56</td><td>38.55%</td><td>$7,324,373</td></tr>
<tr><td>AF1-222</td><td>33.04</td><td>5.77%</td><td>$1,097,195</td></tr>
<tr><td>AF1-237</td><td>10.68</td><td>1.87%</td><td>$354,662</td></tr>
<tr><td>AF1-238</td><td>26.79</td><td>4.68%</td><td>$889,644</td></tr>
<tr><td>AF2-016</td><td>57.43</td><td>10.04%</td><td>$1,907,140</td></tr>
</table>
ProjectId : N6484
Description : Replace 7 disconnect switches on Richmond-Waneeta line
Type : FAC
Total Cost : $1,448,000
Time Estimate : 36.0 Months
Ratings : 1296.0/1645.0/1823.0
Notes : Per PJM Cost Allocation rules, this reinforcement is in the AE2 Queue

ProjectId : N6483
Description : Replace 3 circuit breakers on Richmond-Waneeta line
Type : FAC
Total Cost : $1,129,000
Time Estimate : 36.0 Months
Ratings : 1296.0/1557.0/1805.0
Notes : Per PJM Cost Allocation rules, this reinforcement is in the AE2 Queue
</td>
<td>$37,432,000</td>
<td>$3,930,096</td>
<td>N6482
N6477
N6484
N6483</td>
</tr>
<tr>
<td>99832059</td>
<td>34</td>
<td>PEDRKTWN 230.0 kV - BRIDGPRT 230.0 kV Ckt 1</td>
<td>AEC has indicated that there is no violation for this facility.</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>153107352,153107351,153878046</td><td>6</td><td>LEWIS #1 138.0 kV - LEWIS #3 138.0 kV Ckt 1</td><td>ProjectId: N7051
Description: To mitigate the Lewis 138 kV bus tie overload, breaker 'JN' will be replaced with a 3000 amp breaker.
Type: FAC
Total Cost: $236,000
Time Estimate: 9 to 12 Months
Ratings: 717.0/717.0/717.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>234.35</td><td>100.00%</td><td>$236,000</td></tr></table></td><td>$236,000</td><td>$236,000</td><td>N7051</td></tr>
<tr><td>99007216,99007217</td><td>13</td><td>28MANITOU 230.0 kV - 28WHITINGS 230.0 kV Ckt 1</td><td>Project Id: n7226
Description: Replace substation conductor at Manitou and Whitings substations.
Reconductor the Manitou - Whitings 230 kV line (~8.78 miles).
Replace wave trap, circuit breaker, and disconnect switch at Manitou substation
Replace relaying at Manitou substation
Replace metering at Whiting substation.
Type : FAC
Total Cost : $43,436,588
Time Estimate : 48.0 Months
Ratings : 1355.0/1625.0/1625.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>39.42</td><td>100.00%</td><td>$43,436,588</td></tr></table></td><td>$43,436,588</td><td>$43,436,588</td><td>N7226</td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>99830956,99830955,99832014,99832016</td>
<td>25</td>
<td>CARDIFF 230.0 kV - NEWFRDM 230.0 kV Ckt 1</td>
<td>
Project Id: n6505
Description: Upgrade New Freedom 230kV terminal equipment to achieve a SER of 1593 MVA
Type: FAC
Total Cost: $1,033,138
Time Estimate: 13.0 Months
Ratings: 1593.0/1593.0/
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.

Project Id: N6342
Description: To mitigate the (ACE) Cardiff New Freedom 230 kV line (from bus 227900 to bus 219100 ckt 1) overload, it will require increasing the emergency rating of the Cardiff to New Freedom 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor.
Type : FAC
Total Cost : $105,000,000
Time Estimate : 36-60 Months
Ratings : 796.0/932.0/932.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-021</td><td>188.62</td><td>13.84%</td><td>$14,534,146</td></tr>
<tr><td>AE2-022</td><td>149.8</td><td>10.99%</td><td>$11,542,865</td></tr>
<tr><td>AE2-024</td><td>39.8</td><td>2.92%</td><td>$3,066,796</td></tr>
<tr><td>AE2-025</td><td>20.09</td><td>1.47%</td><td>$1,548,038</td></tr>
<tr><td>AE2-222</td><td>102.7</td><td>7.54%</td><td>$7,913,566</td></tr>
<tr><td>AE2-251</td><td>509.6</td><td>37.40%</td><td>$39,267,315</td></tr>
<tr><td>AF1-101</td><td>225.43</td><td>16.54%</td><td>$17,370,547</td></tr>
<tr><td>AF1-238</td><td>17.07</td><td>1.25%</td><td>$1,315,332</td></tr>
<tr><td>AF1-239</td><td>7.37</td><td>0.54%</td><td>$567,897</td></tr>
<tr><td>AF2-016</td><td>102.18</td><td>7.50%</td><td>$7,873,497</td></tr>
</table>

Project Id: N6504
Description: To mitigate the (ACE) Cardiff New Freedom 230 kV line (from bus 227900 to bus 219100 ckt 1) overload, it will require various terminal reinforcements at Cardiff.
Type: FAC
Total Cost: $600,000
Time Estimate: 24-36 Months
Ratings: 1189.0/1427.0/1427.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.

Project Id: N6344
Description: To mitigate the (ACE) Cardiff New Freedom 230 kV line (from bus 227900 to bus 219100 ckt 1) overload, it will require various terminal reinforcements at Cardiff.
Type: FAC
Total Cost: $600,000
Time Estimate: 24-36 Months
Ratings: 1195.0/1195.0/1195.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.

Project Id: N6343
Description : To mitigate the (ACE) Cardiff New Freedom 230 kV line (from bus 227900 to bus 219100 ckt 1) overload, it will require various terminal reinforcements are required at Cardiff.
Type: FAC
Total Cost: $400,000
Time Estimate: 24-36 Months
Ratings: 993.0/993.0/993.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.

Project Id: n6569
Description: To mitigate the (ACE) Cardiff New Freedom 230 kV line (from bus 227900 to bus 219100 ckt 1) overload, it will require increasing the emergency rating of the Cardiff to New Freedom 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor.
Type : FAC
Total Cost : $160,000,000
Time Estimate : 60-72 Months
Ratings : 2159.0/2622.0/2622.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-251</td><td>330.72</td><td>48.97%</td><td>$78,346,461</td></tr>
<tr><td>AF1-101</td><td>225.43</td><td>33.38%</td><td>$53,403,613</td></tr>
<tr><td>AF1-238</td><td>17.07</td><td>2.53%</td><td>$4,043,826</td></tr>
<tr><td>AF2-016</td><td>102.18</td><td>15.13%</td><td>$24,206,100</td></tr>
</table>

Project Id: n6568
Description To mitigate the (ACE) Cardiff New Freedom 230 kV line (from bus 227900 to bus 219100 ckt 1) overload, it will require various terminal reinforcements at Cardiff.
Type: FAC
Total Cost: $600,000
Time Estimate: 24-36 Months
Ratings: 1593.0/1593.0/1593.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.
</td>
<td>$268,233,138</td>
<td>$32,079,598</td>
<td>N6505
N6342
N6504
N6344
N6343
N6569
N6568</td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>101513415,101514594</td><td>8</td><td>LEWIS #2 138.0 kV - LEWIS #1 138.0 kV Ckt 1</td><td>ProjectId: N7220
Description: To mitigate the Lewis 138 kV bus tie overload, breaker 'U' will be replaced with a 3000 amp breaker.
Type : FAC
Total Cost : $236,000
Time Estimate : 9 to 12 Months
Ratings : 717.0/717.0/717.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>121.64</td><td>100.00%</td><td>$236,000</td></tr></table>
Project Id: N6416
Description: To mitigate the Lewis 138 kV bus tie overload, breaker 'U' will be replaced with a 2000 amp breaker.
Type: FAC
Total Cost: $236,000
Time Estimate: 9 to 12 Months
Ratings: 478.0/478.0/478.0
Notes: Per PJM cost allocation rules, AF2 presently does not receive cost allocation for this upgrade.</td><td>$572,000</td><td>$236,000</td><td>N6416
N7220</td></tr>
<tr><td>161038840,161039504,101514589</td><td>36</td><td>MNOTLA 2 138.0 kV - MNOTLA 1 138.0 kV Ckt 1</td><td>AEC has indicated that there is no violation for this facility.</td><td>$0</td><td>$0</td><td></td></tr>
</table>

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AF2-016	Upgrade Number
99830816,99831054,99832085,99831053	21	RICHRE29 230.0 kV - RICHMOND 230.0 kV Ckt 1	ProjectId: 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 Type: This reinforcement is driven by a previous queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade. 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: This reinforcement is driven by a previous queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade. ProjectId: N6582 Description: Replace 8 pieces of station cable in Richmond substation on Richmond-Camden tie line Type: FAC Total Cost: $363,000 Time Estimate: 36.0 Months Ratings: 1462.0/1770.0/1970.0 Notes: This reinforcement is driven by a previous queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade. Project Id: N6474 Description: Replace 2 circuit breakers in Richmond substation on Richmond-Camden tie line Type: FAC Total Cost: $752,000 Time Estimate: 36.0 Months Ratings: 1296.0/1557.0/1805.0 Notes: This reinforcement is driven by a previous queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade Project Id: N6475 Description: Replace 6 disconnect switches in Richmond substation on Richmond-Camden tie line Type: FAC Total Cost: $1,241,000 Time Estimate: 36.0 Months Ratings: 1296.0/1645.0/1823.0 Notes: This reinforcement is driven by a previous queue. Per PJM cost allocation rules, this project presently does not receive cost allocation for this upgrade.	$4,655,000	$0	N6471 N6473 N6582 N6474 N6475

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>99830821,99831068</td>
<td>20</td>
<td>WANEETA2 230.0 kV - N PHILA 230.0 kV Ckt 1</td>
<td>
Project Id: n7169
Description: Replace 6 pieces of station cable on Waneeta- N. Phila line
Type: FAC
Total Cost: $272,000
Time Estimate: 36.0 Months
Ratings: 730.0/828.0/959.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>29.55</td><td>100.00%</td><td>$272,000</td></tr>
</table>
Project Id: n7168
Description: Replace 1 disconnect switch on Waneeta- N. Phila line
Type: FAC
Total Cost: $207,000
Time Estimate: 24.0 Months
Ratings: 563.0/702.0/770.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>29.55</td><td>100.00%</td><td>$207,000</td></tr>
</table>
Project Id: n6530
Description: Reconductor the North Philadelphia-Waneeta 230 kV line with Pecos conductor (Does not include permitting)
Type: FAC
Total Cost: $6,335,000
Time Estimate: 36.0 Months
Ratings: 516/647/647
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-222</td><td>29.23</td><td>15.57%</td><td>$986,269</td></tr>
<tr><td>AE2-251</td><td>114.23</td><td>60.84%</td><td>$3,854,312</td></tr>
<tr><td>AF1-238</td><td>14.74</td><td>7.85%</td><td>$497,352</td></tr>
<tr><td>AF2-016</td><td>29.55</td><td>15.74%</td><td>$997,067</td></tr>
</table>
</td>
<td>$6,814,000</td>
<td>$1,476,067</td>
<td>N7168
N7169
N6530</td>
</tr>
<tr>
<td>101513398</td>
<td>28</td>
<td>SCULL#2 138.0 kV - MILL #2 138.0 kV Ckt 1</td>
<td>
Project Id: N6189
Description: To mitigate the (ACE) Mill#2 Scull#2 138 kV line (from bus 228904 to bus 227906 ckt 1) overload, it will require increasing the emergency rating of the Mill#2 to Scull#2 138 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 both Mill#2 to Scull#2.
Type : FAC
Total Cost : $12,800,000
Time Estimate : 36-60 Months
Ratings : 478.0/559.0/559.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE1-104</td><td>190.16</td><td>72.41%</td><td>$9,269,033</td></tr>
<tr><td>AE1-179</td><td>9.01</td><td>3.43%</td><td>$439,177</td></tr>
<tr><td>AE1-240</td><td>7.53</td><td>2.87%</td><td>$367,037</td></tr>
<tr><td>AF1-238</td><td>17.63</td><td>6.71%</td><td>$859,345</td></tr>
<tr><td>AF2-016</td><td>38.27</td><td>14.57%</td><td>$1,865,407</td></tr>
</table>
</td>
<td>$12,800,000</td>
<td>$1,865,407</td>
<td>N6189</td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>101514637</td>
<td>30</td>
<td>CARDIFF2 138.0 kV - LEWIS #2 138.0 kV Ckt 1</td>
<td>Project Id: N6586
Description: To mitigate the (ACE) Cardiff to Lewis #2 138 kV line (from bus 227901 to bus 227945 ckt 1) overload, terminal reinforcement is required at both Cardiff & Lewis #2 substations.
Type: FAC
Total Cost: $300,000
Time Estimate: 12-24 Months
Ratings: 549.0/621.0/621.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.

ProjectId : N6585
Description : To mitigate the (ACE) Cardiff to Lewis #2 138 kV line (from bus 227934 to bus 227945 ckt 1) overload, it will require increasing the emergency rating of the Cardiff to Lewis 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor.
Type : FAC
Total Cost : $10,000,000
Time Estimate : 48-60 Months
Ratings : 478.0/559.0/559.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-251</td><td>82.1</td><td>43.47%</td><td>$4,346,905</td></tr>
<tr><td>AF1-238</td><td>8.54</td><td>4.52%</td><td>$452,163</td></tr>
<tr><td>AF2-016</td><td>98.23</td><td>52.01%</td><td>$5,200,932</td></tr>
</table>
Project Id: N6847
Description: To mitigate the (ACE) Cardiff to Lewis #2 138 kV line (from bus 227901 to bus 227945 ckt 1) overload, terminal reinforcement is required at both Cardiff & Lewis #2 substations, including strand buses and disc switches.
Type: FAC
Total Cost: $300,000
Time Estimate: 12 to 24 Months
Ratings: 780.0/965.0/965.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.</td>
<td>$10,600,000</td>
<td>$5,200,932</td>
<td>N6586
N6585
N6847</td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>101514697</td><td>9</td><td>LEWIS #3 138.0 kV - DOROTHY 138.0 kV Ckt 1</td><td>ProjectId: N6435
Description: To mitigate the (ACE) Dorothy to Lewis #3 138 kV line (from bus 227901 to bus 227949 ckt 1) overload, terminal reinforcement is required at both Dorothy & Lewis #3 substations.
Type: FAC
Total Cost: $500,000
Time Estimate: 24-48 Months
Ratings: 392.0/485.0/485.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.

ProjectId: n7063
Description: To mitigate the (ACE) Dorothy - Lewis 138 kV line (from bus 227901 to bus 227949 ckt 1) overload, it will require increasing the emergency rating of the Dorothy to Lewis 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor.
Type : FAC
Total Cost : $25,000,000
Time Estimate : 36-48 Months
Ratings : 478.0/559.0/559.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>17.76</td><td>100.00%</td><td>$25,000,000</td></tr></table></td><td>$25,500,000</td><td>$25,000,000</td><td>N7063</td></tr>
<tr><td>99005937</td><td>10</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 : 2920/3707/4157 (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>100.00%</td><td>$153,600,000</td></tr></table></td><td>$153,000,000</td><td>$153,000,000</td><td>N7082</td></tr>
<tr><td>99831166</td><td>4</td><td>NEWFRDM 230.0 kV - CARDIFF 230.0 kV Ckt 1</td><td>Project Id: n7052
Description: To mitigate the relay limits on this line the relay settings will be changed.
Type: FAC
Total Cost: $0
Time Estimate: 6 to 12 Months
Ratings: 650.0/804.0/906.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>116.21</td><td>100.00%</td><td>$0</td></tr></table></td><td>$0</td><td>$0</td><td>N7052</td></tr>
<tr><td>99007393</td><td>2</td><td>28LARRABEE 230.0 kV - 28ATLANTIC 230.0 kV Ckt 1</td><td>Project Id: n7227
Description: Replace disconnect switch at Atlantic substation.
Type: FAC
Total Cost: $234,938
Time Estimate: 12.0 Months
Ratings: 1114.0/1285.0/1285.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>27.35</td><td>100.00%</td><td>$234,938</td></tr></table></td><td>$234,938</td><td>$234,938</td><td>N7227</td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>101514735,101513685</td><td>7</td><td>CARDIFF2 69.0 kV - MILL #1 69.0 kV Ckt 1</td><td>Project Id: N7074
Description: To mitigate the Cardiff-Mill 69 kV line overload, the 2.94 mile line will be rebuilt with an ACSS conductor capable of 2300 amp minimum and 69 kV Mill breaker 'J' will be replaced with a 3000 amp breaker .
Type: FAC
Total Cost: $6,100,000
Time Estimate: 30 to 36 Months
Ratings: 274.0/310.0/351.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>20.75</td><td>100.00%</td><td>$6,100,000</td></tr></table></td><td>$6,100,000</td><td>$6,100,000</td><td>N7074</td></tr>
<tr><td>99007351, 99007234,99007235</td><td>1

15</td><td>28LARRABEE 230.0 kV - 28VANHISVL 230.0 kV Ckt 1</td><td>ProjectId: N7187
Description: Reconductor the Larrabee - Van Hiseville 230 kV line (~7.5 miles).
Replace wave trap at Larrabee.
Replace relaying, metering, current transformers, and fault switch at Larrabee.
Type : FAC
Total Cost : $37,019,438
Time Estimate : 42.0 Months
Ratings : 1355.0/1434.0/1434.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>38.4</td><td>100.00%</td><td>$37,019,438</td></tr></table>
ProjectId: N7186
Description: Reconductor 7.5 miles of 1590 ACSR 45/7 transmission line from Larrabee to Van Hiseville Tap with 1590 ACSS.
Replace (1) 2000 A wave trap at Larrabee.
Replace (4) 10A thermal relays at Larrabee.
Replace (1) 10 A thermal meter at Larrabee.
Type : FAC
Total Cost : $36,549,562
Time Estimate : 48.0 Months
Ratings : 1216.0/1216.0/1216.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>38.4</td><td>100.00%</td><td>$36,549,562</td></tr></table>
Project Id: n7188
Description: Reconductor the Larrabee - Van Hiseville 230 kV line (~7.5 miles).
Type : FAC
Total Cost : $35,240,625
Time Estimate : 42.0 Months
Ratings : 815.0/923.0/923.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>14.27</td><td>100.00%</td><td>$35,240,625</td></tr></table></td><td>$108,809,625</td><td>$108,809,625</td><td>N7186
N7187
N7188</td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>99005774</td><td>17</td><td>28LAKEWOOD 230.0 kV - 28LARRABEE 230.0 kV Ckt 2</td><td>Project Id: n7229
Description: Replace substation conductor at Lakewood Gen. and Larrabee.
Reconductor the Lakewood Gen. - Larrabee 230 kV line (~5.24 miles).
Replace disconnect switches at Larrabee and Lakewood Gen.
Replace wave trap at Larrabee.
Replace relaying, metering, and fault switches at Lakewood Gen. and at Larrabee.
Type : FAC
Total Cost : $26,010,938
Time Estimate : 42.0 Months
Ratings : 1306.0/1697.0/1697.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>42.86</td><td>100.00%</td><td>$26,010,938</td></tr>
</table>
Project Id: n7228
Description: Reconductor both sections of 1590 ACSR 45/7 MTDL at Lakewood Gen and Larrabee with 1590 ACSS.
Reconductor 5.24 miles of 1590 ACSR 45/7 transmission line from Lakewood Gen to Larrabee with 1590 ACSS.
Replace (5) 1600 A disconnect switches at Larrabee.
Replace (1) 2000 A wave trap at Larrabee.
Replace (1) 2000 A ABB circuit breaker at Lakewood Gen.
Type : FAC
Total Cost : $28,044,825
Time Estimate : 42.0 Months
Ratings : 913.0/1147.0/1147.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>42.86</td><td>100.00%</td><td>$28,044,825</td></tr>
</table></td><td>$54,055,762</td><td>$54,055,762</td><td>N7228
N7229</td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>99831002,99831003,99832039</td><td>27</td><td>CARDIFF 230.0 kV - ORCHARD 230.0 kV Ckt 1</td><td>Project Id: N6561
Description: To mitigate the (ACE) Orchard Cardiff 230 kV line (from bus 228002 to bus 227900 ckt 1) overload, it will require increasing the emergency rating of the Orchard to Cardiff 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements is required at Orchard & Cardiff.
Type : FAC
Total Cost : $74,000,000
Time Estimate : 48-60 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>AE2-251</td><td>321.8</td><td>58.60%</td><td>$43,362,165</td></tr><tr><td>AF1-101</td><td>160.54</td><td>29.23%</td><td>$21,632,573</td></tr><tr><td>AF2-016</td><td>66.83</td><td>12.17%</td><td>$9,005,262</td></tr></table>
Project Id: N6562
Description: To mitigate the (ACE) Orchard Cardiff 230 kV line (from bus 228002 to bus 227900 ckt 1) overload, it will require increasing the emergency rating of the Orchard to Cardiff 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements is required at Orchard & Cumberland.
Type: FAC
Total Cost: $300,000
Time Estimate: 24-36 Months
Ratings: 997.0/1167.0/1167.0
Notes: Per PJM Cost Allocation Rules, this reinforcement cost is driven by previous queue. This may change with future re-tools as projects withdraw.</td><td>$74,300,000</td><td>$9,057,696</td><td>N6561
N6562</td></tr>
<tr><td>99832124</td><td>35</td><td>BRIDGPRT 230.0 kV - MCKLTON 230.0 kV Ckt 1</td><td>Project Id: n7162
Description: To mitigate the (ACE) Bridgeport to Mickleton 230 kV line (from bus 228313 to bus 228401 ckt 1) overload, terminal reinforcement is required at both substation.
Type: FAC
Total Cost: $1,000,000
Time Estimate: 12-24 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>AF2-016</td><td>34.76</td><td>100.00%</td><td>$1,000,000</td></tr></table></td><td>$1,000,000</td><td>$1,000,000</td><td>N7162</td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>99830960,99830961</td>
<td>26</td>
<td>CARDIFF 230.0 kV - CEDAR 230.0 kV Ckt 1</td>
<td>
ProjectId : N7073
Description : To mitigate the (ACE) AE2-020 TAP Cardiff 230 kV line (from bus 940360 to bus 227955 ckt 1) overload, various terminal reinforcements are required at Cardiff.
Type : FAC
Total Cost : $1,500,000
Time Estimate : 24-36 Months
Ratings : 1189.0/1427.0/1641.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>69.87</td><td>100.00%</td><td>$1,500,000</td></tr>
</table>
ProjectId : N7072
Description : To mitigate the (ACE) AE2-020 TAP Cardiff 230 kV line (from bus 940360 to bus 227955 ckt 1) overload, various terminal reinforcements are required at Cardiff.
Type : FAC
Total Cost : $200,000
Time Estimate : 24-36 Months
Ratings : 916.0/1035.0/1191.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>69.87</td><td>100.00%</td><td>$200,000</td></tr>
</table>
ProjectId : N7071
Description : To mitigate the Cardiff-Cedar 230 kV overload the line will be rebuilt with bundled conductor
Type : FAC
Total Cost : $135,000,000
Time Estimate : 60.0 Months
Ratings : 796.0/932.0/1072.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>69.87</td><td>100.00%</td><td>$135,000,000</td></tr>
</table>
ProjectId : N6535
Description : To mitigate the (ACE) AE2-020 TAP Cedar 230 kV line (from bus 940360 to bus 227955 ckt 1) overload, various terminal reinforcements are required at Cedar.
Type: FAC
Total Cost: $300,000
Time Estimate: 24-36 Months
Ratings: 1252.0/1519.0/1519.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade.
</td>
<td>$137,000,000</td>
<td>$136,500,000</td>
<td>N7073
N7072
N7071
N6535</td>
</tr>
<tr>
<td>99832104</td>
<td>33</td>
<td>CHAMBERS 230.0 kV - PEDRKTWN 230.0 kV Ckt 1</td>
<td>AEC has indicated that there is no violation for this facility</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>101513484</td>
<td>29</td>
<td>CARDIFF 138.0 kV - LEWIS #1 138.0 kV Ckt 1</td>
<td>ProjectId : N6577
Description : To mitigate the (ACE) Cardiff to Lewis#1 138 kV line (from bus 227913 to bus 227902 ckt 1) overload, it will require increasing the emergency rating of the Cardiff to Lewis#1 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor.
Type : FAC
Total Cost : $9,000,000
Time Estimate : 36-60 Months
Ratings : 478.0/559.0/559.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-251</td><td>5.3</td><td>4.60%</td><td>$413,632</td></tr>
<tr><td>AF1-238</td><td>11.14</td><td>9.66%</td><td>$869,407</td></tr>
<tr><td>AF2-016</td><td>98.88</td><td>85.74%</td><td>$7,716,962</td></tr>
</table>
ProjectId: N6848
Description: To mitigate the (ACE) Cardiff- Lewis#1 138 kV line (from bus 227913 to bus 227902 ckt 1) overload, will require substation reinforcements at both substations.
Type: FAC
Total Cost: $900,000
Time Estimate: 24-32 Months
Ratings: 780.0/965.0/965.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.

ProjectId: N6576
Description: To mitigate the (ACE) Cardiff- Lewis#1 138 kV line (from bus 227913 to bus 227902 ckt 1) overload, will require substation reinforcements at both substations.
Type: FAC
Total Cost: $900,000
Time Estimate: 24-32 Months
Ratings: 390.0/482.0/482.0
Notes: Per PJM cost allocation rules, AF2-016 presently does not receive cost allocation for this upgrade. This may change as projects ahead in queue withdraws.</td>
<td>$10,800,000</td>
<td>$7,716,962</td>
<td>N6577
N6848
N6576</td>
</tr>
<tr>
<td>99007247,99007248</td>
<td>16</td>
<td>28WHITINGS 230.0 kV - 28MANCHSTR 230.0 kV Ckt 1</td>
<td>Project Id: N7225
Description: Replace fault switches at Whitings.
Type : FAC
Total Cost : $536,990
Time Estimate : 12.0 Months
Ratings : 1162.0/1434.0/1434.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>39.48</td><td>100.00%</td><td>$536,990</td></tr>
</table>
Project Id: N7224
Description: Reconductor the Manchester - Whitings 230 kV 1590 line (~12.65 miles).
Replace wave trap at Whitings.
Replace substation conductor at Manchester.
Replace circuit breaker at Whitings.
Replace disconnect switches at Manchester and Whitings.
Replace relaying and metering at Whitings.
Type : FAC
Total Cost : $62,324,402
Time Estimate : 54.0 Months
Ratings : 1162.0/1288.0/1288.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>39.48</td><td>100.00%</td><td>$62,324,402</td></tr>
</table>
</td>
<td>$62,861,392</td>
<td>$62,861,392</td>
<td>N7224
N7225</td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>99007254,99007255</td><td>18</td><td>28MANCHSTR 230.0 kV - 28VANHISVL 230.0 kV Ckt 1</td><td>Project Id: n7232
Description: Replace substation conductor at Manchester. Replace disconnect switches at Manchester.
Type : FAC
Total Cost : $537,000
Time Estimate : 42.0 Months
Ratings : 1162.0/1519.0/1519.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>39.48</td><td>100.00%</td><td>$537,000</td></tr></table>
ProjectId: n7231
Description: Reconductor the Van Hiseville Tap - Manchester 230 kV line (~5.55 miles).
Type : FAC
Total Cost : $35,009,147
Time Estimate : 42.0 Months
Ratings : 820.0/1053.0/1053.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>39.48</td><td>100.00%</td><td>$35,009,147</td></tr></table></td><td>$35,546,147</td><td>$35,546,147</td><td>N7231
N7232</td></tr>
<tr><td></td><td></td><td></td><td>TOTAL COST</td><td>$1,493,495,771</td><td>$969,422,771</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.

11.7 Flow Gate Details

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

11.7.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99007351	206294	28LARRABEE	JCP&L	206318	28VANHISVL	JCP&L	1	JC-P7-1-JCC-230-11A	tower	869.0	97.15	101.66	AC	38.78

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206201	28JERSVGEN	0.0412	50/50	0.0412
206271	28MCRC/REC	0.9132	50/50	0.9132
206306	28LKWD G1	2.7924	50/50	2.7924
206308	28LKWD G2	2.7924	50/50	2.7924
206312	28LKWD G3	1.9985	50/50	1.9985
206366	28LKWD CT1	5.6283	50/50	5.6283
206367	28LKWD CT2	5.6283	50/50	5.6283
206370	LKWD CT3	39.8500	50/50	39.8500
206412	28R11	37.6655	Adder	44.31
206414	28X4-005E	1.5732	Adder	1.85
206416	28MLH_W1-032	0.0218	50/50	0.0218
207143	28BYD_X4-031	0.2662	50/50	0.2662
207144	28HOW_X1-037	0.1366	50/50	0.1366
207148	28MDF_W3-079	0.0540	50/50	0.0540
207169	28W4-060COL	0.0735	50/50	0.0735
207204	28HOL_W1-112	0.0340	50/50	0.0340
207205	28MAN_W1-024	0.0287	50/50	0.0287
207206	28TIN_W1-124	0.1540	50/50	0.1540
207401	AA1-060 BAT	4.8970	50/50	4.8970
207419	AB2-139 E	0.0341	Adder	0.04
207420	AC1-207 C	0.4227	Adder	0.5
218629	LAKENESP1_E	0.0211	Adder	0.02
227928	V4-067E	-0.1854	Adder	-0.22
228261	V4-054E	-0.4088	Adder	-0.48
901032	W1-024E OP1	0.2808	50/50	0.2808
901112	W1-032 E OP1	0.2191	50/50	0.2191
901422	W1-113 E	0.3592	Adder	0.42
901912	W1-112E OP1	0.3306	50/50	0.3306
902032	W1-124E	1.5034	50/50	1.5034
902322	W2-019 E	-1.0043	Adder	-1.18
902912	W2-078 E	0.4021	Adder	0.47
903982	W3-079 E	0.5317	50/50	0.5317
905502	W4-060 E OP1	0.7137	50/50	0.7137
907082	X1-037 E	1.3261	50/50	1.3261
914092	Y2-051 E	0.2762	Adder	0.32
919662	AA2-048 E	0.8459	50/50	0.8459
920732	AA2-184 E	1.6496	50/50	1.6496
923791	AB2-014	0.2712	50/50	0.2712
924701	AB2-122 C	-0.0801	Adder	-0.09
927132	AC1-207 E	0.7074	Adder	0.83
934351	AD1-059	0.4989	50/50	0.4989
934841	**AD1-113 (Suspended)**	**5.8994**	**Adder**	**6.94**
938423	AE1-061 BAT	0.4931	Merchant Transmission	0.4931

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938433	AE1-062 BAT	1.5310	Merchant Transmission	1.5310
939121	AE1-142 C O1	-2.7309	Adder	-3.21
939303	AE1-161 BAT	3.9555	Merchant Transmission	3.9555
939981	AE1-238 C	35.0798	50/50	35.0798
939982	AE1-238 E	92.1428	50/50	92.1428
940401	AE2-024 C O1	30.9342	50/50	30.9342
940402	AE2-024 E O1	144.8307	50/50	144.8307
940411	AE2-025 C	15.6156	50/50	15.6156
940412	AE2-025 E	73.1039	50/50	73.1039
940691	AE2-056 C	0.2008	50/50	0.2008
940692	AE2-056 E	0.1757	50/50	0.1757
940701	AE2-057 C	0.0613	50/50	0.0613
940702	AE2-057 E	0.0613	50/50	0.0613
940921	AE2-081 C	0.2134	50/50	0.2134
940922	AE2-081 E	0.2197	50/50	0.2197
940931	AE2-082 C	0.2982	Adder	0.35
940932	AE2-082 E	0.3158	Adder	0.37
943521	AF1-023	1.1946	50/50	1.1946
944953	AF1-160 BAT	1.5693	Merchant Transmission	1.5693
945201	AF1-185 1	0.3540	Adder	0.42
945211	AF1-185 2	0.0787	Adder	0.09
945571	AF1-222 C	21.8664	50/50	21.8664
945572	AF1-222 E	57.6477	50/50	57.6477
945733	AF1-238 BAT	10.6029	Merchant Transmission	10.6029
945743	AF1-239 BAT	2.4948	Merchant Transmission	2.4948
945951	AF1-260	0.1208	50/50	0.1208
957223	AF2-016 BAT	38.7810	50/50	38.7810
957263	AF2-020 BAT	1.5498	Merchant Transmission	1.5498
957273	AF2-021 BAT	11.5140	50/50	11.5140
957781	AF2-072 C	4.9820	50/50	4.9820
957782	AF2-072 E	4.9820	50/50	4.9820
961221	AF2-413	19.6648	Adder	23.14
999905	MARINGEN 2	-0.4481	Adder	-0.53
999906	PVILLEG 2	-0.1927	Adder	-0.23
NEWTON	NEWTON	0.0505	Confirmed LTF	0.0505
FARMERCITY	FARMERCITY	0.0028	Confirmed LTF	0.0028
G-007A	G-007A	22.1865	Confirmed LTF	22.1865
VFT	VFT	23.1555	Confirmed LTF	23.1555
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	0.0251	Confirmed LTF	0.0251
PRAIRIE	PRAIRIE	0.1317	Confirmed LTF	0.1317
COFFEEN	COFFEEN	0.0094	Confirmed LTF	0.0094
CHEOAH	CHEOAH	0.0385	Confirmed LTF	0.0385
EDWARDS	EDWARDS	0.0150	Confirmed LTF	0.0150
TILTON	TILTON	0.0271	Confirmed LTF	0.0271
CALDERWOOD	CALDERWOOD	0.0378	Confirmed LTF	0.0378
BLUEG	BLUEG	0.0799	Confirmed LTF	0.0799
TRIMBLE	TRIMBLE	0.0256	Confirmed LTF	0.0256
CATAWBA	CATAWBA	0.0354	Confirmed LTF	0.0354

11.7.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99007393	206294	28LARRABEE	JCP&L	206286	28ATLANTIC	JCP&L	1	JC-P7-1-JCC-230-7A	tower	1147.0	99.98	101.99	AC	27.35

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206280	28LAKEHURS	0.6865	50/50	0.6865
206306	28LKWD G1	4.6457	50/50	4.6457
206308	28LKWD G2	4.6457	50/50	4.6457
206312	28LKWD G3	3.3248	50/50	3.3248
206325	**28O C GEN (Deactivation : 17/09/2018)**	**53.8081**	**Adder**	**63.3**
206366	28LKWD CT1	9.3637	50/50	9.3637
206367	28LKWD CT2	9.3637	50/50	9.3637
206370	LKWD CT3	66.2980	50/50	66.2980
206414	28X4-005E	-1.4887	Adder	-1.75
207400	28AA1-060 E	2.3265	Adder	2.74
219288	REEVES ST E	0.4297	Adder	0.51
219652	LUMB23SP1_E	0.0131	Adder	0.02
219656	LUMB23SP2_E	0.0131	Adder	0.02
219687	LUMSOLAR_N E	0.1323	Adder	0.16
227928	V4-067E	0.1314	Adder	0.15
901982	W1-119 E	0.9925	Adder	1.17
901992	W1-120E	0.9925	Adder	1.17
902082	W1-129E	0.5225	Adder	0.61
902322	W2-019 E	0.6166	Adder	0.73
902432	W2-030 E	0.4681	Adder	0.55
902952	W2-082 E OP1	1.7938	Adder	2.11
903982	W3-079 E	0.9429	Adder	1.11
905252	W4-025 E	0.7416	Adder	0.87
907272	X1-085 E	0.3192	Adder	0.38
912102	X4-015 E	0.5254	Adder	0.62
914092	Y2-051 E	0.7293	Adder	0.86
917612	Z2-102 E	1.4628	Adder	1.72
919662	AA2-048 E	1.5001	Adder	1.76
923292	AB1-138 C	0.1753	50/50	0.1753
923293	AB1-138 E	1.7385	50/50	1.7385
923463	AB1-163 E	1.0954	Adder	1.29
923791	AB2-014	0.4512	50/50	0.4512
924701	AB2-122 C	0.0568	Adder	0.07
924702	AB2-122 E	0.0973	Adder	0.11
930001	AB1-001 C	0.0822	Adder	0.1
930002	AB1-001 E	0.1351	Adder	0.16
933962	AD1-019 E	0.6039	Adder	0.71
934351	AD1-059	0.8300	50/50	0.8300
938781	AE1-104 C O1	8.3635	Adder	9.84
938782	AE1-104 E O1	21.3980	Adder	25.17
939121	AE1-142 C O1	2.4971	50/50	2.4971
939122	AE1-142 E O1	3.5933	50/50	3.5933
940161	AE2-000 C O1	54.8852	Adder	64.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940162	AE2-000 E O1	140.4325	Adder	165.21
940361	AE2-020 C	9.0745	Adder	10.68
940362	AE2-020 E	42.4877	Adder	49.99
940371	AE2-021 C	9.0745	Adder	10.68
940372	AE2-021 E	42.4877	Adder	49.99
940381	AE2-022 C	5.2935	Adder	6.23
940382	AE2-022 E	24.7845	Adder	29.16
940401	AE2-024 C O1	53.6211	50/50	53.6211
940402	AE2-024 E O1	251.0482	50/50	251.0482
940411	AE2-025 C	27.0679	50/50	27.0679
940412	AE2-025 E	126.7175	50/50	126.7175
942101	AE2-222 C O1	6.8207	Adder	8.02
942102	AE2-222 E O1	17.1340	Adder	20.16
942381	AE2-251 C	28.7480	Adder	33.82
942382	AE2-251 E	73.5580	Adder	86.54
943561	AF1-027	0.2585	Adder	0.3
943732	AF1-041 E	0.1931	Adder	0.23
944332	AF1-101 E O1	137.6799	Adder	161.98
945201	AF1-185 1	-0.3350	Adder	-0.39
945211	AF1-185 2	-0.0744	Adder	-0.09
945951	AF1-260	0.2143	Adder	0.25
957221	AF2-016 C	9.2973	Adder	10.94
957222	AF2-016 E	13.9460	Adder	16.41
957251	AF2-019 C	0.4863	Adder	0.57
957252	AF2-019 E	0.7294	Adder	0.86
957271	AF2-021 C	1.4679	Adder	1.73
957272	AF2-021 E	2.2019	Adder	2.59
957311	AF2-025 C	0.6327	Adder	0.74
957312	AF2-025 E	0.9490	Adder	1.12
957781	AF2-072 C	8.6357	50/50	8.6357
957782	AF2-072 E	8.6357	50/50	8.6357
959631	AF2-254 C	0.7286	Adder	0.86
959632	AF2-254 E	1.0062	Adder	1.18
961222	AF2-413 BAT	21.8925	Merchant Transmission	21.8925
999905	MARINGEN 2	0.3167	Adder	0.37
999906	PVILLEG 2	0.1363	Adder	0.16
NEWTON	NEWTON	0.0795	Confirmed LTF	0.0795
FARMERCITY	FARMERCITY	0.0040	Confirmed LTF	0.0040
GIBSON	GIBSON	0.0409	Confirmed LTF	0.0409
NY	NY	0.9589	Confirmed LTF	0.9589
PRAIRIE	PRAIRIE	0.1834	Confirmed LTF	0.1834
O-066	O-066	18.0701	Confirmed LTF	18.0701
COFFEEN	COFFEEN	0.0148	Confirmed LTF	0.0148
CHEOAH	CHEOAH	0.0275	Confirmed LTF	0.0275
EDWARDS	EDWARDS	0.0269	Confirmed LTF	0.0269
TILTON	TILTON	0.0485	Confirmed LTF	0.0485
G-007	G-007	9.1083	Confirmed LTF	9.1083
MADISON	MADISON	0.0081	Confirmed LTF	0.0081
CALDERWOOD	CALDERWOOD	0.0278	Confirmed LTF	0.0278
BLUEG	BLUEG	0.1302	Confirmed LTF	0.1302
TRIMBLE	TRIMBLE	0.0417	Confirmed LTF	0.0417
CATAWBA	CATAWBA	0.0140	Confirmed LTF	0.0140

11.7.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99831155	219100	NEWFRDM	PSE&G	219704	HILLTOP_3	PSE&G	1	PECO_P4_PEACH215/* $ CHESCO $ PEACH215 $ STBK	breaker	886.0	99.22	102.18	AC	27.67

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200036	SALEM-G1 (Deactivation : 01/10/2020)	20.5141	50/50	20.5141
200037	SALEM-G2 (Deactivation : 01/04/2020)	14.6304	50/50	14.6304
200039	HOPE CG1 (Deactivation : 01/10/2019)	14.9905	50/50	14.9905
200062	SALEM G3	4.0658	50/50	4.0658
219727	Z1-082 BAT	0.1758	50/50	0.1758
227928	V4-067E	0.1305	Adder	0.15
228261	V4-054E	0.3179	Adder	0.37
228712	V2-041E	0.1659	Adder	0.2
228721	V2-035E	0.0668	Adder	0.08
228733	AB1-119 E	0.0885	50/50	0.0885
231903	GEN4	0.6510	Adder	0.77
231904	DC1 NUG	1.6868	Adder	1.98
231905	DC2 NUG	1.6868	Adder	1.98
232405	W1-003 E	0.2974	Adder	0.35
232407	W1-004 E	0.2974	Adder	0.35
232409	W1-005 E	0.2974	Adder	0.35
232411	W1-006 E	0.2974	Adder	0.35
232412	X1-032 E	0.2638	Adder	0.31
232418	X3-008 E	0.7978	Adder	0.94
232423	X3-066 E	0.2232	Adder	0.26
232425	Y1-079 E	0.3783	Adder	0.45
232427	Y1-080 E	0.1362	Adder	0.16
232429	Y3-058 E	0.6113	Adder	0.72
232433	Z2-076 E	0.1340	Adder	0.16
232435	Z2-077 E	0.1340	Adder	0.16
232436	AB1-176 C	0.0906	Adder	0.11
232922	MR3 (Deactivation : 01/06/2021)	7.1458	Adder	8.41
902092	W1-130E	0.3872	Adder	0.46
902432	W2-030 E	0.4700	Adder	0.55
917082	Z2-012 E	0.8193	Adder	0.96
919831	AA2-069 (Suspended)	31.5957	Adder	37.17
923153	AB1-116 E	0.0788	50/50	0.0788
923282	AB1-137 C	0.2805	Adder	0.33
923283	AB1-137 E	0.1202	Adder	0.14
923322	AB1-141 C OP	0.8070	Adder	0.95
923323	AB1-141 E OP	0.3766	Adder	0.44
923332	AB1-142 C OP	0.8070	Adder	0.95
923603	AB1-176 E	0.1494	Adder	0.18
923921	AB2-032 C	0.8130	Adder	0.96
923922	AB2-032 E	0.3826	Adder	0.45

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923951	AB2-036 C	2.1338	Adder	2.51
923952	AB2-036 E	3.4911	Adder	4.11
923961	AB2-037 C	4.8349	Adder	5.69
923962	AB2-037 E	7.8984	Adder	9.29
924051	AB2-049 C	0.4368	50/50	0.4368
924052	AB2-049 E	0.7127	50/50	0.7127
924531	AB2-102 C	15.1929	Adder	17.87
924532	AB2-102 E	0.3376	Adder	0.4
924681	AB2-120 C OP	2.5110	Adder	2.95
924682	AB2-120 E OP	4.0969	Adder	4.82
924701	AB2-122 C	0.0564	Adder	0.07
924702	AB2-122 E	0.0967	Adder	0.11
924781	AB2-130 C OP	2.1401	Adder	2.52
924782	AB2-130 E OP	3.4918	Adder	4.11
924801	AB2-133 C OP	1.4507	Adder	1.71
924802	AB2-133 E OP	1.8400	Adder	2.16
924821	AB2-135 C	1.8149	Adder	2.14
924822	AB2-135 E	2.0698	Adder	2.44
924831	AB2-136 C	1.6050	Adder	1.89
924832	AB2-136 E	1.7021	Adder	2.0
924971	AB2-153 C	0.4543	Adder	0.53
924972	AB2-153 E	0.7413	Adder	0.87
925151	AB2-172 C OP	1.2224	Adder	1.44
925152	AB2-172 E OP	1.9944	Adder	2.35
925251	AB2-179 C OP	1.9953	Adder	2.35
925252	AB2-179 E OP	0.6580	Adder	0.77
925261	AB2-180 C	0.9202	Adder	1.08
925262	AB2-180 E	0.3944	Adder	0.46
925271	AB2-185 C OP	0.8543	Adder	1.01
925272	AB2-185 E OP	0.3661	Adder	0.43
926131	AC1-091 C	0.5283	Adder	0.62
926132	AC1-091 E	0.8664	Adder	1.02
926141	AC1-092 C	0.5283	Adder	0.62
926142	AC1-092 E	0.8664	Adder	1.02
926151	AC1-093 C	0.5001	Adder	0.59
926152	AC1-093 E	0.8241	Adder	0.97
926161	AC1-094 C	0.4226	Adder	0.5
926162	AC1-094 E	0.6974	Adder	0.82
927031	AC1-190 C	2.2542	Adder	2.65
927032	AC1-190 E	0.9661	Adder	1.14
927191	AC1-213 C	0.2110	Adder	0.25
927192	AC1-213 E	0.1384	Adder	0.16
930001	AB1-001 C	0.0651	Adder	0.08
930002	AB1-001 E	0.1070	Adder	0.13
930201	AB1-056 C	4.3086	Adder	5.07
930202	AB1-056 E	12.2701	Adder	14.44
930242	AB1-063 E	-0.0455	Adder	-0.05
930881	AB1-137 C	0.2805	Adder	0.33
930882	AB1-137 E	0.1202	Adder	0.14
930932	AB1-142 E OP	0.3766	Adder	0.44
932082	AC2-018 E1	1.9724	Adder	2.32
932092	AC2-018 E2	1.9724	Adder	2.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
932161	AC2-023 C	1.7380	Adder	2.04
932162	AC2-023 E	1.2658	Adder	1.49
932361	AC2-050 C O1	0.2137	Adder	0.25
932362	AC2-050 E O1	0.3487	Adder	0.41
933631	AC2-185 C	1.0707	Adder	1.26
933632	AC2-185 E	1.7469	Adder	2.06
933641	AC2-186 C	1.2707	Adder	1.49
933642	AC2-186 E	2.0732	Adder	2.44
933962	AD1-019 E	0.5939	Adder	0.7
936212	AD2-027 E	-0.5657	Adder	-0.67
936322	AD2-042 E	-0.7482	Adder	-0.88
936501	AD2-065 C	0.1240	50/50	0.1240
936502	AD2-065 E	0.1710	50/50	0.1710
936611	AD2-076 C O1	1.1076	Adder	1.3
936612	AD2-076 E O1	1.8071	Adder	2.13
937011	AD2-135 C	0.0844	50/50	0.0844
937012	AD2-135 E	0.1435	50/50	0.1435
938421	AE1-061 C	0.1868	Adder	0.22
938422	AE1-061 E	0.1868	Adder	0.22
938431	AE1-062 C	1.2138	50/50	1.2138
938432	AE1-062 E	1.2138	50/50	1.2138
938651	AE1-087 C	1.0294	Adder	1.21
938652	AE1-087 E	0.2573	Adder	0.3
938781	AE1-104 C O1	9.0952	Adder	10.7
938782	AE1-104 E O1	23.2698	Adder	27.38
938811	AE1-107 C	1.6377	Adder	1.93
938812	AE1-107 E	1.1675	Adder	1.37
938891	AE1-117 C O1	2.7719	Adder	3.26
938892	AE1-117 E O1	7.3806	Adder	8.68
939151	AE1-145	1.3216	Adder	1.55
939301	AE1-161 C	1.3027	Adder	1.53
939302	AE1-161 E	1.9541	Adder	2.3
939501	AE1-179 C O1	2.1274	Adder	2.5
939502	AE1-179 E O1	1.5014	Adder	1.77
939821	AE1-218 C O1	0.0602	Adder	0.07
939822	AE1-218 E O1	0.0903	Adder	0.11
940001	AE1-240 C O1	1.7415	Adder	2.05
940002	AE1-240 E O1	1.2431	Adder	1.46
940361	AE2-020 C	8.9225	Adder	10.5
940362	AE2-020 E	41.7760	Adder	49.15
940371	AE2-021 C	8.9225	Adder	10.5
940372	AE2-021 E	41.7760	Adder	49.15
940381	AE2-022 C	5.2048	Adder	6.12
940382	AE2-022 E	24.3693	Adder	28.67
941021	AE2-093 C	1.2321	Adder	1.45
941022	AE2-093 E	1.9576	Adder	2.3
941181	AE2-112 C	0.3843	Adder	0.45
941182	AE2-112 E	0.6270	Adder	0.74
942101	AE2-222 C O1	6.6704	Adder	7.85
942102	AE2-222 E O1	16.7564	Adder	19.71
942381	AE2-251 C	28.2665	Adder	33.25
942382	AE2-251 E	72.3259	Adder	85.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942441	AE2-257 C	2.2047	Adder	2.59
942442	AE2-257 E	5.8125	Adder	6.84
943071	AE2-334 C	2.1351	Adder	2.51
943072	AE2-334 E	1.1382	Adder	1.34
943361	AF1-007 C	0.1271	Adder	0.15
943362	AF1-007 E	0.3613	Adder	0.43
943441	AF1-015 C	0.3940	Adder	0.46
943442	AF1-015 E	0.5441	Adder	0.64
943651	AF1-036 C	0.4997	Adder	0.59
943652	AF1-036 E	0.6900	Adder	0.81
943732	AF1-041 E	0.1884	Adder	0.22
944951	AF1-160 C	1.2138	50/50	1.2138
944952	AF1-160 E	1.2745	50/50	1.2745
945661	AF1-231 C	0.5021	Adder	0.59
945662	AF1-231 E	0.7532	Adder	0.89
945731	AF1-238 C	3.3353	Adder	3.92
945732	AF1-238 E	5.0030	Adder	5.89
945741	AF1-239 C	0.7848	Adder	0.92
945742	AF1-239 E	1.1772	Adder	1.38
945791	AF1-244	0.5273	Adder	0.62
945931	AF1-258	0.2103	Adder	0.25
945941	AF1-259	0.0480	Adder	0.06
945971	AF1-262	0.0485	Adder	0.06
957221	AF2-016 C	9.4075	Adder	11.07
957222	AF2-016 E	14.1112	Adder	16.6
957251	AF2-019 C	0.5729	Adder	0.67
957252	AF2-019 E	0.8594	Adder	1.01
957261	AF2-020 C	0.4075	Adder	0.48
957262	AF2-020 E	0.6112	Adder	0.72
957271	AF2-021 C	0.4388	Adder	0.52
957272	AF2-021 E	0.6582	Adder	0.77
957311	AF2-025 C	0.6255	Adder	0.74
957312	AF2-025 E	0.9383	Adder	1.1
957611	AF2-055 C	2.3125	Adder	2.72
957612	AF2-055 E	0.9911	Adder	1.17
957661	AF2-060	0.5947	Adder	0.7
957671	AF2-061 O1	2.6432	Adder	3.11
958811	AF2-172 C	0.2146	Adder	0.25
958812	AF2-172 E	0.3501	Adder	0.41
958831	AF2-174 C	0.0709	Adder	0.08
958832	AF2-174 E	0.0979	Adder	0.12
959021	AF2-193 C	7.9615	Adder	9.37
959022	AF2-193 E	21.4760	Adder	25.27
959031	AF2-194 C	7.9615	Adder	9.37
959032	AF2-194 E	21.4760	Adder	25.27
959051	AF2-196 C	0.6013	Adder	0.71
959052	AF2-196 E	1.4030	Adder	1.65
959161	AF2-207 C O1	1.3303	Adder	1.57
959162	AF2-207 E O1	1.9954	Adder	2.35
959571	AF2-248 C	0.2243	Adder	0.26
959572	AF2-248 E	0.2507	Adder	0.29
959581	AF2-249 C	0.0396	Adder	0.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959582	AF2-249 E	0.1583	Adder	0.19
959591	AF2-250 C	0.0726	Adder	0.09
959592	AF2-250 E	0.0561	Adder	0.07
960221	AF2-313 C	0.7621	Adder	0.9
960222	AF2-313 E	0.4321	Adder	0.51
960341	AF2-325 C	0.2712	Adder	0.32
960342	AF2-325 E	0.3746	Adder	0.44
960671	AF2-358 C O1	3.8964	Adder	4.58
960672	AF2-358 E O1	2.5976	Adder	3.06
960871	AF2-378 C	0.0718	Adder	0.08
960872	AF2-378 E	0.0996	Adder	0.12
960881	AF2-379 C	0.1080	Adder	0.13
960882	AF2-379 E	0.1489	Adder	0.18
960941	AF2-385 C	3.1541	Adder	3.71
960942	AF2-385 E	1.7948	Adder	2.11
960961	AF2-387 C O1	4.1257	Adder	4.85
960962	AF2-387 E O1	2.0691	Adder	2.43
961181	AF2-409 O1	6.5033	Adder	7.65
999905	MARINGEN 2	0.3127	Adder	0.37
999906	PVILLEG 2	0.1327	Adder	0.16
NEWTON	NEWTON	0.4814	Confirmed LTF	0.4814
FARMERCITY	FARMERCITY	0.0251	Confirmed LTF	0.0251
G-007A	G-007A	4.3515	Confirmed LTF	4.3515
VFT	VFT	6.7209	Confirmed LTF	6.7209
GIBSON	GIBSON	0.2446	Confirmed LTF	0.2446
PRAIRIE	PRAIRIE	1.1598	Confirmed LTF	1.1598
COFFEEN	COFFEEN	0.0894	Confirmed LTF	0.0894
CHEOAH	CHEOAH	0.2282	Confirmed LTF	0.2282
EDWARDS	EDWARDS	0.1565	Confirmed LTF	0.1565
TILTON	TILTON	0.2816	Confirmed LTF	0.2816
CALDERWOOD	CALDERWOOD	0.2266	Confirmed LTF	0.2266
BLUEG	BLUEG	0.7777	Confirmed LTF	0.7777
TRIMBLE	TRIMBLE	0.2493	Confirmed LTF	0.2493
CATAWBA	CATAWBA	0.1617	Confirmed LTF	0.1617

11.7.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99831166	219100	NEWFRDM	PSE&G	227900	CARDIFF	AE	1	AE_P4-2 AE46	breaker	692.0	86.56	103.95	AC	116.21

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227928	V4-067E	-0.5786	Adder	-0.68
228261	V4-054E	-0.9462	Adder	-1.11
919663	AA2-048 BAT	0.3702	Merchant Transmission	0.3702
924701	AB2-122 C	-0.2500	Adder	-0.29
938423	AE1-061 BAT	0.8373	50/50	0.8373
939121	AE1-142 C O1	-0.6633	Adder	-0.78
939303	AE1-161 BAT	4.4795	Merchant Transmission	4.4795
945733	AF1-238 BAT	31.3025	50/50	31.3025
945743	AF1-239 BAT	7.3653	50/50	7.3653
957223	AF2-016 BAT	116.2110	50/50	116.2110
957263	AF2-020 BAT	3.5750	50/50	3.5750
957273	AF2-021 BAT	9.9168	50/50	9.9168
957783	AF2-072 BAT	2.7360	Merchant Transmission	2.7360
999905	MARINGEN 2	-1.3178	Adder	-1.55
999906	PVILLEG 2	-0.5518	Adder	-0.65
WEC	WEC	0.0450	Confirmed LTF	0.0450
LGEE	LGEE	0.0822	Confirmed LTF	0.0822
CPLE	CPLE	0.1118	Confirmed LTF	0.1118
CBM-W2	CBM-W2	1.2121	Confirmed LTF	1.2121
NY	NY	0.3423	Confirmed LTF	0.3423
TVA	TVA	0.2114	Confirmed LTF	0.2114
O-066	O-066	6.6998	Confirmed LTF	6.6998
CBM-S2	CBM-S2	0.9479	Confirmed LTF	0.9479
CBM-S1	CBM-S1	1.2780	Confirmed LTF	1.2780
G-007	G-007	2.6853	Confirmed LTF	2.6853
MADISON	MADISON	0.0060	Confirmed LTF	0.0060
MEC	MEC	0.2304	Confirmed LTF	0.2304
CBM-W1	CBM-W1	1.7639	Confirmed LTF	1.7639

11.7.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101514710	227901	DOROTHY	AE	228503	MNOTLA 2	AE	1	JC-P7-1-JCC-230-13	tower	478.0	90.96	101.44	DC	50.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206360	28O CRK C1	0.5733	50/50	0.5733
206361	28O CRK C2	0.3746	50/50	0.3746
227842	MARINGEN	0.0940	50/50	0.0940
227927	V4-067C	0.0205	50/50	0.0205
227928	V4-067E	0.2017	50/50	0.2017
228014	PVILLEG	0.0335	50/50	0.0335
228712	V2-041E	0.1220	Adder	0.14
228729	W2-030 C	0.0857	50/50	0.0857
228731	V3-036	0.1377	50/50	0.1377
902432	W2-030 E	0.8387	50/50	0.8387
924531	AB2-102 C	11.0485	Adder	13.0
924532	AB2-102 E	0.2455	Adder	0.29
924701	AB2-122 C	0.0871	50/50	0.0871
924702	AB2-122 E	0.1494	50/50	0.1494
930001	AB1-001 C	0.1278	50/50	0.1278
930002	AB1-001 E	0.2101	50/50	0.2101
933962	AD1-019 E	1.1320	50/50	1.1320
938423	AE1-061 BAT	1.8508	50/50	1.8508
938781	AE1-104 C O1	15.3547	50/50	15.3547
938782	AE1-104 E O1	39.2847	50/50	39.2847
939303	AE1-161 BAT	10.2115	50/50	10.2115
940161	AE2-000 C O1	23.0103	50/50	23.0103
940162	AE2-000 E O1	58.8753	50/50	58.8753
940361	AE2-020 C	10.7121	50/50	10.7121
940362	AE2-020 E	50.1549	50/50	50.1549
940371	AE2-021 C	10.7121	50/50	10.7121
940372	AE2-021 E	50.1549	50/50	50.1549
940381	AE2-022 C	6.2487	50/50	6.2487
940382	AE2-022 E	29.2571	50/50	29.2571
942101	AE2-222 C O1	12.9326	50/50	12.9326
942102	AE2-222 E O1	32.4874	50/50	32.4874
942381	AE2-251 C	33.9358	50/50	33.9358
942382	AE2-251 E	86.8322	50/50	86.8322
943732	AF1-041 E	0.3558	50/50	0.3558
944332	AF1-101 E O1	57.7213	50/50	57.7213
957221	AF2-016 C	20.0364	50/50	20.0364
957222	AF2-016 E	30.0546	50/50	30.0546
957251	AF2-019 C	0.6472	Adder	0.76
957252	AF2-019 E	0.9707	Adder	1.14
957271	AF2-021 C	0.8442	50/50	0.8442
957272	AF2-021 E	1.2664	50/50	1.2664
957311	AF2-025 C	1.1722	50/50	1.1722
957312	AF2-025 E	1.7584	50/50	1.7584
999905	MARINGEN 2	0.5886	50/50	0.5886

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
999906	PVILLEG 2	0.2610	50/50	0.2610
NEWTON	NEWTON	0.0075	Confirmed LTF	0.0075
FARMERCITY	FARMERCITY	0.0004	Confirmed LTF	0.0004
GIBSON	GIBSON	0.0038	Confirmed LTF	0.0038
NY	NY	0.0166	Confirmed LTF	0.0166
PRAIRIE	PRAIRIE	0.0181	Confirmed LTF	0.0181
O-066	O-066	0.2285	Confirmed LTF	0.2285
COFFEEN	COFFEEN	0.0014	Confirmed LTF	0.0014
CHEOAH	CHEOAH	0.0035	Confirmed LTF	0.0035
EDWARDS	EDWARDS	0.0028	Confirmed LTF	0.0028
TILTON	TILTON	0.0050	Confirmed LTF	0.0050
G-007	G-007	0.0073	Confirmed LTF	0.0073
MADISON	MADISON	0.0020	Confirmed LTF	0.0020
CALDERWOOD	CALDERWOOD	0.0035	Confirmed LTF	0.0035
BLUEG	BLUEG	0.0122	Confirmed LTF	0.0122
TRIMBLE	TRIMBLE	0.0045	Confirmed LTF	0.0045
CATAWBA	CATAWBA	0.0021	Confirmed LTF	0.0021

11.7.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
153878046	227902	LEWIS #1	AE	227949	LEWIS #3	AE	1	JC-P7-1-JCC-230-13	tower	478.0	85.34	132.76	AC	234.35

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227928	V4-067E	0.0822	Adder	0.1
228712	V2-041E	0.1308	Adder	0.15
924531	AB2-102 C	11.8365	Adder	13.93
924532	AB2-102 E	0.2630	Adder	0.31
924701	AB2-122 C	0.0357	Adder	0.04
924702	AB2-122 E	0.0611	Adder	0.07
938423	AE1-061 BAT	1.7376	50/50	1.7376
938781	AE1-104 C O1	17.4306	50/50	17.4306
938782	AE1-104 E O1	44.5960	50/50	44.5960
939303	AE1-161 BAT	9.5985	50/50	9.5985
940161	AE2-000 C O1	14.9395	Adder	17.58
940162	AE2-000 E O1	38.2250	Adder	44.97
940361	AE2-020 C	9.0393	Adder	10.63
940362	AE2-020 E	42.3225	Adder	49.79
940371	AE2-021 C	9.0393	Adder	10.63
940372	AE2-021 E	42.3225	Adder	49.79
940381	AE2-022 C	5.2729	Adder	6.2
940382	AE2-022 E	24.6881	Adder	29.04
942381	AE2-251 C	28.6362	Adder	33.69
942382	AE2-251 E	73.2720	Adder	86.2
944332	AF1-101 E O1	37.4757	Adder	44.09
957223	AF2-016 BAT	234.3510	50/50	234.3510
957251	AF2-019 C	0.8189	50/50	0.8189
957252	AF2-019 E	1.2283	50/50	1.2283
957271	AF2-021 C	0.4593	Adder	0.54
957272	AF2-021 E	0.6889	Adder	0.81
999906	PVILLEG 2	-0.1016	Adder	-0.12
NEWTON	NEWTON	0.0075	Confirmed LTF	0.0075
FARMERCITY	FARMERCITY	0.0003	Confirmed LTF	0.0003
GIBSON	GIBSON	0.0038	Confirmed LTF	0.0038
NY	NY	0.0188	Confirmed LTF	0.0188
PRAIRIE	PRAIRIE	0.0155	Confirmed LTF	0.0155
O-066	O-066	0.2822	Confirmed LTF	0.2822
COFFEEN	COFFEEN	0.0014	Confirmed LTF	0.0014
CHEOAH	CHEOAH	0.0030	Confirmed LTF	0.0030
EDWARDS	EDWARDS	0.0025	Confirmed LTF	0.0025
TILTON	TILTON	0.0044	Confirmed LTF	0.0044
G-007	G-007	0.0229	Confirmed LTF	0.0229
CALDERWOOD	CALDERWOOD	0.0030	Confirmed LTF	0.0030
BLUEG	BLUEG	0.0122	Confirmed LTF	0.0122
TRIMBLE	TRIMBLE	0.0039	Confirmed LTF	0.0039
CATAWBA	CATAWBA	0.0017	Confirmed LTF	0.0017

11.7.7 Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101514735	227911	CARDIFF2	AE	227922	MILL #1	AE	1	AE_P7-1 AE3TOWER	tower	239.0	99.15	108.68	AC	22.78

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227927	V4-067C	0.0444	50/50	0.0444
227928	V4-067E	0.4365	50/50	0.4365
924701	AB2-122 C	0.1895	50/50	0.1895
924702	AB2-122 E	0.3249	50/50	0.3249
940361	AE2-020 C	5.5144	Adder	6.49
940362	AE2-020 E	25.8188	Adder	30.38
940371	AE2-021 C	5.5144	Adder	6.49
940372	AE2-021 E	25.8188	Adder	30.38
940381	AE2-022 C	3.2167	Adder	3.78
940382	AE2-022 E	15.0610	Adder	17.72
942381	AE2-251 C	17.4695	Adder	20.55
942382	AE2-251 E	44.6995	Adder	52.59
957223	AF2-016 BAT	22.7790	Merchant Transmission	22.7790
999905	MARINGEN 2	-0.5781	Adder	-0.68
999906	PVILLEG 2	-0.0865	Adder	-0.1
WEC	WEC	0.0057	Confirmed LTF	0.0057
LGEE	LGEE	0.0103	Confirmed LTF	0.0103
CPLE	CPLE	0.0119	Confirmed LTF	0.0119
VFT	VFT	0.0064	Confirmed LTF	0.0064
CBM-W2	CBM-W2	0.1474	Confirmed LTF	0.1474
TVA	TVA	0.0252	Confirmed LTF	0.0252
CBM-S2	CBM-S2	0.1040	Confirmed LTF	0.1040
CBM-S1	CBM-S1	0.1534	Confirmed LTF	0.1534
G-007	G-007	0.0364	Confirmed LTF	0.0364
MEC	MEC	0.0286	Confirmed LTF	0.0286
CBM-W1	CBM-W1	0.2252	Confirmed LTF	0.2252

11.7.8 Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101514594	227945	LEWIS #2	AE	227902	LEWIS #1	AE	1	AE_P7-1 AE3TOWER	tower	286.799987793	153.45	209.08	AC	159.76

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	1.1835	50/50	1.1835
939303	AE1-161 BAT	6.5325	50/50	6.5325
940361	AE2-020 C	12.8750	50/50	12.8750
940362	AE2-020 E	60.2816	50/50	60.2816
940371	AE2-021 C	12.8750	50/50	12.8750
940372	AE2-021 E	60.2816	50/50	60.2816
940381	AE2-022 C	7.5104	50/50	7.5104
940382	AE2-022 E	35.1643	50/50	35.1643
942381	AE2-251 C	40.7877	50/50	40.7877
942382	AE2-251 E	104.3643	50/50	104.3643
957223	AF2-016 BAT	159.7560	50/50	159.7560
999905	MARINGEN 2	-0.3654	Adder	-0.43
999906	PVILLEG 2	-0.2101	Adder	-0.25
WEC	WEC	0.0041	Confirmed LTF	0.0041
LGEE	LGEE	0.0074	Confirmed LTF	0.0074
CPLE	CPLE	0.0106	Confirmed LTF	0.0106
CBM-W2	CBM-W2	0.1147	Confirmed LTF	0.1147
NY	NY	0.0321	Confirmed LTF	0.0321
TVA	TVA	0.0196	Confirmed LTF	0.0196
O-066	O-066	0.6048	Confirmed LTF	0.6048
CBM-S2	CBM-S2	0.0867	Confirmed LTF	0.0867
CBM-S1	CBM-S1	0.1193	Confirmed LTF	0.1193
G-007	G-007	0.2028	Confirmed LTF	0.2028
MEC	MEC	0.0207	Confirmed LTF	0.0207
CBM-W1	CBM-W1	0.1626	Confirmed LTF	0.1626

11.7.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101514697	227949	LEWIS #3	AE	227901	DOROTHY	AE	1	JC-P7-1-JCC-230-13	tower	478.0	94.7	105.18	DC	50.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206360	28O CRK C1	0.5733	50/50	0.5733
206361	28O CRK C2	0.3746	50/50	0.3746
227842	MARINGEN	0.0940	50/50	0.0940
227927	V4-067C	0.0205	50/50	0.0205
227928	V4-067E	0.2017	50/50	0.2017
228014	PVILLEG	0.0335	50/50	0.0335
228712	V2-041E	0.1220	Adder	0.14
228729	W2-030 C	0.0857	50/50	0.0857
228731	V3-036	0.1377	50/50	0.1377
902432	W2-030 E	0.8387	50/50	0.8387
924531	AB2-102 C	11.0485	Adder	13.0
924532	AB2-102 E	0.2455	Adder	0.29
924701	AB2-122 C	0.0871	50/50	0.0871
924702	AB2-122 E	0.1494	50/50	0.1494
930001	AB1-001 C	0.1278	50/50	0.1278
930002	AB1-001 E	0.2101	50/50	0.2101
933962	AD1-019 E	1.1320	50/50	1.1320
938423	AE1-061 BAT	1.8508	50/50	1.8508
938781	AE1-104 C O1	15.3547	50/50	15.3547
938782	AE1-104 E O1	39.2847	50/50	39.2847
939303	AE1-161 BAT	10.2115	50/50	10.2115
940161	AE2-000 C O1	23.0103	50/50	23.0103
940162	AE2-000 E O1	58.8753	50/50	58.8753
940361	AE2-020 C	10.7121	50/50	10.7121
940362	AE2-020 E	50.1549	50/50	50.1549
940371	AE2-021 C	10.7121	50/50	10.7121
940372	AE2-021 E	50.1549	50/50	50.1549
940381	AE2-022 C	6.2487	50/50	6.2487
940382	AE2-022 E	29.2571	50/50	29.2571
942101	AE2-222 C O1	12.9326	50/50	12.9326
942102	AE2-222 E O1	32.4874	50/50	32.4874
942381	AE2-251 C	33.9358	50/50	33.9358
942382	AE2-251 E	86.8322	50/50	86.8322
943732	AF1-041 E	0.3558	50/50	0.3558
944332	AF1-101 E O1	57.7213	50/50	57.7213
957221	AF2-016 C	20.0364	50/50	20.0364
957222	AF2-016 E	30.0546	50/50	30.0546
957251	AF2-019 C	0.6472	Adder	0.76
957252	AF2-019 E	0.9707	Adder	1.14
957271	AF2-021 C	0.8442	50/50	0.8442
957272	AF2-021 E	1.2664	50/50	1.2664
957311	AF2-025 C	1.1722	50/50	1.1722
957312	AF2-025 E	1.7584	50/50	1.7584
999905	MARINGEN 2	0.5886	50/50	0.5886

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
999906	PVILLEG 2	0.2610	50/50	0.2610
NEWTON	NEWTON	0.0075	Confirmed LTF	0.0075
FARMERCITY	FARMERCITY	0.0004	Confirmed LTF	0.0004
GIBSON	GIBSON	0.0038	Confirmed LTF	0.0038
NY	NY	0.0166	Confirmed LTF	0.0166
PRAIRIE	PRAIRIE	0.0181	Confirmed LTF	0.0181
O-066	O-066	0.2285	Confirmed LTF	0.2285
COFFEEN	COFFEEN	0.0014	Confirmed LTF	0.0014
CHEOAH	CHEOAH	0.0035	Confirmed LTF	0.0035
EDWARDS	EDWARDS	0.0028	Confirmed LTF	0.0028
TILTON	TILTON	0.0050	Confirmed LTF	0.0050
G-007	G-007	0.0073	Confirmed LTF	0.0073
MADISON	MADISON	0.0020	Confirmed LTF	0.0020
CALDERWOOD	CALDERWOOD	0.0035	Confirmed LTF	0.0035
BLUEG	BLUEG	0.0122	Confirmed LTF	0.0122
TRIMBLE	TRIMBLE	0.0045	Confirmed LTF	0.0045
CATAWBA	CATAWBA	0.0021	Confirmed LTF	0.0021

11.7.10 Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99005937	200051	ROCKSPGS	PJM	200065	PCHBTM2S	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	116.53	119.63	AC	96.02

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
923283	AB1-137 E	0.7800	Adder	0.92
923322	AB1-141 C OP	5.6093	Adder	6.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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
930882	AB1-137 E	0.7800	Adder	0.92
930932	AB1-142 E OP	2.6177	Adder	3.08

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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
940382	AE2-022 E	78.1020	Adder	91.88
940741	AE2-061	0.9585	50/50	0.9585

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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
959022	AF2-193 E	139.1480	Adder	163.7
959031	AF2-194 C	51.5845	Adder	60.69

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.7.11 Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99005834	206294	28LARRABEE	JCP&L	206309	28SMITHBRG	JCP&L	2	JC-P2-3-JCC-230-15F	breaker	813.0	154.6	157.32	AC	26.77

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206271	28MCRC/REC	1.0637	Adder	1.25
206280	28LAKEHURS	0.7459	50/50	0.7459
206306	28LKWD G1	4.9903	50/50	4.9903
206308	28LKWD G2	4.9903	50/50	4.9903
206312	28LKWD G3	3.5714	50/50	3.5714
206325	**28O C GEN (Deactivation : 17/09/2018)**	**57.4826**	**Adder**	**67.63**
206366	28LKWD CT1	10.0583	50/50	10.0583
206367	28LKWD CT2	10.0583	50/50	10.0583
206370	LKWD CT3	71.2160	50/50	71.2160
206412	28R11	31.3562	Adder	36.89
207143	28BYD_X4-031	0.3463	Adder	0.41
207145	28FRN_Y2-051	0.1005	50/50	0.1005
207148	28MDF_W3-079	0.1409	50/50	0.1409
207400	28AA1-060 E	2.3548	Adder	2.77
207419	AB2-139 E	-0.0276	Adder	-0.03
227928	V4-067E	0.1293	Adder	0.15
901912	W1-112E OP1	0.3070	Adder	0.36
901982	W1-119 E	1.0541	Adder	1.24
901992	W1-120E	1.0541	Adder	1.24
902032	W1-124E	1.7149	Adder	2.02
902082	W1-129E	0.5532	Adder	0.65
902322	W2-019 E	0.6525	Adder	0.77
902432	W2-030 E	0.4585	Adder	0.54
902952	W2-082 E OP1	1.9004	Adder	2.24
903982	W3-079 E	1.3873	50/50	1.3873
905252	W4-025 E	0.7852	Adder	0.92
905502	W4-060 E OP1	0.4650	Adder	0.55
907082	X1-037 E	1.2824	Adder	1.51
907272	X1-085 E	0.3062	Adder	0.36
912102	X4-015 E	0.5565	Adder	0.65
914092	Y2-051 E	0.9758	50/50	0.9758
917612	Z2-102 E	1.5534	Adder	1.83
919662	AA2-048 E	2.2071	50/50	2.2071
920732	AA2-184 E	1.8528	Adder	2.18
923292	AB1-138 C	0.1904	50/50	0.1904
923293	AB1-138 E	1.8888	50/50	1.8888
923463	AB1-163 E	1.2291	Adder	1.45
923791	AB2-014	0.4847	50/50	0.4847
924701	AB2-122 C	0.0559	Adder	0.07
924702	AB2-122 E	0.0958	Adder	0.11
930001	AB1-001 C	0.0824	Adder	0.1
930002	AB1-001 E	0.1354	Adder	0.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933962	AD1-019 E	0.5931	Adder	0.7
934351	AD1-059	0.8915	50/50	0.8915
938781	AE1-104 C O1	8.0499	Adder	9.47
938782	AE1-104 E O1	20.5954	Adder	24.23
939121	AE1-142 C O1	2.6798	50/50	2.6798
939122	AE1-142 E O1	3.8562	50/50	3.8562
939981	AE1-238 C	39.6327	Adder	46.63
939982	AE1-238 E	104.1020	Adder	122.47
940161	AE2-000 C O1	58.6333	Adder	68.98
940162	AE2-000 E O1	150.0224	Adder	176.5
940361	AE2-020 C	8.9850	Adder	10.57
940362	AE2-020 E	42.0683	Adder	49.49
940371	AE2-021 C	8.9850	Adder	10.57
940372	AE2-021 E	42.0683	Adder	49.49
940381	AE2-022 C	5.2412	Adder	6.17
940382	AE2-022 E	24.5398	Adder	28.87
940401	AE2-024 C O1	57.6369	50/50	57.6369
940402	AE2-024 E O1	269.8497	50/50	269.8497
940411	AE2-025 C	29.0951	50/50	29.0951
940412	AE2-025 E	136.2077	50/50	136.2077
940691	AE2-056 C	0.1914	Adder	0.23
940692	AE2-056 E	0.1675	Adder	0.2
940701	AE2-057 C	0.0358	Adder	0.04
940702	AE2-057 E	0.0358	Adder	0.04
940921	AE2-081 C	0.2033	Adder	0.24
940922	AE2-081 E	0.2093	Adder	0.25
942101	AE2-222 C O1	6.7024	Adder	7.89
942102	AE2-222 E O1	16.8367	Adder	19.81
942381	AE2-251 C	28.4642	Adder	33.49
942382	AE2-251 E	72.8320	Adder	85.68
943521	AF1-023	1.3417	Adder	1.58
943561	AF1-027	0.2616	Adder	0.31
943732	AF1-041 E	0.1900	Adder	0.22
944332	AF1-101 E O1	147.0818	Adder	173.04
945571	AF1-222 C	24.7044	Adder	29.06
945572	AF1-222 E	65.1298	Adder	76.62
945951	AF1-260	0.3153	50/50	0.3153
957221	AF2-016 C	9.1004	Adder	10.71
957222	AF2-016 E	13.6507	Adder	16.06
957271	AF2-021 C	1.5489	Adder	1.82
957272	AF2-021 E	2.3234	Adder	2.73
957311	AF2-025 C	0.6209	Adder	0.73
957312	AF2-025 E	0.9314	Adder	1.1
957772	AF2-071 BAT	8.8780	Merchant Transmission	8.8780
957781	AF2-072 C	9.2825	50/50	9.2825
957782	AF2-072 E	9.2825	50/50	9.2825
959631	AF2-254 C	0.7724	Adder	0.91
959632	AF2-254 E	1.0666	Adder	1.25
999905	MARINGEN 2	0.3109	Adder	0.37
999906	PVILLEG 2	0.1340	Adder	0.16
NEWTON	NEWTON	0.3460	Confirmed LTF	0.3460
FARMERCITY	FARMERCITY	0.0180	Confirmed LTF	0.0180

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007A	G-007A	16.1544	Confirmed LTF	16.1544
GIBSON	GIBSON	0.1758	Confirmed LTF	0.1758
NY	NY	0.5580	Confirmed LTF	0.5580
PRAIRIE	PRAIRIE	0.8266	Confirmed LTF	0.8266
O-066	O-066	5.7590	Confirmed LTF	5.7590
COFFEEN	COFFEEN	0.0642	Confirmed LTF	0.0642
CHEOAH	CHEOAH	0.1552	Confirmed LTF	0.1552
EDWARDS	EDWARDS	0.1134	Confirmed LTF	0.1134
TILTON	TILTON	0.2035	Confirmed LTF	0.2035
MADISON	MADISON	0.0060	Confirmed LTF	0.0060
CALDERWOOD	CALDERWOOD	0.1541	Confirmed LTF	0.1541
BLUEG	BLUEG	0.5590	Confirmed LTF	0.5590
TRIMBLE	TRIMBLE	0.1792	Confirmed LTF	0.1792
CATAWBA	CATAWBA	0.1050	Confirmed LTF	0.1050

11.7.12 Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99005839	206294	28LARRABEE	JCP&L	206309	28SMITHBRG	JCP&L	1	JC-P2-3-JCC-230-15G	breaker	817.0	153.84	156.55	AC	26.77

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206271	28MCRC/REC	1.0637	Adder	1.25
206280	28LAKEHURS	0.7459	50/50	0.7459
206306	28LKWD G1	4.9903	50/50	4.9903
206308	28LKWD G2	4.9903	50/50	4.9903
206312	28LKWD G3	3.5714	50/50	3.5714
206325	**28O C GEN (Deactivation : 17/09/2018)**	**57.4826**	**Adder**	**67.63**
206366	28LKWD CT1	10.0583	50/50	10.0583
206367	28LKWD CT2	10.0583	50/50	10.0583
206370	LKWD CT3	71.2160	50/50	71.2160
206412	28R11	31.3562	Adder	36.89
207143	28BYD_X4-031	0.3463	Adder	0.41
207145	28FRN_Y2-051	0.1005	50/50	0.1005
207148	28MDF_W3-079	0.1409	50/50	0.1409
207400	28AA1-060 E	2.3548	Adder	2.77
207419	AB2-139 E	-0.0276	Adder	-0.03
227928	V4-067E	0.1293	Adder	0.15
901912	W1-112E OP1	0.3070	Adder	0.36
901982	W1-119 E	1.0541	Adder	1.24
901992	W1-120E	1.0541	Adder	1.24
902032	W1-124E	1.7149	Adder	2.02
902082	W1-129E	0.5532	Adder	0.65
902322	W2-019 E	0.6525	Adder	0.77
902432	W2-030 E	0.4585	Adder	0.54
902952	W2-082 E OP1	1.9004	Adder	2.24
903982	W3-079 E	1.3873	50/50	1.3873
905252	W4-025 E	0.7852	Adder	0.92
905502	W4-060 E OP1	0.4650	Adder	0.55
907082	X1-037 E	1.2824	Adder	1.51
907272	X1-085 E	0.3062	Adder	0.36
912102	X4-015 E	0.5565	Adder	0.65
914092	Y2-051 E	0.9758	50/50	0.9758
917612	Z2-102 E	1.5534	Adder	1.83
919662	AA2-048 E	2.2071	50/50	2.2071
920732	AA2-184 E	1.8528	Adder	2.18
923292	AB1-138 C	0.1904	50/50	0.1904
923293	AB1-138 E	1.8888	50/50	1.8888
923463	AB1-163 E	1.2291	Adder	1.45
923791	AB2-014	0.4847	50/50	0.4847
924701	AB2-122 C	0.0559	Adder	0.07
924702	AB2-122 E	0.0958	Adder	0.11
930001	AB1-001 C	0.0824	Adder	0.1
930002	AB1-001 E	0.1354	Adder	0.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933962	AD1-019 E	0.5931	Adder	0.7
934351	AD1-059	0.8915	50/50	0.8915
938781	AE1-104 C O1	8.0499	Adder	9.47
938782	AE1-104 E O1	20.5954	Adder	24.23
939121	AE1-142 C O1	2.6798	50/50	2.6798
939122	AE1-142 E O1	3.8562	50/50	3.8562
939981	AE1-238 C	39.6327	Adder	46.63
939982	AE1-238 E	104.1020	Adder	122.47
940161	AE2-000 C O1	58.6333	Adder	68.98
940162	AE2-000 E O1	150.0224	Adder	176.5
940361	AE2-020 C	8.9850	Adder	10.57
940362	AE2-020 E	42.0683	Adder	49.49
940371	AE2-021 C	8.9850	Adder	10.57
940372	AE2-021 E	42.0683	Adder	49.49
940381	AE2-022 C	5.2412	Adder	6.17
940382	AE2-022 E	24.5398	Adder	28.87
940401	AE2-024 C O1	57.6369	50/50	57.6369
940402	AE2-024 E O1	269.8497	50/50	269.8497
940411	AE2-025 C	29.0951	50/50	29.0951
940412	AE2-025 E	136.2077	50/50	136.2077
940691	AE2-056 C	0.1914	Adder	0.23
940692	AE2-056 E	0.1675	Adder	0.2
940701	AE2-057 C	0.0358	Adder	0.04
940702	AE2-057 E	0.0358	Adder	0.04
940921	AE2-081 C	0.2033	Adder	0.24
940922	AE2-081 E	0.2093	Adder	0.25
942101	AE2-222 C O1	6.7024	Adder	7.89
942102	AE2-222 E O1	16.8367	Adder	19.81
942381	AE2-251 C	28.4642	Adder	33.49
942382	AE2-251 E	72.8320	Adder	85.68
943521	AF1-023	1.3417	Adder	1.58
943561	AF1-027	0.2616	Adder	0.31
943732	AF1-041 E	0.1900	Adder	0.22
944332	AF1-101 E O1	147.0818	Adder	173.04
945571	AF1-222 C	24.7044	Adder	29.06
945572	AF1-222 E	65.1298	Adder	76.62
945951	AF1-260	0.3153	50/50	0.3153
957221	AF2-016 C	9.1004	Adder	10.71
957222	AF2-016 E	13.6507	Adder	16.06
957271	AF2-021 C	1.5489	Adder	1.82
957272	AF2-021 E	2.3234	Adder	2.73
957311	AF2-025 C	0.6209	Adder	0.73
957312	AF2-025 E	0.9314	Adder	1.1
957772	AF2-071 BAT	8.8780	Merchant Transmission	8.8780
957781	AF2-072 C	9.2825	50/50	9.2825
957782	AF2-072 E	9.2825	50/50	9.2825
959631	AF2-254 C	0.7724	Adder	0.91
959632	AF2-254 E	1.0666	Adder	1.25
999905	MARINGEN 2	0.3109	Adder	0.37
999906	PVILLEG 2	0.1340	Adder	0.16
NEWTON	NEWTON	0.3460	Confirmed LTF	0.3460
FARMERCITY	FARMERCITY	0.0180	Confirmed LTF	0.0180

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007A	G-007A	16.1544	Confirmed LTF	16.1544
GIBSON	GIBSON	0.1758	Confirmed LTF	0.1758
NY	NY	0.5580	Confirmed LTF	0.5580
PRAIRIE	PRAIRIE	0.8266	Confirmed LTF	0.8266
O-066	O-066	5.7590	Confirmed LTF	5.7590
COFFEEN	COFFEEN	0.0642	Confirmed LTF	0.0642
CHEOAH	CHEOAH	0.1552	Confirmed LTF	0.1552
EDWARDS	EDWARDS	0.1134	Confirmed LTF	0.1134
TILTON	TILTON	0.2035	Confirmed LTF	0.2035
MADISON	MADISON	0.0060	Confirmed LTF	0.0060
CALDERWOOD	CALDERWOOD	0.1541	Confirmed LTF	0.1541
BLUEG	BLUEG	0.5590	Confirmed LTF	0.5590
TRIMBLE	TRIMBLE	0.1792	Confirmed LTF	0.1792
CATAWBA	CATAWBA	0.1050	Confirmed LTF	0.1050

11.7.13 Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99007217	206297	28MANITOU	JCP&L	206319	28WHITINGS	JCP&L	1	JC-P7-1-JCC-230-10A	tower	817.0	176.23	176.28	AC	39.42

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206306	28LKWD G1	7.7877	50/50	7.7877
206308	28LKWD G2	7.7877	50/50	7.7877
206312	28LKWD G3	5.5735	50/50	5.5735
206325	**28O C GEN (Deactivation : 17/09/2018)**	**114.1197**	**50/50**	**114.1197**
206360	28O CRK C1	2.9004	50/50	2.9004
206361	28O CRK C2	1.8949	50/50	1.8949
206366	28LKWD CT1	15.6968	50/50	15.6968
206367	28LKWD CT2	15.6968	50/50	15.6968
206370	LKWD CT3	111.1380	50/50	111.1380
227928	V4-067E	0.1925	Adder	0.23
902432	W2-030 E	0.6775	Adder	0.8
923293	AB1-138 E	0.7362	Adder	0.87
923791	AB2-014	0.7564	50/50	0.7564
924701	AB2-122 C	0.0832	Adder	0.1
924702	AB2-122 E	0.1426	Adder	0.17
930001	AB1-001 C	0.1263	Adder	0.15
930002	AB1-001 E	0.2076	Adder	0.24
933962	AD1-019 E	0.8786	Adder	1.03
934351	AD1-059	1.3913	50/50	1.3913
938781	AE1-104 C O1	11.6244	Adder	13.68
938782	AE1-104 E O1	29.7407	Adder	34.99
939121	AE1-142 C O1	3.9319	50/50	3.9319
939122	AE1-142 E O1	5.6581	50/50	5.6581
940161	AE2-000 C O1	116.4042	50/50	116.4042
940162	AE2-000 E O1	297.8383	50/50	297.8383
940361	AE2-020 C	13.4987	Adder	15.88
940362	AE2-020 E	63.2020	Adder	74.36
940371	AE2-021 C	13.4987	Adder	15.88
940372	AE2-021 E	63.2020	Adder	74.36
940381	AE2-022 C	7.8743	Adder	9.26
940382	AE2-022 E	36.8678	Adder	43.37
942101	AE2-222 C O1	9.9370	Adder	11.69
942102	AE2-222 E O1	24.9623	Adder	29.37
942381	AE2-251 C	42.7637	Adder	50.31
942382	AE2-251 E	109.4203	Adder	128.73
943732	AF1-041 E	0.2821	Adder	0.33
944332	AF1-101 E O1	292.0003	50/50	292.0003
957221	AF2-016 C	13.4028	Adder	15.77
957222	AF2-016 E	20.1042	Adder	23.65
957251	AF2-019 C	0.6453	Adder	0.76
957252	AF2-019 E	0.9679	Adder	1.14
957271	AF2-021 C	2.5685	Adder	3.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957272	AF2-021 E	3.8527	Adder	4.53
957311	AF2-025 C	0.9192	Adder	1.08
957312	AF2-025 E	1.3788	Adder	1.62
999905	MARINGEN 2	0.4603	Adder	0.54
999906	PVILLEG 2	0.1988	Adder	0.23
NEWTON	NEWTON	0.2203	Confirmed LTF	0.2203
FARMERCITY	FARMERCITY	0.0114	Confirmed LTF	0.0114
GIBSON	GIBSON	0.1119	Confirmed LTF	0.1119
NY	NY	0.5646	Confirmed LTF	0.5646
PRAIRIE	PRAIRIE	0.5243	Confirmed LTF	0.5243
O-066	O-066	9.5155	Confirmed LTF	9.5155
COFFEEN	COFFEEN	0.0409	Confirmed LTF	0.0409
CHEOAH	CHEOAH	0.0971	Confirmed LTF	0.0971
EDWARDS	EDWARDS	0.0721	Confirmed LTF	0.0721
TILTON	TILTON	0.1298	Confirmed LTF	0.1298
G-007	G-007	3.0794	Confirmed LTF	3.0794
MADISON	MADISON	0.0040	Confirmed LTF	0.0040
CALDERWOOD	CALDERWOOD	0.0969	Confirmed LTF	0.0969
BLUEG	BLUEG	0.3559	Confirmed LTF	0.3559
TRIMBLE	TRIMBLE	0.1141	Confirmed LTF	0.1141
CATAWBA	CATAWBA	0.0651	Confirmed LTF	0.0651

11.7.14 Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99007250	206302	28OYSTER C	JCP&L	227955	CEDAR	AE	1	JC-P7-1-JCC-230-10A	tower	564.0	144.65	152.88	AC	47.31

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206306	28LKWD G1	4.8123	50/50	4.8123
206308	28LKWD G2	4.8123	50/50	4.8123
206312	28LKWD G3	3.4441	50/50	3.4441
206325	**28O C GEN (Deactivation : 17/09/2018)**	**90.7450**	**50/50**	**90.7450**
206360	28O CRK C1	2.3063	50/50	2.3063
206361	28O CRK C2	1.5067	50/50	1.5067
206366	28LKWD CT1	9.6996	50/50	9.6996
206367	28LKWD CT2	9.6996	50/50	9.6996
206370	LKWD CT3	68.6760	50/50	68.6760
207143	28BYD_X4-031	0.1134	Adder	0.13
207400	28AA1-060 E	1.1346	Adder	1.33
227928	V4-067E	-0.2306	Adder	-0.27
228261	V4-054E	-0.3472	Adder	-0.41
901982	W1-119 E	0.5527	Adder	0.65
901992	W1-120E	0.5527	Adder	0.65
902082	W1-129E	0.2364	Adder	0.28
902322	W2-019 E	0.2689	Adder	0.32
902952	W2-082 E OP1	0.8463	Adder	1.0
903982	W3-079 E	0.3397	Adder	0.4
905252	W4-025 E	0.3356	Adder	0.39
907082	X1-037 E	0.5832	Adder	0.69
907272	X1-085 E	0.1767	Adder	0.21
912102	X4-015 E	0.2420	Adder	0.28
914092	Y2-051 E	0.2861	Adder	0.34
917612	Z2-102 E	0.8114	Adder	0.95
919662	AA2-048 E	0.5405	Adder	0.64
923293	AB1-138 E	1.2021	Adder	1.41
923463	AB1-163 E	0.6332	Adder	0.74
923791	AB2-014	0.4674	50/50	0.4674
924701	AB2-122 C	-0.0996	Adder	-0.12
934351	AD1-059	0.8597	50/50	0.8597
938423	AE1-061 BAT	0.4552	Merchant Transmission	0.4552
939121	AE1-142 C O1	2.7172	50/50	2.7172
939122	AE1-142 E O1	3.9100	50/50	3.9100
940161	AE2-000 C O1	92.5615	50/50	92.5615
940162	AE2-000 E O1	236.8332	50/50	236.8332
940401	AE2-024 C O1	8.9103	Adder	10.48
940402	AE2-024 E O1	41.7170	Adder	49.08
940411	AE2-025 C	4.4979	Adder	5.29
940412	AE2-025 E	21.0568	Adder	24.77
940691	AE2-056 C	0.0884	Adder	0.1
940692	AE2-056 E	0.0774	Adder	0.09
940921	AE2-081 C	0.0940	Adder	0.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940922	AE2-081 E	0.0967	Adder	0.11
943561	AF1-027	0.1261	Adder	0.15
944332	AF1-101 E O1	232.1910	50/50	232.1910
945733	AF1-238 BAT	9.6785	Merchant Transmission	9.6785
945743	AF1-239 BAT	2.2773	Merchant Transmission	2.2773
945951	AF1-260	0.0772	Adder	0.09
957223	AF2-016 BAT	47.3130	Merchant Transmission	47.3130
957263	AF2-020 BAT	1.3156	Merchant Transmission	1.3156
957273	AF2-021 BAT	17.7944	50/50	17.7944
957781	AF2-072 C	1.4350	Adder	1.69
957782	AF2-072 E	1.4350	Adder	1.69
959631	AF2-254 C	0.3594	Adder	0.42
959632	AF2-254 E	0.4963	Adder	0.58
999905	MARINGEN 2	-0.5520	Adder	-0.65
999906	PVILLEG 2	-0.2383	Adder	-0.28
NEWTON	NEWTON	0.1300	Confirmed LTF	0.1300
FARMERCITY	FARMERCITY	0.0068	Confirmed LTF	0.0068
G-007A	G-007A	7.9717	Confirmed LTF	7.9717
VFT	VFT	8.7075	Confirmed LTF	8.7075
GIBSON	GIBSON	0.0655	Confirmed LTF	0.0655
PRAIRIE	PRAIRIE	0.3151	Confirmed LTF	0.3151
COFFEEN	COFFEEN	0.0239	Confirmed LTF	0.0239
CHEOAH	CHEOAH	0.0666	Confirmed LTF	0.0666
EDWARDS	EDWARDS	0.0416	Confirmed LTF	0.0416
TILTON	TILTON	0.0750	Confirmed LTF	0.0750
CALDERWOOD	CALDERWOOD	0.0661	Confirmed LTF	0.0661
BLUEG	BLUEG	0.2083	Confirmed LTF	0.2083
TRIMBLE	TRIMBLE	0.0668	Confirmed LTF	0.0668
CATAWBA	CATAWBA	0.0504	Confirmed LTF	0.0504

11.7.15 Index 15

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99007235	206318	28VANHISVL	JCP&L	206294	28LARRABEE	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	140.52	144.27	AC	38.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206306	28LKWD G1	5.5814	50/50	5.5814
206308	28LKWD G2	5.5814	50/50	5.5814
206312	28LKWD G3	3.9945	50/50	3.9945
206325	**28O C GEN (Deactivation : 17/09/2018)**	**83.5739**	**50/50**	**83.5739**
206360	28O CRK C1	2.1240	50/50	2.1240
206361	28O CRK C2	1.3877	50/50	1.3877
206366	28LKWD CT1	11.2498	50/50	11.2498
206367	28LKWD CT2	11.2498	50/50	11.2498
206370	LKWD CT3	79.6520	50/50	79.6520
206414	28X4-005E	-1.6063	Adder	-1.89
207150	28HAN_X4-015	0.1037	50/50	0.1037
207157	28PEM_W1-119	0.1902	50/50	0.1902
207158	28PEM_W1-120	0.1902	50/50	0.1902
207160	28EGP_W2-019	0.1243	50/50	0.1243
207164	28NHV_W2-082	0.3565	50/50	0.3565
207171	28DIX_Z2-102	0.2810	50/50	0.2810
207207	28JCB_W1-129	0.1034	50/50	0.1034
207208	28JCB_W4-025	0.1414	50/50	0.1414
207400	28AA1-060 E	3.7681	Adder	4.43
207419	AB2-139 E	-0.0347	Adder	-0.04
207420	AC1-207 C	-0.4290	Adder	-0.5
218661	EHAMPSOLAR E	0.1815	Adder	0.21
219273	CLEANLIGHT E	0.1555	Adder	0.18
219288	REEVES ST E	0.8180	Adder	0.96
219292	REEVESSO E	0.0611	Adder	0.07
219582	COXSCOSP1_E	0.0072	Adder	0.01
219614	COXSCOSP2_E	0.0072	Adder	0.01
219652	LUMB23SP1_E	0.0250	Adder	0.03
219656	LUMB23SP2_E	0.0249	Adder	0.03
219687	LUMSOLAR_N E	0.2519	Adder	0.3
219689	LUMSOLAR_S E	0.1792	Adder	0.21
227928	V4-067E	0.1837	Adder	0.22
901982	W1-119 E	1.8502	50/50	1.8502
901992	W1-120E	1.8502	50/50	1.8502
902082	W1-129E	1.0036	50/50	1.0036
902092	W1-130E	0.4269	Adder	0.5
902322	W2-019 E	1.1897	50/50	1.1897
902432	W2-030 E	0.6566	Adder	0.77
902952	W2-082 E OP1	3.4267	50/50	3.4267
905252	W4-025 E	1.4244	50/50	1.4244

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
907272	X1-085 E	0.5086	Adder	0.6
912102	X4-015 E	1.0069	50/50	1.0069
917612	Z2-102 E	2.7286	50/50	2.7286
923293	AB1-138 E	1.3889	Adder	1.63
923463	AB1-163 E	0.7019	Adder	0.83
923791	AB2-014	0.5421	50/50	0.5421
924701	AB2-122 C	0.0794	Adder	0.09
924702	AB2-122 E	0.1361	Adder	0.16
930001	AB1-001 C	0.1136	Adder	0.13
930002	AB1-001 E	0.1867	Adder	0.22
932361	AC2-050 C O1	0.3366	Adder	0.4
932362	AC2-050 E O1	0.5492	Adder	0.65
933962	AD1-019 E	0.8461	Adder	1.0
934351	AD1-059	0.9972	50/50	0.9972
938421	AE1-061 C	0.2060	Adder	0.24
938422	AE1-061 E	0.2060	Adder	0.24
938781	AE1-104 C O1	11.8338	Adder	13.92
938782	AE1-104 E O1	30.2767	Adder	35.62
939121	AE1-142 C O1	3.2248	50/50	3.2248
939122	AE1-142 E O1	4.6406	50/50	4.6406
940161	AE2-000 C O1	85.2469	50/50	85.2469
940162	AE2-000 E O1	218.1175	50/50	218.1175
940361	AE2-020 C	12.6446	Adder	14.88
940362	AE2-020 E	59.2032	Adder	69.65
940371	AE2-021 C	12.6446	Adder	14.88
940372	AE2-021 E	59.2032	Adder	69.65
940381	AE2-022 C	7.3760	Adder	8.68
940382	AE2-022 E	34.5352	Adder	40.63
940691	AE2-056 C	-0.1560	Adder	-0.18
940701	AE2-057 C	-0.0493	Adder	-0.06
940921	AE2-081 C	-0.1658	Adder	-0.2
942101	AE2-222 C O1	9.5536	Adder	11.24
942102	AE2-222 E O1	23.9993	Adder	28.23
942381	AE2-251 C	40.0580	Adder	47.13
942382	AE2-251 E	102.4972	Adder	120.58
943561	AF1-027	0.4187	Adder	0.49
943732	AF1-041 E	0.2703	Adder	0.32
944332	AF1-101 E O1	213.8421	50/50	213.8421
945201	AF1-185 1	-0.3614	Adder	-0.43
945211	AF1-185 2	-0.0803	Adder	-0.09
957221	AF2-016 C	13.0550	Adder	15.36
957222	AF2-016 E	19.5825	Adder	23.04
957251	AF2-019 C	0.6944	Adder	0.82
957252	AF2-019 E	1.0416	Adder	1.23
957271	AF2-021 C	1.9560	Adder	2.3
957272	AF2-021 E	2.9340	Adder	3.45
957311	AF2-025 C	0.8867	Adder	1.04
957312	AF2-025 E	1.3300	Adder	1.56
957783	AF2-072 BAT	10.1215	Merchant Transmission	10.1215
958831	AF2-174 C	0.1116	Adder	0.13
958832	AF2-174 E	0.1541	Adder	0.18
959631	AF2-254 C	1.3834	50/50	1.3834

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959632	AF2-254 E	1.9103	50/50	1.9103
961222	AF2-413 BAT	23.6225	Merchant Transmission	23.6225
999905	MARINGEN 2	0.4438	Adder	0.52
999906	PVILLEG 2	0.1909	Adder	0.22
NEWTON	NEWTON	0.1569	Confirmed LTF	0.1569
FARMERCITY	FARMERCITY	0.0080	Confirmed LTF	0.0080
GIBSON	GIBSON	0.0803	Confirmed LTF	0.0803
NY	NY	1.4478	Confirmed LTF	1.4478
PRAIRIE	PRAIRIE	0.3668	Confirmed LTF	0.3668
O-066	O-066	25.9123	Confirmed LTF	25.9123
COFFEEN	COFFEEN	0.0291	Confirmed LTF	0.0291
CHEOAH	CHEOAH	0.0581	Confirmed LTF	0.0581
EDWARDS	EDWARDS	0.0525	Confirmed LTF	0.0525
TILTON	TILTON	0.0945	Confirmed LTF	0.0945
G-007	G-007	9.8280	Confirmed LTF	9.8280
MADISON	MADISON	0.0161	Confirmed LTF	0.0161
CALDERWOOD	CALDERWOOD	0.0581	Confirmed LTF	0.0581
BLUEG	BLUEG	0.2552	Confirmed LTF	0.2552
TRIMBLE	TRIMBLE	0.0824	Confirmed LTF	0.0824
CATAWBA	CATAWBA	0.0322	Confirmed LTF	0.0322

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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
99007247	206319	28WHITINGS	JCP&L	206720	28MANCHSTR	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	147.35	151.52	AC	39.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206306	28LKWD G1	7.7291	50/50	7.7291
206308	28LKWD G2	7.7291	50/50	7.7291
206312	28LKWD G3	5.5316	50/50	5.5316
206325	**28O C GEN (Deactivation : 17/09/2018)**	**114.1759**	**50/50**	**114.1759**
206360	28O CRK C1	2.9018	50/50	2.9018
206361	28O CRK C2	1.8958	50/50	1.8958
206366	28LKWD CT1	15.5787	50/50	15.5787
206367	28LKWD CT2	15.5787	50/50	15.5787
206370	LKWD CT3	110.3020	50/50	110.3020
227928	V4-067E	0.1928	Adder	0.23
901982	W1-119 E	0.4654	Adder	0.55
901992	W1-120E	0.4654	Adder	0.55
902432	W2-030 E	0.6785	Adder	0.8
917612	Z2-102 E	0.6737	Adder	0.79
923293	AB1-138 E	1.9037	Adder	2.24
923463	AB1-163 E	0.6619	Adder	0.78
923791	AB2-014	0.7507	50/50	0.7507
924701	AB2-122 C	0.0833	Adder	0.1
924702	AB2-122 E	0.1428	Adder	0.17
930001	AB1-001 C	0.1265	Adder	0.15
930002	AB1-001 E	0.2079	Adder	0.24
933962	AD1-019 E	0.8799	Adder	1.04
934351	AD1-059	1.3809	50/50	1.3809
938781	AE1-104 C O1	11.6429	Adder	13.7
938782	AE1-104 E O1	29.7882	Adder	35.04
939121	AE1-142 C O1	4.4405	50/50	4.4405
939122	AE1-142 E O1	6.3901	50/50	6.3901
940161	AE2-000 C O1	116.4615	50/50	116.4615
940162	AE2-000 E O1	297.9849	50/50	297.9849
940361	AE2-020 C	13.5168	Adder	15.9
940362	AE2-020 E	63.2867	Adder	74.45
940371	AE2-021 C	13.5168	Adder	15.9
940372	AE2-021 E	63.2867	Adder	74.45
940381	AE2-022 C	7.8848	Adder	9.28
940382	AE2-022 E	36.9173	Adder	43.43
942101	AE2-222 C O1	9.9508	Adder	11.71
942102	AE2-222 E O1	24.9970	Adder	29.41
942381	AE2-251 C	42.8210	Adder	50.38
942382	AE2-251 E	109.5670	Adder	128.9
943732	AF1-041 E	0.2824	Adder	0.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944332	AF1-101 E O1	292.1441	50/50	292.1441
957221	AF2-016 C	13.4222	Adder	15.79
957222	AF2-016 E	20.1333	Adder	23.69
957251	AF2-019 C	0.6464	Adder	0.76
957252	AF2-019 E	0.9696	Adder	1.14
957271	AF2-021 C	2.5701	Adder	3.02
957272	AF2-021 E	3.8551	Adder	4.54
957311	AF2-025 C	0.9205	Adder	1.08
957312	AF2-025 E	1.3808	Adder	1.62
999905	MARINGEN 2	0.4610	Adder	0.54
999906	PVILLEG 2	0.1991	Adder	0.23
NEWTON	NEWTON	0.2224	Confirmed LTF	0.2224
FARMERCITY	FARMERCITY	0.0115	Confirmed LTF	0.0115
GIBSON	GIBSON	0.1130	Confirmed LTF	0.1130
NY	NY	0.5712	Confirmed LTF	0.5712
PRAIRIE	PRAIRIE	0.5295	Confirmed LTF	0.5295
O-066	O-066	9.6163	Confirmed LTF	9.6163
COFFEEN	COFFEEN	0.0413	Confirmed LTF	0.0413
CHEOAH	CHEOAH	0.0981	Confirmed LTF	0.0981
EDWARDS	EDWARDS	0.0728	Confirmed LTF	0.0728
TILTON	TILTON	0.1310	Confirmed LTF	0.1310
G-007	G-007	3.1117	Confirmed LTF	3.1117
MADISON	MADISON	0.0040	Confirmed LTF	0.0040
CALDERWOOD	CALDERWOOD	0.0979	Confirmed LTF	0.0979
BLUEG	BLUEG	0.3594	Confirmed LTF	0.3594
TRIMBLE	TRIMBLE	0.1152	Confirmed LTF	0.1152
CATAWBA	CATAWBA	0.0658	Confirmed LTF	0.0658

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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
99005774	206323	28LAKEWOOD	JCP&L	206294	28LARRABEE	JCP&L	2	JC-P2-3-JCC-230-15J	breaker	817.0	184.85	189.68	AC	42.86

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206306	28LKWD G1	10.1477	50/50	10.1477
206308	28LKWD G2	10.1477	50/50	10.1477
206312	28LKWD G3	7.2625	50/50	7.2625
206325	**28O C GEN (Deactivation : 17/09/2018)**	**117.5884**	**50/50**	**117.5884**
206360	28O CRK C1	2.9885	50/50	2.9885
206361	28O CRK C2	1.9525	50/50	1.9525
206366	28LKWD CT1	20.4536	50/50	20.4536
206367	28LKWD CT2	20.4536	50/50	20.4536
206370	LKWD CT3	144.8180	50/50	144.8180
227928	V4-067E	0.2084	Adder	0.25
901982	W1-119 E	0.5770	Adder	0.68
901992	W1-120E	0.5770	Adder	0.68
902432	W2-030 E	0.7358	Adder	0.87
917612	Z2-102 E	0.8436	Adder	0.99
923293	AB1-138 E	1.6941	Adder	1.99
923463	AB1-163 E	0.6143	Adder	0.72
923791	AB2-014	0.9856	50/50	0.9856
924701	AB2-122 C	0.0900	Adder	0.11
924702	AB2-122 E	0.1544	Adder	0.18
930001	AB1-001 C	0.1351	Adder	0.16
930002	AB1-001 E	0.2221	Adder	0.26
933962	AD1-019 E	0.9530	Adder	1.12
934351	AD1-059	1.8130	50/50	1.8130
938781	AE1-104 C O1	12.7574	Adder	15.01
938782	AE1-104 E O1	32.6396	Adder	38.4
939121	AE1-142 C O1	4.4385	50/50	4.4385
939122	AE1-142 E O1	6.3871	50/50	6.3871
940161	AE2-000 C O1	119.9422	50/50	119.9422
940162	AE2-000 E O1	306.8910	50/50	306.8910
940361	AE2-020 C	14.5582	Adder	17.13
940362	AE2-020 E	68.1624	Adder	80.19
940371	AE2-021 C	14.5582	Adder	17.13
940372	AE2-021 E	68.1624	Adder	80.19
940381	AE2-022 C	8.4923	Adder	9.99
940382	AE2-022 E	39.7614	Adder	46.78
942101	AE2-222 C O1	10.7742	Adder	12.68
942102	AE2-222 E O1	27.0653	Adder	31.84
942381	AE2-251 C	46.1200	Adder	54.26
942382	AE2-251 E	118.0082	Adder	138.83
943732	AF1-041 E	0.3056	Adder	0.36
944332	AF1-101 E O1	300.8756	50/50	300.8756

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957221	AF2-016 C	14.5727	Adder	17.14
957222	AF2-016 E	21.8591	Adder	25.72
957251	AF2-019 C	0.7169	Adder	0.84
957252	AF2-019 E	1.0753	Adder	1.27
957271	AF2-021 C	2.6642	Adder	3.13
957272	AF2-021 E	3.9964	Adder	4.7
957311	AF2-025 C	0.9974	Adder	1.17
957312	AF2-025 E	1.4960	Adder	1.76
957783	AF2-072 BAT	5.1035	Merchant Transmission	5.1035
999905	MARINGEN 2	0.4994	Adder	0.59
999906	PVILLEG 2	0.2155	Adder	0.25
NEWTON	NEWTON	0.2804	Confirmed LTF	0.2804
FARMERCITY	FARMERCITY	0.0146	Confirmed LTF	0.0146
GIBSON	GIBSON	0.1431	Confirmed LTF	0.1431
NY	NY	0.8671	Confirmed LTF	0.8671
PRAIRIE	PRAIRIE	0.6690	Confirmed LTF	0.6690
O-066	O-066	14.8378	Confirmed LTF	14.8378
COFFEEN	COFFEEN	0.0521	Confirmed LTF	0.0521
CHEOAH	CHEOAH	0.1226	Confirmed LTF	0.1226
EDWARDS	EDWARDS	0.0921	Confirmed LTF	0.0921
TILTON	TILTON	0.1657	Confirmed LTF	0.1657
G-007	G-007	5.1012	Confirmed LTF	5.1012
MADISON	MADISON	0.0081	Confirmed LTF	0.0081
CALDERWOOD	CALDERWOOD	0.1218	Confirmed LTF	0.1218
BLUEG	BLUEG	0.4548	Confirmed LTF	0.4548
TRIMBLE	TRIMBLE	0.1458	Confirmed LTF	0.1458
CATAWBA	CATAWBA	0.0812	Confirmed LTF	0.0812

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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
99007254	206720	28MANCHSTR	JCP&L	206318	28VANHISVL	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	145.81	149.98	AC	39.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206306	28LKWD G1	7.7291	50/50	7.7291
206308	28LKWD G2	7.7291	50/50	7.7291
206312	28LKWD G3	5.5316	50/50	5.5316
206325	**28O C GEN (Deactivation : 17/09/2018)**	**114.1759**	**50/50**	**114.1759**
206360	28O CRK C1	2.9018	50/50	2.9018
206361	28O CRK C2	1.8958	50/50	1.8958
206366	28LKWD CT1	15.5787	50/50	15.5787
206367	28LKWD CT2	15.5787	50/50	15.5787
206370	LKWD CT3	110.3020	50/50	110.3020
227928	V4-067E	0.1928	Adder	0.23
901982	W1-119 E	0.4654	Adder	0.55
901992	W1-120E	0.4654	Adder	0.55
902432	W2-030 E	0.6785	Adder	0.8
917612	Z2-102 E	0.6737	Adder	0.79
923293	AB1-138 E	1.9037	Adder	2.24
923463	AB1-163 E	0.6619	Adder	0.78
923791	AB2-014	0.7507	50/50	0.7507
924701	AB2-122 C	0.0833	Adder	0.1
924702	AB2-122 E	0.1428	Adder	0.17
930001	AB1-001 C	0.1265	Adder	0.15
930002	AB1-001 E	0.2079	Adder	0.24
933962	AD1-019 E	0.8799	Adder	1.04
934351	AD1-059	1.3809	50/50	1.3809
938781	AE1-104 C O1	11.6429	Adder	13.7
938782	AE1-104 E O1	29.7882	Adder	35.04
939121	AE1-142 C O1	4.4405	50/50	4.4405
939122	AE1-142 E O1	6.3901	50/50	6.3901
940161	AE2-000 C O1	116.4615	50/50	116.4615
940162	AE2-000 E O1	297.9849	50/50	297.9849
940361	AE2-020 C	13.5168	Adder	15.9
940362	AE2-020 E	63.2867	Adder	74.45
940371	AE2-021 C	13.5168	Adder	15.9
940372	AE2-021 E	63.2867	Adder	74.45
940381	AE2-022 C	7.8848	Adder	9.28
940382	AE2-022 E	36.9173	Adder	43.43
942101	AE2-222 C O1	9.9508	Adder	11.71
942102	AE2-222 E O1	24.9970	Adder	29.41
942381	AE2-251 C	42.8210	Adder	50.38
942382	AE2-251 E	109.5670	Adder	128.9
943732	AF1-041 E	0.2824	Adder	0.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944332	AF1-101 E O1	292.1441	50/50	292.1441
957221	AF2-016 C	13.4222	Adder	15.79
957222	AF2-016 E	20.1333	Adder	23.69
957251	AF2-019 C	0.6464	Adder	0.76
957252	AF2-019 E	0.9696	Adder	1.14
957271	AF2-021 C	2.5701	Adder	3.02
957272	AF2-021 E	3.8551	Adder	4.54
957311	AF2-025 C	0.9205	Adder	1.08
957312	AF2-025 E	1.3808	Adder	1.62
999905	MARINGEN 2	0.4610	Adder	0.54
999906	PVILLEG 2	0.1991	Adder	0.23
NEWTON	NEWTON	0.2224	Confirmed LTF	0.2224
FARMERCITY	FARMERCITY	0.0115	Confirmed LTF	0.0115
GIBSON	GIBSON	0.1130	Confirmed LTF	0.1130
NY	NY	0.5712	Confirmed LTF	0.5712
PRAIRIE	PRAIRIE	0.5295	Confirmed LTF	0.5295
O-066	O-066	9.6163	Confirmed LTF	9.6163
COFFEEN	COFFEEN	0.0413	Confirmed LTF	0.0413
CHEOAH	CHEOAH	0.0981	Confirmed LTF	0.0981
EDWARDS	EDWARDS	0.0728	Confirmed LTF	0.0728
TILTON	TILTON	0.1310	Confirmed LTF	0.1310
G-007	G-007	3.1117	Confirmed LTF	3.1117
MADISON	MADISON	0.0040	Confirmed LTF	0.0040
CALDERWOOD	CALDERWOOD	0.0979	Confirmed LTF	0.0979
BLUEG	BLUEG	0.3594	Confirmed LTF	0.3594
TRIMBLE	TRIMBLE	0.1152	Confirmed LTF	0.1152
CATAWBA	CATAWBA	0.0658	Confirmed LTF	0.0658

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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
99831017	213922	RICHMOND	PECO	214012	WANEETA3	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	1180.0	128.68	133.09	AC	57.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213606	FAIRLESS (Deactivation : 01/06/2020)	8.2141	Adder	9.66
213878	PENNSBRY (Deactivation : 01/06/2020)	0.7254	Adder	0.85
213918	RICHMD91	3.8756	50/50	3.8756
213919	RICHMD92	3.8756	50/50	3.8756
214225	Y1-057 BAT	0.3383	Merchant Transmission	0.3383
218661	EHAMPSOLAR E	0.3678	Adder	0.43
219124	CAMDEN_STG	3.8401	50/50	3.8401
219126	CAMDEN_CTG	4.7177	50/50	4.7177
219128	GLOUCSTR_26	1.9495	50/50	1.9495
219229	EAGLEPT_G3	2.4802	50/50	2.4802
219230	EAGLEPT_G1	4.6799	50/50	4.6799
219231	EAGLEPT_G2	4.6773	50/50	4.6773
219235	EAGLEPT_ST2	1.6917	50/50	1.6917
219236	SOUTHERNHQ C	0.0193	50/50	0.0193
219237	SOUTHERNHQ E	0.1908	50/50	0.1908
219240	MANTUACREK E	0.7010	50/50	0.7010
219241	CAMDEN1	0.2852	50/50	0.2852
219242	CAMDEN2	0.0308	50/50	0.0308
219258	KINSLEYDEP C	0.1066	50/50	0.1066
219259	KINSLEYDEP E	1.0350	50/50	1.0350
219273	CLEANLIGHT E	0.3810	Adder	0.45
219288	REEVES ST E	1.3706	Adder	1.61
219292	REEVESSO E	0.1263	Adder	0.15
219305	NAMERICA E	0.9498	Adder	1.12
219340	CUTHBSP1_C	0.0061	50/50	0.0061
219344	CUTHBSP1_E	0.0592	50/50	0.0592
219345	CUTHBSP2_C	0.0061	50/50	0.0061
219347	CUTHBSP2_E	0.0591	50/50	0.0591
219349	LDSOLAR E	0.8316	Adder	0.98
219350	CUTHBSP3_C	0.0061	50/50	0.0061
219351	CUTHBSP3_E	0.0592	50/50	0.0592
219357	CUTHBSP4_C	0.0049	50/50	0.0049
219379	CUTHBSP4_E	0.0476	50/50	0.0476
219384	DEPTFDSP1_C	0.0014	50/50	0.0014
219385	DEPTFDSP1_E	0.0137	50/50	0.0137
219388	DEPTFDSP2_C	0.0014	50/50	0.0014
219390	DEPTFDSP2_E	0.0137	50/50	0.0137
219393	DEPTFDSP3_C	0.0035	50/50	0.0035
219394	DEPTFDSP3_E	0.0343	50/50	0.0343
219408	DEPTFDSP4_C	0.0014	50/50	0.0014

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
219416	DEPTFDSP4_E	0.0137	50/50	0.0137
219566	BURLINSP1_E	0.1140	Adder	0.13
219574	CAMDENSP1_C	0.0343	50/50	0.0343
219575	CAMDENSP1_E	0.3328	50/50	0.3328
219582	COXSCOSP1_E	0.0158	Adder	0.02
219608	WPEMNERT E	0.9498	Adder	1.12
219611	FLORENCE E	2.7137	Adder	3.19
219614	COXSCOSP2_E	0.0158	Adder	0.02
219619	MILLCREEK E	0.5307	Adder	0.62
219623	KINSLEYBEA C	0.0780	50/50	0.0780
219624	KINSLEYBEA E	0.7822	50/50	0.7822
219647	COOPERSOLA E	0.1391	50/50	0.1391
219652	LUMB23SP1_E	0.0418	Adder	0.05
219656	LUMB23SP2_E	0.0418	Adder	0.05
219662	THOROFSP1_C	0.0054	50/50	0.0054
219664	THOROFSP1_E	0.0524	50/50	0.0524
219665	THOROFSP2_C	0.0054	50/50	0.0054
219666	THOROFSP2_E	0.0527	50/50	0.0527
219683	THOSOLAR C	0.0299	50/50	0.0299
219684	THOSOLAR E	0.2901	50/50	0.2901
219687	LUMSOLAR_N E	0.4220	Adder	0.5
219689	LUMSOLAR_S E	0.4403	Adder	0.52
219706	BEAVBRSP1_C	0.0056	50/50	0.0056
219707	BEAVBRSP1_E	0.0547	50/50	0.0547
219708	BEAVBRSP2_C	0.0056	50/50	0.0056
219709	BEAVBRSP2_E	0.0546	50/50	0.0546
219710	CINNAMSP1_C	0.0032	50/50	0.0032
219711	CINNAMSP1_E	0.0313	50/50	0.0313
219712	CINNAMSP2_C	0.0019	50/50	0.0019
219713	CINNAMSP2_E	0.0187	50/50	0.0187
219714	CINNAMSP3_C	0.0032	50/50	0.0032
219715	CINNAMSP3_E	0.0313	50/50	0.0313
219716	CINNAMSP4_C	0.0032	50/50	0.0032
219717	CINNAMSP4_E	0.0312	50/50	0.0312
219718	GLOUCSP1_C	0.0105	50/50	0.0105
219719	GLOUCSP1_E	0.1027	50/50	0.1027
219726	BAT.STORG E	0.3408	50/50	0.3408
219765	PARADISE E	1.1216	50/50	1.1216
219766	PARADISE C	0.1119	50/50	0.1119
227881	GRENWCHG	0.3888	Adder	0.46
227928	V4-067E	0.2590	Adder	0.3
228261	V4-054E	1.1649	Adder	1.37
228357	V2-046E	2.6540	Adder	3.12
228712	V2-041E	0.4237	Adder	0.5
228721	V2-035E	0.2441	Adder	0.29
228733	AB1-119 E	0.1417	Adder	0.17
902092	W1-130E	1.0753	Adder	1.27
902432	W2-030 E	0.9699	Adder	1.14
910862	OWENSCORIN E	1.0084	50/50	1.0084
918622	AA1-079 E	7.0420	Adder	8.28
918632	AA1-079 E	7.0395	Adder	8.28
919901	AB1-000 1	0.8259	Adder	0.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
919911	AB1-000 2	0.8259	Adder	0.97
919921	AB1-000 3	0.8259	Adder	0.97
923153	AB1-116 E	0.1560	Adder	0.18
924051	AB2-049 C	0.7458	Adder	0.88
924052	AB2-049 E	1.2168	Adder	1.43
924531	AB2-102 C	37.4066	Adder	44.01
924532	AB2-102 E	0.8313	Adder	0.98
924701	AB2-122 C	0.1119	Adder	0.13
924702	AB2-122 E	0.1919	Adder	0.23
925391	**AC1-010 C (Suspended)**	**0.7711**	**50/50**	**0.7711**
925392	**AC1-010 E (Suspended)**	**1.3319**	**50/50**	**1.3319**
925452	AC1-017 E	0.5649	Adder	0.66
925561	AC1-030 C	0.0527	50/50	0.0527
925562	AC1-030 E	0.4949	50/50	0.4949
930001	AB1-001 C	0.1358	Adder	0.16
930002	AB1-001 E	0.2232	Adder	0.26
930242	AB1-063 E	0.1391	50/50	0.1391
932361	AC2-050 C O1	0.7641	Adder	0.9
932362	AC2-050 E O1	1.2467	Adder	1.47
933962	AD1-019 E	1.2290	Adder	1.45
934661	AD1-097 1	1.3325	Adder	1.57
934671	AD1-097 2	1.3325	Adder	1.57
934681	AD1-097 3	1.3325	Adder	1.57
934691	AD1-097 4	0.7888	Adder	0.93
936211	AD2-027 C	0.2343	50/50	0.2343
936212	AD2-027 E	2.2748	50/50	2.2748
936321	AD2-042 C	0.3083	50/50	0.3083
936322	AD2-042 E	3.0087	50/50	3.0087
936501	AD2-065 C	0.2104	Adder	0.25
936502	AD2-065 E	0.2902	Adder	0.34
937011	AD2-135 C	0.1142	Adder	0.13
937012	AD2-135 E	0.1941	Adder	0.23
938421	AE1-061 C	0.5188	Adder	0.61
938422	AE1-061 E	0.5188	Adder	0.61
938431	AE1-062 C	1.9381	Adder	2.28
938432	AE1-062 E	1.9381	Adder	2.28
938781	AE1-104 C O1	19.9146	Adder	23.43
938782	AE1-104 E O1	50.9513	Adder	59.94
938871	AE1-115 C	2.0511	Adder	2.41
938872	AE1-115 E	2.0511	Adder	2.41
939301	AE1-161 C	3.9112	Adder	4.6
939302	AE1-161 E	5.8668	Adder	6.9
939501	AE1-179 C O1	6.3302	Adder	7.45
939502	AE1-179 E O1	4.4673	Adder	5.26
939821	AE1-218 C O1	0.1625	Adder	0.19
939822	AE1-218 E O1	0.2437	Adder	0.29
939931	AE1-229 C O1	17.6227	Adder	20.73
939932	AE1-229 E O1	11.9399	Adder	14.05
940001	AE1-240 C O1	5.2458	Adder	6.17
940002	AE1-240 E O1	3.7444	Adder	4.41
940271	AE2-010	-0.5764	Adder	-0.68
940361	AE2-020 C	16.7495	Adder	19.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940362	AE2-020 E	78.4222	Adder	92.26
940371	AE2-021 C	16.7495	Adder	19.71
940372	AE2-021 E	78.4222	Adder	92.26
940381	AE2-022 C	9.7705	Adder	11.49
940382	AE2-022 E	45.7463	Adder	53.82
940771	AE2-064 C	0.0473	50/50	0.0473
940772	AE2-064 E	0.3811	50/50	0.3811
940781	AE2-065 C	0.0393	50/50	0.0393
940782	AE2-065 E	0.3673	50/50	0.3673
942101	AE2-222 C O1	13.8142	Adder	16.25
942102	AE2-222 E O1	34.7021	Adder	40.83
942381	AE2-251 C	53.0620	Adder	62.43
942382	AE2-251 E	135.7706	Adder	159.73
943071	AE2-334 C	5.7694	Adder	6.79
943072	AE2-334 E	3.0757	Adder	3.62
943732	AF1-041 E	0.3872	Adder	0.46
944951	AF1-160 C	1.9381	Adder	2.28
944952	AF1-160 E	2.0350	Adder	2.39
945431	AF1-208 C O1	5.1954	Adder	6.11
945432	AF1-208 E O1	3.4636	Adder	4.07
945731	AF1-238 C	9.1035	Adder	10.71
945732	AF1-238 E	13.6552	Adder	16.06
945741	AF1-239 C	2.1420	Adder	2.52
945742	AF1-239 E	3.2130	Adder	3.78
945961	AF1-261	0.1970	Adder	0.23
945971	AF1-262	0.1771	Adder	0.21
945991	AF1-264	0.4370	50/50	0.4370
957221	AF2-016 C	19.5259	Adder	22.97
957222	AF2-016 E	29.2888	Adder	34.46
957251	AF2-019 C	1.3240	Adder	1.56
957252	AF2-019 E	1.9860	Adder	2.34
957261	AF2-020 C	1.5042	Adder	1.77
957262	AF2-020 E	2.2563	Adder	2.65
957291	AF2-023 C	3.4869	Adder	4.1
957292	AF2-023 E	5.2304	Adder	6.15
957301	AF2-024 C	2.2522	Adder	2.65
957302	AF2-024 E	3.3784	Adder	3.97
957311	AF2-025 C	1.2936	Adder	1.52
957312	AF2-025 E	1.9403	Adder	2.28
957443	AF2-038 BAT	4.5692	Merchant Transmission	4.5692
958811	AF2-172 C	0.6994	Adder	0.82
958812	AF2-172 E	1.1411	Adder	1.34
958831	AF2-174 C	0.2534	Adder	0.3
958832	AF2-174 E	0.3499	Adder	0.41
999905	MARINGEN 2	0.6468	Adder	0.76
999906	PVILLEG 2	0.2750	Adder	0.32
NEWTON	NEWTON	1.2980	Confirmed LTF	1.2980
FARMERCITY	FARMERCITY	0.0676	Confirmed LTF	0.0676
G-007A	G-007A	12.8914	Confirmed LTF	12.8914
VFT	VFT	23.4006	Confirmed LTF	23.4006

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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	0.6596	Confirmed LTF	0.6596
PRAIRIE	PRAIRIE	3.1177	Confirmed LTF	3.1177
COFFEEN	COFFEEN	0.2410	Confirmed LTF	0.2410
CHEOAH	CHEOAH	0.6011	Confirmed LTF	0.6011
EDWARDS	EDWARDS	0.4232	Confirmed LTF	0.4232
TILTON	TILTON	0.7617	Confirmed LTF	0.7617
MADISON	MADISON	0.0040	Confirmed LTF	0.0040
CALDERWOOD	CALDERWOOD	0.5969	Confirmed LTF	0.5969
BLUEG	BLUEG	2.0971	Confirmed LTF	2.0971
TRIMBLE	TRIMBLE	0.6723	Confirmed LTF	0.6723
CATAWBA	CATAWBA	0.4186	Confirmed LTF	0.4186

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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
99831068	214010	WANEETA2	PECO	213817	N PHILA	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	621.0	118.78	122.83	AC	29.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213606	FAIRLESS (Deactivation : 01/06/2020)	5.6166	Adder	6.61
213878	PENNSBRY (Deactivation : 01/06/2020)	0.4981	Adder	0.59
213918	RICHMD91	1.8742	50/50	1.8742
213919	RICHMD92	1.8742	50/50	1.8742
218661	EHAMPSOLAR E	0.1932	Adder	0.23
219124	CAMDEN_STG	1.9124	50/50	1.9124
219126	CAMDEN_CTG	2.3494	50/50	2.3494
219128	GLOUCSTR_26	0.9709	50/50	0.9709
219229	EAGLEPT_G3	1.2365	50/50	1.2365
219230	EAGLEPT_G1	2.3331	50/50	2.3331
219231	EAGLEPT_G2	2.3318	50/50	2.3318
219235	EAGLEPT_ST2	0.8433	50/50	0.8433
219236	SOUTHERNHQ C	0.0099	50/50	0.0099
219237	SOUTHERNHQ E	0.0978	50/50	0.0978
219240	MANTUACREK E	0.3491	50/50	0.3491
219241	CAMDEN1	0.1418	50/50	0.1418
219242	CAMDEN2	0.0153	50/50	0.0153
219258	KINSLEYDEP C	0.0531	50/50	0.0531
219259	KINSLEYDEP E	0.5161	50/50	0.5161
219273	CLEANLIGHT E	0.1978	Adder	0.23
219288	REEVES ST E	0.7188	Adder	0.85
219292	REEVESSO E	0.0662	Adder	0.08
219305	NAMERICA E	0.5261	Adder	0.62
219340	CUTHBSP1_C	0.0030	50/50	0.0030
219344	CUTHBSP1_E	0.0294	50/50	0.0294
219345	CUTHBSP2_C	0.0030	50/50	0.0030
219347	CUTHBSP2_E	0.0294	50/50	0.0294
219349	LDSOLAR E	0.4606	Adder	0.54
219350	CUTHBSP3_C	0.0030	50/50	0.0030
219351	CUTHBSP3_E	0.0294	50/50	0.0294
219357	CUTHBSP4_C	0.0024	50/50	0.0024
219379	CUTHBSP4_E	0.0237	50/50	0.0237
219384	DEPTFDSP1_C	0.0007	50/50	0.0007
219385	DEPTFDSP1_E	0.0068	50/50	0.0068
219388	DEPTFDSP2_C	0.0007	50/50	0.0007
219390	DEPTFDSP2_E	0.0068	50/50	0.0068
219393	DEPTFDSP3_C	0.0018	50/50	0.0018
219394	DEPTFDSP3_E	0.0171	50/50	0.0171
219408	DEPTFDSP4_C	0.0007	50/50	0.0007
219416	DEPTFDSP4_E	0.0068	50/50	0.0068

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
219566	BURLINSP1_E	0.0632	Adder	0.07
219574	CAMDENSP1_C	0.0170	50/50	0.0170
219575	CAMDENSP1_E	0.1655	50/50	0.1655
219582	COXSCOSP1_E	0.0083	Adder	0.01
219608	WPEMNERT E	0.5261	Adder	0.62
219611	FLORENCE E	1.5030	Adder	1.77
219614	COXSCOSP2_E	0.0083	Adder	0.01
219615	MILLCREEK C	0.0310	50/50	0.0310
219619	MILLCREEK E	0.3334	50/50	0.3334
219623	KINSLEYBEA C	0.0389	50/50	0.0389
219624	KINSLEYBEA E	0.3905	50/50	0.3905
219647	COOPERSOLA E	0.0696	50/50	0.0696
219652	LUMB23SP1_E	0.0219	Adder	0.03
219656	LUMB23SP2_E	0.0219	Adder	0.03
219662	THOROFSP1_C	0.0027	50/50	0.0027
219664	THOROFSP1_E	0.0262	50/50	0.0262
219665	THOROFSP2_C	0.0027	50/50	0.0027
219666	THOROFSP2_E	0.0263	50/50	0.0263
219683	THOSOLAR C	0.0149	50/50	0.0149
219684	THOSOLAR E	0.1449	50/50	0.1449
219687	LUMSOLAR_N E	0.2213	Adder	0.26
219689	LUMSOLAR_S E	0.2329	Adder	0.27
219706	BEAVBRSP1_C	0.0028	50/50	0.0028
219707	BEAVBRSP1_E	0.0273	50/50	0.0273
219708	BEAVBRSP2_C	0.0028	50/50	0.0028
219709	BEAVBRSP2_E	0.0273	50/50	0.0273
219710	CINNAMSP1_C	0.0016	50/50	0.0016
219711	CINNAMSP1_E	0.0161	50/50	0.0161
219712	CINNAMSP2_C	0.0010	50/50	0.0010
219713	CINNAMSP2_E	0.0096	50/50	0.0096
219714	CINNAMSP3_C	0.0016	50/50	0.0016
219715	CINNAMSP3_E	0.0161	50/50	0.0161
219716	CINNAMSP4_C	0.0016	50/50	0.0016
219717	CINNAMSP4_E	0.0160	50/50	0.0160
219718	GLOUCSP1_C	0.0053	50/50	0.0053
219719	GLOUCSP1_E	0.0511	50/50	0.0511
219726	BAT.STORG E	0.1702	50/50	0.1702
219765	PARADISE E	0.5586	50/50	0.5586
219766	PARADISE C	0.0557	50/50	0.0557
227881	GRENWCHG	0.1953	Adder	0.23
227928	V4-067E	0.1335	Adder	0.16
228261	V4-054E	0.5910	Adder	0.7
228357	V2-046E	1.3400	Adder	1.58
228712	V2-041E	0.2161	Adder	0.25
228721	V2-035E	0.1237	Adder	0.15
228733	AB1-119 E	0.0724	Adder	0.09
902092	W1-130E	0.5472	Adder	0.64
902432	W2-030 E	0.4992	Adder	0.59
910862	OWENSCORIN E	0.5039	50/50	0.5039
918622	AA1-079 E	4.2964	Adder	5.05
918632	AA1-079 E	4.2948	Adder	5.05
923153	AB1-116 E	0.0794	Adder	0.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924051	AB2-049 C	0.3804	Adder	0.45
924052	AB2-049 E	0.6206	Adder	0.73
924531	AB2-102 C	19.0887	Adder	22.46
924532	AB2-102 E	0.4242	Adder	0.5
924701	AB2-122 C	0.0577	Adder	0.07
924702	AB2-122 E	0.0989	Adder	0.12
925391	**AC1-010 C (Suspended)**	**0.3840**	**50/50**	**0.3840**
925392	**AC1-010 E (Suspended)**	**0.6633**	**50/50**	**0.6633**
925451	AC1-017 C	0.0364	50/50	0.0364
925452	AC1-017 E	0.3549	50/50	0.3549
925561	AC1-030 C	0.0270	50/50	0.0270
925562	AC1-030 E	0.2535	50/50	0.2535
930001	AB1-001 C	0.0702	Adder	0.08
930002	AB1-001 E	0.1154	Adder	0.14
930242	AB1-063 E	0.0696	50/50	0.0696
932361	AC2-050 C O1	0.3982	Adder	0.47
932362	AC2-050 E O1	0.6497	Adder	0.76
933962	AD1-019 E	0.6328	Adder	0.74
936211	AD2-027 C	0.1165	50/50	0.1165
936212	AD2-027 E	1.1313	50/50	1.1313
936321	AD2-042 C	0.1533	50/50	0.1533
936322	AD2-042 E	1.4962	50/50	1.4962
936501	AD2-065 C	0.1079	Adder	0.13
936502	AD2-065 E	0.1489	Adder	0.18
937011	AD2-135 C	0.0583	Adder	0.07
937012	AD2-135 E	0.0991	Adder	0.12
938421	AE1-061 C	0.2640	Adder	0.31
938422	AE1-061 E	0.2640	Adder	0.31
938431	AE1-062 C	0.9941	Adder	1.17
938432	AE1-062 E	0.9941	Adder	1.17
938781	AE1-104 C O1	10.2199	Adder	12.02
938782	AE1-104 E O1	26.1476	Adder	30.76
938871	AE1-115 C	1.0346	Adder	1.22
938872	AE1-115 E	1.0346	Adder	1.22
939301	AE1-161 C	1.9854	Adder	2.34
939302	AE1-161 E	2.9781	Adder	3.5
939501	AE1-179 C O1	3.2195	Adder	3.79
939502	AE1-179 E O1	2.2721	Adder	2.67
939821	AE1-218 C O1	0.0825	Adder	0.1
939822	AE1-218 E O1	0.1237	Adder	0.15
939931	AE1-229 C O1	8.9169	Adder	10.49
939932	AE1-229 E O1	6.0414	Adder	7.11
940001	AE1-240 C O1	2.6679	Adder	3.14
940002	AE1-240 E O1	1.9043	Adder	2.24
940271	AE2-010	-0.6980	Adder	-0.82
940361	AE2-020 C	8.6502	Adder	10.18
940362	AE2-020 E	40.5010	Adder	47.65
940371	AE2-021 C	8.6502	Adder	10.18
940372	AE2-021 E	40.5010	Adder	47.65
940381	AE2-022 C	5.0460	Adder	5.94
940382	AE2-022 E	23.6256	Adder	27.79
940771	AE2-064 C	0.0236	50/50	0.0236

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940772	AE2-064 E	0.1903	50/50	0.1903
940781	AE2-065 C	0.0196	50/50	0.0196
940782	AE2-065 E	0.1831	50/50	0.1831
942101	AE2-222 C O1	7.1140	Adder	8.37
942102	AE2-222 E O1	17.8709	Adder	21.02
942381	AE2-251 C	27.4037	Adder	32.24
942382	AE2-251 E	70.1185	Adder	82.49
943071	AE2-334 C	2.9284	Adder	3.45
943072	AE2-334 E	1.5611	Adder	1.84
943732	AF1-041 E	0.1995	Adder	0.23
944951	AF1-160 C	0.9941	Adder	1.17
944952	AF1-160 E	1.0438	Adder	1.23
945431	AF1-208 C O1	2.6321	Adder	3.1
945432	AF1-208 E O1	1.7548	Adder	2.06
945731	AF1-238 C	4.6350	Adder	5.45
945732	AF1-238 E	6.9525	Adder	8.18
945741	AF1-239 C	1.0906	Adder	1.28
945742	AF1-239 E	1.6359	Adder	1.92
945961	AF1-261	0.1091	Adder	0.13
945971	AF1-262	0.0898	Adder	0.11
945991	AF1-264	0.2183	50/50	0.2183
957221	AF2-016 C	10.0470	Adder	11.82
957222	AF2-016 E	15.0705	Adder	17.73
957251	AF2-019 C	0.6778	Adder	0.8
957252	AF2-019 E	1.0166	Adder	1.2
957261	AF2-020 C	0.7632	Adder	0.9
957262	AF2-020 E	1.1447	Adder	1.35
957291	AF2-023 C	1.7590	Adder	2.07
957292	AF2-023 E	2.6385	Adder	3.1
957301	AF2-024 C	1.1302	Adder	1.33
957302	AF2-024 E	1.6954	Adder	1.99
957311	AF2-025 C	0.6660	Adder	0.78
957312	AF2-025 E	0.9990	Adder	1.18
957443	AF2-038 BAT	5.7394	50/50	5.7394
958811	AF2-172 C	0.3553	Adder	0.42
958812	AF2-172 E	0.5797	Adder	0.68
958831	AF2-174 C	0.1320	Adder	0.16
958832	AF2-174 E	0.1823	Adder	0.21
999905	MARINGEN 2	0.3330	Adder	0.39
999906	PVILLEG 2	0.1416	Adder	0.17
NEWTON	NEWTON	0.5566	Confirmed LTF	0.5566
FARMERCITY	FARMERCITY	0.0291	Confirmed LTF	0.0291
G-007A	G-007A	8.3025	Confirmed LTF	8.3025
VFT	VFT	16.8280	Confirmed LTF	16.8280
GIBSON	GIBSON	0.2828	Confirmed LTF	0.2828
PRAIRIE	PRAIRIE	1.3432	Confirmed LTF	1.3432
COFFEEN	COFFEEN	0.1033	Confirmed LTF	0.1033
CHEOAH	CHEOAH	0.2633	Confirmed LTF	0.2633
EDWARDS	EDWARDS	0.1809	Confirmed LTF	0.1809
TILTON	TILTON	0.3263	Confirmed LTF	0.3263
CALDERWOOD	CALDERWOOD	0.2614	Confirmed LTF	0.2614
BLUEG	BLUEG	0.8992	Confirmed LTF	0.8992

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
TRIMBLE	TRIMBLE	0.2883	Confirmed LTF	0.2883
CATAWBA	CATAWBA	0.1862	Confirmed LTF	0.1862

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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
99831053	214206	RICHRE29	PECO	213922	RICHMOND	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	1336.0	126.15	129.88	AC	60.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
214225	Y1-057 BAT	0.3171	Merchant Transmission	0.3171
218661	EHAMPSOLAR E	0.3425	Adder	0.4
219124	CAMDEN_STG	4.2890	50/50	4.2890
219126	CAMDEN_CTG	5.2692	50/50	5.2692
219128	GLOUCSTR_26	2.1774	50/50	2.1774
219229	EAGLEPT_G3	2.7618	50/50	2.7618
219230	EAGLEPT_G1	5.2114	50/50	5.2114
219231	EAGLEPT_G2	5.2083	50/50	5.2083
219235	EAGLEPT_ST2	1.8838	50/50	1.8838
219236	SOUTHERNHQ C	0.0194	50/50	0.0194
219237	SOUTHERNHQ E	0.1911	50/50	0.1911
219240	MANTUACREK E	0.7829	50/50	0.7829
219241	CAMDEN1	0.3197	50/50	0.3197
219242	CAMDEN2	0.0346	50/50	0.0346
219258	KINSLEYDEP C	0.1187	50/50	0.1187
219259	KINSLEYDEP E	1.1522	50/50	1.1522
219273	CLEANLIGHT E	0.3709	Adder	0.44
219288	REEVES ST E	1.2927	Adder	1.52
219292	REEVESSO E	0.1183	Adder	0.14
219305	NAMERICA E	0.6473	Adder	0.76
219340	CUTHBSP1_C	0.0069	50/50	0.0069
219344	CUTHBSP1_E	0.0663	50/50	0.0663
219345	CUTHBSP2_C	0.0069	50/50	0.0069
219347	CUTHBSP2_E	0.0662	50/50	0.0662
219349	LDSOLAR E	0.5667	Adder	0.67
219350	CUTHBSP3_C	0.0069	50/50	0.0069
219351	CUTHBSP3_E	0.0663	50/50	0.0663
219357	CUTHBSP4_C	0.0055	50/50	0.0055
219379	CUTHBSP4_E	0.0533	50/50	0.0533
219384	DEPTFDSP1_C	0.0016	50/50	0.0016
219385	DEPTFDSP1_E	0.0152	50/50	0.0152
219388	DEPTFDSP2_C	0.0016	50/50	0.0016
219390	DEPTFDSP2_E	0.0152	50/50	0.0152
219393	DEPTFDSP3_C	0.0039	50/50	0.0039
219394	DEPTFDSP3_E	0.0382	50/50	0.0382
219408	DEPTFDSP4_C	0.0016	50/50	0.0016
219416	DEPTFDSP4_E	0.0152	50/50	0.0152
219566	BURLINSP1_E	0.0777	Adder	0.09
219574	CAMDENSP1_C	0.0384	50/50	0.0384
219575	CAMDENSP1_E	0.3731	50/50	0.3731
219582	COXSCOSP1_E	0.0149	Adder	0.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
219608	WPEMNERT E	0.6473	Adder	0.76
219611	FLORENCE E	1.8493	Adder	2.18
219614	COXSCOSP2_E	0.0149	Adder	0.02
219619	MILLCREEK E	0.4439	Adder	0.52
219623	KINSLEYBEA C	0.0865	50/50	0.0865
219624	KINSLEYBEA E	0.8682	50/50	0.8682
219647	COOPERSOLA E	0.1530	50/50	0.1530
219652	LUMB23SP1_E	0.0394	Adder	0.05
219656	LUMB23SP2_E	0.0394	Adder	0.05
219662	THOROFSP1_C	0.0060	50/50	0.0060
219664	THOROFSP1_E	0.0581	50/50	0.0581
219665	THOROFSP2_C	0.0060	50/50	0.0060
219666	THOROFSP2_E	0.0584	50/50	0.0584
219683	THOSOLAR C	0.0331	50/50	0.0331
219684	THOSOLAR E	0.3214	50/50	0.3214
219687	LUMSOLAR_N E	0.3981	Adder	0.47
219689	LUMSOLAR_S E	0.3948	Adder	0.46
219706	BEAVBRSP1_C	0.0062	50/50	0.0062
219707	BEAVBRSP1_E	0.0607	50/50	0.0607
219708	BEAVBRSP2_C	0.0062	50/50	0.0062
219709	BEAVBRSP2_E	0.0606	50/50	0.0606
219710	CINNAMSP1_C	0.0032	50/50	0.0032
219711	CINNAMSP1_E	0.0315	50/50	0.0315
219712	CINNAMSP2_C	0.0019	50/50	0.0019
219713	CINNAMSP2_E	0.0188	50/50	0.0188
219714	CINNAMSP3_C	0.0032	50/50	0.0032
219715	CINNAMSP3_E	0.0315	50/50	0.0315
219716	CINNAMSP4_C	0.0032	50/50	0.0032
219717	CINNAMSP4_E	0.0313	50/50	0.0313
219718	GLOUCSP1_C	0.0118	50/50	0.0118
219719	GLOUCSP1_E	0.1147	50/50	0.1147
219726	BAT.STORG E	0.3771	50/50	0.3771
219765	PARADISE E	1.2527	50/50	1.2527
219766	PARADISE C	0.1250	50/50	0.1250
227881	GRENWCHG	0.4247	Adder	0.5
227928	V4-067E	0.2699	Adder	0.32
228261	V4-054E	1.2466	Adder	1.47
228357	V2-046E	2.8678	Adder	3.37
228400	MICK 1CT	2.3288	50/50	2.3288
228423	Q-090 2	39.7574	50/50	39.7574
228712	V2-041E	0.4491	Adder	0.53
228721	V2-035E	0.2617	Adder	0.31
228733	AB1-119 E	0.1471	Adder	0.17
902092	W1-130E	1.1438	Adder	1.35
902432	W2-030 E	1.0130	Adder	1.19
910862	OWENSCORIN E	1.1156	50/50	1.1156
917471	Z2-083	4.0219	50/50	4.0219
919901	AB1-000 1	0.9065	Adder	1.07
919911	AB1-000 2	0.9065	Adder	1.07
919921	AB1-000 3	0.9065	Adder	1.07
923153	AB1-116 E	0.1645	Adder	0.19
924051	AB2-049 C	0.7807	Adder	0.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924052	AB2-049 E	1.2737	Adder	1.5
924531	AB2-102 C	39.6251	Adder	46.62
924532	AB2-102 E	0.8806	Adder	1.04
924701	AB2-122 C	0.1166	Adder	0.14
924702	AB2-122 E	0.1999	Adder	0.24
925391	**AC1-010 C (Suspended)**	**0.8612**	**50/50**	**0.8612**
925392	**AC1-010 E (Suspended)**	**1.4876**	**50/50**	**1.4876**
925452	AC1-017 E	0.4726	Adder	0.56
925561	AC1-030 C	0.0529	50/50	0.0529
925562	AC1-030 E	0.4975	50/50	0.4975
930001	AB1-001 C	0.1409	Adder	0.17
930002	AB1-001 E	0.2316	Adder	0.27
930242	AB1-063 E	0.1530	50/50	0.1530
932361	AC2-050 C O1	0.7352	Adder	0.86
932362	AC2-050 E O1	1.1996	Adder	1.41
933962	AD1-019 E	1.2830	Adder	1.51
934661	AD1-097 1	1.4625	Adder	1.72
934671	AD1-097 2	1.4625	Adder	1.72
934681	AD1-097 3	1.4625	Adder	1.72
934691	AD1-097 4	0.8657	Adder	1.02
936211	AD2-027 C	0.2627	50/50	0.2627
936212	AD2-027 E	2.5506	50/50	2.5506
936321	AD2-042 C	0.3456	50/50	0.3456
936322	AD2-042 E	3.3733	50/50	3.3733
936501	AD2-065 C	0.2156	Adder	0.25
936502	AD2-065 E	0.2974	Adder	0.35
937011	AD2-135 C	0.1193	Adder	0.14
937012	AD2-135 E	0.2028	Adder	0.24
938421	AE1-061 C	0.5518	Adder	0.65
938422	AE1-061 E	0.5518	Adder	0.65
938431	AE1-062 C	1.9895	Adder	2.34
938432	AE1-062 E	1.9895	Adder	2.34
938781	AE1-104 C O1	20.9022	Adder	24.59
938782	AE1-104 E O1	53.4779	Adder	62.92
938871	AE1-115 C	2.2222	Adder	2.61
938872	AE1-115 E	2.2222	Adder	2.61
939301	AE1-161 C	4.1764	Adder	4.91
939302	AE1-161 E	6.2646	Adder	7.37
939501	AE1-179 C O1	6.7414	Adder	7.93
939502	AE1-179 E O1	4.7575	Adder	5.6
939821	AE1-218 C O1	0.1725	Adder	0.2
939822	AE1-218 E O1	0.2588	Adder	0.3
939931	AE1-229 C O1	18.9632	Adder	22.31
939932	AE1-229 E O1	12.8481	Adder	15.12
940001	AE1-240 C O1	5.5882	Adder	6.57
940002	AE1-240 E O1	3.9888	Adder	4.69
940271	AE2-010	-0.5405	Adder	-0.64
940361	AE2-020 C	17.3954	Adder	20.47
940362	AE2-020 E	81.4467	Adder	95.82
940371	AE2-021 C	17.3954	Adder	20.47
940372	AE2-021 E	81.4467	Adder	95.82
940381	AE2-022 C	10.1473	Adder	11.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940382	AE2-022 E	47.5106	Adder	55.89
940771	AE2-064 C	0.0525	50/50	0.0525
940772	AE2-064 E	0.4231	50/50	0.4231
940781	AE2-065 C	0.0437	50/50	0.0437
940782	AE2-065 E	0.4088	50/50	0.4088
942101	AE2-222 C O1	14.4190	Adder	16.96
942102	AE2-222 E O1	36.2214	Adder	42.61
942381	AE2-251 C	55.1084	Adder	64.83
942382	AE2-251 E	141.0070	Adder	165.89
943071	AE2-334 C	6.1366	Adder	7.22
943072	AE2-334 E	3.2714	Adder	3.85
943732	AF1-041 E	0.4040	Adder	0.48
944951	AF1-160 C	1.9895	Adder	2.34
944952	AF1-160 E	2.0890	Adder	2.46
945431	AF1-208 C O1	5.5785	Adder	6.56
945432	AF1-208 E O1	3.7190	Adder	4.38
945731	AF1-238 C	9.6727	Adder	11.38
945732	AF1-238 E	14.5090	Adder	17.07
945741	AF1-239 C	2.2759	Adder	2.68
945742	AF1-239 E	3.4139	Adder	4.02
945961	AF1-261	0.1342	Adder	0.16
945971	AF1-262	0.1899	Adder	0.22
945991	AF1-264	0.4834	50/50	0.4834
957221	AF2-016 C	20.4041	Adder	24.0
957222	AF2-016 E	30.6061	Adder	36.01
957251	AF2-019 C	1.3955	Adder	1.64
957252	AF2-019 E	2.0932	Adder	2.46
957261	AF2-020 C	1.6100	Adder	1.89
957262	AF2-020 E	2.4151	Adder	2.84
957291	AF2-023 C	3.7781	Adder	4.44
957292	AF2-023 E	5.6671	Adder	6.67
957301	AF2-024 C	2.4658	Adder	2.9
957302	AF2-024 E	3.6987	Adder	4.35
957311	AF2-025 C	1.3505	Adder	1.59
957312	AF2-025 E	2.0258	Adder	2.38
957443	AF2-038 BAT	4.2404	Merchant Transmission	4.2404
958811	AF2-172 C	0.7465	Adder	0.88
958812	AF2-172 E	1.2179	Adder	1.43
958831	AF2-174 C	0.2438	Adder	0.29
958832	AF2-174 E	0.3366	Adder	0.4
999905	MARINGEN 2	0.6753	Adder	0.79
999906	PVILLEG 2	0.2870	Adder	0.34
NEWTON	NEWTON	1.0938	Confirmed LTF	1.0938
FARMERCITY	FARMERCITY	0.0569	Confirmed LTF	0.0569
G-007A	G-007A	10.1246	Confirmed LTF	10.1246
VFT	VFT	15.0801	Confirmed LTF	15.0801
GIBSON	GIBSON	0.5558	Confirmed LTF	0.5558
PRAIRIE	PRAIRIE	2.6217	Confirmed LTF	2.6217
COFFEEN	COFFEEN	0.2031	Confirmed LTF	0.2031
CHEOAH	CHEOAH	0.5015	Confirmed LTF	0.5015
EDWARDS	EDWARDS	0.3570	Confirmed LTF	0.3570
TILTON	TILTON	0.6426	Confirmed LTF	0.6426

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
MADISON	MADISON	0.0081	Confirmed LTF	0.0081
CALDERWOOD	CALDERWOOD	0.4980	Confirmed LTF	0.4980
BLUEG	BLUEG	1.7672	Confirmed LTF	1.7672
TRIMBLE	TRIMBLE	0.5665	Confirmed LTF	0.5665
CATAWBA	CATAWBA	0.3462	Confirmed LTF	0.3462

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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
99831089	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	PS_P2-3_CUTB_1-4_LT	breaker	771.0	113.66	116.8	AC	29.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
219124	CAMDEN_STG	3.5555	50/50	3.5555
219126	CAMDEN_CTG	4.3680	50/50	4.3680
219128	GLOUCSTR_26	1.8050	50/50	1.8050
219229	EAGLEPT_G3	2.2211	50/50	2.2211
219230	EAGLEPT_G1	4.1920	50/50	4.1920
219231	EAGLEPT_G2	4.1878	50/50	4.1878
219235	EAGLEPT_ST2	1.5154	50/50	1.5154
219240	MANTUACREK E	0.6490	50/50	0.6490
219258	KINSLEYDEP C	0.0951	50/50	0.0951
219259	KINSLEYDEP E	0.9235	50/50	0.9235
219384	DEPTFDSP1_C	0.0012	50/50	0.0012
219385	DEPTFDSP1_E	0.0122	50/50	0.0122
219388	DEPTFDSP2_C	0.0013	50/50	0.0013
219390	DEPTFDSP2_E	0.0122	50/50	0.0122
219393	DEPTFDSP3_C	0.0031	50/50	0.0031
219394	DEPTFDSP3_E	0.0306	50/50	0.0306
219408	DEPTFDSP4_C	0.0013	50/50	0.0013
219416	DEPTFDSP4_E	0.0122	50/50	0.0122
219623	KINSLEYBEA C	0.0685	50/50	0.0685
219624	KINSLEYBEA E	0.6868	50/50	0.6868
219662	THOROFSP1_C	0.0045	50/50	0.0045
219664	THOROFSP1_E	0.0441	50/50	0.0441
219665	THOROFSP2_C	0.0046	50/50	0.0046
219666	THOROFSP2_E	0.0446	50/50	0.0446
219683	THOSOLAR C	0.0252	50/50	0.0252
219684	THOSOLAR E	0.2444	50/50	0.2444
219706	BEAVBRSP1_C	0.0049	50/50	0.0049
219707	BEAVBRSP1_E	0.0480	50/50	0.0480
219708	BEAVBRSP2_C	0.0049	50/50	0.0049
219709	BEAVBRSP2_E	0.0478	50/50	0.0478
219718	GLOUCSP1_C	0.0098	50/50	0.0098
219719	GLOUCSP1_E	0.0951	50/50	0.0951
219726	BAT.STORG E	0.1380	Adder	0.16
219765	PARADISE E	1.0385	50/50	1.0385
219766	PARADISE C	0.1036	50/50	0.1036
227881	GRENWCHG	0.2881	Adder	0.34
227928	V4-067E	0.1313	Adder	0.15
228261	V4-054E	0.7299	Adder	0.86
228357	V2-046E	1.8025	Adder	2.12
228423	Q-090_2	28.6479	50/50	28.6479
228712	V2-041E	0.2440	Adder	0.29

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
228721	V2-035E	0.1556	Adder	0.18
228733	AB1-119 E	0.0654	Adder	0.08
902092	W1-130E	0.6441	Adder	0.76
902432	W2-030 E	0.5012	Adder	0.59
910862	OWENSCORIN E	0.4807	Adder	0.57
917471	Z2-083	2.8981	50/50	2.8981
918622	AA1-079 E	-2.8701	Adder	-3.38
918632	AA1-079 E	-2.8695	Adder	-3.38
923153	AB1-116 E	0.0846	Adder	0.1
924051	AB2-049 C	0.3751	Adder	0.44
924052	AB2-049 E	0.6120	Adder	0.72
924531	AB2-102 C	21.3569	Adder	25.13
924532	AB2-102 E	0.4746	Adder	0.56
924701	AB2-122 C	0.0567	Adder	0.07
924702	AB2-122 E	0.0972	Adder	0.11
925391	**AC1-010 C (Suspended)**	**0.7139**	**50/50**	**0.7139**
925392	**AC1-010 E (Suspended)**	**1.2332**	**50/50**	**1.2332**
930001	AB1-001 C	0.0673	Adder	0.08
930002	AB1-001 E	0.1105	Adder	0.13
933962	AD1-019 E	0.6335	Adder	0.75
936212	AD2-027 E	-0.8925	Adder	-1.05
936322	AD2-042 E	-1.1804	Adder	-1.39
936501	AD2-065 C	0.0832	Adder	0.1
936502	AD2-065 E	0.1148	Adder	0.14
937011	AD2-135 C	0.0562	Adder	0.07
937012	AD2-135 E	0.0955	Adder	0.11
938421	AE1-061 C	0.3108	Adder	0.37
938422	AE1-061 E	0.3108	Adder	0.37
938431	AE1-062 C	0.7682	Adder	0.9
938432	AE1-062 E	0.7682	Adder	0.9
938781	AE1-104 C O1	10.6750	Adder	12.56
938782	AE1-104 E O1	27.3118	Adder	32.13
938871	AE1-115 C	1.4221	Adder	1.67
938872	AE1-115 E	1.4221	Adder	1.67
939301	AE1-161 C	2.4121	Adder	2.84
939302	AE1-161 E	3.6182	Adder	4.26
939501	AE1-179 C O1	3.8003	Adder	4.47
939502	AE1-179 E O1	2.6819	Adder	3.16
939821	AE1-218 C O1	0.0946	Adder	0.11
939822	AE1-218 E O1	0.1420	Adder	0.17
939931	AE1-229 C O1	11.5707	Adder	13.61
939932	AE1-229 E O1	7.8395	Adder	9.22
940001	AE1-240 C O1	3.1577	Adder	3.71
940002	AE1-240 E O1	2.2539	Adder	2.65
940361	AE2-020 C	8.2440	Adder	9.7
940362	AE2-020 E	38.5990	Adder	45.41
940371	AE2-021 C	8.2440	Adder	9.7
940372	AE2-021 E	38.5990	Adder	45.41
940381	AE2-022 C	4.8090	Adder	5.66
940382	AE2-022 E	22.5161	Adder	26.49
940771	AE2-064 C	0.0416	50/50	0.0416
940772	AE2-064 E	0.3347	50/50	0.3347

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940781	AE2-065 C	0.0350	50/50	0.0350
940782	AE2-065 E	0.3277	50/50	0.3277
942101	AE2-222 C O1	7.1162	Adder	8.37
942102	AE2-222 E O1	17.8763	Adder	21.03
942381	AE2-251 C	26.1168	Adder	30.73
942382	AE2-251 E	66.8256	Adder	78.62
943071	AE2-334 C	3.4121	Adder	4.01
943072	AE2-334 E	1.8190	Adder	2.14
943732	AF1-041 E	0.1987	Adder	0.23
944951	AF1-160 C	0.7682	Adder	0.9
944952	AF1-160 E	0.8066	Adder	0.95
945431	AF1-208 C O1	3.3473	Adder	3.94
945432	AF1-208 E O1	2.2315	Adder	2.63
945731	AF1-238 C	5.3524	Adder	6.3
945732	AF1-238 E	8.0286	Adder	9.45
945741	AF1-239 C	1.2594	Adder	1.48
945742	AF1-239 E	1.8891	Adder	2.22
945971	AF1-262	0.1129	Adder	0.13
945991	AF1-264	0.2083	Adder	0.25
957221	AF2-016 C	10.1378	Adder	11.93
957222	AF2-016 E	15.2067	Adder	17.89
957251	AF2-019 C	0.7309	Adder	0.86
957252	AF2-019 E	1.0963	Adder	1.29
957261	AF2-020 C	0.9438	Adder	1.11
957262	AF2-020 E	1.4157	Adder	1.67
957291	AF2-023 C	2.4181	Adder	2.84
957292	AF2-023 E	3.6271	Adder	4.27
957301	AF2-024 C	1.9983	50/50	1.9983
957302	AF2-024 E	2.9975	50/50	2.9975
957311	AF2-025 C	0.6672	Adder	0.78
957312	AF2-025 E	1.0008	Adder	1.18
958811	AF2-172 C	0.4284	Adder	0.5
958812	AF2-172 E	0.6989	Adder	0.82
999905	MARINGEN 2	0.3336	Adder	0.39
999906	PVILLEG 2	0.1416	Adder	0.17
NEWTON	NEWTON	0.2901	Confirmed LTF	0.2901
FARMERCITY	FARMERCITY	0.0150	Confirmed LTF	0.0150
GIBSON	GIBSON	0.1480	Confirmed LTF	0.1480
NY	NY	0.5596	Confirmed LTF	0.5596
PRAIRIE	PRAIRIE	0.6897	Confirmed LTF	0.6897
O-066	O-066	8.2992	Confirmed LTF	8.2992
COFFEEN	COFFEEN	0.0539	Confirmed LTF	0.0539
CHEOAH	CHEOAH	0.1256	Confirmed LTF	0.1256
EDWARDS	EDWARDS	0.0956	Confirmed LTF	0.0956
TILTON	TILTON	0.1720	Confirmed LTF	0.1720
G-007	G-007	0.7166	Confirmed LTF	0.7166
MADISON	MADISON	0.0101	Confirmed LTF	0.0101
CALDERWOOD	CALDERWOOD	0.1252	Confirmed LTF	0.1252
BLUEG	BLUEG	0.4705	Confirmed LTF	0.4705
TRIMBLE	TRIMBLE	0.1508	Confirmed LTF	0.1508
CATAWBA	CATAWBA	0.0822	Confirmed LTF	0.0822

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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
99831048	219125	CAMDEN	PSE&G	214206	RICHRE29	PECO	1	PECO_P4_CHICH045/* $ DELCO $ CHICH045 $ STBK	breaker	1336.0	126.15	129.88	AC	60.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
214225	Y1-057 BAT	0.3171	Merchant Transmission	0.3171
218661	EHAMPSOLAR E	0.3425	Adder	0.4
219124	CAMDEN_STG	4.2890	50/50	4.2890
219126	CAMDEN_CTG	5.2692	50/50	5.2692
219128	GLOUCSTR_26	2.1774	50/50	2.1774
219229	EAGLEPT_G3	2.7618	50/50	2.7618
219230	EAGLEPT_G1	5.2114	50/50	5.2114
219231	EAGLEPT_G2	5.2083	50/50	5.2083
219235	EAGLEPT_ST2	1.8838	50/50	1.8838
219236	SOUTHERNHQ C	0.0194	50/50	0.0194
219237	SOUTHERNHQ E	0.1911	50/50	0.1911
219240	MANTUACREK E	0.7829	50/50	0.7829
219241	CAMDEN1	0.3197	50/50	0.3197
219242	CAMDEN2	0.0346	50/50	0.0346
219258	KINSLEYDEP C	0.1187	50/50	0.1187
219259	KINSLEYDEP E	1.1522	50/50	1.1522
219273	CLEANLIGHT E	0.3709	Adder	0.44
219288	REEVES ST E	1.2927	Adder	1.52
219292	REEVESSO E	0.1183	Adder	0.14
219305	NAMERICA E	0.6473	Adder	0.76
219340	CUTHBSP1_C	0.0069	50/50	0.0069
219344	CUTHBSP1_E	0.0663	50/50	0.0663
219345	CUTHBSP2_C	0.0069	50/50	0.0069
219347	CUTHBSP2_E	0.0662	50/50	0.0662
219349	LDSOLAR E	0.5667	Adder	0.67
219350	CUTHBSP3_C	0.0069	50/50	0.0069
219351	CUTHBSP3_E	0.0663	50/50	0.0663
219357	CUTHBSP4_C	0.0055	50/50	0.0055
219379	CUTHBSP4_E	0.0533	50/50	0.0533
219384	DEPTFDSP1_C	0.0016	50/50	0.0016
219385	DEPTFDSP1_E	0.0152	50/50	0.0152
219388	DEPTFDSP2_C	0.0016	50/50	0.0016
219390	DEPTFDSP2_E	0.0152	50/50	0.0152
219393	DEPTFDSP3_C	0.0039	50/50	0.0039
219394	DEPTFDSP3_E	0.0382	50/50	0.0382
219408	DEPTFDSP4_C	0.0016	50/50	0.0016
219416	DEPTFDSP4_E	0.0152	50/50	0.0152
219566	BURLINSP1_E	0.0777	Adder	0.09
219574	CAMDENSP1_C	0.0384	50/50	0.0384
219575	CAMDENSP1_E	0.3731	50/50	0.3731
219582	COXSCOSP1_E	0.0149	Adder	0.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
219608	WPEMNERT E	0.6473	Adder	0.76
219611	FLORENCE E	1.8493	Adder	2.18
219614	COXSCOSP2_E	0.0149	Adder	0.02
219619	MILLCREEK E	0.4439	Adder	0.52
219623	KINSLEYBEA C	0.0865	50/50	0.0865
219624	KINSLEYBEA E	0.8682	50/50	0.8682
219647	COOPERSOLA E	0.1530	50/50	0.1530
219652	LUMB23SP1_E	0.0394	Adder	0.05
219656	LUMB23SP2_E	0.0394	Adder	0.05
219662	THOROFSP1_C	0.0060	50/50	0.0060
219664	THOROFSP1_E	0.0581	50/50	0.0581
219665	THOROFSP2_C	0.0060	50/50	0.0060
219666	THOROFSP2_E	0.0584	50/50	0.0584
219683	THOSOLAR C	0.0331	50/50	0.0331
219684	THOSOLAR E	0.3214	50/50	0.3214
219687	LUMSOLAR_N E	0.3981	Adder	0.47
219689	LUMSOLAR_S E	0.3948	Adder	0.46
219706	BEAVBRSP1_C	0.0062	50/50	0.0062
219707	BEAVBRSP1_E	0.0607	50/50	0.0607
219708	BEAVBRSP2_C	0.0062	50/50	0.0062
219709	BEAVBRSP2_E	0.0606	50/50	0.0606
219710	CINNAMSP1_C	0.0032	50/50	0.0032
219711	CINNAMSP1_E	0.0315	50/50	0.0315
219712	CINNAMSP2_C	0.0019	50/50	0.0019
219713	CINNAMSP2_E	0.0188	50/50	0.0188
219714	CINNAMSP3_C	0.0032	50/50	0.0032
219715	CINNAMSP3_E	0.0315	50/50	0.0315
219716	CINNAMSP4_C	0.0032	50/50	0.0032
219717	CINNAMSP4_E	0.0313	50/50	0.0313
219718	GLOUCSP1_C	0.0118	50/50	0.0118
219719	GLOUCSP1_E	0.1147	50/50	0.1147
219726	BAT.STORG E	0.3771	50/50	0.3771
219765	PARADISE E	1.2527	50/50	1.2527
219766	PARADISE C	0.1250	50/50	0.1250
227881	GRENWCHG	0.4247	Adder	0.5
227928	V4-067E	0.2699	Adder	0.32
228261	V4-054E	1.2466	Adder	1.47
228357	V2-046E	2.8678	Adder	3.37
228400	MICK 1CT	2.3288	50/50	2.3288
228423	Q-090 2	39.7574	50/50	39.7574
228712	V2-041E	0.4491	Adder	0.53
228721	V2-035E	0.2617	Adder	0.31
228733	AB1-119 E	0.1471	Adder	0.17
902092	W1-130E	1.1438	Adder	1.35
902432	W2-030 E	1.0130	Adder	1.19
910862	OWENSCORIN E	1.1156	50/50	1.1156
917471	Z2-083	4.0219	50/50	4.0219
919901	AB1-000 1	0.9065	Adder	1.07
919911	AB1-000 2	0.9065	Adder	1.07
919921	AB1-000 3	0.9065	Adder	1.07
923153	AB1-116 E	0.1645	Adder	0.19
924051	AB2-049 C	0.7807	Adder	0.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924052	AB2-049 E	1.2737	Adder	1.5
924531	AB2-102 C	39.6251	Adder	46.62
924532	AB2-102 E	0.8806	Adder	1.04
924701	AB2-122 C	0.1166	Adder	0.14
924702	AB2-122 E	0.1999	Adder	0.24
925391	**AC1-010 C (Suspended)**	**0.8612**	**50/50**	**0.8612**
925392	**AC1-010 E (Suspended)**	**1.4876**	**50/50**	**1.4876**
925452	AC1-017 E	0.4726	Adder	0.56
925561	AC1-030 C	0.0529	50/50	0.0529
925562	AC1-030 E	0.4975	50/50	0.4975
930001	AB1-001 C	0.1409	Adder	0.17
930002	AB1-001 E	0.2316	Adder	0.27
930242	AB1-063 E	0.1530	50/50	0.1530
932361	AC2-050 C O1	0.7352	Adder	0.86
932362	AC2-050 E O1	1.1996	Adder	1.41
933962	AD1-019 E	1.2830	Adder	1.51
934661	AD1-097 1	1.4625	Adder	1.72
934671	AD1-097 2	1.4625	Adder	1.72
934681	AD1-097 3	1.4625	Adder	1.72
934691	AD1-097 4	0.8657	Adder	1.02
936211	AD2-027 C	0.2627	50/50	0.2627
936212	AD2-027 E	2.5506	50/50	2.5506
936321	AD2-042 C	0.3456	50/50	0.3456
936322	AD2-042 E	3.3733	50/50	3.3733
936501	AD2-065 C	0.2156	Adder	0.25
936502	AD2-065 E	0.2974	Adder	0.35
937011	AD2-135 C	0.1193	Adder	0.14
937012	AD2-135 E	0.2028	Adder	0.24
938421	AE1-061 C	0.5518	Adder	0.65
938422	AE1-061 E	0.5518	Adder	0.65
938431	AE1-062 C	1.9895	Adder	2.34
938432	AE1-062 E	1.9895	Adder	2.34
938781	AE1-104 C O1	20.9022	Adder	24.59
938782	AE1-104 E O1	53.4779	Adder	62.92
938871	AE1-115 C	2.2222	Adder	2.61
938872	AE1-115 E	2.2222	Adder	2.61
939301	AE1-161 C	4.1764	Adder	4.91
939302	AE1-161 E	6.2646	Adder	7.37
939501	AE1-179 C O1	6.7414	Adder	7.93
939502	AE1-179 E O1	4.7575	Adder	5.6
939821	AE1-218 C O1	0.1725	Adder	0.2
939822	AE1-218 E O1	0.2588	Adder	0.3
939931	AE1-229 C O1	18.9632	Adder	22.31
939932	AE1-229 E O1	12.8481	Adder	15.12
940001	AE1-240 C O1	5.5882	Adder	6.57
940002	AE1-240 E O1	3.9888	Adder	4.69
940271	AE2-010	-0.5405	Adder	-0.64
940361	AE2-020 C	17.3954	Adder	20.47
940362	AE2-020 E	81.4467	Adder	95.82
940371	AE2-021 C	17.3954	Adder	20.47
940372	AE2-021 E	81.4467	Adder	95.82
940381	AE2-022 C	10.1473	Adder	11.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940382	AE2-022 E	47.5106	Adder	55.89
940771	AE2-064 C	0.0525	50/50	0.0525
940772	AE2-064 E	0.4231	50/50	0.4231
940781	AE2-065 C	0.0437	50/50	0.0437
940782	AE2-065 E	0.4088	50/50	0.4088
942101	AE2-222 C O1	14.4190	Adder	16.96
942102	AE2-222 E O1	36.2214	Adder	42.61
942381	AE2-251 C	55.1084	Adder	64.83
942382	AE2-251 E	141.0070	Adder	165.89
943071	AE2-334 C	6.1366	Adder	7.22
943072	AE2-334 E	3.2714	Adder	3.85
943732	AF1-041 E	0.4040	Adder	0.48
944951	AF1-160 C	1.9895	Adder	2.34
944952	AF1-160 E	2.0890	Adder	2.46
945431	AF1-208 C O1	5.5785	Adder	6.56
945432	AF1-208 E O1	3.7190	Adder	4.38
945731	AF1-238 C	9.6727	Adder	11.38
945732	AF1-238 E	14.5090	Adder	17.07
945741	AF1-239 C	2.2759	Adder	2.68
945742	AF1-239 E	3.4139	Adder	4.02
945961	AF1-261	0.1342	Adder	0.16
945971	AF1-262	0.1899	Adder	0.22
945991	AF1-264	0.4834	50/50	0.4834
957221	AF2-016 C	20.4041	Adder	24.0
957222	AF2-016 E	30.6061	Adder	36.01
957251	AF2-019 C	1.3955	Adder	1.64
957252	AF2-019 E	2.0932	Adder	2.46
957261	AF2-020 C	1.6100	Adder	1.89
957262	AF2-020 E	2.4151	Adder	2.84
957291	AF2-023 C	3.7781	Adder	4.44
957292	AF2-023 E	5.6671	Adder	6.67
957301	AF2-024 C	2.4658	Adder	2.9
957302	AF2-024 E	3.6987	Adder	4.35
957311	AF2-025 C	1.3505	Adder	1.59
957312	AF2-025 E	2.0258	Adder	2.38
957443	AF2-038 BAT	4.2404	Merchant Transmission	4.2404
958811	AF2-172 C	0.7465	Adder	0.88
958812	AF2-172 E	1.2179	Adder	1.43
958831	AF2-174 C	0.2438	Adder	0.29
958832	AF2-174 E	0.3366	Adder	0.4
999905	MARINGEN 2	0.6753	Adder	0.79
999906	PVILLEG 2	0.2870	Adder	0.34
NEWTON	NEWTON	1.0938	Confirmed LTF	1.0938
FARMERCITY	FARMERCITY	0.0569	Confirmed LTF	0.0569
G-007A	G-007A	10.1246	Confirmed LTF	10.1246
VFT	VFT	15.0801	Confirmed LTF	15.0801
GIBSON	GIBSON	0.5558	Confirmed LTF	0.5558
PRAIRIE	PRAIRIE	2.6217	Confirmed LTF	2.6217
COFFEEN	COFFEEN	0.2031	Confirmed LTF	0.2031
CHEOAH	CHEOAH	0.5015	Confirmed LTF	0.5015
EDWARDS	EDWARDS	0.3570	Confirmed LTF	0.3570
TILTON	TILTON	0.6426	Confirmed LTF	0.6426

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
MADISON	MADISON	0.0081	Confirmed LTF	0.0081
CALDERWOOD	CALDERWOOD	0.4980	Confirmed LTF	0.4980
BLUEG	BLUEG	1.7672	Confirmed LTF	1.7672
TRIMBLE	TRIMBLE	0.5665	Confirmed LTF	0.5665
CATAWBA	CATAWBA	0.3462	Confirmed LTF	0.3462

11.7.24 Index 24

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
99832150	219756	BEAVERBK_2	PSE&G	219110	GLOUCSTR	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	740.0	103.29	106.72	AC	29.86

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
219259	KINSLEYDEP E	0.2448	Adder	0.29
219385	DEPTFDSP1_E	0.0032	Adder	0.0
219390	DEPTFDSP2_E	0.0032	Adder	0.0
219394	DEPTFDSP3_E	0.0081	Adder	0.01
219416	DEPTFDSP4_E	0.0032	Adder	0.0
219623	KINSLEYBEA C	0.1611	50/50	0.1611
219624	KINSLEYBEA E	1.6159	50/50	1.6159
219664	THOROFSP1_E	0.0133	Adder	0.02
219666	THOROFSP2_E	0.0133	Adder	0.02
219684	THOSOLAR E	0.0734	Adder	0.09
219706	BEAVBRSP1_C	0.0116	50/50	0.0116
219707	BEAVBRSP1_E	0.1130	50/50	0.1130
219708	BEAVBRSP2_C	0.0116	50/50	0.0116
219709	BEAVBRSP2_E	0.1124	50/50	0.1124
227881	GRENWCHG	0.1411	Adder	0.17
227928	V4-067E	0.1361	Adder	0.16
228201	CARL#2CT	0.4847	50/50	0.4847
228260	V4-054C	0.1293	50/50	0.1293
228261	V4-054E	0.6276	50/50	0.6276
228357	V2-046E	1.1071	Adder	1.3
228702	WEST CT	0.4269	50/50	0.4269
228712	V2-041E	0.2090	Adder	0.25
228717	S121	1.0387	50/50	1.0387
228720	V2-035C	0.0139	50/50	0.0139
228721	V2-035E	0.1352	50/50	0.1352
228727	W2-039G	1.0850	50/50	1.0850
228728	W1-130C	0.0654	50/50	0.0654
228733	AB1-119 E	0.0889	50/50	0.0889
902092	W1-130E	0.6342	50/50	0.6342
902432	W2-030 E	0.5038	Adder	0.59
918622	AA1-079 E	-2.9598	Adder	-3.48
918632	AA1-079 E	-2.9591	Adder	-3.48
923153	AB1-116 E	0.0951	50/50	0.0951
924051	AB2-049 C	0.4712	50/50	0.4712
924052	AB2-049 E	0.7687	50/50	0.7687
924531	AB2-102 C	18.5340	Adder	21.8
924532	AB2-102 E	0.4119	Adder	0.48
924701	AB2-122 C	0.0588	Adder	0.07
924702	AB2-122 E	0.1008	Adder	0.12
930001	AB1-001 C	0.0684	Adder	0.08
930002	AB1-001 E	0.1124	Adder	0.13
930242	AB1-063 E	-0.0375	Adder	-0.04

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933962	AD1-019 E	0.6370	Adder	0.75
936212	AD2-027 E	-0.9528	Adder	-1.12
936322	AD2-042 E	-1.2602	Adder	-1.48
936501	AD2-065 C	0.1180	50/50	0.1180
936502	AD2-065 E	0.1629	50/50	0.1629
937011	AD2-135 C	0.0820	50/50	0.0820
937012	AD2-135 E	0.1394	50/50	0.1394
938421	AE1-061 C	0.3060	50/50	0.3060
938422	AE1-061 E	0.3060	50/50	0.3060
938431	AE1-062 C	1.1329	50/50	1.1329
938432	AE1-062 E	1.1329	50/50	1.1329
938781	AE1-104 C O1	10.1941	Adder	11.99
938782	AE1-104 E O1	26.0815	Adder	30.68
938871	AE1-115 C	0.8265	Adder	0.97
938872	AE1-115 E	0.8265	Adder	0.97
939301	AE1-161 C	2.2876	50/50	2.2876
939302	AE1-161 E	3.4314	50/50	3.4314
939501	AE1-179 C O1	3.5665	50/50	3.5665
939502	AE1-179 E O1	2.5169	50/50	2.5169
939821	AE1-218 C O1	0.0965	50/50	0.0965
939822	AE1-218 E O1	0.1448	50/50	0.1448
939931	AE1-229 C O1	9.2640	50/50	9.2640
939932	AE1-229 E O1	6.2766	50/50	6.2766
940001	AE1-240 C O1	2.9452	50/50	2.9452
940002	AE1-240 E O1	2.1023	50/50	2.1023
940361	AE2-020 C	8.9542	Adder	10.53
940362	AE2-020 E	41.9243	Adder	49.32
940371	AE2-021 C	8.9542	Adder	10.53
940372	AE2-021 E	41.9243	Adder	49.32
940381	AE2-022 C	5.2233	Adder	6.15
940382	AE2-022 E	24.4558	Adder	28.77
940771	AE2-064 C	0.0978	50/50	0.0978
940772	AE2-064 E	0.7874	50/50	0.7874
940782	AE2-065 E	0.0869	Adder	0.1
942101	AE2-222 C O1	7.1561	Adder	8.42
942102	AE2-222 E O1	17.9767	Adder	21.15
942381	AE2-251 C	28.3668	Adder	33.37
942382	AE2-251 E	72.5826	Adder	85.39
943071	AE2-334 C	3.4509	50/50	3.4509
943072	AE2-334 E	1.8397	50/50	1.8397
943732	AF1-041 E	0.2010	Adder	0.24
944951	AF1-160 C	1.1329	50/50	1.1329
944952	AF1-160 E	1.1895	50/50	1.1895
945431	AF1-208 C O1	2.3044	Adder	2.71
945432	AF1-208 E O1	1.5363	Adder	1.81
945731	AF1-238 C	5.2448	50/50	5.2448
945732	AF1-238 E	7.8673	50/50	7.8673
945741	AF1-239 C	1.2341	50/50	1.2341
945742	AF1-239 E	1.8511	50/50	1.8511
945971	AF1-262	0.0982	50/50	0.0982
957221	AF2-016 C	10.1521	Adder	11.94
957222	AF2-016 E	15.2281	Adder	17.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957251	AF2-019 C	0.6678	Adder	0.79
957252	AF2-019 E	1.0016	Adder	1.18
957261	AF2-020 C	0.6878	Adder	0.81
957262	AF2-020 E	1.0316	Adder	1.21
957291	AF2-023 C	1.4048	Adder	1.65
957292	AF2-023 E	2.1072	Adder	2.48
957301	AF2-024 C	0.7912	Adder	0.93
957302	AF2-024 E	1.1868	Adder	1.4
957311	AF2-025 C	0.6709	Adder	0.79
957312	AF2-025 E	1.0063	Adder	1.18
958811	AF2-172 C	0.3860	50/50	0.3860
958812	AF2-172 E	0.6299	50/50	0.6299
999905	MARINGEN 2	0.3354	Adder	0.39
999906	PVILLEG 2	0.1424	Adder	0.17
NEWTON	NEWTON	0.0924	Confirmed LTF	0.0924
FARMERCITY	FARMERCITY	0.0047	Confirmed LTF	0.0047
GIBSON	GIBSON	0.0475	Confirmed LTF	0.0475
NY	NY	0.3694	Confirmed LTF	0.3694
PRAIRIE	PRAIRIE	0.2144	Confirmed LTF	0.2144
O-066	O-066	5.4163	Confirmed LTF	5.4163
COFFEEN	COFFEEN	0.0172	Confirmed LTF	0.0172
CHEOAH	CHEOAH	0.0335	Confirmed LTF	0.0335
EDWARDS	EDWARDS	0.0312	Confirmed LTF	0.0312
TILTON	TILTON	0.0554	Confirmed LTF	0.0554
G-007	G-007	0.1061	Confirmed LTF	0.1061
MADISON	MADISON	0.0101	Confirmed LTF	0.0101
CALDERWOOD	CALDERWOOD	0.0338	Confirmed LTF	0.0338
BLUEG	BLUEG	0.1510	Confirmed LTF	0.1510
TRIMBLE	TRIMBLE	0.0484	Confirmed LTF	0.0484
CATAWBA	CATAWBA	0.0182	Confirmed LTF	0.0182

11.7.25 Index 25

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
99832014	227900	CARDIFF	AE	219100	NEWFRDM	PSE&G	1	JC-P7-1-JCC-230-13	tower	692.0	249.68	263.33	DC	102.18

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206360	28O CRK C1	2.2392	50/50	2.2392
206361	28O CRK C2	1.4629	50/50	1.4629
227842	MARINGEN	0.2179	50/50	0.2179
227927	V4-067C	0.0618	50/50	0.0618
227928	V4-067E	0.6075	50/50	0.6075
228014	PVILLEG	0.0744	50/50	0.0744
228261	V4-054E	0.5801	Adder	0.68
228712	V2-041E	0.3529	Adder	0.42
228721	V2-035E	0.0902	Adder	0.11
228729	W2-030 C	0.2097	50/50	0.2097
228731	V3-036	0.3152	50/50	0.3152
228732	V1-021 C	0.0791	50/50	0.0791
902092	W1-130E	0.6973	Adder	0.82
902432	W2-030 E	2.0517	50/50	2.0517
924531	AB2-102 C	32.7286	Adder	38.5
924532	AB2-102 E	0.7273	Adder	0.86
924701	AB2-122 C	0.2625	50/50	0.2625
924702	AB2-122 E	0.4500	50/50	0.4500
930001	AB1-001 C	0.3031	50/50	0.3031
930002	AB1-001 E	0.4982	50/50	0.4982
933962	AD1-019 E	2.5922	50/50	2.5922
938421	AE1-061 C	0.3364	Adder	0.4
938422	AE1-061 E	0.3364	Adder	0.4
938781	AE1-104 C O1	34.8624	50/50	34.8624
938782	AE1-104 E O1	89.1950	50/50	89.1950
939301	AE1-161 C	1.5558	Adder	1.83
939302	AE1-161 E	2.3338	Adder	2.75
939501	AE1-179 C O1	3.8458	Adder	4.52
939502	AE1-179 E O1	2.7140	Adder	3.19
939931	AE1-229 C O1	6.0596	Adder	7.13
939932	AE1-229 E O1	4.1055	Adder	4.83
940001	AE1-240 C O1	3.2067	Adder	3.77
940002	AE1-240 E O1	2.2889	Adder	2.69
940161	AE2-000 C O1	89.8673	50/50	89.8673
940162	AE2-000 E O1	229.9395	50/50	229.9395
940361	AE2-020 C	45.0401	50/50	45.0401
940362	AE2-020 E	210.8810	50/50	210.8810
940371	AE2-021 C	45.0401	50/50	45.0401
940372	AE2-021 E	210.8810	50/50	210.8810
940381	AE2-022 C	26.2734	50/50	26.2734
940382	AE2-022 E	123.0139	50/50	123.0139

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942101	AE2-222 C O1	29.1154	50/50	29.1154
942102	AE2-222 E O1	73.1396	50/50	73.1396
942381	AE2-251 C	142.6862	50/50	142.6862
942382	AE2-251 E	365.0938	50/50	365.0938
943732	AF1-041 E	0.8330	50/50	0.8330
944332	AF1-101 E O1	225.4324	50/50	225.4324
945431	AF1-208 C O1	2.2422	Adder	2.64
945432	AF1-208 E O1	1.4948	Adder	1.76
945731	AF1-238 C	5.8028	Adder	6.83
945732	AF1-238 E	8.7042	Adder	10.24
945741	AF1-239 C	1.3654	Adder	1.61
945742	AF1-239 E	2.0481	Adder	2.41
945971	AF1-262	0.0655	Adder	0.08
957221	AF2-016 C	40.8720	50/50	40.8720
957222	AF2-016 E	61.3080	50/50	61.3080
957251	AF2-019 C	1.8886	50/50	1.8886
957252	AF2-019 E	2.8330	50/50	2.8330
957261	AF2-020 C	0.7473	Adder	0.88
957262	AF2-020 E	1.1209	Adder	1.32
957271	AF2-021 C	3.1619	50/50	3.1619
957272	AF2-021 E	4.7429	50/50	4.7429
957311	AF2-025 C	2.7304	50/50	2.7304
957312	AF2-025 E	4.0956	50/50	4.0956
958811	AF2-172 C	0.3894	Adder	0.46
958812	AF2-172 E	0.6354	Adder	0.75
999905	MARINGEN 2	1.3650	50/50	1.3650
999906	PVILLEG 2	0.5792	50/50	0.5792
NEWTON	NEWTON	0.0774	Confirmed LTF	0.0774
FARMERCITY	FARMERCITY	0.0040	Confirmed LTF	0.0040
GIBSON	GIBSON	0.0393	Confirmed LTF	0.0393
NY	NY	0.1128	Confirmed LTF	0.1128
PRAIRIE	PRAIRIE	0.1834	Confirmed LTF	0.1834
O-066	O-066	1.6934	Confirmed LTF	1.6934
COFFEEN	COFFEEN	0.0144	Confirmed LTF	0.0144
CHEOAH	CHEOAH	0.0345	Confirmed LTF	0.0345
EDWARDS	EDWARDS	0.0252	Confirmed LTF	0.0252
TILTON	TILTON	0.0454	Confirmed LTF	0.0454
G-007	G-007	0.2361	Confirmed LTF	0.2361
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
BLUEG	BLUEG	0.1250	Confirmed LTF	0.1250
TRIMBLE	TRIMBLE	0.0401	Confirmed LTF	0.0401
CATAWBA	CATAWBA	0.0238	Confirmed LTF	0.0238

11.7.26 Index 26

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
99830961	227900	CARDIFF	AE	227955	CEDAR	AE	1	AE_P4-2 AE7	breaker	805.0	153.01	161.29	AC	69.87

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227842	MARINGEN	0.1406	50/50	0.1406
227927	V4-067C	0.0406	50/50	0.0406
227928	V4-067E	0.3996	50/50	0.3996
228014	PVILLEG	0.0472	50/50	0.0472
228202	CUMB CT	1.3742	50/50	1.3742
228203	P06	1.4640	50/50	1.4640
228261	V4-054E	0.4926	Adder	0.58
228357	V2-046E	0.6788	Adder	0.8
228711	V2-041C	0.0329	50/50	0.0329
228712	V2-041E	0.3193	50/50	0.3193
228721	V2-035E	0.0839	Adder	0.1
228729	W2-030 C	0.1381	50/50	0.1381
228731	V3-036	0.2024	50/50	0.2024
228732	V1-021 C	0.0567	50/50	0.0567
902092	W1-130E	0.5590	Adder	0.66
902432	W2-030 E	1.3508	50/50	1.3508
919663	AA2-048 BAT	0.5216	Merchant Transmission	0.5216
924531	AB2-102 C	29.5110	50/50	29.5110
924532	AB2-102 E	0.6558	50/50	0.6558
924701	AB2-122 C	0.1727	50/50	0.1727
924702	AB2-122 E	0.2961	50/50	0.2961
930001	AB1-001 C	0.1282	50/50	0.1282
930002	AB1-001 E	0.2107	50/50	0.2107
933962	AD1-019 E	1.6646	50/50	1.6646
938421	AE1-061 C	0.2697	Adder	0.32
938422	AE1-061 E	0.2697	Adder	0.32
938781	AE1-104 C O1	24.2666	50/50	24.2666
938782	AE1-104 E O1	62.0858	50/50	62.0858
938871	AE1-115 C	0.5403	Adder	0.64
938872	AE1-115 E	0.5403	Adder	0.64
939121	AE1-142 C O1	-0.9047	Adder	-1.06
939301	AE1-161 C	1.4290	Adder	1.68
939302	AE1-161 E	2.1435	Adder	2.52
939501	AE1-179 C O1	3.1416	Adder	3.7
939502	AE1-179 E O1	2.2171	Adder	2.61
939931	AE1-229 C O1	5.7085	Adder	6.72
939932	AE1-229 E O1	3.8677	Adder	4.55
940001	AE1-240 C O1	2.6136	Adder	3.07
940002	AE1-240 E O1	1.8656	Adder	2.19
940361	AE2-020 C	33.2657	50/50	33.2657
940362	AE2-020 E	155.7524	50/50	155.7524
940371	AE2-021 C	33.2657	50/50	33.2657

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940372	AE2-021 E	155.7524	50/50	155.7524
940381	AE2-022 C	19.4050	50/50	19.4050
940382	AE2-022 E	90.8556	50/50	90.8556
940691	AE2-056 C	-0.0826	Adder	-0.1
940701	AE2-057 C	-0.0241	Adder	-0.03
940921	AE2-081 C	-0.0878	Adder	-0.1
942101	AE2-222 C O1	18.5695	50/50	18.5695
942102	AE2-222 E O1	46.6476	50/50	46.6476
942381	AE2-251 C	105.3851	50/50	105.3851
942382	AE2-251 E	269.6509	50/50	269.6509
943732	AF1-041 E	0.5307	50/50	0.5307
945431	AF1-208 C O1	1.9647	Adder	2.31
945432	AF1-208 E O1	1.3098	Adder	1.54
945731	AF1-238 C	4.7108	Adder	5.54
945732	AF1-238 E	7.0663	Adder	8.31
945741	AF1-239 C	1.1084	Adder	1.3
945742	AF1-239 E	1.6627	Adder	1.96
945971	AF1-262	0.0609	Adder	0.07
957221	AF2-016 C	27.9492	50/50	27.9492
957222	AF2-016 E	41.9238	50/50	41.9238
957251	AF2-019 C	1.3548	50/50	1.3548
957252	AF2-019 E	2.0322	50/50	2.0322
957261	AF2-020 C	0.6346	Adder	0.75
957262	AF2-020 E	0.9520	Adder	1.12
957273	AF2-021 BAT	11.2608	50/50	11.2608
957291	AF2-023 C	0.9189	Adder	1.08
957292	AF2-023 E	1.3783	Adder	1.62
957311	AF2-025 C	1.7650	50/50	1.7650
957312	AF2-025 E	2.6474	50/50	2.6474
957783	AF2-072 BAT	3.8420	Merchant Transmission	3.8420
958811	AF2-172 C	0.3233	Adder	0.38
958812	AF2-172 E	0.5275	Adder	0.62
999905	MARINGEN 2	0.8808	50/50	0.8808
999906	PVILLEG 2	0.3673	50/50	0.3673
WEC	WEC	0.0050	Confirmed LTF	0.0050
LGEE	LGEE	0.0103	Confirmed LTF	0.0103
CPLE	CPLE	0.0357	Confirmed LTF	0.0357
CBM-W2	CBM-W2	0.1884	Confirmed LTF	0.1884
NY	NY	0.6072	Confirmed LTF	0.6072
TVA	TVA	0.0392	Confirmed LTF	0.0392
O-066	O-066	11.0410	Confirmed LTF	11.0410
CBM-S2	CBM-S2	0.2659	Confirmed LTF	0.2659
CBM-S1	CBM-S1	0.2215	Confirmed LTF	0.2215
G-007	G-007	3.9406	Confirmed LTF	3.9406
MADISON	MADISON	0.0081	Confirmed LTF	0.0081
MEC	MEC	0.0302	Confirmed LTF	0.0302
CBM-W1	CBM-W1	0.1626	Confirmed LTF	0.1626

11.7.27 Index 27

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
99832039	227900	CARDIFF	AE	228002	ORCHARD	AE	1	JC-P7-1-JCC-230-13	tower	805.0	131.36	139.66	DC	66.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206360	28O CRK C1	1.5946	50/50	1.5946
206361	28O CRK C2	1.0418	50/50	1.0418
227842	MARINGEN	0.1417	50/50	0.1417
227927	V4-067C	0.0418	50/50	0.0418
227928	V4-067E	0.4110	50/50	0.4110
228014	PVILLEG	0.0489	50/50	0.0489
228729	W2-030 C	0.1347	50/50	0.1347
228731	V3-036	0.2057	50/50	0.2057
902092	W1-130E	0.4173	Adder	0.49
902432	W2-030 E	1.3173	50/50	1.3173
924701	AB2-122 C	0.1776	50/50	0.1776
924702	AB2-122 E	0.3044	50/50	0.3044
930001	AB1-001 C	0.2018	50/50	0.2018
930002	AB1-001 E	0.3316	50/50	0.3316
933962	AD1-019 E	1.6913	50/50	1.6913
938421	AE1-061 C	0.2013	Adder	0.24
938422	AE1-061 E	0.2013	Adder	0.24
938781	AE1-104 C O1	18.1906	50/50	18.1906
938782	AE1-104 E O1	46.5403	50/50	46.5403
940161	AE2-000 C O1	63.9976	50/50	63.9976
940162	AE2-000 E O1	163.7480	50/50	163.7480
940361	AE2-020 C	32.2322	50/50	32.2322
940362	AE2-020 E	150.9134	50/50	150.9134
940371	AE2-021 C	32.2322	50/50	32.2322
940372	AE2-021 E	150.9134	50/50	150.9134
940381	AE2-022 C	18.8021	50/50	18.8021
940382	AE2-022 E	88.0328	50/50	88.0328
942101	AE2-222 C O1	19.0751	50/50	19.0751
942102	AE2-222 E O1	47.9179	50/50	47.9179
942381	AE2-251 C	102.1109	50/50	102.1109
942382	AE2-251 E	261.2731	50/50	261.2731
943732	AF1-041 E	0.5510	50/50	0.5510
944332	AF1-101 E O1	160.5383	50/50	160.5383
957221	AF2-016 C	26.7324	50/50	26.7324
957222	AF2-016 E	40.0986	50/50	40.0986
957251	AF2-019 C	0.5539	Adder	0.65
957252	AF2-019 E	0.8308	Adder	0.98
957271	AF2-021 C	2.2406	50/50	2.2406
957272	AF2-021 E	3.3610	50/50	3.3610
957311	AF2-025 C	1.7741	50/50	1.7741
957312	AF2-025 E	2.6611	50/50	2.6611

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
999905	MARINGEN 2	0.8878	50/50	0.8878
999906	PVILLEG 2	0.3809	50/50	0.3809
NEWTON	NEWTON	0.0150	Confirmed LTF	0.0150
FARMERCITY	FARMERCITY	0.0008	Confirmed LTF	0.0008
G-007A	G-007A	1.0525	Confirmed LTF	1.0525
VFT	VFT	1.9350	Confirmed LTF	1.9350
GIBSON	GIBSON	0.0076	Confirmed LTF	0.0076
PRAIRIE	PRAIRIE	0.0387	Confirmed LTF	0.0387
COFFEEN	COFFEEN	0.0028	Confirmed LTF	0.0028
CHEOAH	CHEOAH	0.0090	Confirmed LTF	0.0090
EDWARDS	EDWARDS	0.0049	Confirmed LTF	0.0049
TILTON	TILTON	0.0088	Confirmed LTF	0.0088
CALDERWOOD	CALDERWOOD	0.0089	Confirmed LTF	0.0089
BLUEG	BLUEG	0.0243	Confirmed LTF	0.0243
TRIMBLE	TRIMBLE	0.0078	Confirmed LTF	0.0078
CATAWBA	CATAWBA	0.0073	Confirmed LTF	0.0073

11.7.28 Index 28

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
101513398	227906	SCULL#2	AE	227904	MILL #2	AE	1	AE_P4-2 AE28	breaker	306.0	107.86	119.58	AC	38.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227928	V4-067E	-0.1249	Adder	-0.15
228202	CUMB CT	1.9118	50/50	1.9118
228203	P06	1.8665	50/50	1.8665
228206	SHRMN CT	1.6983	50/50	1.6983
228261	V4-054E	0.5398	Adder	0.64
228711	V2-041C	0.0459	50/50	0.0459
228712	V2-041E	0.4454	50/50	0.4454
228732	V1-021 C	0.0920	50/50	0.0920
924531	AB2-102 C	37.6245	50/50	37.6245
924532	AB2-102 E	0.8361	50/50	0.8361
924701	AB2-122 C	-0.0540	Adder	-0.06
938781	AE1-104 C O1	71.6284	50/50	71.6284
938782	AE1-104 E O1	183.2602	50/50	183.2602
939501	AE1-179 C O1	3.8767	Adder	4.56
939502	AE1-179 E O1	2.7359	Adder	3.22
940001	AE1-240 C O1	3.2262	Adder	3.8
940002	AE1-240 E O1	2.3028	Adder	2.71
945431	AF1-208 C O1	1.9005	Adder	2.24
945432	AF1-208 E O1	1.2670	Adder	1.49
945731	AF1-238 C	7.0528	50/50	7.0528
945732	AF1-238 E	10.5792	50/50	10.5792
945741	AF1-239 C	1.6595	50/50	1.6595
945742	AF1-239 E	2.4892	50/50	2.4892
957223	AF2-016 BAT	38.2680	Merchant Transmission	38.2680
957251	AF2-019 C	2.4262	50/50	2.4262
957252	AF2-019 E	3.6394	50/50	3.6394
957261	AF2-020 C	0.6937	Adder	0.82
957262	AF2-020 E	1.0405	Adder	1.22
958811	AF2-172 C	0.3801	Adder	0.45
958812	AF2-172 E	0.6201	Adder	0.73
999905	MARINGEN 2	-0.3855	Adder	-0.45
999906	PVILLEG 2	-0.1685	Adder	-0.2
NEWTON	NEWTON	0.0376	Confirmed LTF	0.0376
FARMERCITY	FARMERCITY	0.0019	Confirmed LTF	0.0019
GIBSON	GIBSON	0.0191	Confirmed LTF	0.0191
NY	NY	0.1078	Confirmed LTF	0.1078
PRAIRIE	PRAIRIE	0.0878	Confirmed LTF	0.0878
O-066	O-066	1.8077	Confirmed LTF	1.8077
COFFEEN	COFFEEN	0.0070	Confirmed LTF	0.0070
CHEOAH	CHEOAH	0.0160	Confirmed LTF	0.0160
EDWARDS	EDWARDS	0.0122	Confirmed LTF	0.0122
TILTON	TILTON	0.0220	Confirmed LTF	0.0220

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007	G-007	0.5439	Confirmed LTF	0.5439
CALDERWOOD	CALDERWOOD	0.0164	Confirmed LTF	0.0164
BLUEG	BLUEG	0.0608	Confirmed LTF	0.0608
TRIMBLE	TRIMBLE	0.0195	Confirmed LTF	0.0195
CATAWBA	CATAWBA	0.0109	Confirmed LTF	0.0109

11.7.29 Index 29

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
101513484	227913	CARDIFF	AE	227902	LEWIS #1	AE	1	AE_P4-2 AE9	breaker	478.0	123.93	144.47	AC	98.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
228261	V4-054E	-0.3675	Adder	-0.43
924701	AB2-122 C	-0.0297	Adder	-0.03
938423	AE1-061 BAT	0.7697	50/50	0.7697
939303	AE1-161 BAT	4.4705	Merchant Transmission	4.4705
940361	AE2-020 C	17.7510	50/50	17.7510
940362	AE2-020 E	83.1115	50/50	83.1115
940371	AE2-021 C	17.7510	50/50	17.7510
940372	AE2-021 E	83.1115	50/50	83.1115
940381	AE2-022 C	10.3547	50/50	10.3547
940382	AE2-022 E	48.4817	50/50	48.4817
942381	AE2-251 C	56.2348	50/50	56.2348
942382	AE2-251 E	143.8892	50/50	143.8892
945733	AF1-238 BAT	11.1409	Merchant Transmission	11.1409
945743	AF1-239 BAT	2.6214	Merchant Transmission	2.6214
957223	AF2-016 BAT	98.8830	50/50	98.8830
957263	AF2-020 BAT	1.3904	Merchant Transmission	1.3904
999905	MARINGEN 2	-0.7894	Adder	-0.93
999906	PVILLEG 2	-0.3842	Adder	-0.45
WEC	WEC	0.0076	Confirmed LTF	0.0076
LGEE	LGEE	0.0131	Confirmed LTF	0.0131
CPLE	CPLE	0.0099	Confirmed LTF	0.0099
G-007A	G-007A	2.0595	Confirmed LTF	2.0595
VFT	VFT	2.5993	Confirmed LTF	2.5993
CBM-W2	CBM-W2	0.1802	Confirmed LTF	0.1802
TVA	TVA	0.0294	Confirmed LTF	0.0294
CBM-S2	CBM-S2	0.0983	Confirmed LTF	0.0983
CBM-S1	CBM-S1	0.1874	Confirmed LTF	0.1874
MEC	MEC	0.0365	Confirmed LTF	0.0365
CBM-W1	CBM-W1	0.3128	Confirmed LTF	0.3128

11.7.30 Index 30

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
101514637	227934	CARDIFF2	AE	227945	LEWIS #2	AE	1	AE_P7-1 AE3TOWER	tower	478.0	135.18	155.84	AC	98.23

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227928	V4-067E	-0.0776	Adder	-0.09
924701	AB2-122 C	-0.0336	Adder	-0.04
938423	AE1-061 BAT	0.7302	50/50	0.7302
939303	AE1-161 BAT	4.0445	Merchant Transmission	4.0445
940361	AE2-020 C	16.2704	50/50	16.2704
940362	AE2-020 E	76.1793	50/50	76.1793
940371	AE2-021 C	16.2704	50/50	16.2704
940372	AE2-021 E	76.1793	50/50	76.1793
940381	AE2-022 C	9.4911	50/50	9.4911
940382	AE2-022 E	44.4379	50/50	44.4379
942381	AE2-251 C	51.5444	50/50	51.5444
942382	AE2-251 E	131.8876	50/50	131.8876
945733	AF1-238 BAT	8.5374	Merchant Transmission	8.5374
945743	AF1-239 BAT	2.0088	Merchant Transmission	2.0088
957223	AF2-016 BAT	98.2320	50/50	98.2320
999905	MARINGEN 2	-0.7952	Adder	-0.94
999906	PVILLEG 2	-0.3873	Adder	-0.46
WEC	WEC	0.0104	Confirmed LTF	0.0104
LGEE	LGEE	0.0188	Confirmed LTF	0.0188
CPLE	CPLE	0.0238	Confirmed LTF	0.0238
CBM-W2	CBM-W2	0.2703	Confirmed LTF	0.2703
NY	NY	0.0315	Confirmed LTF	0.0315
TVA	TVA	0.0476	Confirmed LTF	0.0476
O-066	O-066	0.6854	Confirmed LTF	0.6854
CBM-S2	CBM-S2	0.2081	Confirmed LTF	0.2081
CBM-S1	CBM-S1	0.2897	Confirmed LTF	0.2897
G-007	G-007	0.2933	Confirmed LTF	0.2933
MEC	MEC	0.0524	Confirmed LTF	0.0524
CBM-W1	CBM-W1	0.4128	Confirmed LTF	0.4128

11.7.31 Index 31

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
99005750	227955	CEDAR	AE	206302	28OYSTER C	JCP&L	1	AE_P4-2 AE6	breaker	564.0	202.74	216.2	AC	84.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227842	MARINGEN	0.1811	50/50	0.1811
227927	V4-067C	0.0483	50/50	0.0483
227928	V4-067E	0.4755	50/50	0.4755
228014	PVILLEG	0.0627	50/50	0.0627
228202	CUMB CT	1.5995	50/50	1.5995
228203	P06	1.6947	50/50	1.6947
228261	V4-054E	0.5704	Adder	0.67
228357	V2-046E	0.7759	Adder	0.91
228712	V2-041E	0.3162	Adder	0.37
228721	V2-035E	0.0980	Adder	0.12
228729	W2-030 C	0.1713	50/50	0.1713
228731	V3-036	0.2630	50/50	0.2630
228732	V1-021 C	0.0672	50/50	0.0672
902092	W1-130E	0.6661	Adder	0.78
902432	W2-030 E	1.6759	50/50	1.6759
919663	AA2-048 BAT	0.5902	Merchant Transmission	0.5902
924531	AB2-102 C	34.1618	50/50	34.1618
924532	AB2-102 E	0.6453	Adder	0.76
924701	AB2-122 C	0.2054	50/50	0.2054
924702	AB2-122 E	0.3521	50/50	0.3521
930001	AB1-001 C	0.2898	50/50	0.2898
930002	AB1-001 E	0.4763	50/50	0.4763
933962	AD1-019 E	2.1629	50/50	2.1629
938421	AE1-061 C	0.3214	Adder	0.38
938422	AE1-061 E	0.3214	Adder	0.38
938781	AE1-104 C O1	29.0292	50/50	29.0292
938782	AE1-104 E O1	74.2707	50/50	74.2707
938871	AE1-115 C	0.6107	Adder	0.72
938872	AE1-115 E	0.6107	Adder	0.72
939121	AE1-142 C O1	-1.0241	Adder	-1.2
939301	AE1-161 C	1.6898	Adder	1.99
939302	AE1-161 E	2.5347	Adder	2.98
939501	AE1-179 C O1	3.6518	Adder	4.3
939502	AE1-179 E O1	2.5771	Adder	3.03
939931	AE1-229 C O1	6.5808	Adder	7.74
939932	AE1-229 E O1	4.4587	Adder	5.25
940001	AE1-240 C O1	3.0374	Adder	3.57
940002	AE1-240 E O1	2.1681	Adder	2.55
940361	AE2-020 C	35.3679	50/50	35.3679
940362	AE2-020 E	165.5951	50/50	165.5951
940371	AE2-021 C	35.3679	50/50	35.3679
940372	AE2-021 E	165.5951	50/50	165.5951

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940381	AE2-022 C	20.6313	50/50	20.6313
940382	AE2-022 E	96.5971	50/50	96.5971
940691	AE2-056 C	-0.0935	Adder	-0.11
940921	AE2-081 C	-0.0994	Adder	-0.12
942101	AE2-222 C O1	24.4293	50/50	24.4293
942102	AE2-222 E O1	61.3677	50/50	61.3677
942381	AE2-251 C	112.0448	50/50	112.0448
942382	AE2-251 E	286.6912	50/50	286.6912
943732	AF1-041 E	0.6930	50/50	0.6930
945431	AF1-208 C O1	2.2659	Adder	2.67
945432	AF1-208 E O1	1.5106	Adder	1.78
945731	AF1-238 C	5.4846	Adder	6.45
945732	AF1-238 E	8.2270	Adder	9.68
945741	AF1-239 C	1.2905	Adder	1.52
945742	AF1-239 E	1.9358	Adder	2.28
945971	AF1-262	0.0711	Adder	0.08
957221	AF2-016 C	33.6552	50/50	33.6552
957222	AF2-016 E	50.4828	50/50	50.4828
957251	AF2-019 C	1.6047	50/50	1.6047
957252	AF2-019 E	2.4071	50/50	2.4071
957261	AF2-020 C	0.7348	Adder	0.86
957262	AF2-020 E	1.1022	Adder	1.3
957271	AF2-021 C	4.9469	50/50	4.9469
957272	AF2-021 E	7.4203	50/50	7.4203
957291	AF2-023 C	1.0388	Adder	1.22
957292	AF2-023 E	1.5582	Adder	1.83
957311	AF2-025 C	2.2655	50/50	2.2655
957312	AF2-025 E	3.3983	50/50	3.3983
957783	AF2-072 BAT	4.3475	Merchant Transmission	4.3475
958811	AF2-172 C	0.3752	Adder	0.44
958812	AF2-172 E	0.6122	Adder	0.72
999905	MARINGEN 2	1.1342	50/50	1.1342
999906	PVILLEG 2	0.4882	50/50	0.4882
WEC	WEC	0.0050	Confirmed LTF	0.0050
LGEE	LGEE	0.0108	Confirmed LTF	0.0108
CPLE	CPLE	0.0390	Confirmed LTF	0.0390
CBM-W2	CBM-W2	0.2048	Confirmed LTF	0.2048
NY	NY	0.6863	Confirmed LTF	0.6863
TVA	TVA	0.0420	Confirmed LTF	0.0420
O-066	O-066	12.4790	Confirmed LTF	12.4790
CBM-S2	CBM-S2	0.2890	Confirmed LTF	0.2890
CBM-S1	CBM-S1	0.2386	Confirmed LTF	0.2386
G-007	G-007	4.4574	Confirmed LTF	4.4574
MADISON	MADISON	0.0081	Confirmed LTF	0.0081
MEC	MEC	0.0302	Confirmed LTF	0.0302
CBM-W1	CBM-W1	0.1626	Confirmed LTF	0.1626

11.7.32 Index 32

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101513383	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P4-2 AE28	breaker	306.0	112.79	124.51	AC	38.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227928	V4-067E	-0.1249	Adder	-0.15
228202	CUMB CT	1.9118	50/50	1.9118
228203	P06	1.8665	50/50	1.8665
228206	SHRMN CT	1.6983	50/50	1.6983
228261	V4-054E	0.5398	Adder	0.64
228711	V2-041C	0.0459	50/50	0.0459
228712	V2-041E	0.4454	50/50	0.4454
228732	V1-021 C	0.0920	50/50	0.0920
924531	AB2-102 C	37.6245	50/50	37.6245
924532	AB2-102 E	0.8361	50/50	0.8361
924701	AB2-122 C	-0.0540	Adder	-0.06
938781	AE1-104 C O1	71.6284	50/50	71.6284
938782	AE1-104 E O1	183.2602	50/50	183.2602
939501	AE1-179 C O1	3.8767	Adder	4.56
939502	AE1-179 E O1	2.7359	Adder	3.22
940001	AE1-240 C O1	3.2262	Adder	3.8
940002	AE1-240 E O1	2.3028	Adder	2.71
945431	AF1-208 C O1	1.9005	Adder	2.24
945432	AF1-208 E O1	1.2670	Adder	1.49
945731	AF1-238 C	7.0528	50/50	7.0528
945732	AF1-238 E	10.5792	50/50	10.5792
945741	AF1-239 C	1.6595	50/50	1.6595
945742	AF1-239 E	2.4892	50/50	2.4892
957223	AF2-016 BAT	38.2680	Merchant Transmission	38.2680
957251	AF2-019 C	2.4262	50/50	2.4262
957252	AF2-019 E	3.6394	50/50	3.6394
957261	AF2-020 C	0.6937	Adder	0.82
957262	AF2-020 E	1.0405	Adder	1.22
958811	AF2-172 C	0.3801	Adder	0.45
958812	AF2-172 E	0.6201	Adder	0.73
999905	MARINGEN 2	-0.3855	Adder	-0.45
999906	PVILLEG 2	-0.1685	Adder	-0.2
NEWTON	NEWTON	0.0376	Confirmed LTF	0.0376
FARMERCITY	FARMERCITY	0.0019	Confirmed LTF	0.0019
GIBSON	GIBSON	0.0191	Confirmed LTF	0.0191
NY	NY	0.1078	Confirmed LTF	0.1078
PRAIRIE	PRAIRIE	0.0878	Confirmed LTF	0.0878
O-066	O-066	1.8077	Confirmed LTF	1.8077
COFFEEN	COFFEEN	0.0070	Confirmed LTF	0.0070
CHEOAH	CHEOAH	0.0160	Confirmed LTF	0.0160
EDWARDS	EDWARDS	0.0122	Confirmed LTF	0.0122
TILTON	TILTON	0.0220	Confirmed LTF	0.0220

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007	G-007	0.5439	Confirmed LTF	0.5439
CALDERWOOD	CALDERWOOD	0.0164	Confirmed LTF	0.0164
BLUEG	BLUEG	0.0608	Confirmed LTF	0.0608
TRIMBLE	TRIMBLE	0.0195	Confirmed LTF	0.0195
CATAWBA	CATAWBA	0.0109	Confirmed LTF	0.0109

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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
99832104	228311	CHAMBERS	AE	228312	PEDRKTWN	AE	1	JC-P7-1-JCC-230-13	tower	552.0	106.27	111.03	AC	35.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227928	V4-067E	0.1595	Adder	0.19
228200	CARL#1CT	0.8459	50/50	0.8459
228201	CARL#2CT	0.8954	50/50	0.8954
228203	P06	1.9158	50/50	1.9158
228251	CARLLS#4	0.0972	50/50	0.0972
228260	V4-054C	0.2373	50/50	0.2373
228261	V4-054E	1.1520	50/50	1.1520
228309	CCLP NUG	19.1060	50/50	19.1060
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.0742	50/50	0.0742
228351	V2-046C	0.2503	50/50	0.2503
228357	V2-046E	2.7445	50/50	2.7445
228712	V2-041E	0.3394	Adder	0.4
228720	V2-035C	0.0254	50/50	0.0254
228721	V2-035E	0.2463	50/50	0.2463
902092	W1-130E	0.5357	Adder	0.63
902432	W2-030 E	0.6097	Adder	0.72
924531	AB2-102 C	32.8261	Adder	38.62
924532	AB2-102 E	0.7295	Adder	0.86
924701	AB2-122 C	0.0689	Adder	0.08
924702	AB2-122 E	0.1182	Adder	0.14
930001	AB1-001 C	0.0847	Adder	0.1
930002	AB1-001 E	0.1393	Adder	0.16
933962	AD1-019 E	0.7555	Adder	0.89
938421	AE1-061 C	0.2585	Adder	0.3
938422	AE1-061 E	0.2585	Adder	0.3
938781	AE1-104 C O1	13.8574	Adder	16.3
938782	AE1-104 E O1	35.4539	Adder	41.71
938871	AE1-115 C	3.1722	50/50	3.1722
938872	AE1-115 E	3.1722	50/50	3.1722
939301	AE1-161 C	1.8479	Adder	2.17
939302	AE1-161 E	2.7719	Adder	3.26
939501	AE1-179 C O1	4.8180	Adder	5.67
939502	AE1-179 E O1	3.4001	Adder	4.0
939931	AE1-229 C O1	25.1487	50/50	25.1487
939932	AE1-229 E O1	17.0390	50/50	17.0390
940001	AE1-240 C O1	4.0690	Adder	4.79
940002	AE1-240 E O1	2.9044	Adder	3.42
940161	AE2-000 C O1	20.4923	Adder	24.11
940162	AE2-000 E O1	52.4328	Adder	61.69
940361	AE2-020 C	10.0327	Adder	11.8
940362	AE2-020 E	46.9737	Adder	55.26

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940371	AE2-021 C	10.0327	Adder	11.8
940372	AE2-021 E	46.9737	Adder	55.26
940381	AE2-022 C	5.8524	Adder	6.89
940382	AE2-022 E	27.4013	Adder	32.24
942101	AE2-222 C O1	8.4420	Adder	9.93
942102	AE2-222 E O1	21.2068	Adder	24.95
942381	AE2-251 C	31.7833	Adder	37.39
942382	AE2-251 E	81.3245	Adder	95.68
942571	AE2-272	0.0286	50/50	0.0286
943732	AF1-041 E	0.2360	Adder	0.28
944332	AF1-101 E O1	51.4051	Adder	60.48
945431	AF1-208 C O1	5.7445	50/50	5.7445
945432	AF1-208 E O1	3.8297	50/50	3.8297
945731	AF1-238 C	6.3998	Adder	7.53
945732	AF1-238 E	9.5996	Adder	11.29
945741	AF1-239 C	1.5058	Adder	1.77
945742	AF1-239 E	2.2587	Adder	2.66
945971	AF1-262	0.1788	50/50	0.1788
957221	AF2-016 C	11.9962	Adder	14.11
957222	AF2-016 E	17.9943	Adder	21.17
957251	AF2-019 C	1.0166	Adder	1.2
957252	AF2-019 E	1.5249	Adder	1.79
957261	AF2-020 C	1.4948	50/50	1.4948
957262	AF2-020 E	2.2422	50/50	2.2422
957271	AF2-021 C	0.7322	Adder	0.86
957272	AF2-021 E	1.0982	Adder	1.29
957291	AF2-023 C	5.3922	50/50	5.3922
957292	AF2-023 E	8.0883	50/50	8.0883
957311	AF2-025 C	0.7998	Adder	0.94
957312	AF2-025 E	1.1997	Adder	1.41
958811	AF2-172 C	0.6565	50/50	0.6565
958812	AF2-172 E	1.0711	50/50	1.0711
999905	MARINGEN 2	0.3993	Adder	0.47
999906	PVILLEG 2	0.1671	Adder	0.2
WEC	WEC	0.0022	Confirmed LTF	0.0022
LGEE	LGEE	0.0046	Confirmed LTF	0.0046
CPLE	CPLE	0.0159	Confirmed LTF	0.0159
CBM-W2	CBM-W2	0.0819	Confirmed LTF	0.0819
NY	NY	0.1410	Confirmed LTF	0.1410
TVA	TVA	0.0182	Confirmed LTF	0.0182
O-066	O-066	2.2579	Confirmed LTF	2.2579
CBM-S2	CBM-S2	0.1214	Confirmed LTF	0.1214
CBM-S1	CBM-S1	0.1022	Confirmed LTF	0.1022
G-007	G-007	0.2964	Confirmed LTF	0.2964
MADISON	MADISON	0.0020	Confirmed LTF	0.0020
MEC	MEC	0.0127	Confirmed LTF	0.0127
CBM-W1	CBM-W1	0.0751	Confirmed LTF	0.0751

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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
99832059	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	JC-P7-1-JCC-230-13	tower	552.0	122.95	127.54	AC	35.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227928	V4-067E	0.1587	Adder	0.19
228200	CARL#1CT	0.8431	50/50	0.8431
228201	CARL#2CT	0.8924	50/50	0.8924
228251	CARLLS#4	0.0969	50/50	0.0969
228260	V4-054C	0.2365	50/50	0.2365
228261	V4-054E	1.1482	50/50	1.1482
228306	PCLP STM	6.4375	50/50	6.4375
228307	PCLP GT	6.4375	50/50	6.4375
228309	CCLP NUG	19.0810	50/50	19.0810
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.0741	50/50	0.0741
228351	V2-046C	0.2495	50/50	0.2495
228357	V2-046E	2.7365	50/50	2.7365
228712	V2-041E	0.3381	Adder	0.4
228720	V2-035C	0.0253	50/50	0.0253
228721	V2-035E	0.2455	50/50	0.2455
902092	W1-130E	0.5328	Adder	0.63
902432	W2-030 E	0.6066	Adder	0.71
924531	AB2-102 C	32.7095	Adder	38.48
924532	AB2-102 E	0.7269	Adder	0.86
924701	AB2-122 C	0.0686	Adder	0.08
924702	AB2-122 E	0.1176	Adder	0.14
930001	AB1-001 C	0.0843	Adder	0.1
930002	AB1-001 E	0.1385	Adder	0.16
933962	AD1-019 E	0.7516	Adder	0.88
938421	AE1-061 C	0.2570	Adder	0.3
938422	AE1-061 E	0.2570	Adder	0.3
938781	AE1-104 C O1	13.7934	Adder	16.23
938782	AE1-104 E O1	35.2902	Adder	41.52
938871	AE1-115 C	3.1660	50/50	3.1660
938872	AE1-115 E	3.1660	50/50	3.1660
939301	AE1-161 C	1.8374	Adder	2.16
939302	AE1-161 E	2.7560	Adder	3.24
939501	AE1-179 C O1	4.7996	Adder	5.65
939502	AE1-179 E O1	3.3871	Adder	3.98
939931	AE1-229 C O1	25.0935	50/50	25.0935
939932	AE1-229 E O1	17.0016	50/50	17.0016
940001	AE1-240 C O1	4.0539	Adder	4.77
940002	AE1-240 E O1	2.8937	Adder	3.4
940161	AE2-000 C O1	20.3734	Adder	23.97
940162	AE2-000 E O1	52.1286	Adder	61.33
940361	AE2-020 C	9.9775	Adder	11.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940362	AE2-020 E	46.7153	Adder	54.96
940371	AE2-021 C	9.9775	Adder	11.74
940372	AE2-021 E	46.7153	Adder	54.96
940381	AE2-022 C	5.8202	Adder	6.85
940382	AE2-022 E	27.2506	Adder	32.06
942101	AE2-222 C O1	8.3977	Adder	9.88
942102	AE2-222 E O1	21.0956	Adder	24.82
942381	AE2-251 C	31.6085	Adder	37.19
942382	AE2-251 E	80.8772	Adder	95.15
942571	AE2-272	0.0285	50/50	0.0285
943732	AF1-041 E	0.2348	Adder	0.28
944332	AF1-101 E O1	51.1068	Adder	60.13
945431	AF1-208 C O1	5.7278	50/50	5.7278
945432	AF1-208 E O1	3.8185	50/50	3.8185
945731	AF1-238 C	6.3733	Adder	7.5
945732	AF1-238 E	9.5600	Adder	11.25
945741	AF1-239 C	1.4996	Adder	1.76
945742	AF1-239 E	2.2494	Adder	2.65
945971	AF1-262	0.1782	50/50	0.1782
957221	AF2-016 C	11.9330	Adder	14.04
957222	AF2-016 E	17.8995	Adder	21.06
957251	AF2-019 C	1.0125	Adder	1.19
957252	AF2-019 E	1.5187	Adder	1.79
957261	AF2-020 C	1.4898	50/50	1.4898
957262	AF2-020 E	2.2348	50/50	2.2348
957271	AF2-021 C	0.7279	Adder	0.86
957272	AF2-021 E	1.0919	Adder	1.28
957291	AF2-023 C	5.3817	50/50	5.3817
957292	AF2-023 E	8.0725	50/50	8.0725
957311	AF2-025 C	0.7956	Adder	0.94
957312	AF2-025 E	1.1934	Adder	1.4
958811	AF2-172 C	0.6542	50/50	0.6542
958812	AF2-172 E	1.0673	50/50	1.0673
999905	MARINGEN 2	0.3972	Adder	0.47
999906	PVILLEG 2	0.1662	Adder	0.2
NEWTON	NEWTON	0.0569	Confirmed LTF	0.0569
FARMERCITY	FARMERCITY	0.0029	Confirmed LTF	0.0029
GIBSON	GIBSON	0.0289	Confirmed LTF	0.0289
NY	NY	0.1759	Confirmed LTF	0.1759
PRAIRIE	PRAIRIE	0.1343	Confirmed LTF	0.1343
O-066	O-066	2.6678	Confirmed LTF	2.6678
COFFEEN	COFFEEN	0.0106	Confirmed LTF	0.0106
CHEOAH	CHEOAH	0.0230	Confirmed LTF	0.0230
EDWARDS	EDWARDS	0.0189	Confirmed LTF	0.0189
TILTON	TILTON	0.0340	Confirmed LTF	0.0340
G-007	G-007	0.3598	Confirmed LTF	0.3598
MADISON	MADISON	0.0020	Confirmed LTF	0.0020
CALDERWOOD	CALDERWOOD	0.0234	Confirmed LTF	0.0234
BLUEG	BLUEG	0.0920	Confirmed LTF	0.0920
TRIMBLE	TRIMBLE	0.0295	Confirmed LTF	0.0295
CATAWBA	CATAWBA	0.0144	Confirmed LTF	0.0144

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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
99832124	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	JC-P7-1-JCC-230-13	tower	804.0	109.41	112.64	AC	34.76

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
227928	V4-067E	0.1571	Adder	0.18
228200	CARL#1CT	0.8380	50/50	0.8380
228201	CARL#2CT	0.8870	50/50	0.8870
228251	CARLLS#4	0.0963	50/50	0.0963
228260	V4-054C	0.2350	50/50	0.2350
228261	V4-054E	1.1411	50/50	1.1411
228304	LOGAN	26.1291	50/50	26.1291
228306	PCLP STM	6.4262	50/50	6.4262
228307	PCLP GT	6.4262	50/50	6.4262
228309	CCLP NUG	19.0351	50/50	19.0351
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.0737	50/50	0.0737
228351	V2-046C	0.2482	50/50	0.2482
228357	V2-046E	2.7218	50/50	2.7218
228712	V2-041E	0.3357	Adder	0.39
228720	V2-035C	0.0251	50/50	0.0251
228721	V2-035E	0.2441	50/50	0.2441
902092	W1-130E	0.5272	Adder	0.62
902432	W2-030 E	0.6008	Adder	0.71
924531	AB2-102 C	32.4896	Adder	38.22
924532	AB2-102 E	0.7220	Adder	0.85
924701	AB2-122 C	0.0679	Adder	0.08
924702	AB2-122 E	0.1164	Adder	0.14
930001	AB1-001 C	0.0834	Adder	0.1
930002	AB1-001 E	0.1371	Adder	0.16
933962	AD1-019 E	0.7441	Adder	0.88
938421	AE1-061 C	0.2544	Adder	0.3
938422	AE1-061 E	0.2544	Adder	0.3
938781	AE1-104 C O1	13.6758	Adder	16.09
938782	AE1-104 E O1	34.9892	Adder	41.16
938871	AE1-115 C	3.1546	50/50	3.1546
938872	AE1-115 E	3.1546	50/50	3.1546
939301	AE1-161 C	1.8180	Adder	2.14
939302	AE1-161 E	2.7270	Adder	3.21
939501	AE1-179 C O1	4.7657	Adder	5.61
939502	AE1-179 E O1	3.3632	Adder	3.96
939931	AE1-229 C O1	24.9921	50/50	24.9921
939932	AE1-229 E O1	16.9328	50/50	16.9328
940001	AE1-240 C O1	4.0258	Adder	4.74
940002	AE1-240 E O1	2.8736	Adder	3.38
940161	AE2-000 C O1	20.1512	Adder	23.71
940162	AE2-000 E O1	51.5601	Adder	60.66

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940361	AE2-020 C	9.8743	Adder	11.62
940362	AE2-020 E	46.2324	Adder	54.39
940371	AE2-021 C	9.8743	Adder	11.62
940372	AE2-021 E	46.2324	Adder	54.39
940381	AE2-022 C	5.7600	Adder	6.78
940382	AE2-022 E	26.9689	Adder	31.73
942101	AE2-222 C O1	8.3142	Adder	9.78
942102	AE2-222 E O1	20.8858	Adder	24.57
942381	AE2-251 C	31.2817	Adder	36.8
942382	AE2-251 E	80.0411	Adder	94.17
942571	AE2-272	0.0284	50/50	0.0284
943732	AF1-041 E	0.2324	Adder	0.27
944332	AF1-101 E O1	50.5494	Adder	59.47
945431	AF1-208 C O1	5.6970	50/50	5.6970
945432	AF1-208 E O1	3.7980	50/50	3.7980
945731	AF1-238 C	6.3239	Adder	7.44
945732	AF1-238 E	9.4858	Adder	11.16
945741	AF1-239 C	1.4880	Adder	1.75
945742	AF1-239 E	2.2320	Adder	2.63
945971	AF1-262	0.1772	50/50	0.1772
957221	AF2-016 C	11.8167	Adder	13.9
957222	AF2-016 E	17.7251	Adder	20.85
957251	AF2-019 C	1.0046	Adder	1.18
957252	AF2-019 E	1.5069	Adder	1.77
957261	AF2-020 C	1.4807	50/50	1.4807
957262	AF2-020 E	2.2211	50/50	2.2211
957271	AF2-021 C	0.7202	Adder	0.85
957272	AF2-021 E	1.0803	Adder	1.27
957291	AF2-023 C	5.3623	50/50	5.3623
957292	AF2-023 E	8.0435	50/50	8.0435
957311	AF2-025 C	0.7878	Adder	0.93
957312	AF2-025 E	1.1818	Adder	1.39
958811	AF2-172 C	0.6498	50/50	0.6498
958812	AF2-172 E	1.0603	50/50	1.0603
999905	MARINGEN 2	0.3933	Adder	0.46
999906	PVILLEG 2	0.1646	Adder	0.19
NEWTON	NEWTON	0.1794	Confirmed LTF	0.1794
FARMERCITY	FARMERCITY	0.0093	Confirmed LTF	0.0093
GIBSON	GIBSON	0.0912	Confirmed LTF	0.0912
NY	NY	0.2394	Confirmed LTF	0.2394
PRAIRIE	PRAIRIE	0.4288	Confirmed LTF	0.4288
O-066	O-066	3.4339	Confirmed LTF	3.4339
COFFEEN	COFFEEN	0.0333	Confirmed LTF	0.0333
CHEOAH	CHEOAH	0.0801	Confirmed LTF	0.0801
EDWARDS	EDWARDS	0.0588	Confirmed LTF	0.0588
TILTON	TILTON	0.1058	Confirmed LTF	0.1058
G-007	G-007	0.4784	Confirmed LTF	0.4784
MADISON	MADISON	0.0020	Confirmed LTF	0.0020
CALDERWOOD	CALDERWOOD	0.0800	Confirmed LTF	0.0800
BLUEG	BLUEG	0.2899	Confirmed LTF	0.2899
TRIMBLE	TRIMBLE	0.0929	Confirmed LTF	0.0929
CATAWBA	CATAWBA	0.0543	Confirmed LTF	0.0543

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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
101514589	228503	MNOTLA 2	AE	228502	MNOTLA 1	AE	1	JC-P7-1-JCC-230-13	tower	311.0	135.52	151.63	DC	50.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206360	28O CRK C1	0.5733	50/50	0.5733
206361	28O CRK C2	0.3746	50/50	0.3746
227842	MARINGEN	0.0940	50/50	0.0940
227927	V4-067C	0.0205	50/50	0.0205
227928	V4-067E	0.2017	50/50	0.2017
228014	PVILLEG	0.0335	50/50	0.0335
228712	V2-041E	0.1220	Adder	0.14
228729	W2-030 C	0.0857	50/50	0.0857
228731	V3-036	0.1377	50/50	0.1377
902432	W2-030 E	0.8387	50/50	0.8387
924531	AB2-102 C	11.0485	Adder	13.0
924532	AB2-102 E	0.2455	Adder	0.29
924701	AB2-122 C	0.0871	50/50	0.0871
924702	AB2-122 E	0.1494	50/50	0.1494
930001	AB1-001 C	0.1278	50/50	0.1278
930002	AB1-001 E	0.2101	50/50	0.2101
933962	AD1-019 E	1.1320	50/50	1.1320
938423	AE1-061 BAT	1.8508	50/50	1.8508
938781	AE1-104 C O1	15.3547	50/50	15.3547
938782	AE1-104 E O1	39.2847	50/50	39.2847
939303	AE1-161 BAT	10.2115	50/50	10.2115
940161	AE2-000 C O1	23.0103	50/50	23.0103
940162	AE2-000 E O1	58.8753	50/50	58.8753
940361	AE2-020 C	10.7121	50/50	10.7121
940362	AE2-020 E	50.1549	50/50	50.1549
940371	AE2-021 C	10.7121	50/50	10.7121
940372	AE2-021 E	50.1549	50/50	50.1549
940381	AE2-022 C	6.2487	50/50	6.2487
940382	AE2-022 E	29.2571	50/50	29.2571
942101	AE2-222 C O1	12.9326	50/50	12.9326
942102	AE2-222 E O1	32.4874	50/50	32.4874
942381	AE2-251 C	33.9358	50/50	33.9358
942382	AE2-251 E	86.8322	50/50	86.8322
943732	AF1-041 E	0.3558	50/50	0.3558
944332	AF1-101 E O1	57.7213	50/50	57.7213
957221	AF2-016 C	20.0364	50/50	20.0364
957222	AF2-016 E	30.0546	50/50	30.0546
957251	AF2-019 C	0.6472	Adder	0.76
957252	AF2-019 E	0.9707	Adder	1.14
957271	AF2-021 C	0.8442	50/50	0.8442
957272	AF2-021 E	1.2664	50/50	1.2664

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957311	AF2-025 C	1.1722	50/50	1.1722
957312	AF2-025 E	1.7584	50/50	1.7584
999905	MARINGEN 2	0.5886	50/50	0.5886
999906	PVILLEG 2	0.2610	50/50	0.2610
NEWTON	NEWTON	0.0075	Confirmed LTF	0.0075
FARMERCITY	FARMERCITY	0.0004	Confirmed LTF	0.0004
GIBSON	GIBSON	0.0038	Confirmed LTF	0.0038
NY	NY	0.0166	Confirmed LTF	0.0166
PRAIRIE	PRAIRIE	0.0181	Confirmed LTF	0.0181
O-066	O-066	0.2285	Confirmed LTF	0.2285
COFFEEN	COFFEEN	0.0014	Confirmed LTF	0.0014
CHEOAH	CHEOAH	0.0035	Confirmed LTF	0.0035
EDWARDS	EDWARDS	0.0028	Confirmed LTF	0.0028
TILTON	TILTON	0.0050	Confirmed LTF	0.0050
G-007	G-007	0.0073	Confirmed LTF	0.0073
MADISON	MADISON	0.0020	Confirmed LTF	0.0020
CALDERWOOD	CALDERWOOD	0.0035	Confirmed LTF	0.0035
BLUEG	BLUEG	0.0122	Confirmed LTF	0.0122
TRIMBLE	TRIMBLE	0.0045	Confirmed LTF	0.0045
CATAWBA	CATAWBA	0.0021	Confirmed LTF	0.0021

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
AA1-060	Great Adventure 34.5kV	In Service
AA1-079	Emilie 230kV	In Service
AA2-048	Allenwood-Larrabee 34kV	Engineering and Procurement
AA2-069	Cartanza 230kV	Suspended
AA2-184	Atlantic-Red Bank 34kV	In Service
AB1-000	N/A	N/A
AB1-001	Absecon 12 kV	In Service
AB1-056	Indian River 230kV I	Engineering and Procurement
AB1-063	Locust St. 13kV	Partially in Service - Under Construction
AB1-116	Egg Harbor Road 12kV	In Service
AB1-119	Tansboro Road 12kV	In Service
AB1-137	Frankford 25kV	Engineering and Procurement
AB1-138	Navy 34.5kV	In Service
AB1-141	Church-Wye Mills 138 kV I	Engineering and Procurement
AB1-142	Church-Wye Mills 138 kV II	Engineering and Procurement
AB1-163	Glidden-Van Hiseville 34.5 kV	Engineering and Procurement
AB1-176	Price 25kV II	Active
AB2-014	Lakewood 230kV	Partially in Service - Under Construction
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
AB2-139	Raceway Mall 34.5kV	In Service
AB2-153	Church-Wye Mills 138 kV	Engineering and Procurement
AB2-172	Todd 69kV	Active
AB2-179	Townsend 138kV	Engineering and Procurement
AB2-180	Rockawalkin 69kV	Engineering and Procurement
AB2-185	Wye Mills 25kV	Active
AC1-010	Gloucester 26kV	Suspended
AC1-017	Levittown 13 kV	In Service
AC1-030	Cinnaminson 13kV	In Service
AC1-091	Cedar Creek 138kV I	Active

Queue Number	Project Name	Status
AC1-092	Cedar Creek 138kV II	Active
AC1-093	Cedar Creek 138kV III	Active
AC1-094	Cedar Creek 138kV IV	Active
AC1-190	East New Market 69kV	Active
AC1-207	Monroe 34.5kV	In Service
AC1-213	North Salisbury 25kV	Active
AC2-018	Rock Springs 500kV	In Service
AC2-023	Hebron 69kV	Active
AC2-050	Tabernacle 12kV	Active
AC2-185	Cedar Creek 138kV II	Active
AC2-186	Harrington 25kV	Active
AD1-019	Ontario 23 kV	Active
AD1-059	Lakewood 230 kV	In Service
AD1-097	Linwood 230 kV II	Active
AD1-113	Raritan River 230 kV	Suspended
AD2-027	Camden Switch 26 kV	In Service
AD2-042	Camden Switch 26 kV II	In Service
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
AE1-142	Manitou-Pleasant Plains 34.5 kV	Under Construction
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
AE1-238	Oceanview Wind 230 kV	Active
AE1-240	Carlls Corner-Sherman Avenue 69 kV	Active
AE2-000	N/A	N/A
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
AE2-024	Larrabee 230 kV I	Active
AE2-025	Larrabee 230 kV II	Active
AE2-056	Howell 12.47 kV Solar I	Engineering and Procurement
AE2-057	Jerseyville 12.47 kV Solar	Engineering and Procurement
AE2-061	Rock Springs 500 kV	In Service
AE2-064	Beaverbrook 13 kV	Under Construction
AE2-065	Romeoville 12 kV	Partially in Service - Under Construction
AE2-081	Howell 12.47 kV Solar II	Engineering and Procurement
AE2-082	Englishtown-Wyckoff 34.5 kV Solar	Active
AE2-093	Easton-Steele 138 kV	Active

Queue Number	Project Name	Status
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
AE2-272	Woodstown 12 kV	In Service
AE2-334	Clayton-Williamstown 69 kV	Active
AF1-007	Indian River 230 kV I	Active
AF1-015	Easton-Steele 138 kV	Active
AF1-023	Atlantic-Red Bank 34 kV II	In Service
AF1-027	Plumsted 537 Energy Storage (CIRs)	In Service
AF1-036	Carville 138 kV	Active
AF1-041	Absecon 12.47 kV	In Service
AF1-101	Oyster Creek 230 kV III	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
AF1-238	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
AF1-260	Allenwood-Larrabee 2 34.5 kV	In Service
AF1-261	Burlington 26 kV	Engineering and Procurement
AF1-262	Upper Pittsgrove 12 kV	Active
AF1-264	Runnemede 13 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
AF2-172	Newport 12 kV	Active
AF2-174	Tabernacle 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
AF2-248	Edgewood 12 kV I	Active
AF2-249	Edgewood 12 kV II	Active
AF2-250	Edgewood 12 kV III	Active
AF2-254	Cookstown-New Lisbon 34.5 kV	Active
AF2-313	Price 69 kV	Active
AF2-325	Jacktown 12 kV	Active

Queue Number	Project Name	Status
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
AF2-413	Raritan River 230 kV	Active
V1-021	Cape May County 12kV	In Service
V2-035	Pittsgrove	In Service
V2-041	Clayville 12kV	In Service
V2-046	Pilesgrove Township 12kV	In Service
V3-036	Ontario 23kV	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
W1-024	Manalapan 12.5kV	In Service
W1-032	Millhurst 12.5kV	In Service
W1-112	Holmdel	In Service
W1-113	Millstone 2	In Service
W1-119	Pemberton Township 1 34.5 kV	In Service
W1-120	Pemberton Township 2 34.5 kV	In Service
W1-124	Tinton Falls 34.5kV	In Service
W1-129	Cookstown 34.5kV	In Service
W1-130	Vine Road 12kV	In Service
W2-019	Wrightstown 34.5kV	In Service
W2-030	Egg Harbor Township	In Service
W2-039	Clayville 69kV	In Service
W2-078	Applegarth 12.5kV	In Service
W2-082	Fort Dix-McGuire 34.5kV	In Service
W3-079	Allenwood-Larabee 34.5kV	In Service
W4-025	Cookstown-Fort Dix 34.5kV	In Service
W4-060	Midland-Werner 34.5kV	In Service
X1-032	Costen 25kV	In Service
X1-037	Howell	In Service
X1-085	Hornerstown-Windsor 34kV	In Service
X3-008	Todd 69kV	Under Construction
X3-066	Church Hill 69kV	In Service
X4-005	Raritan River 230kV	In Service
X4-015	Cookstown-Fort Dix 34kV	In Service
X4-031	Bennett-Farmingdale 34kV	In Service
Y1-057	Barbadoes 34kV	Deactivated
Y1-065	Rock Springs 500kV	In Service
Y1-079	Wye Mills 69kV	In Service
Y1-080	Dorchester 12kV	In Service
Y2-051	Brick-Lane Mill 34.5kV	In Service
Y3-058	Rockawalkin 69kV	In Service
Z1-082	Lawnside 13kV	In Service
Z2-012	Weirwood-Eastville 69kV	In Service
Z2-076	Worcester South 25kV	In Service

Queue Number	Project Name	Status
Z2-077	Worcester North 25kV	In Service
Z2-083	Mickleton 230kV	In Service
Z2-102	Argonne-New Lisbon 34.5kV	In Service

11.9 Contingency Descriptions

Contingency Name	Contingency Definition
PS_P1-2_U-2299_LT	CONTINGENCY 'PS_P1-2_U-2299_LT' /* CAMDEN CUTBERTH DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219676 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219724 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
JC-P7-1-JCC-230-7A	CONTINGENCY 'JC-P7-1-JCC-230-7A' /* SMITHBURG - LARRABEE 230 LINES DISCONNECT BRANCH FROM BUS 206309 TO BUS 206294 CKT 1 DISCONNECT BRANCH FROM BUS 206309 TO BUS 206294 CKT 2 END
AE_P1-2 ORCH-CUMB	CONTINGENCY 'AE_P1-2 ORCH-CUMB' OPEN LINE FROM BUS 228002 TO BUS 228207 CIRCUIT 1 / END
PS_P7-1_V2274+P2242_LT	CONTINGENCY 'PS_P7-1_V2274+P2242_LT' /* EAGEL POINT - GLOUCESTER & DEPTFORD - GLOUCESTER DISCONNECT BUS 219757 /* DEPTFORD SECTION 2 TRIP LINE FROM BUS 219110 TO BUS 219128 CKT 1 CLOSE LINE FROM BUS 219255 TO BUS 219256 CKT Z /* DEPTFORD CLOSE LINE FROM BUS 219180 TO BUS 219181 CKT Z /* DEPTFORD DISCONNECT BUS 219760 /* EAGLE POINT SECTION 4 MOVE 8 MW LOAD FROM BUS 219180 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219181 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 MOVE 8 MW LOAD FROM BUS 219255 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219256 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 END

Contingency Name	Contingency Definition
PS_P2-3_CUTB_3-4_LT	CONTINGENCY 'PS_P2-3_CUTB_3-4_LT' DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219629 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
PS_P2-3_CUTB_1-4_LT	CONTINGENCY 'PS_P2-3_CUTB_1-4_LT' DISCONNECT BUS 219108 /* CUTBERTH SECTION 1 DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219629 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
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
AE_P4-2 AE28	CONTINGENCY 'AE_P4-2 AE28' /*ENGLAND TO MERION CITY BREAKER C DISCONNECT BRANCH FROM BUS 228110 TO BUS 228197 CKT 1 /*ENGLAND MERION 138 138 DISCONNECT BRANCH FROM BUS 228110 TO BUS 227905 CKT 1 /*ENGLAND #1 SCULL 138 138 END

Contingency Name	Contingency Definition
AE_P7-1 AE15TOWER	CONTINGENCY 'AE_P7-1 AE15TOWER' DISCONNECT BRANCH FROM BUS 227901 TO BUS 227949 CKT 1 /* DOR TO LEW 138 KV DISCONNECT BRANCH FROM BUS 228002 TO BUS 227900 CKT 1 /* ORCH TO CARD 230 KV 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
PS_P2-3_CUTB_1-2_LT	CONTINGENCY 'PS_P2-3_CUTB_1-2_LT' DISCONNECT BUS 219108 /* CUTHBERTH SECTION 1 DISCONNECT BUS 219753 /* CUTHBERTH SECTION 2 CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219629 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
JC-P1-2-JCC-230-018	CONTINGENCY 'JC-P1-2-JCC-230-018' /* LARRABEE - SMITHBURG (H2008) 230 KV DISCONNECT BRANCH FROM BUS 206309 TO BUS 206294 CKT 2 DISCONNECT BRANCH FROM BUS 200017 TO BUS 206309 CKT 4 /* SMITHBURG SMITHBURG 500 230 END
JC-P1-2-JCC-230-019	CONTINGENCY 'JC-P1-2-JCC-230-019' /* LEISURE VILLAGE - MANITOU (A2027) 230 KV DISCONNECT BRANCH FROM BUS 206295 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206277 CKT 7 END
JC-P1-2-JCC-230-002T	CONTINGENCY 'JC-P1-2-JCC-230-002T' /** OYSTER CREEK - CEDAR (S2045) 230 KV DISCONNECT BRANCH FROM BUS 206302 TO BUS 227955 CKT 1 /* 28OYSTER C 230 CEDAR 230 END

Contingency Name	Contingency Definition
JC-P1-2-JCC-230-017	CONTINGENCY 'JC-P1-2-JCC-230-017' /* FUTURE BREAKERS LARRABEE - SMITHBURG (D2004) 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 1 END
JC-P1-2-JCC-230-014	CONTINGENCY 'JC-P1-2-JCC-230-014' /* FUTURE BREAKERS LAKEWOOD - LARRABEE (Z2026) 230 KV & LAR BK 8 & 12 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206294 CKT 1 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 12 SET BUS 206294 LOAD TO 38 MW END
JC-P1-2-JCC-230-013	CONTINGENCY 'JC-P1-2-JCC-230-013' /* LAKEWOOD - LARRABEE (K2011) 230 KV DISCONNECT BRANCH FROM BUS 206323 TO BUS 206294 CKT 2 END
JC-P7-1-JCC-230-10A	CONTINGENCY 'JC-P7-1-JCC-230-10A' /* LAKEWOOD - LARRABEE 230 KV LINES DISCONNECT BRANCH FROM BUS 206323 TO BUS 206294 CKT 2 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206294 CKT 1 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206274 CKT 3 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 12 /* LARRABEE 12 FUTURE BREAKER AND A HALF SET BUS 206294 LOAD TO 38 MW /* LARRABEE 8 FUTURE BREAKER AND A HALF END
JC-P2-3-JCC-230-13A	CONTINGENCY 'JC-P2-3-JCC-230-13A' /* LARRABEE - SMITHBURG (D2004) & LAKEWOOD (Z2026) 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 1 /* LARRABEE-SMITHBURG (D2004) DISCONNECT BRANCH FROM BUS 206294 TO BUS 206323 CKT 2 /* LARRABEE-LAKEWOOD (Z2026) SET BUS 206294 LOAD TO 0 MW /* LARRABEE BK8 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 12 /* LARRABEE BK12 END
AE_P1-3 CARD 7 XFR	CONTINGENCY 'AE_P1-3 CARD 7 XFR' OPEN LINE FROM BUS 227900 TO BUS 227934 CIRCUIT 1 / END
AE_P1-2 BLE-ML-LEW2	CONTINGENCY 'AE_P1-2 BLE-ML-LEW2' DISCONNECT BUS 227904 / DISCONNECT BUS 227906 / DISCONNECT BUS 227930 / 227930 CIRCUIT 1 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / END

Contingency Name	Contingency Definition
AE_P1-2 CUMB-DENN	CONTINGENCY 'AE_P1-2 CUMB-DENN' OPEN LINE FROM BUS 228207 TO BUS 228213 CIRCUIT 1 / END
AE_P1-2 ORCHARD XF	CONTINGENCY 'AE_P1-2 ORCHARD XF' OPEN LINE FROM BUS 200063 TO BUS 228002 CIRCUIT 1 / END
JC-P2-3-JCC-230-15J	CONTINGENCY 'JC-P2-3-JCC-230-15J' /* LAKEWOOD-LARRABEE (K2011) & LARRABEE SE BUS 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206323 CKT 1 /* LARRABEE - LAKEWOOD (K2011) DISCONNECT BRANCH FROM BUS 206294 TO BUS 206274 CKT 4 /* LARRABEE BK4 REDUCE BUS 206294 SHUNT BY 100 PERCENT /* LARRABEE 2X 130MVAR CAPS END
AE_P7-1 AE3TOWER	CONTINGENCY 'AE_P7-1 AE3TOWER' DISCONNECT BRANCH FROM BUS 227900 TO BUS 227955 CKT 1 /* CARDIFF TO CEDAR 230 KV DISCONNECT BRANCH FROM BUS 227913 TO BUS 227902 CKT 1 /* CARDIFF TO LEWIS 138 KV END
JC-P2-3-JCC-230-15G	CONTINGENCY 'JC-P2-3-JCC-230-15G' /* LARRABEE-SMITHBURG (H2008) 230 KV & LARRABEE NW BUS 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 2 /* LARRABEE-SMITHBURG (H2008) REMOVE LOAD 7 FROM BUS 206294 /* LARRABEE BK7 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 9 /* LARRABEE BK9 END
JC-P2-3-JCC-230-15F	CONTINGENCY 'JC-P2-3-JCC-230-15F' /* LARRABEE - SMITHBURG (D2004) & LARRABEE NW BUS 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 1 /* LARRABEE-SMITHBURG (D2004) REMOVE LOAD 7 FROM BUS 206294 /* LARRABEE BK7 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 9 /* LARRABEE BK9 END
JC-P2-3-JCC-230-15A	CONTINGENCY 'JC-P2-3-JCC-230-15A' /* LAKEWOOD-LARRABEE (K2011) & LARRABEE-SMITHBURG (H2008) 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206323 CKT 1 /* LARRABEE - LAKEWOOD (K2011) DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 2 /* LARRABEE-SMITHBURG (H2008) END

Contingency Name	Contingency Definition
PS_P1-2_2310	CONTINGENCY 'PS_P1-2_2310' /* NEW FREEDOM TO CARDIFF TIELINE TRIP LINE FROM BUS 219100 TO BUS 227900 CKT 1 /* NEW FREEDOM TO CARDIFF END
JC-P7-1-JCC-230-12	CONTINGENCY 'JC-P7-1-JCC-230-12' /* LEISURE VILLAGE-MANITOU A2027 & C2029 DISCONNECT BRANCH FROM BUS 206295 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206277 CKT 7 DISCONNECT BRANCH FROM BUS 206296 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206296 TO BUS 206276 CKT 3 SET BUS 206296 LOAD TO 0 MW END
JC-P7-1-JCC-230-13	CONTINGENCY 'JC-P7-1-JCC-230-13' /* MANITOU-OYSTER CREEK 230 LINES & OYSTER GEN DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 2 DISCONNECT BRANCH FROM BUS 206302 TO BUS 206325 CKT 1 END
AE_P4-2 AE33	CONTINGENCY 'AE_P4-2 AE33' /*LEWIS TO CARDIFF BREAKER V DISCONNECT BRANCH FROM BUS 227902 TO BUS 227913 CKT 1 /*LEWIS CARDIFF 138 138 DISCONNECT BRANCH FROM BUS 227902 TO BUS 227903 CKT 1 /*LEWIS MILL #1 138 138 DISCONNECT BRANCH FROM BUS 227902 TO BUS 227918 CKT 1 /*LEWIS 138 69 T1 END
PJM_P4_86	CONTINGENCY 'PJM_P4_86' /* WINDSOR BREAKER SALEMTAP DISCONNECT BRANCH FROM BUS 200012 TO BUS 200063 CKT 1 /* NEW FREE SALEMTAP 500500 DISCONNECT BRANCH FROM BUS 200063 TO BUS 200014 CKT 1 /* SALEMTAP SALEM 500500 DISCONNECT BRANCH FROM BUS 200063 TO BUS 228002 CKT 1 /* SALEMTAP CHRCHTWNTAP XF 500230 END
PS_P1-2_D-2282	CONTINGENCY 'PS_P1-2_D-2282' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT 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

Contingency Name	Contingency Definition
PS_P1-2_Z-2305_LT	CONTINGENCY 'PS_P1-2_Z-2305_LT' /* CAMDEN TO CUTHBERT DISCONNECT BUS 219108 /* CUTHBERT SECTION 1 CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTHBERT MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219724 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
AE_P1-2 CARD-LEW2	CONTINGENCY 'AE_P1-2 CARD-LEW2' OPEN LINE FROM BUS 227934 TO BUS 227945 CIRCUIT 1 / END
AE_P1-2 BLE-SC-ML2	CONTINGENCY 'AE_P1-2 BLE-SC-ML2' DISCONNECT BUS 227906 / DISCONNECT BUS 227930 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / 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
JC-P1-2-JCC-230-022	CONTINGENCY 'JC-P1-2-JCC-230-022' /* MANITOU - OYSTER CREEK (O1019) 230 KV DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 2 END

Contingency Name	Contingency Definition
JC-P1-2-JCC-230-021	CONTINGENCY 'JC-P1-2-JCC-230-021' /* MANITOU - OYSTER CREEK (N1028) 230 KV DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 1 END
JC-P1-2-JCC-230-020	CONTINGENCY 'JC-P1-2-JCC-230-020' /* LEISURE VILLAGE - MANITOU (C2029) 230 KV DISCONNECT BRANCH FROM BUS 206296 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206296 TO BUS 206276 CKT 3 SET BUS 206296 LOAD TO 0 MW END
Base Case	
AE_P1-3 CARD 6 XFR	CONTINGENCY 'AE_P1-3 CARD 6 XFR' OPEN LINE FROM BUS 227900 TO BUS 227913 CIRCUIT 1 / END
AE_P7-1 W2275_O2241	CONTINGENCY 'AE_P7-1 W2275_O2241' /* DOUBLE CIRCUIT TOWER W-2275(MICKLETON - DEPTFORD) AND O-2241(MICKLETON - THOROFARE) DISCONNECT BUS 219762 DISCONNECT BUS 219121 CLOSE LINE FROM BUS 219211 TO BUS 219212 CKT Z /*THOROFARE END
PS_P2-3_CUTB_2-3_LT	CONTINGENCY 'PS_P2-3_CUTB_2-3_LT' DISCONNECT BUS 219753 /* CUTHBERTH SECTION 2 DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219629 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END

Contingency Name	Contingency Definition
AE_P4-2 AE7	CONTINGENCY 'AE_P4-2 AE7' /*CARDIFF TO NEW FREEDOM BREAKER V DISCONNECT BRANCH FROM BUS 219100 TO BUS 227900 CKT 1 /*NEW FREEDOM TO CARDIFF 230 230 DISCONNECT BRANCH FROM BUS 227900 TO BUS 227910 CKT 1 /*CARDIFF CARDIFF 230 69 T1 END
AE_P4-2 AE6	CONTINGENCY 'AE_P4-2 AE6' /*CARDIFF TO NEW FREEDOM BREAKER W DISCONNECT BRANCH FROM BUS 219100 TO BUS 227900 CKT 1 /*NEW FREEDOM TO CARDIFF 230 230 DISCONNECT BRANCH FROM BUS 227900 TO BUS 227911 CKT 1 /*CARDIFF CARDIFF 230 69 T2 END
AE_P4-2 AE9	CONTINGENCY 'AE_P4-2 AE9' /*CARDIFF TO ORCHARD BREAKER NEW1 DISCONNECT BRANCH FROM BUS 228002 TO BUS 227900 CKT 1 /* CARDIFF TO ORCHARD 230 230 DISCONNECT BRANCH FROM BUS 227900 TO BUS 227934 CKT 1 /*CARDIFF CARDIFF 230 138 T7 END
AE_P1-2 CARD-CEDAR	CONTINGENCY 'AE_P1-2 CARD-CEDAR' OPEN LINE FROM BUS 227900 TO BUS 227955 CIRCUIT 1 / END
PS_P1-2_C-2308	CONTINGENCY 'PS_P1-2_C-2308' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219753 /* CUTHBERTH SECTOIN 2 CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT END
JC-P7-1-JCC-230-11A	CONTINGENCY 'JC-P7-1-JCC-230-11A' /* LAKEWOOD - LEISURE V 230 KV LINES DISCONNECT BRANCH FROM BUS 206323 TO BUS 206295 CKT 1 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206296 CKT 1 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206282 CKT 6 DISCONNECT BRANCH FROM BUS 206282 TO BUS 206999 CKT 1 SET BUS 206295 LOAD TO 0 MW DISCONNECT BUS 206999 DISCONNECT BUS 207110 DISCONNECT BUS 207010 DISCONNECT BUS 207111 END

Contingency Name	Contingency Definition
JC-P2-3-JCC-230-11	CONTINGENCY 'JC-P2-3-JCC-230-11' /* LEISURE VILLAGE - MANITOU & MANITOU - OYSTER CRK 230 KV DISCONNECT BRANCH FROM BUS 206295 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 2 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206277 CKT 7 END
JC-P2-3-JCC-230-12	CONTINGENCY 'JC-P2-3-JCC-230-12' /* MANITOU - LEISURE VILLAGE (C2029) & OYSTER CK (N1028) 230 KV DISCONNECT BRANCH FROM BUS 206323 TO BUS 206296 CKT 1 DISCONNECT BRANCH FROM BUS 206296 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206296 TO BUS 206276 CKT 3 SET BUS 206296 LOAD TO 0 MW DISCONNECT BUS 206296 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 1 END
AE_P4-2 AE46	CONTINGENCY 'AE_P4-2 AE46' /*ORCHARD 230 BUS BREAKER D DISCONNECT BRANCH FROM BUS 228002 TO BUS 228310 CKT 1 /* ORCHARD TO CHURCHTOWN 230 230 DISCONNECT BRANCH FROM BUS 200063 TO BUS 228002 CKT 1 /*ORCHARD ORCHARD 500 230 T1 END
AE_P4-2 AE45	CONTINGENCY 'AE_P4-2 AE45' /*ORCHARD 230 BUS BREAKER E DISCONNECT BRANCH FROM BUS 228002 TO BUS 227900 CKT 1 /* ORCHARD TO CARDIFF 230 230 DISCONNECT BRANCH FROM BUS 200063 TO BUS 228002 CKT 1 /*ORCHARD ORCHARD 500 230 T1 END
JC-P2-3-JCC-230-18A	CONTINGENCY 'JC-P2-3-JCC-230-18A' /* OYSTER CRK-MANITOU & MANITOU-WHITINGS 230 KV DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206319 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206277 CKT 7 DISCONNECT BRANCH FROM BUS 206319 TO BUS 206281 CKT 4 END
AE_P1-2 BLE-SC-ML1	CONTINGENCY 'AE_P1-2 BLE-SC-ML1' DISCONNECT BUS 227905 / DISCONNECT BUS 227929 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / END
AE_P1-2 LEWIS #1-LEWIS #3	CONTINGENCY 'AE_P1-2 LEWIS #1-LEWIS #3' DISCONNECT BRANCH FROM BUS 227902 TO BUS 227949 CKT 1 END

Contingency Name	Contingency Definition
PS_P7-1_R2244+M2213	CONTINGENCY 'PS_P7-1_R2244+M2213' TRIP LINE FROM BUS 219100 TO BUS 227900 CKT 1 /* NEW FREEDOM TO CARDIFF TRIP LINE FROM BUS 219100 TO BUS 228600 CKT 1 /* NEW FREEDOM TO SICKLER END

12 Light Load Analysis

The Queue Project AF2-016 was evaluated as a 300 MW injection at the Lewis 138 kV substation in the AEC area. Project AF2-016 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-016 was studied with a commercial probability of 100.0 %. Potential network impacts were as follows:

12.1 Light Load Deliverability

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

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
139740731	206302	28OYSTER C	230.0	JCP&L	227955	CEDAR	230.0	AE	1	Base Case	single	464.0	94.1	106.66	AC	60.13
99831318	213922	RICHMOND	230.0	PECO	214012	WANEETA 3	230.0	PECO	1	Base Case	single	760.0	98.79	105.39	AC	52.03
139740228	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	PS_P1-2_2310	single	805.0	98.24	108.13	AC	80.33
139740964	227900	CARDIFF	230.0	AE	227934	CARDIFF2	138.0	AE	1	AE_P1-2 CARD-LEW1	single	425.0	89.02	114.74	AC	105.89
139740965	227900	CARDIFF	230.0	AE	227934	CARDIFF2	138.0	AE	1	AE_P1-3 CARD 6 XFR	single	425.0	89.01	114.73	AC	105.89
170292636	227900	CARDIFF	230.0	AE	227913	CARDIFF	138.0	AE	1	AE_P1-2 CARD-LEW2	single	478.0	80.43	103.7	AC	107.83
170292637	227900	CARDIFF	230.0	AE	227913	CARDIFF	138.0	AE	1	AE_P1-3 CARD 7 XFR	single	478.0	80.43	103.69	AC	107.83
170292537	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	PS_P1-2_2310	single	478.0	66.81	113.16	AC	227.88
170292540	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P1-2 CARD-CEDAR	single	478.0	64.21	111.41	AC	233.31
139740939	227918	LEWIS #1	69.0	AE	227948	LEWIS #3	69.0	AE	1	AE_P1-2 LEWIS #1-LEWIS #3	single	166.0	63.26	129.99	AC	114.53
139741052	227945	LEWIS #2	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P1-2 CARD-LEW1	single	286.799987793	85.4	141.99	AC	165.54
139741053	227945	LEWIS #2	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P1-3 CARD 6 XFR	single	286.799987793	85.39	141.98	AC	165.54
170292380	227948	LEWIS #3	69.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P1-2 LEWIS #1-LEWIS #3	single	279.0	59.95	132.66	AC	201.44
139739933	228111	MDLE TP	138.0	AE	228107	CORSON 2	138.0	AE	1	AE_P1-2 ENG-MERION	single	315.0	91.66	104.95	AC	42.63
170292600	228256	SHRMAN#1	69.0	AE	945730	AF1-238 TAP	69.0	AE	1	AE_P1-2 CNT-V-BUT	single	132.0	99.93	104.26	AC	6.98

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
170292477	228503	MNOTLA 2	138.0	AE	228502	MNOTLA 1	138.0	AE	1	PS_P1-2_2310	single	311.0	98.66	116.21	AC	54.69

12.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99005894	206302	28OYSTER C	230.0	JCP&L	227955	CEDAR	230.0	AE	1	AE_P4-2 AE46	breaker	564.0	85.52	100.29	AC	82.57
99007250	206302	28OYSTER C	230.0	JCP&L	227955	CEDAR	230.0	AE	1	JC-P7-1-JCC-230-10A	tower	564.0	95.65	103.8	AC	47.1
17009795	206302	28OYSTER C	230.0	JCP&L	227955	CEDAR	230.0	AE	1	JC-P7-1-JCC-230-7A	tower	564.0	94.32	103.91	AC	55.76
99831002	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	AE_P4-2 AE7	breaker	805.0	99.09	108.82	AC	79.21
99831003	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	AE_P4-2 AE6	breaker	805.0	99.07	108.81	AC	79.23
170191807	227900	CARDIFF	230.0	AE	227913	CARDIFF	138.0	AE	1	AE_P4-2 AE9	breaker	478.0	97.85	119.1	AC	98.94
153107351	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P4-2 AE7	breaker	478.0	66.61	113.13	AC	228.71
153107352	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P4-2 AE6	breaker	478.0	66.58	113.09	AC	228.69
170097860	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	PS_P7-1_R2244+M2213	tower	478.0	66.63	112.96	AC	227.93
101513484	227913	CARDIFF	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P4-2 AE9	breaker	478.0	93.67	113.97	AC	98.94
101514637	227934	CARDIFF2	138.0	AE	227945	LEWIS #2	138.0	AE	1	AE_P7-1 AE3TOWER	tower	478.0	96.79	117.08	AC	98.33
101513415	227945	LEWIS #2	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P4-2 AE33	breaker	286.799987793	68.51	141.07	AC	213.58
101513489	228106	CORSON 1	138.0	AE	228185	CORSON #1	69.0	AE	1	AE_P4-2 AE16	breaker	168.0	90.91	102.47	AC	22.83
170191854	228226	SHRMAN #2	69.0	AE	940000	AE1-240 TAP	69.0	AE	1	AE_P4-2 AE46	breaker	93.0	95.5	103.97	AC	10.31
161039504	228503	MNOTLA 2	138.0	AE	228502	MNOTLA 1	138.0	AE	1	PS_P7-1_R2244+M2213	tower	311.0	98.58	116.21	AC	54.67
170191852	940000	AE1-240 TAP	69.0	AE	228252	CRLS CR2	69.0	AE	1	AE_P4-2 AE46	breaker	93.0	95.71	104.14	AC	10.31

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
99005834	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	2	JC-P2-3-JCC-230-15F	breaker	813.0	118.89	121.82	AC	27.07
99005839	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	1	JC-P2-3-JCC-230-15G	breaker	817.0	118.31	121.23	AC	27.07
99005840	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	1	JC-P2-3-JCC-230-15A	breaker	817.0	112.39	115.21	AC	26.44
139739985	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	2	JC-P1-2-JCC-230-017	single	813.0	118.45	121.82	AC	27.07
139740187	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	1	JC-P1-2-JCC-230-018	single	817.0	109.52	112.55	AC	24.48
139740273	206295	28LEISUR D	230.0	JCP&L	206323	28LAKEWOOD	230.0	JCP&L	1	JC-P1-2-JCC-230-020	single	869.0	104.11	108.58	AC	41.15
139740275	206295	28LEISUR D	230.0	JCP&L	206323	28LAKEWOOD	230.0	JCP&L	1	JC-P1-2-JCC-230-015	single	869.0	102.83	107.43	AC	41.09
139740161	206296	28LEISUR U	230.0	JCP&L	206323	28LAKEWOOD	230.0	JCP&L	1	JC-P1-2-JCC-230-019	single	817.0	114.6	119.5	AC	40.94
139740163	206296	28LEISUR U	230.0	JCP&L	206323	28LAKEWOOD	230.0	JCP&L	1	JC-P1-2-JCC-230-016	single	817.0	111.65	116.4	AC	41.14
99007216	206297	28MANITOU	230.0	JCP&L	206319	28WHITINGS	230.0	JCP&L	1	JC-P7-1-JCC-230-12	tower	817.0	129.37	134.79	AC	42.4
99007217	206297	28MANITOU	230.0	JCP&L	206319	28WHITINGS	230.0	JCP&L	1	JC-P7-1-JCC-230-10A	tower	817.0	123.97	128.98	AC	39.63
139740051	206297	28MANITOU	230.0	JCP&L	206296	28LEISUR U	230.0	JCP&L	1	JC-P1-2-JCC-230-019	single	817.0	121.5	126.5	AC	41.55
139740053	206297	28MANITOU	230.0	JCP&L	206296	28LEISUR U	230.0	JCP&L	1	JC-P1-2-JCC-230-016	single	817.0	120.85	125.87	AC	41.54
139740061	206297	28MANITOU	230.0	JCP&L	206295	28LEISUR D	230.0	JCP&L	1	JC-P1-2-JCC-230-020	single	817.0	121.18	126.21	AC	41.55
139740063	206297	28MANITOU	230.0	JCP&L	206295	28LEISUR D	230.0	JCP&L	1	JC-P1-2-JCC-230-015	single	817.0	113.67	118.49	AC	40.3
139739794	206302	28OYSTERC	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	1	JC-P1-2-JCC-230-022	single	817.0	182.17	188.53	AC	55.08
139739796	206302	28OYSTERC	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	1	Base Case	single	650.0	121.23	125.72	AC	29.73
139739806	206302	28OYSTERC	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	2	JC-P1-2-JCC-230-021	single	869.0	171.27	177.27	AC	55.09
139739808	206302	28OYSTERC	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	2	Base Case	single	709.0	111.27	115.39	AC	29.77
99005799	206314	28REDOAKA	230.0	JCP&L	206305	28RAR RVR	230.0	JCP&L	1	JC-P2-3-JCC-230-26B	breaker	869.0	118.55	120.33	AC	17.94
99005800	206314	28REDOAKA	230.0	JCP&L	206305	28RAR RVR	230.0	JCP&L	1	JC-P2-3-JCC-230-026A	breaker	869.0	114.43	116.26	AC	18.09
109159692	206314	28REDOAKA	230.0	JCP&L	206305	28RAR RVR	230.0	JCP&L	1	JC-P1-2-JCC-230-027	single	869.0	114.75	116.73	AC	17.97
99005789	206315	28REDOAKB	230.0	JCP&L	206305	28RAR RVR	230.0	JCP&L	1	JC-P2-3-JCC-230-26D	breaker	869.0	119.47	121.24	AC	17.83
99005790	206315	28REDOAKB	230.0	JCP&L	206305	28RAR RVR	230.0	JCP&L	1	JC-P2-3-JCC-230-026C	breaker	869.0	116.03	117.8	AC	17.98
109159674	206315	28REDOAKB	230.0	JCP&L	206305	28RAR RVR	230.0	JCP&L	1	JC-P1-2-JCC-230-028	single	869.0	115.74	117.7	AC	17.85
99006021	206316	28WINDSOR	230.0	JCP&L	219752	CLRKSVLL_1	230.0	PSE&G	1	PJM500_PS_P2-3_DEAN5_5-6	breaker	813.0	101.07	103.06	AC	18.53
99006022	206316	28WINDSOR	230.0	JCP&L	219752	CLRKSVLL_1	230.0	PSE&G	1	PJM_P4_P484B	breaker	813.0	101.07	103.05	AC	18.53
139740359	206316	28WINDSOR	230.0	JCP&L	219752	CLRKSVLL_1	230.0	PSE&G	1	PJM500_PS_P1-2_5022	single	813.0	102.79	105.09	AC	18.56

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
99007234	206318	28VANHISVL	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	107.21	112.37	AC	40.47
99007235	206318	28VANHISVL	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	104.5	109.79	AC	38.51
99007247	206319	28WHITINGS	230.0	JCP&L	206720	28MANCHSTR	230.0	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	110.64	115.69	AC	39.69
99007248	206319	28WHITINGS	230.0	JCP&L	206720	28MANCHSTR	230.0	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	113.85	119.14	AC	41.9
139739923	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	2	JC-P1-2-JCC-230-014	single	817.0	130.63	135.97	AC	43.14
139740034	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	1	JC-P1-2-JCC-230-013	single	869.0	123.15	128.0	AC	43.14
99005985	206326	28EWINDSR	230.0	JCP&L	206316	28WINDSOR	230.0	JCP&L	1	PJM500_PS_P2-3_DEAN5_5-6	breaker	869.0	100.51	102.36	AC	18.39
99005986	206326	28EWINDSR	230.0	JCP&L	206316	28WINDSOR	230.0	JCP&L	1	PJM_P4_P484B	breaker	869.0	100.5	102.35	AC	18.39
139740490	206326	28EWINDSR	230.0	JCP&L	206316	28WINDSOR	230.0	JCP&L	1	PJM500_PS_P1-2_5022	single	869.0	102.19	104.35	AC	18.41
99005928	206410	28R11RINGB	230.0	JCP&L	206315	28REDOAKB	230.0	JCP&L	1	JC-P2-3-JCC-230-26D	breaker	869.0	105.65	107.49	AC	18.27
99005929	206410	28R11RINGB	230.0	JCP&L	206315	28REDOAKB	230.0	JCP&L	1	JC-P2-3-JCC-230-026C	breaker	869.0	101.66	103.47	AC	18.42
139740404	206410	28R11RINGB	230.0	JCP&L	206315	28REDOAKB	230.0	JCP&L	1	JC-P1-2-JCC-230-028	single	869.0	101.86	103.89	AC	18.3
99005899	206411	28R11RINGA	230.0	JCP&L	206314	28REDOAKA	230.0	JCP&L	1	JC-P2-3-JCC-230-26B	breaker	869.0	107.55	109.34	AC	18.32
99005900	206411	28R11RINGA	230.0	JCP&L	206314	28REDOAKA	230.0	JCP&L	1	JC-P2-3-JCC-230-026A	breaker	869.0	103.58	105.42	AC	18.47
139740357	206411	28R11RINGA	230.0	JCP&L	206314	28REDOAKA	230.0	JCP&L	1	JC-P1-2-JCC-230-027	single	869.0	104.01	105.98	AC	18.34
99007254	206720	28MANCHSTR	230.0	JCP&L	206318	28VANHISVL	230.0	JCP&L	1	JC-P7-1-JCC-230-10A	tower	869.0	109.58	114.88	AC	39.69
99007255	206720	28MANCHSTR	230.0	JCP&L	206318	28VANHISVL	230.0	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	112.77	118.29	AC	41.9
99830955	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	AE_P4-2 AE46	breaker	692.0	157.88	174.78	AC	116.62
99830957	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	AE_P4-2 AE9	breaker	692.0	155.39	168.16	AC	89.9
99830960	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	AE_P4-2 AE6	breaker	805.0	117.25	125.93	DC	69.81
99830961	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	AE_P4-2 AE7	breaker	805.0	117.27	125.94	DC	69.8
99832014	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	JC-P7-1-JCC-230-13	tower	692.0	196.25	212.05	AC	102.33
99832016	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	AE_P7-1 AE15TOWER	tower	692.0	167.42	184.65	AC	120.05
99832039	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	JC-P7-1-JCC-230-13	tower	805.0	109.87	118.88	AC	66.94
139739816	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	AE_P1-2 ORCH-CARD	single	692.0	151.8	165.99	AC	99.6
139739819	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	JC-P1-2-JCC-230-002T	single	692.0	140.52	155.69	AC	104.9
139740017	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	PS_P1-2_2310	single	805.0	113.71	122.64	AC	70.64
139740019	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	Base Case	single	650.0	109.95	117.57	AC	47.66
170097809	227900	CARDIFF	230.0	AE	227934	CARDIFF2	138.0	AE	1	AE_P7-1 AE3TOWER	tower	425.0	113.96	137.85	AC	98.33
101514594	227945	LEWIS #2	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P7-1 AE3TOWER	tower	286.799987793	116.03	170.97	AC	159.8
99005749	227955	CEDAR	230.0	AE	206302	28OYSTERC	230.0	JCP&L	1	AE_P4-2 AE7	breaker	564.0	165.84	180.74	DC	84.05
99005750	227955	CEDAR	230.0	AE	206302	28OYSTERC	230.0	JCP&L	1	AE_P4-2 AE6	breaker	564.0	165.81	180.72	DC	84.05

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
109159563	227955	CEDAR	230.0	AE	206302	28OYSTER C	230.0	JCP&L	1	Base Case	single	464.0	149.51	162.43	AC	60.13
139739785	227955	CEDAR	230.0	AE	206302	28OYSTER C	230.0	JCP&L	1	PS_P1-2_2310	single	564.0	159.06	174.16	AC	84.54
170191864	228256	SHRMAN#1	69.0	AE	945730	AF1-238 TAP	69.0	AE	1	AE_P4-2 AE46	breaker	132.0	103.91	109.64	AC	8.89
101514589	228503	MNOTLA 2	138.0	AE	228502	MNOTLA 1	138.0	AE	1	JC-P7-1-JCC-230-13	tower	311.0	114.84	131.55	AC	50.1

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.

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
99006322	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	2	JC-P1-2-JCC-230-017	operation	813.0	117.77	120.7	AC	27.07
99006416	206294	28LARRABEE	230.0	JCP&L	206309	28SMITHBRG	230.0	JCP&L	1	JC-P1-2-JCC-230-018	operation	817.0	106.67	109.26	AC	24.48
99006502	206295	28LEISUR D	230.0	JCP&L	206323	28LAKEWOOD	230.0	JCP&L	1	JC-P1-2-JCC-230-020	operation	869.0	103.89	108.36	AC	41.15
99006400	206296	28LEISUR U	230.0	JCP&L	206323	28LAKEWOOD	230.0	JCP&L	1	JC-P1-2-JCC-230-019	operation	817.0	114.36	119.29	AC	40.94
99006316	206297	28MANITOU	230.0	JCP&L	206296	28LEISUR U	230.0	JCP&L	1	JC-P1-2-JCC-230-019	operation	817.0	121.26	126.26	AC	41.55
99006327	206297	28MANITOU	230.0	JCP&L	206295	28LEISUR D	230.0	JCP&L	1	JC-P1-2-JCC-230-020	operation	817.0	120.94	125.98	AC	41.55
99006180	206302	28OYSTERC	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	1	JC-P1-2-JCC-230-022	operation	817.0	181.8	188.16	AC	55.08
99006181	206302	28OYSTERC	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	1	Base Case	operation	650.0	120.66	124.53	AC	29.73
99006185	206302	28OYSTERC	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	2	JC-P1-2-JCC-230-021	operation	869.0	170.94	176.93	AC	55.09
99006187	206302	28OYSTERC	230.0	JCP&L	206297	28MANITOU	230.0	JCP&L	2	Base Case	operation	709.0	110.75	114.31	AC	29.77
99006301	206314	28REDOAKA	230.0	JCP&L	206305	28RAR RVR	230.0	JCP&L	1	JC-P1-2-JCC-230-027	operation	869.0	112.07	113.89	AC	17.97
99006285	206315	28REDOAKB	230.0	JCP&L	206305	28RAR RVR	230.0	JCP&L	1	JC-P1-2-JCC-230-028	operation	869.0	113.57	115.33	AC	17.85
139740360	206316	28WINDSOR	230.0	JCP&L	219752	CLRKSVLL_1	230.0	PSE&G	1	PJM500_PS_P1-2_5022	operation	813.0	99.83	101.82	AC	18.56
99006220	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	2	JC-P1-2-JCC-230-014	operation	817.0	130.42	135.58	AC	43.14
99006245	206323	28LAKEWOOD	230.0	JCP&L	206294	28LARRABEE	230.0	JCP&L	1	JC-P1-2-JCC-230-013	operation	869.0	122.95	127.8	AC	43.14
99006507	206326	28E WINDSR	230.0	JCP&L	206316	28WINDSOR	230.0	JCP&L	1	PJM500_PS_P1-2_5022	operation	869.0	99.37	101.22	AC	18.41
99006504	206410	28R11RINGB	230.0	JCP&L	206315	28REDOAKB	230.0	JCP&L	1	JC-P1-2-JCC-230-028	operation	869.0	99.27	101.07	AC	18.3
99006491	206411	28R11RINGA	230.0	JCP&L	206314	28REDOAKA	230.0	JCP&L	1	JC-P1-2-JCC-230-027	operation	869.0	101.2	103.04	AC	18.34
99831313	213922	RICHMOND	230.0	PECO	214012	WANEETA3	230.0	PECO	1	Base Case	operation	760.0	96.66	111.84	AC	52.03
99831266	227900	CARDIFF	230.0	AE	219100	NEWFRDM	230.0	PSE&G	1	AE_P1-2 ORCH-CARD	operation	692.0	150.59	164.7	AC	99.6
99831270	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	PS_P1-2_2310	operation	805.0	116.58	125.35	DC	70.64
99831271	227900	CARDIFF	230.0	AE	227955	CEDAR	230.0	AE	1	Base Case	operation	650.0	109.38	116.86	AC	47.66
99831350	227900	CARDIFF	230.0	AE	228002	ORCHARD	230.0	AE	1	PS_P1-2_2310	operation	805.0	98.28	108.16	AC	80.33
139740966	227900	CARDIFF	230.0	AE	227934	CARDIFF2	138.0	AE	1	AE_P1-3 CARD 6 XFR	operation	425.0	85.3	110.93	AC	105.89
170292638	227900	CARDIFF	230.0	AE	227913	CARDIFF	138.0	AE	1	AE_P1-2 CARD-LEW2	operation	478.0	77.07	100.27	AC	107.83
170292639	227900	CARDIFF	230.0	AE	227913	CARDIFF	138.0	AE	1	AE_P1-3 CARD 7 XFR	operation	478.0	77.07	100.26	AC	107.83
170292538	227902	LEWIS #1	138.0	AE	227949	LEWIS #3	138.0	AE	1	PS_P1-2_2310	operation	478.0	66.58	112.86	AC	227.88

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
101514057	227918	LEWIS #1	69.0	AE	227948	LEWIS #3	69.0	AE	1	AE_P1-2 LEWIS #1-LEWIS #3	operation	166.0	60.42	125.52	AC	114.53
101513880	227945	LEWIS #2	138.0	AE	227902	LEWIS #1	138.0	AE	1	AE_P1-3 CARD 6 XFR	operation	286.799987793	77.69	134.62	AC	165.54
101513972	227948	LEWIS #3	69.0	AE	227949	LEWIS #3	138.0	AE	1	AE_P1-2 LEWIS #1-LEWIS #3	operation	279.0	54.78	124.79	AC	201.44
99006175	227955	CEDAR	230.0	AE	206302	28OYSTERC	230.0	JCP&L	1	PS_P1-2_2310	operation	564.0	165.24	180.23	DC	84.54
99006176	227955	CEDAR	230.0	AE	206302	28OYSTERC	230.0	JCP&L	1	Base Case	operation	464.0	148.69	161.51	AC	60.13
101514015	228256	SHRMAN#1	69.0	AE	945730	AF1-238 TAP	69.0	AE	1	AE_P1-2 CNT-V-BUT	operation	132.0	99.89	104.26	AC	6.98
161039109	228503	MNOTLA 2	138.0	AE	228502	MNOTLA 1	138.0	AE	1	PS_P1-2_2310	operation	311.0	98.66	116.21	AC	54.69

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

12.5 System Reinforcements

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AF2-016	Upgrade Number
170292617,99831049,998310488,99830811	6	CAMDEN 230.0 kV - RICHRE29 230.0 kV Ckt 1	Please see reinforcement in Summer Peak Analysis.	$0		
139739985,99005834	26	28LARRABEE 230.0 kV - 28SMITHBRG 230.0 kV Ckt 2	Please see reinforcement in Summer Peak Analysis.	$0		
139740189,139740187,99005840,99005839	1	28LARRABEE 230.0 kV - 28SMITHBRG 230.0 kV Ckt 1	Please see reinforcement in Summer Peak Analysis.	$0		

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>170097809,139740964,139740965</td><td>8</td><td>CARDIFF 230.0 kV - CARDIFF2 138.0 kV Ckt 1</td><td>ProjectId: n7056
Description: To mitigate the (ACE) Cardiff 230/138 kV transformer (from bus 227900 to bus 227934 ckt 1) overload, will require upgrading 138 kV CB 'KM' and a CT to 3000 amps.
Type : FAC
Total Cost : $336,000
Time Estimate : 9 to 12 Months
Ratings : 422.0/504.0/549.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>23.75</td><td>100.00%</td><td>$336,000</td></tr></table>
Project Id: N7219
Description: To mitigate the (ACE) Cardiff 230/138 kV transformer (from bus 227900 to bus 227934 ckt 1) overload, will require replacing the transformer with a larger unit.
Type : FAC
Total Cost : $5,000,000
Time Estimate : 24-48 Months
Ratings : 532.0/600.0/600.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>58.11</td><td>100.00%</td><td>$5,000,000</td></tr></table></td><td>$5,336,000</td><td>$5,336,000</td><td>N7056
N7219</td></tr>
<tr><td>170292380</td><td>13</td><td>LEWIS #3 69.0 kV - LEWIS #3 138.0 kV Ckt 1</td><td>Project Id: n7221
Description: To mitigate the Lewis 138 /69 kV T3 overload, T3 will be upgraded to 336 MVA with associated equipment upgrades.
Type : FAC
Total Cost : $5,400,000
Time Estimate : 30-48 Months
Ratings : 358.0/419.0/476.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>90.48</td><td>100.00%</td><td>$5,400,000</td></tr></table></td><td>$5,400,000</td><td>$5,400,000</td><td>N7221</td></tr>
<tr><td>139740163,139740161</td><td>28</td><td>28LEISUR U 230.0 kV - 28LAKEWOOD 230.0 kV Ckt 1</td><td>ProjectId: N7233
Description: Reconductor sections of 1590 ACSR 45/7 MTDL at Lakewood Gen and Leisure Village with 1590 ACSS.
Replace (1) 2000 A wave trap at Lakewood Gen and at Leisure Village.
Reconductor section of 795 ACSR 45/7 sub conductor circular at Lakewood Gen.
Reconductor 2.4 miles of 1590 ACSR 45/7 transmission line from Lakewood Gen to Leisure Village with 1590 ACSS or equivalent.
Type : FAC
Total Cost : $11,780,438
Time Estimate : 30.0 Months
Ratings : 830.0/989.0/989.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>40.94</td><td>100.00%</td><td>$11,780,438</td></tr></table></td><td>$11,780,438</td><td>$11,780,438</td><td>N7233</td></tr>
</table>

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AF2-016	Upgrade Number
170292637,170292636,170191807	9	CARDIFF 230.0 kV - CARDIFF 138.0 kV Ckt 1	**Project Id: N7077** **Description:** To mitigate the (ACE) Cardiff 230/138 kV transformer (from bus 227900 to bus 227913 ckt 1) overload, will require upgrading 138 kV CB 'N' and a CT to 3000 amps. **Type :** FAC **Total Cost :** $336,000 **Time Estimate :** 9 to 12 Months **Ratings :** 532.0/600.0/600.0 Queue: AF2-016 | MW: 98.94 | Cost %: 100.00% | Cost $: $336,000 **Project Id: N7076** **Description:** To mitigate the (ACE) Cardiff 230/138 kV transformer (from bus 227900 to bus 227913 ckt 1) overload, will require replacing the transformer with a larger unit. **Type :** FAC **Total Cost :** $5,000,000 **Time Estimate :** 24-48 Months **Ratings :** 478.0/478.0/549.0 Queue: AF2-016 | MW: 88.93 | Cost %: 100.00% | Cost $: $5,000,000	$5,336,000	$5,336,000	N7076 N7077
99005749,109159563,990057500,139739785	47	CEDAR 230.0 kV - 28OYSTER C 230.0 kV Ckt 1	Please see reinforcement in Summer Peak Analysis.	$0		
99831018,998313183,139739966,99831017,99830796	3	RICHMOND 230.0 kV - WANEETA3 230.0 kV Ckt 1	Please see reinforcement in Summer Peak Analysis.	$0		
170191852	22	AE1-240 TAP 69.0 kV - CRLS CR2 69.0 kV Ckt 1	This Reinforcement will be provided during the Facility Study Phase.	$0		
101513489	20	CORSON 1 138.0 kV - CORSON#1 69.0 kV Ckt 1	**Project Id: N7054** **Description:** To mitigate the (ACE) Corson#1 - Corson#1 138 kV line (from bus 228106 to bus 228185 ckt 1) overload, will require substation reinforcements at Corson#1 Substation. **Type :** FAC **Total Cost :** $250,000 **Time Estimate :** 24.0 Months **Ratings :** 190.0/190.0/190.0 Queue: AF2-016 | MW: 22.83 | Cost %: 100.00% | Cost $: $250,000	$250,000	$250,000	N7054
153107352,170292540,170292537,170097860,153107351	10	LEWIS #1 138.0 kV - LEWIS #3 138.0 kV Ckt 1	Please see reinforcement in Summer Peak Analysis.	$0		
139739816,99830957,998309955,99832014,99832016,139739819	45	CARDIFF 230.0 kV - NEWFRDM 230.0 kV Ckt 1	Please see reinforcement in Summer Peak Analysis.	$0		
101513415,101514594,139741053,139741052	12	LEWIS #2 138.0 kV - LEWIS #1 138.0 kV Ckt 1	Please see reinforcement in Summer Peak Analysis.	$0		

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>161039504,101513744,170292477,101514589</td><td>16</td><td>MNOTLA 2 138.0 kV - MNOTLA 1 138.0 kV Ckt 1</td><td>AEC has indicated that there is no violation for this facility.</td><td>$0</td><td></td><td></td></tr>
<tr><td>139740273,139740275</td><td>27</td><td>28LEISUR D 230.0 kV - 28LAKEWOOD 230.0 kV Ckt 1</td><td>Project Id: N7241
Description: Reconductor 2.4 miles of 1590 ACSR 45/7 transmission line from Lakewood Gen to Leisure Village with 1590 ACSS or equivalent.
Reconductor 1590 ACSR 45/7 MTDL at Lakewood Gen and Leisure Village with 1590 ACSS or equivalent.
Replace (1) 2000 A wave trap at Lakewood Gen and at Leisure Village
Type : FAC
Total Cost : $11,780,437
Time Estimate : 30 Months
Ratings : 818/974/974
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>22.83</td><td>100.00%</td><td>$250,000</td></tr></table></td><td>$11,780,437</td><td>$11,780,437</td><td>N7241</td></tr>
<tr><td>170191854</td><td>21</td><td>SHRMAN#2 69.0 kV - AE1-240 TAP 69.0 kV Ckt 1</td><td>ProjectId : n6802
Description : To mitigate the AE1-240 tap to Sherman 69 kV line section overload a 600 amp disc switch must be upgraded at Sherman
Type : FAC
Total Cost : $20,000
Time Estimate : 6 to 14 Months
Ratings : 122.0/157.0/177.0
Notes : Per PJM cost allocation rules, af2-016 presently does not receive cost allocation for this upgrade.</td><td>$20,000</td><td>$0</td><td>N6802</td></tr>
<tr><td>139740731,139740737,99005896,99005894,170097895,99007250</td><td>2</td><td>28OYSTER C 230.0 kV - CEDAR 230.0 kV Ckt 1</td><td>Please see reinforcement in Summer Peak Analysis.</td><td>$0</td><td></td><td></td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>139739934,139739933</td>
<td>14</td>
<td>MDLE TP 138.0 kV - CORSON 2 138.0 kV Ckt 1</td>
<td>Project Id: n7059
Description : To mitigate the (ACE) Middle Tap Corson#2 138 kV line (from bus 228111 to bus 228107 ckt 1) overload, it will require increasing the emergency rating of the Middle Tap to Corson#2 138 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 Corson#2.
Type: FAC
Total Cost: $1,000,000
Time Estimate: 24-48 Months
Ratings: 573.0/573.0/573.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>42.63</td><td>100.00%</td><td>$1,000,000</td></tr>
</table>
ProjectId: n7060
Description: To mitigate the (ACE) Middle Tap Corson#2 138 kV line (from bus 228111 to bus 228107 ckt 1) overload, will require terminal reinforcements at Corson#2 138 kv Substation.
Type: FAC
Total Cost: $200,000
Time Estimate: 12-24 Months
Ratings: 549.0/621.0/621.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>42.63</td><td>100.00%</td><td>$200,000</td></tr>
</table>
ProjectId: n7058
Description : To mitigate the (ACE) Middle Tap Corson#2 138 kV line (from bus 228111 to bus 228107 ckt 1) overload, it will require increasing the emergency rating of the Middle Tap to Corson#2 138 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 Corson#2.
Type: FAC
Total Cost: $400,000
Time Estimate: 24-48 Months
Ratings: 349.0/349.0/349.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>42.63</td><td>100.00%</td><td>$400,000</td></tr>
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</td>
<td>$1,600,000</td>
<td>$1,600,000</td>
<td>N7059
N7060
N7058</td>
</tr>
<tr>
<td>99830821,99831068</td>
<td>17</td>
<td>WANEETA2 230.0 kV - N PHILA 230.0 kV Ckt 1</td>
<td>Please see reinforcement in Summer Peak Analysis.</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>101514637</td>
<td>19</td>
<td>CARDIFF2 138.0 kV - LEWIS #2 138.0 kV Ckt 1</td>
<td>Please see reinforcement in Summer Peak Analysis.</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>139739794,139739796</td>
<td>32</td>
<td>28OYSTER C 230.0 kV - 28MANITOU 230.0 kV Ckt 1</td>
<td>Project Id: N6547.1
Description: Replace wave traps at Oyster Creek and Manitou
Replace relaying and metering at Oyster Creek and Manitou
Replace disconnect switches at Oyster Creek and Manitou
Replace relaying at Oyster Creek
Replace current transformers and relaying at Manitou
Type: FAC
Total Cost: $2,953,445
Time Estimate: 12.0 Months
Ratings: 1162/1519/1519
Notes: Per PJM Cost Allocation rules, this reinforcement stays in the previous AE2 queue. This may change as projects ahead withdraw from queue.

Project Id: N6547
Description : Reconductor the Oyster Creek - Manitou 230 kV transmission line (~11.1 miles)
Type : FAC
Total Cost : $60,378,937
Time Estimate : 48.0 Months
Ratings : 913.0/956.0/956.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-020</td><td>1.59</td><td>0.16%</td><td>$97,232</td></tr>
<tr><td>AE2-021</td><td>100.3</td><td>10.18%</td><td>$6,143,694</td></tr>
<tr><td>AE2-022</td><td>58.5</td><td>5.93%</td><td>$3,583,311</td></tr>
<tr><td>AE2-023</td><td>55.9</td><td>5.67%</td><td>$3,424,053</td></tr>
<tr><td>AE2-222</td><td>45.5</td><td>4.62%</td><td>$2,787,020</td></tr>
<tr><td>AE2-232</td><td>220.8</td><td>22.40%</td><td>$13,524,702</td></tr>
<tr><td>AE2-251</td><td>119.1</td><td>12.08%</td><td>$7,295,254</td></tr>
<tr><td>AF1-101</td><td>317.61</td><td>32.22%</td><td>$19,454,623</td></tr>
<tr><td>AF1-238</td><td>11.35</td><td>1.15%</td><td>$695,224</td></tr>
<tr><td>AF2-016</td><td>55.08</td><td>5.59%</td><td>$3,373,825</td></tr>
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</td>
<td>$63,332,382</td>
<td>$3,373,825</td>
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N6547.1</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 AF2-016</th><th>Upgrade Number</th></tr>
<tr>
<td>139739806,139739808</td>
<td>33</td>
<td>28OYSTER C 230.0 kV - 28MANITOU 230.0 kV Ckt 2</td>
<td>Project Id: N6549
Description: Reconductor the Manitou - Oyster Creek Ckt O1029 230 kV transmission line (~11.1 miles).
Type: FAC
Total Cost: $52,155,154
Time Estimate: 48.0 Months
Ratings: 815/923/923
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AE2-021</td><td>48.89</td><td>4.83%</td><td>$2,517,468</td></tr>
<tr><td>AE2-022</td><td>58.54</td><td>5.78%</td><td>$3,014,305</td></tr>
<tr><td>AE2-023</td><td>55.91</td><td>5.52%</td><td>$2,878,883</td></tr>
<tr><td>AE2-222</td><td>45.5</td><td>4.49%</td><td>$2,342,858</td></tr>
<tr><td>AE2-232</td><td>220.9</td><td>21.81%</td><td>$11,374,445</td></tr>
<tr><td>AE2-251</td><td>199.1</td><td>19.66%</td><td>$10,251,933</td></tr>
<tr><td>AF1-101</td><td>317.61</td><td>31.36%</td><td>$16,354,176</td></tr>
<tr><td>AF1-238</td><td>11.35</td><td>1.12%</td><td>$584,427</td></tr>
<tr><td>AF2-016</td><td>55.09</td><td>5.44%</td><td>$2,836,660</td></tr>
</table>
Project Id: N6549.1
Description: Replace wave traps at Manitou and Oyster Creek.
Replace relaying, metering, and fault switches at Manitou and Oyster Creek.
Replace disconnect switches at Manitou and Oyster Creek.
Type: FAC
Total Cost: $2,584,264
Time Estimate: 12.0 Months
Ratings: 1306/1603/1603
Notes: Per PJM Cost Allocation rules, this reinforcement is in the previous AE2 queue. This may change as projects ahead withdraw from queue.</td>
<td>$54,739,418</td>
<td>$2,836,660</td>
<td>N6549
N6549.1</td>
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<tr>
<td>99005790,109159674,990057789</td>
<td>35</td>
<td>28RED OAKB 230.0 kV - 28RAR RVR 230.0 kV Ckt 1</td>
<td>ProjectId: n7234
Description: Reconductor the Raritan River - Red Oak B 230 kV line (~2.58 miles).
Type : FAC
Total Cost : $12,122,775
Time Estimate : 30.0 Months
Ratings : 1162.0/1519.0/1519.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>17.83</td><td>100.00%</td><td>$12,122,775</td></tr>
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<td>$12,122,775</td>
<td>$12,122,775</td>
<td>N7234</td>
</tr>
<tr>
<td>99005799,990058800,109159692</td>
<td>34</td>
<td>28RED OAKA 230.0 kV - 28RAR RVR 230.0 kV Ckt 1</td>
<td>Project Id: n7235
Description: Replace the Raritan River - Red Oak A 230 kV line (~2.58 miles).
Type : FAC
Total Cost : $16,274,522
Time Estimate : 30.0 Months
Ratings : 1306.0/1593.0/1593.0
<table>
<tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr>
<tr><td>AF2-016</td><td>17.94</td><td>100.00%</td><td>$16,274,522</td></tr>
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<td>$16,274,522</td>
<td>$16,274,522</td>
<td>N7235</td>
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<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>139740359,99006022,99006021</td><td>36</td><td>28WINDSOR 230.0 kV - CLRKSVLL_1 230.0 kV Ckt 1</td><td>Project Id: N7218
Description: Reconductor 7.45 miles of 1590 ACSR transmission line from Clarksville to Windsor, as well as at Windsor, with 1590 ACSS or equivalent.
Reconductor section of 1590 ACSR 45/7 sub conductor circular at Windsor with 1590 ACSS or equivalent.
Type : FAC
Total Cost : $35,173,500
Time Estimate : 48.0 Months
Ratings : 819.0/949.0/949.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>18.56</td><td>100.00%</td><td>$35,173,500</td></tr></table></td><td>$35,173,500</td><td>$35,173,500</td><td>N7218</td></tr>
<tr><td>139739923</td><td>39</td><td>28LAKEWOOD 230.0 kV - 28LARRABEE 230.0 kV Ckt 2</td><td>Please see Summer Peak Analysis</td><td>$0</td><td></td><td></td></tr>
<tr><td>99832039,99831002,139740228,99831003</td><td>7</td><td>CARDIFF 230.0 kV - ORCHARD 230.0 kV Ckt 1</td><td>Please see Summer Peak Analysis</td><td>$0</td><td></td><td></td></tr>
<tr><td>139740939</td><td>11</td><td>LEWIS #1 69.0 kV - LEWIS #3 69.0 kV Ckt 1</td><td>Project Id: N7075
Description: To mitigate the Lewis 69 kV bus tie overload, breaker 'CU' will be replaced with a 2000 amp breaker.
Type: FAC
Total Cost: $190,000
Time Estimate: 8 to 12 Months
Ratings: 239.0/239.0/239.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>114.53</td><td>100.00%</td><td>$190,000</td></tr></table></td><td>$190,000</td><td>$190,000</td><td>N7075</td></tr>
<tr><td>99005900,139740357,99005899</td><td>43</td><td>28R11RINGA 230.0 kV - 28RED OAKA 230.0 kV Ckt 1</td><td>Project Id: n7236
Description: Reconductor R11 Ring bus to Red Oak A 230 kV transmission line (~0.6 miles).
Upgrade terminals as required.
Type : FAC
Total Cost : $2,987,062
Time Estimate : 12.0 Months
Ratings : 1274.0/1528.0/1528.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>18.32</td><td>100.00%</td><td>$2,987,062</td></tr></table></td><td>$2,987,062</td><td>$2,987,062</td><td>N7236</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 AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>139740034</td><td>40</td><td>28LAKEWOOD 230.0 kV - 28LARRABEE 230.0 kV Ckt 1</td><td>Project Id: n7230
Description : Reconductor 7.6 miles of 1590 ACSR 45/7 transmission line from Lakewood Gen to Larrabee, as well as at Larrabee, with 1590 ACSS.
Reconductor section of 1590 ACSR 45/7 MTDL at Lakewood Gen with 1590 ACSS.
Replace (1) 2000 A wave trap at Larrabee and at Lakewood Gen.
Replace (1) 2000 A circuit breaker at Lakewood Gen.
Reconductor section of 795 ACSR 26/7 sub conductor circular at Lakewood Gen with 1590 ACSS.
Type : FAC
Total Cost : $37,287,938
Time Estimate : 48.0 Months
Ratings : 913.0/1147.0/1147.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>43.14</td><td>100.00%</td><td>$37,287,938</td></tr></table></td><td>$37,287,938</td><td>$37,287,938</td><td>N7230</td></tr>
<tr><td>139740404,99005928,99005929</td><td>42</td><td>28R11RINGB 230.0 kV - 28RED OAKB 230.0 kV Ckt 1</td><td>Project Id: n7237
Description: Reconductor R11 Ring bus to Red Oak B 230 kV transmission line (~0.6 miles).
Upgrade terminals as required.
Type : FAC
Total Cost : $2,819,250
Time Estimate : 12.0 Months
Ratings : 1156.0/1334.0/1334.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>18.27</td><td>100.00%</td><td>$2,819,250</td></tr></table></td><td>$2,819,250</td><td>$2,819,250</td><td>N7237</td></tr>
<tr><td>139740053,139740051</td><td>30</td><td>28MANITOU 230.0 kV - 28LEISUR U 230.0 kV Ckt 1</td><td>Project Id: n7238
Description : Replace (8) 1200 A current transformers at Manitou
Reconductor sections of 1590 ACSR 45/7 MTDL at Leisure Village and Manitou with 1590 ACSS
Reconductor section of 1590 ACSR 45/7 subconductor circular at Manitou with 1590 ACSS.
Replace (1) 2000 A wave trap at Leisure Village and Manitou.
Replace (1) 2000 A ABB circuit breaker at Leisure Village and Manitou.
Replace (3) 10 A thermal relays at Manitou.
Replace (1) 10 A thermal relay at Leisure Village.
Replace (3) 10 A thermal meters at Manitou.
Replace (1) 10 A thermal meter at Leisure Village.
Reconductor 7.1 miles of 1590 ACSR 45/7 transmission line from Leisure Village to Manitou and at Manitou with 1590 ACSS.
Type : FAC
Total Cost : $39,536,625
Time Estimate : 48.0 Months
Ratings : 913.0/1147.0/1147.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>41.55</td><td>100.00%</td><td>$39,536,625</td></tr></table></td><td>$39,536,625</td><td>$39,536,625</td><td>N7238</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 AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>139740063,139740061</td><td>31</td><td>28MANITOU 230.0 kV - 28LEISUR D 230.0 kV Ckt 1</td><td>Project Id: n7239
Description: Reconductor existing sections of 1590 ACSR 45/7 MTDL at Leisure Village and Manitou with 1590 ACSS.
Reconductor existing sections of 1590 ACSR 45/7 sub conductor circular at Manitou with 1590 ACSS.
Replace (4) 2000 A current transformers at Manitou.
Replace (1) 2000 A wave trap at Leisure Village and Manitou.
Replace (2) 10 A thermal meters at Manitou.
Reconductor 7.1 miles of 1590 ACSR 45/7 transmission line from Leisure Village to Manitou and at Manitou with 1590 ACSS.
Type : FAC
Total Cost : $36,247,500
Time Estimate : 48.0 Months
Ratings : 830.0/1000.0/1000.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>41.55</td><td>100.00%</td><td>$36,247,500</td></tr></table>
Project Id: n7239.1
Description: Replace (1) 2000 ABB circuit breaker at Manitou.
Type : FAC
Total Cost : $1,074,000
Time Estimate : 12.0 Months
Ratings : 913.0/1147.0/1147.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>41.55</td><td>100.00%</td><td>$1,074,000</td></tr></table></td><td>$37,321,500</td><td>$37,321,500</td><td>N7239
N7239.1</td></tr>
<tr><td>99830960,99830961,139740019,139740017</td><td>46</td><td>CARDIFF 230.0 kV - CEDAR 230.0 kV Ckt 1</td><td>Please see Summer Peak Analysis</td><td>$0</td><td></td><td></td></tr>
<tr><td>99007216,99007217</td><td>29</td><td>28MANITOU 230.0 kV - 28WHITINGS 230.0 kV Ckt 1</td><td>Please see Summer Peak Analysis</td><td>$0</td><td></td><td></td></tr>
<tr><td>101513484</td><td>18</td><td>CARDIFF 138.0 kV - LEWIS #1 138.0 kV Ckt 1</td><td>Please see Summer Peak Analysis</td><td>$0</td><td></td><td></td></tr>
<tr><td>99007234,99007235</td><td>37</td><td>28VANHISVL 230.0 kV - 28LARRABEE 230.0 kV Ckt 1</td><td>Please see Summer Peak Analysis</td><td>$0</td><td></td><td></td></tr>
<tr><td>139740490,99005985,99005986</td><td>41</td><td>28E WINDSR 230.0 kV - 28WINDSOR 230.0 kV Ckt 1</td><td>ProjectId: n7240
Description: Reconductor 2.5 miles of 1590 ACSR 45/7 transmission line from East Windsor to Windsor with 1590 ACSS.
Replace (1) 2000 A wave trap at Windsor.
Replace (7) 10 A thermal relays at Windsor.
Replace (1) thermal meter at Windsor.
Type : FAC
Total Cost : $15,975,750
Time Estimate : 30.0 Months
Ratings : 962.0/1151.0/1151.0
<table><tr><th>Queue</th><th>MW</th><th>Cost %</th><th>Cost $</th></tr><tr><td>AF2-016</td><td>18.41</td><td>100.00%</td><td>$15,975,750</td></tr></table></td><td>$15,975,750</td><td>$15,975,750</td><td>N7240</td></tr>
</table>

<table>
<tr><th>ID</th><th>Idx</th><th>Facility</th><th>Upgrade Description</th><th>Cost</th><th>Cost Allocated to AF2-016</th><th>Upgrade Number</th></tr>
<tr><td>170191864,170292602,170292600</td><td>15</td><td>SHRMAN#1 69.0 kV - AF1-238 TAP 69.0 kV Ckt 1</td><td>ProjectId: N6844
Description: Line Upgrade West Sherman Substation, including the installation of new poles, foundations, insulators, and conductor.
Type: FAC
Total Cost: $3,125,000
Time Estimate: 18.0 Months
Ratings: 200.0/286.0/286.0
Notes: Per PJM cost allocation rules, [Queue#] 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>AF2-016</td><td>8.89</td><td>100.00%</td><td>$3,125,000</td></tr></table></td><td>$3,125,000</td><td>$3,125,000</td><td>N6844</td></tr>
<tr><td>99007247,99007248</td><td>38</td><td>28WHITINGS 230.0 kV - 28MANCHSTR 230.0 kV Ckt 1</td><td>Please see Summer Peak Analysis</td><td>$0</td><td>$0</td><td></td></tr>
<tr><td>99007254,99007255</td><td>44</td><td>28MANCHSTR 230.0 kV - 28VANHISVL 230.0 kV Ckt 1</td><td>Please see Summer Peak Analysis</td><td>$0</td><td>$0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>TOTAL COST</td><td>$350,608,159</td><td>$250,507,282</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.

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".

1.1.1 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
99005839	206294	28LARRABEE	JCP&L	206309	28SMITHBRG	JCP&L	1	JC-P2-3-JCC-230-15G	breaker	817.0	118.31	121.23	AC	27.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	67.8559	50/50	67.8559
938421	AE1-061 C	0.1293	Adder	0.15
938422	AE1-061 E	0.1293	Adder	0.15
938781	AE1-104 C O1	6.5249	Adder	7.68
938782	AE1-104 E O1	16.6939	Adder	19.64
939981	AE1-238 C	37.4832	50/50	37.4832
939982	AE1-238 E	98.4559	50/50	98.4559
940161	AE2-000 C O1	55.3714	50/50	55.3714
940162	AE2-000 E O1	141.6763	50/50	141.6763
940361	AE2-020 C	8.5433	50/50	8.5433
940362	AE2-020 E	40.0004	50/50	40.0004
940371	AE2-021 C	8.5433	50/50	8.5433
940372	AE2-021 E	40.0004	50/50	40.0004
940381	AE2-022 C	4.9836	50/50	4.9836
940382	AE2-022 E	23.3335	50/50	23.3335
940401	AE2-024 C O1	46.2362	50/50	46.2362
940402	AE2-024 E O1	216.4728	50/50	216.4728
940411	AE2-025 C	23.3400	50/50	23.3400
940412	AE2-025 E	109.2655	50/50	109.2655
942101	AE2-222 C O1	5.4217	Adder	6.38
942102	AE2-222 E O1	13.6197	Adder	16.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942381	AE2-251 C	27.0650	50/50	27.0650
942382	AE2-251 E	69.2518	50/50	69.2518
943561	AF1-027	0.3099	50/50	0.3099
944332	AF1-101 E O1	138.8993	50/50	138.8993
945201	AF1-185 1	0.2616	Adder	0.31
945211	AF1-185 2	0.0581	Adder	0.07
945571	AF1-222 C	23.3645	50/50	23.3645
945572	AF1-222 E	61.5974	50/50	61.5974
945731	AF1-238 C	2.1831	Adder	2.57
945732	AF1-238 E	3.2747	Adder	3.85
945741	AF1-239 C	0.5137	Adder	0.6
945742	AF1-239 E	0.7705	Adder	0.91
957221	AF2-016 C	9.2045	Adder	10.83
957222	AF2-016 E	13.8067	Adder	16.24
957251	AF2-019 C	0.4655	Adder	0.55
957252	AF2-019 E	0.6982	Adder	0.82
957271	AF2-021 C	1.8304	50/50	1.8304
957272	AF2-021 E	2.7456	50/50	2.7456
957311	AF2-025 C	0.6278	Adder	0.74
957312	AF2-025 E	0.9418	Adder	1.11
957781	AF2-072 C	9.3080	50/50	9.3080
957782	AF2-072 E	9.3080	50/50	9.3080
961221	AF2-413	14.5350	Adder	17.1

1.1.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
139740731	206302	28OYSTER C	JCP&L	227955	CEDAR	AE	1	Base Case	single	464.0	94.1	106.66	AC	60.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	55.3098	80/20	55.3098
938423	AE1-061 BAT	1.0600	80/20	1.0600
938873	AE1-115 BAT	1.1826	80/20	1.1826
939303	AE1-161 BAT	4.0420	80/20	4.0420
939981	AE1-238 C	14.2668	80/20	14.2668
939982	AE1-238 E	37.4741	80/20	37.4741
940161	AE2-000 C O1	45.1336	80/20	45.1336
940162	AE2-000 E O1	115.4813	80/20	115.4813
940401	AE2-024 C O1	12.2843	80/20	12.2843
940402	AE2-024 E O1	57.5137	80/20	57.5137
940411	AE2-025 C	6.2011	80/20	6.2011
940412	AE2-025 E	29.0303	80/20	29.0303
943561	AF1-027	0.1236	80/20	0.1236
944332	AF1-101 E O1	113.2178	80/20	113.2178
945571	AF1-222 C	8.8930	80/20	8.8930
945572	AF1-222 E	23.4451	80/20	23.4451
945733	AF1-238 BAT	12.3853	80/20	12.3853
957223	AF2-016 BAT	60.1320	80/20	60.1320
957263	AF2-020 BAT	1.6872	80/20	1.6872
957273	AF2-021 BAT	22.5128	80/20	22.5128
957293	AF2-023 BAT	2.9575	80/20	2.9575
957781	AF2-072 C	2.4730	80/20	2.4730
957782	AF2-072 E	2.4730	80/20	2.4730

1.1.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99831318	213922	RICHMOND	PECO	214012	WANEETA3	PECO	1	Base Case	single	760.0	98.79	105.39	AC	52.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	**28O C GEN (Deactivation : 17/09/2018)**	**25.5710**	**80/20**	**25.5710**
937563	AD2-077 BAT	14.0460	80/20	14.0460
938421	AE1-061 C	0.5514	80/20	0.5514
938422	AE1-061 E	0.5514	80/20	0.5514
938431	AE1-062 C	2.1182	80/20	2.1182
938432	AE1-062 E	2.1182	80/20	2.1182
938781	AE1-104 C O1	16.8707	80/20	16.8707
938782	AE1-104 E O1	43.1635	80/20	43.1635
938871	AE1-115 C	2.1466	80/20	2.1466
938872	AE1-115 E	2.1466	80/20	2.1466
939301	AE1-161 C	4.1544	80/20	4.1544
939302	AE1-161 E	6.2316	80/20	6.2316
939981	AE1-238 C	14.5692	80/20	14.5692
939982	AE1-238 E	38.2684	80/20	38.2684
940161	AE2-000 C O1	20.8663	80/20	20.8663
940162	AE2-000 E O1	53.3897	80/20	53.3897
940361	AE2-020 C	14.3370	80/20	14.3370
940362	AE2-020 E	67.1271	80/20	67.1271
940371	AE2-021 C	14.3370	80/20	14.3370
940372	AE2-021 E	67.1271	80/20	67.1271
940381	AE2-022 C	8.3633	80/20	8.3633
940382	AE2-022 E	39.1575	80/20	39.1575
940401	AE2-024 C O1	11.5528	80/20	11.5528
940402	AE2-024 E O1	54.0891	80/20	54.0891
940411	AE2-025 C	5.8319	80/20	5.8319
940412	AE2-025 E	27.3017	80/20	27.3017
942101	AE2-222 C O1	11.7880	80/20	11.7880
942102	AE2-222 E O1	29.6120	80/20	29.6120
942381	AE2-251 C	45.4195	80/20	45.4195
942382	AE2-251 E	116.2157	80/20	116.2157
943561	AF1-027	0.2649	80/20	0.2649
944332	AF1-101 E O1	52.3432	80/20	52.3432
944951	AF1-160 C	2.1182	80/20	2.1182
944952	AF1-160 E	2.1182	80/20	2.1182
945201	AF1-185 1	0.2620	80/20	0.2620
945211	AF1-185 2	0.0582	80/20	0.0582
945431	AF1-208 C O1	0.0002	80/20	0.0002
945432	AF1-208 E O1	2.0199	80/20	2.0199
945571	AF1-222 C	9.0815	80/20	9.0815
945572	AF1-222 E	23.9421	80/20	23.9421
945721	AF1-237 C	10.6730	80/20	10.6730

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945722	AF1-237 E	0.0001	80/20	0.0001
945731	AF1-238 C	9.5763	80/20	9.5763
945732	AF1-238 E	14.3644	80/20	14.3644
945741	AF1-239 C	2.2532	80/20	2.2532
945742	AF1-239 E	3.3799	80/20	3.3799
957221	AF2-016 C	20.8116	80/20	20.8116
957222	AF2-016 E	31.2174	80/20	31.2174
957251	AF2-019 C	1.3937	80/20	1.3937
957252	AF2-019 E	2.0905	80/20	2.0905
957261	AF2-020 C	1.5800	80/20	1.5800
957262	AF2-020 E	2.3700	80/20	2.3700
957271	AF2-021 C	1.0702	80/20	1.0702
957272	AF2-021 E	1.6054	80/20	1.6054
957291	AF2-023 C	3.6494	80/20	3.6494
957292	AF2-023 E	5.4741	80/20	5.4741
957301	AF2-024 C	2.3680	80/20	2.3680
957302	AF2-024 E	3.5520	80/20	3.5520
957311	AF2-025 C	1.3791	80/20	1.3791
957312	AF2-025 E	2.0687	80/20	2.0687
957443	AF2-038 BAT	2.0816	80/20	2.0816
957771	AF2-071	7.0970	80/20	7.0970
957781	AF2-072 C	2.3257	80/20	2.3257
957782	AF2-072 E	2.3257	80/20	2.3257
961221	AF2-413	14.5575	80/20	14.5575

1.1.4 Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99832039	227900	CARDIFF	AE	228002	ORCHARD	AE	1	JC-P7-1-JCC-230-13	tower	805.0	109.87	118.88	AC	66.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938421	AE1-061 C	0.2021	Adder	0.24
938422	AE1-061 E	0.2021	Adder	0.24
938781	AE1-104 C O1	14.5865	50/50	14.5865
938782	AE1-104 E O1	37.3192	50/50	37.3192
939301	AE1-161 C	0.8510	Adder	1.0
939302	AE1-161 E	1.2765	Adder	1.5
940161	AE2-000 C O1	51.2623	50/50	51.2623
940162	AE2-000 E O1	131.1627	50/50	131.1627
940361	AE2-020 C	25.8155	50/50	25.8155
940362	AE2-020 E	120.8702	50/50	120.8702
940371	AE2-021 C	25.8155	50/50	25.8155
940372	AE2-021 E	120.8702	50/50	120.8702
940381	AE2-022 C	15.0591	50/50	15.0591
940382	AE2-022 E	70.5076	50/50	70.5076
942101	AE2-222 C O1	15.2840	50/50	15.2840
942102	AE2-222 E O1	38.3944	50/50	38.3944
942381	AE2-251 C	81.7831	50/50	81.7831
942382	AE2-251 E	209.2601	50/50	209.2601
944332	AF1-101 E O1	128.5917	50/50	128.5917
957221	AF2-016 C	26.7744	50/50	26.7744
957222	AF2-016 E	40.1616	50/50	40.1616
957251	AF2-019 C	0.5562	Adder	0.65
957252	AF2-019 E	0.8343	Adder	0.98
957271	AF2-021 C	2.2434	50/50	2.2434
957272	AF2-021 E	3.3652	50/50	3.3652
957311	AF2-025 C	1.7769	50/50	1.7769
957312	AF2-025 E	2.6653	50/50	2.6653

1.1.5 Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
170097809	227900	CARDIFF	AE	227934	CARDIFF2	AE	1	AE_P7-1 AE3TOWER	tower	425.0	113.96	137.85	AC	98.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	1.3309	50/50	1.3309
940361	AE2-020 C	12.9882	50/50	12.9882
940362	AE2-020 E	60.8119	50/50	60.8119
940371	AE2-021 C	12.9882	50/50	12.9882
940372	AE2-021 E	60.8119	50/50	60.8119
940381	AE2-022 C	7.5765	50/50	7.5765
940382	AE2-022 E	35.4736	50/50	35.4736
942381	AE2-251 C	41.1465	50/50	41.1465
942382	AE2-251 E	105.2823	50/50	105.2823
957223	AF2-016 BAT	98.3310	50/50	98.3310

1.1.6 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
170191807	227900	CARDIFF	AE	227913	CARDIFF	AE	1	AE_P4-2 AE9	breaker	478.0	97.85	119.1	AC	98.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	1.4012	50/50	1.4012
940161	AE2-000 C O1	6.1715	Adder	7.26
940162	AE2-000 E O1	15.7907	Adder	18.58
940361	AE2-020 C	14.1855	50/50	14.1855
940362	AE2-020 E	66.4174	50/50	66.4174
940371	AE2-021 C	14.1855	50/50	14.1855
940372	AE2-021 E	66.4174	50/50	66.4174
940381	AE2-022 C	8.2749	50/50	8.2749
940382	AE2-022 E	38.7435	50/50	38.7435
942381	AE2-251 C	44.9393	50/50	44.9393
942382	AE2-251 E	114.9871	50/50	114.9871
957223	AF2-016 BAT	98.9370	50/50	98.9370

1.1.7 Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
153107352	227902	LEWIS #1	AE	227949	LEWIS #3	AE	1	AE_P4-2 AE6	breaker	478.0	66.58	113.09	AC	228.69

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	3.1069	50/50	3.1069
938781	AE1-104 C O1	15.3304	50/50	15.3304
938782	AE1-104 E O1	39.2226	50/50	39.2226
939303	AE1-161 BAT	9.5185	50/50	9.5185
940361	AE2-020 C	11.2605	50/50	11.2605
940362	AE2-020 E	52.7225	50/50	52.7225
940371	AE2-021 C	11.2605	50/50	11.2605
940372	AE2-021 E	52.7225	50/50	52.7225
940381	AE2-022 C	6.5686	50/50	6.5686
940382	AE2-022 E	30.7548	50/50	30.7548
942381	AE2-251 C	35.6731	50/50	35.6731
942382	AE2-251 E	91.2773	50/50	91.2773
957223	AF2-016 BAT	228.6930	50/50	228.6930
957251	AF2-019 C	0.9078	50/50	0.9078
957252	AF2-019 E	1.3618	50/50	1.3618
957271	AF2-021 C	0.3434	Adder	0.4
957272	AF2-021 E	0.5151	Adder	0.61

1.1.8 Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
139740939	227918	LEWIS #1	AE	227948	LEWIS #3	AE	1	AE_P1-2 LEWIS #1-LEWIS #3	single	166.0	63.26	129.99	AC	114.53

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	1.5292	80/20	1.5292
938781	AE1-104 C O1	8.4271	80/20	8.4271
938782	AE1-104 E O1	21.5606	80/20	21.5606
939303	AE1-161 BAT	4.5975	80/20	4.5975
940361	AE2-020 C	2.3986	Adder	2.82
940362	AE2-020 E	11.2306	Adder	13.21
940371	AE2-021 C	2.3986	Adder	2.82
940372	AE2-021 E	11.2306	Adder	13.21
940381	AE2-022 C	1.3992	Adder	1.65
940382	AE2-022 E	6.5512	Adder	7.71
942101	AE2-222 C O1	9.8903	80/20	9.8903
942102	AE2-222 E O1	24.8449	80/20	24.8449
942381	AE2-251 C	7.5989	Adder	8.94
942382	AE2-251 E	19.4434	Adder	22.87
957223	AF2-016 BAT	114.5310	80/20	114.5310
957251	AF2-019 C	0.4946	80/20	0.4946
957252	AF2-019 E	0.7420	80/20	0.7420
957311	AF2-025 C	1.6772	80/20	1.6772
957312	AF2-025 E	2.5158	80/20	2.5158

1.1.9 Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101514594	227945	LEWIS #2	AE	227902	LEWIS #1	AE	1	AE_P7-1 AE3TOWER	tower	286.799987793	116.03	170.97	AC	159.8

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	2.1534	50/50	2.1534
939303	AE1-161 BAT	6.5400	50/50	6.5400
940361	AE2-020 C	10.2872	50/50	10.2872
940362	AE2-020 E	48.1655	50/50	48.1655
940371	AE2-021 C	10.2872	50/50	10.2872
940372	AE2-021 E	48.1655	50/50	48.1655
940381	AE2-022 C	6.0009	50/50	6.0009
940382	AE2-022 E	28.0965	50/50	28.0965

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942381	AE2-251 C	32.5897	50/50	32.5897
942382	AE2-251 E	83.3879	50/50	83.3879
957223	AF2-016 BAT	159.8010	50/50	159.8010

1.1.10 Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
170292380	227948	LEWIS #3	AE	227949	LEWIS #3	AE	1	AE_P1-2 LEWIS #1-LEWIS #3	single	279.0	59.95	132.66	AC	201.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	2.7318	80/20	2.7318
938781	AE1-104 C O1	7.7492	80/20	7.7492
938782	AE1-104 E O1	19.8262	80/20	19.8262
939303	AE1-161 BAT	8.3540	80/20	8.3540
940161	AE2-000 C O1	3.3867	Adder	3.98
940162	AE2-000 E O1	8.6653	Adder	10.19
940361	AE2-020 C	5.0682	80/20	5.0682
940362	AE2-020 E	23.7299	80/20	23.7299
940371	AE2-021 C	5.0682	80/20	5.0682
940372	AE2-021 E	23.7299	80/20	23.7299
940381	AE2-022 C	2.9565	80/20	2.9565
940382	AE2-022 E	13.8424	80/20	13.8424
942101	AE2-222 C O1	10.0304	80/20	10.0304
942102	AE2-222 E O1	25.1968	80/20	25.1968
942381	AE2-251 C	16.0561	80/20	16.0561
942382	AE2-251 E	41.0831	80/20	41.0831
957223	AF2-016 BAT	201.4410	80/20	201.4410
957251	AF2-019 C	0.4800	80/20	0.4800
957252	AF2-019 E	0.7200	80/20	0.7200
957311	AF2-025 C	1.0619	80/20	1.0619
957312	AF2-025 E	1.5929	80/20	1.5929

1.1.11 Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
139739933	228111	MDLE TP	AE	228107	CORSON 2	AE	1	AE_P1-2 ENG-MERION	single	315.0	91.66	104.95	AC	42.63

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938421	AE1-061 C	0.1452	80/20	0.1452
938422	AE1-061 E	0.1452	80/20	0.1452
938781	AE1-104 C O1	31.8049	80/20	31.8049
938782	AE1-104 E O1	81.3722	80/20	81.3722
940161	AE2-000 C O1	3.8809	Adder	4.57
940162	AE2-000 E O1	9.9300	Adder	11.68
940361	AE2-020 C	5.9138	80/20	5.9138
940362	AE2-020 E	27.6889	80/20	27.6889
940371	AE2-021 C	5.9138	80/20	5.9138
940372	AE2-021 E	27.6889	80/20	27.6889
940381	AE2-022 C	3.4497	80/20	3.4497
940382	AE2-022 E	16.1518	80/20	16.1518
942101	AE2-222 C O1	8.8324	80/20	8.8324
942102	AE2-222 E O1	22.1876	80/20	22.1876
942381	AE2-251 C	18.7348	80/20	18.7348
942382	AE2-251 E	47.9372	80/20	47.9372
945733	AF1-238 BAT	19.9308	80/20	19.9308
957221	AF2-016 C	17.0508	80/20	17.0508
957222	AF2-016 E	25.5762	80/20	25.5762
957263	AF2-020 BAT	2.3074	80/20	2.3074
957311	AF2-025 C	1.0157	80/20	1.0157
957312	AF2-025 E	1.5235	80/20	1.5235

1.1.12 Index 15

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
170191864	228256	SHRMAN#1	AE	945730	AF1-238 TAP	AE	1	AE_P4-2 AE46	breaker	132.0	103.91	109.64	AC	8.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938781	AE1-104 C O1	3.7470	Adder	4.41
938782	AE1-104 E O1	9.5867	Adder	11.28
940361	AE2-020 C	1.8312	Adder	2.15
940362	AE2-020 E	8.5738	Adder	10.09
940371	AE2-021 C	1.8312	Adder	2.15
940372	AE2-021 E	8.5738	Adder	10.09
940381	AE2-022 C	1.0682	Adder	1.26
940382	AE2-022 E	5.0014	Adder	5.88
942101	AE2-222 C O1	1.6874	Adder	1.99
942102	AE2-222 E O1	4.2388	Adder	4.99
942381	AE2-251 C	5.8012	Adder	6.82
942382	AE2-251 E	14.8436	Adder	17.46
945431	AF1-208 C O1	0.0001	Adder	0.0
945432	AF1-208 E O1	0.5086	Adder	0.6
945733	AF1-238 BAT	89.0855	50/50	89.0855
957221	AF2-016 C	3.0233	Adder	3.56
957222	AF2-016 E	4.5349	Adder	5.34
957251	AF2-019 C	0.4030	Adder	0.47
957252	AF2-019 E	0.6046	Adder	0.71
957261	AF2-020 C	0.5404	Adder	0.64
957262	AF2-020 E	0.8106	Adder	0.95

1.1.13 Index 16

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101514589	228503	MNOTLA 2	AE	228502	MNOTLA 1	AE	1	JC-P7-1-JCC-230-13	tower	311.0	114.84	131.55	AC	50.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	3.3647	50/50	3.3647
938781	AE1-104 C O1	12.2876	50/50	12.2876
938782	AE1-104 E O1	31.4377	50/50	31.4377
939303	AE1-161 BAT	10.2095	50/50	10.2095
940161	AE2-000 C O1	18.4155	50/50	18.4155
940162	AE2-000 E O1	47.1191	50/50	47.1191
940361	AE2-020 C	8.5731	50/50	8.5731
940362	AE2-020 E	40.1399	50/50	40.1399
940371	AE2-021 C	8.5731	50/50	8.5731
940372	AE2-021 E	40.1399	50/50	40.1399
940381	AE2-022 C	5.0010	50/50	5.0010
940382	AE2-022 E	23.4149	50/50	23.4149
942101	AE2-222 C O1	10.3488	50/50	10.3488
942102	AE2-222 E O1	25.9968	50/50	25.9968
942381	AE2-251 C	27.1594	50/50	27.1594
942382	AE2-251 E	69.4934	50/50	69.4934
944332	AF1-101 E O1	46.1955	50/50	46.1955
957221	AF2-016 C	20.0412	50/50	20.0412
957222	AF2-016 E	30.0618	50/50	30.0618
957251	AF2-019 C	0.6474	Adder	0.76
957252	AF2-019 E	0.9711	Adder	1.14
957271	AF2-021 C	0.8446	50/50	0.8446
957272	AF2-021 E	1.2668	50/50	1.2668
957311	AF2-025 C	1.1726	50/50	1.1726
957312	AF2-025 E	1.7588	50/50	1.7588

1.1.14 Index 18

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101513484	227913	CARDIFF	AE	227902	LEWIS #1	AE	1	AE_P4-2 AE9	breaker	478.0	93.67	113.97	AC	98.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	1.4012	50/50	1.4012
940161	AE2-000 C O1	6.1715	Adder	7.26
940162	AE2-000 E O1	15.7907	Adder	18.58
940361	AE2-020 C	14.1855	50/50	14.1855
940362	AE2-020 E	66.4174	50/50	66.4174
940371	AE2-021 C	14.1855	50/50	14.1855
940372	AE2-021 E	66.4174	50/50	66.4174
940381	AE2-022 C	8.2749	50/50	8.2749
940382	AE2-022 E	38.7435	50/50	38.7435
942381	AE2-251 C	44.9393	50/50	44.9393
942382	AE2-251 E	114.9871	50/50	114.9871
957223	AF2-016 BAT	98.9370	50/50	98.9370

1.1.15 Index 19

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
101514637	227934	CARDIFF2	AE	227945	LEWIS #2	AE	1	AE_P7-1 AE3TOWER	tower	478.0	96.79	117.08	AC	98.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938423	AE1-061 BAT	1.3309	50/50	1.3309
940361	AE2-020 C	12.9882	50/50	12.9882
940362	AE2-020 E	60.8119	50/50	60.8119
940371	AE2-021 C	12.9882	50/50	12.9882
940372	AE2-021 E	60.8119	50/50	60.8119
940381	AE2-022 C	7.5765	50/50	7.5765
940382	AE2-022 E	35.4736	50/50	35.4736
942381	AE2-251 C	41.1465	50/50	41.1465
942382	AE2-251 E	105.2823	50/50	105.2823
957223	AF2-016 BAT	98.3310	50/50	98.3310

1.1.16 Index 20

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
101513489	228106	CORSON 1	AE	228185	CORSON#1	AE	1	AE_P4-2 AE16	breaker	168.0	90.91	102.47	AC	22.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938781	AE1-104 C O1	17.9449	50/50	17.9449
938782	AE1-104 E O1	45.9117	50/50	45.9117
940161	AE2-000 C O1	2.0270	Adder	2.38
940162	AE2-000 E O1	5.1864	Adder	6.1
940361	AE2-020 C	2.6180	Adder	3.08
940362	AE2-020 E	12.2575	Adder	14.42
940371	AE2-021 C	2.6180	Adder	3.08
940372	AE2-021 E	12.2575	Adder	14.42
940381	AE2-022 C	1.5271	Adder	1.8
940382	AE2-022 E	7.1502	Adder	8.41
942101	AE2-222 C O1	3.8778	Adder	4.56
942102	AE2-222 E O1	9.7412	Adder	11.46
942381	AE2-251 C	8.2936	Adder	9.76
942382	AE2-251 E	21.2211	Adder	24.97
957221	AF2-016 C	7.7622	Adder	9.13
957222	AF2-016 E	11.6433	Adder	13.7
957311	AF2-025 C	0.4307	Adder	0.51
957312	AF2-025 E	0.6461	Adder	0.76

1.1.17 Index 21

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
170191854	228226	SHRMAN#2	AE	940000	AE1-240 TAP	AE	1	AE_P4-2 AE46	breaker	93.0	95.5	103.97	AC	10.31

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938781	AE1-104 C O1	4.2572	Adder	5.01
938782	AE1-104 E O1	10.8920	Adder	12.81
940161	AE2-000 C O1	1.5109	Adder	1.78
940162	AE2-000 E O1	3.8659	Adder	4.55
940361	AE2-020 C	2.1468	Adder	2.53
940362	AE2-020 E	10.0513	Adder	11.83
940371	AE2-021 C	2.1468	Adder	2.53
940372	AE2-021 E	10.0513	Adder	11.83
940381	AE2-022 C	1.2523	Adder	1.47
940382	AE2-022 E	5.8633	Adder	6.9
942101	AE2-222 C O1	1.9912	Adder	2.34
942102	AE2-222 E O1	5.0019	Adder	5.88
942381	AE2-251 C	6.8009	Adder	8.0
942382	AE2-251 E	17.4016	Adder	20.47
945731	AF1-238 C	6.8753	50/50	6.8753
945732	AF1-238 E	10.3130	50/50	10.3130
945741	AF1-239 C	1.6177	50/50	1.6177
945742	AF1-239 E	2.4266	50/50	2.4266
957221	AF2-016 C	3.5057	Adder	4.12
957222	AF2-016 E	5.2586	Adder	6.19
957251	AF2-019 C	0.4536	Adder	0.53
957252	AF2-019 E	0.6804	Adder	0.8
957263	AF2-020 BAT	8.5686	50/50	8.5686

1.1.18 Index 22

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
170191852	940000	AE1-240 TAP	AE	228252	CRLS CR2	AE	1	AE_P4-2 AE46	breaker	93.0	95.71	104.14	AC	10.31

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938781	AE1-104 C O1	4.2572	Adder	5.01
938782	AE1-104 E O1	10.8920	Adder	12.81
940161	AE2-000 C O1	1.5109	Adder	1.78
940162	AE2-000 E O1	3.8659	Adder	4.55
940361	AE2-020 C	2.1468	Adder	2.53
940362	AE2-020 E	10.0513	Adder	11.83
940371	AE2-021 C	2.1468	Adder	2.53
940372	AE2-021 E	10.0513	Adder	11.83
940381	AE2-022 C	1.2523	Adder	1.47
940382	AE2-022 E	5.8633	Adder	6.9
942101	AE2-222 C O1	1.9912	Adder	2.34
942102	AE2-222 E O1	5.0019	Adder	5.88
942381	AE2-251 C	6.8009	Adder	8.0
942382	AE2-251 E	17.4016	Adder	20.47
945731	AF1-238 C	6.8753	50/50	6.8753
945732	AF1-238 E	10.3130	50/50	10.3130
945741	AF1-239 C	1.6177	50/50	1.6177
945742	AF1-239 E	2.4266	50/50	2.4266
957221	AF2-016 C	3.5057	Adder	4.12
957222	AF2-016 E	5.2586	Adder	6.19
957251	AF2-019 C	0.4536	Adder	0.53
957252	AF2-019 E	0.6804	Adder	0.8
957263	AF2-020 BAT	8.5686	50/50	8.5686

1.1.19 Index 26

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
139739985	206294	28LARRABEE	JCP&L	206309	28SMITHBRG	JCP&L	2	JC-P1-2-JCC-230-017	single	813.0	118.45	121.82	AC	27.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	67.8604	80/20	67.8604
938421	AE1-061 C	0.1521	80/20	0.1521
938422	AE1-061 E	0.1521	80/20	0.1521
938781	AE1-104 C O1	7.6764	80/20	7.6764
938782	AE1-104 E O1	19.6399	80/20	19.6399
939981	AE1-238 C	37.4886	80/20	37.4886
939982	AE1-238 E	98.4701	80/20	98.4701
940161	AE2-000 C O1	55.3750	80/20	55.3750
940162	AE2-000 E O1	141.6857	80/20	141.6857
940361	AE2-020 C	8.5433	80/20	8.5433
940362	AE2-020 E	40.0004	80/20	40.0004
940371	AE2-021 C	8.5433	80/20	8.5433
940372	AE2-021 E	40.0004	80/20	40.0004
940381	AE2-022 C	4.9836	80/20	4.9836
940382	AE2-022 E	23.3335	80/20	23.3335
940401	AE2-024 C O1	46.1952	80/20	46.1952
940402	AE2-024 E O1	216.2809	80/20	216.2809
940411	AE2-025 C	23.3193	80/20	23.3193
940412	AE2-025 E	109.1686	80/20	109.1686
942101	AE2-222 C O1	6.3785	80/20	6.3785
942102	AE2-222 E O1	16.0231	80/20	16.0231
942381	AE2-251 C	27.0650	80/20	27.0650
942382	AE2-251 E	69.2518	80/20	69.2518
943561	AF1-027	0.3111	80/20	0.3111
944332	AF1-101 E O1	138.9085	80/20	138.9085
945201	AF1-185 1	0.3080	80/20	0.3080
945211	AF1-185 2	0.0684	80/20	0.0684
945571	AF1-222 C	23.3679	80/20	23.3679
945572	AF1-222 E	61.6063	80/20	61.6063
945731	AF1-238 C	2.5684	80/20	2.5684
945732	AF1-238 E	3.8525	80/20	3.8525
945741	AF1-239 C	0.6043	80/20	0.6043
945742	AF1-239 E	0.9065	80/20	0.9065
957221	AF2-016 C	10.8288	80/20	10.8288
957222	AF2-016 E	16.2432	80/20	16.2432
957251	AF2-019 C	0.5476	80/20	0.5476
957252	AF2-019 E	0.8214	80/20	0.8214
957271	AF2-021 C	1.8305	80/20	1.8305
957272	AF2-021 E	2.7457	80/20	2.7457
957311	AF2-025 C	0.7386	80/20	0.7386

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957312	AF2-025 E	1.1080	80/20	1.1080
957772	AF2-071 BAT	8.7780	80/20	8.7780
957781	AF2-072 C	9.2997	80/20	9.2997
957782	AF2-072 E	9.2997	80/20	9.2997
961221	AF2-413	17.1100	80/20	17.1100

1.1.20 Index 27

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
139740273	206295	28LEISURD	JCP&L	206323	28LAKEWOOD	JCP&L	1	JC-P1-2-JCC-230-020	single	869.0	104.11	108.58	AC	41.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	111.3277	80/20	111.3277
938421	AE1-061 C	0.2100	80/20	0.2100
938422	AE1-061 E	0.2100	80/20	0.2100
938781	AE1-104 C O1	11.5612	80/20	11.5612
938782	AE1-104 E O1	29.5791	80/20	29.5791
939301	AE1-161 C	1.2036	80/20	1.2036
939302	AE1-161 E	1.8054	80/20	1.8054
940161	AE2-000 C O1	90.8450	80/20	90.8450
940162	AE2-000 E O1	232.4412	80/20	232.4412
940361	AE2-020 C	13.1262	80/20	13.1262
940362	AE2-020 E	61.4577	80/20	61.4577
940371	AE2-021 C	13.1262	80/20	13.1262
940372	AE2-021 E	61.4577	80/20	61.4577
940381	AE2-022 C	7.6569	80/20	7.6569
940382	AE2-022 E	35.8504	80/20	35.8504
942101	AE2-222 C O1	9.7283	80/20	9.7283
942102	AE2-222 E O1	24.4381	80/20	24.4381
942381	AE2-251 C	41.5835	80/20	41.5835
942382	AE2-251 E	106.4005	80/20	106.4005
944332	AF1-101 E O1	227.8850	80/20	227.8850
945431	AF1-208 C O1	0.0001	80/20	0.0001
945432	AF1-208 E O1	0.5772	80/20	0.5772
945731	AF1-238 C	3.5787	80/20	3.5787
945732	AF1-238 E	5.3680	80/20	5.3680
945741	AF1-239 C	0.8420	80/20	0.8420
945742	AF1-239 E	1.2631	80/20	1.2631
957221	AF2-016 C	16.4592	80/20	16.4592
957222	AF2-016 E	24.6888	80/20	24.6888
957251	AF2-019 C	0.8151	80/20	0.8151
957252	AF2-019 E	1.2227	80/20	1.2227
957261	AF2-020 C	0.4951	80/20	0.4951
957262	AF2-020 E	0.7427	80/20	0.7427
957271	AF2-021 C	2.9727	80/20	2.9727
957272	AF2-021 E	4.4591	80/20	4.4591
957311	AF2-025 C	1.1259	80/20	1.1259
957312	AF2-025 E	1.6889	80/20	1.6889
957783	AF2-072 BAT	4.6585	80/20	4.6585

1.1.21 Index 28

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
139740161	206296	28LEISUR U	JCP&L	206323	28LAKEWOOD	JCP&L	1	JC-P1-2-JCC-230-019	single	817.0	114.6	119.5	AC	40.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	110.8017	80/20	110.8017
938421	AE1-061 C	0.2089	80/20	0.2089
938422	AE1-061 E	0.2089	80/20	0.2089
938781	AE1-104 C O1	11.5039	80/20	11.5039
938782	AE1-104 E O1	29.4325	80/20	29.4325
939301	AE1-161 C	1.1970	80/20	1.1970
939302	AE1-161 E	1.7955	80/20	1.7955
940161	AE2-000 C O1	90.4157	80/20	90.4157
940162	AE2-000 E O1	231.3429	80/20	231.3429
940361	AE2-020 C	13.0615	80/20	13.0615
940362	AE2-020 E	61.1547	80/20	61.1547
940371	AE2-021 C	13.0615	80/20	13.0615
940372	AE2-021 E	61.1547	80/20	61.1547
940381	AE2-022 C	7.6192	80/20	7.6192
940382	AE2-022 E	35.6736	80/20	35.6736
942101	AE2-222 C O1	9.6805	80/20	9.6805
942102	AE2-222 E O1	24.3179	80/20	24.3179
942381	AE2-251 C	41.3785	80/20	41.3785
942382	AE2-251 E	105.8759	80/20	105.8759
944332	AF1-101 E O1	226.8083	80/20	226.8083
945431	AF1-208 C O1	0.0001	80/20	0.0001
945432	AF1-208 E O1	0.5741	80/20	0.5741
945731	AF1-238 C	3.5598	80/20	3.5598
945732	AF1-238 E	5.3397	80/20	5.3397
945741	AF1-239 C	0.8376	80/20	0.8376
945742	AF1-239 E	1.2564	80/20	1.2564
957221	AF2-016 C	16.3776	80/20	16.3776
957222	AF2-016 E	24.5664	80/20	24.5664
957251	AF2-019 C	0.8110	80/20	0.8110
957252	AF2-019 E	1.2166	80/20	1.2166
957261	AF2-020 C	0.4925	80/20	0.4925
957262	AF2-020 E	0.7387	80/20	0.7387
957271	AF2-021 C	2.9586	80/20	2.9586
957272	AF2-021 E	4.4378	80/20	4.4378
957311	AF2-025 C	1.1203	80/20	1.1203
957312	AF2-025 E	1.6805	80/20	1.6805
957783	AF2-072 BAT	4.6060	80/20	4.6060

1.1.22 Index 29

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
99007216	206297	28MANITOU	JCP&L	206319	28WHITINGS	JCP&L	1	JC-P7-1-JCC-230-12	tower	817.0	129.37	134.79	AC	42.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	121.0638	50/50	121.0638
938421	AE1-061 C	0.1717	Adder	0.2
938422	AE1-061 E	0.1717	Adder	0.2
938781	AE1-104 C O1	11.8011	50/50	11.8011
938782	AE1-104 E O1	30.1928	50/50	30.1928
939301	AE1-161 C	0.9411	Adder	1.11
939302	AE1-161 E	1.4117	Adder	1.66
940161	AE2-000 C O1	98.7898	50/50	98.7898
940162	AE2-000 E O1	252.7691	50/50	252.7691
940361	AE2-020 C	13.6337	50/50	13.6337
940362	AE2-020 E	63.8339	50/50	63.8339
940371	AE2-021 C	13.6337	50/50	13.6337
940372	AE2-021 E	63.8339	50/50	63.8339
940381	AE2-022 C	7.9530	50/50	7.9530
940382	AE2-022 E	37.2365	50/50	37.2365
942101	AE2-222 C O1	10.0509	50/50	10.0509
942102	AE2-222 E O1	25.2483	50/50	25.2483
942381	AE2-251 C	43.1913	50/50	43.1913
942382	AE2-251 E	110.5143	50/50	110.5143
944332	AF1-101 E O1	247.8146	50/50	247.8146
945431	AF1-208 C O1	0.0000	Adder	0.0
945432	AF1-208 E O1	0.4544	Adder	0.53
945731	AF1-238 C	2.9153	Adder	3.43
945732	AF1-238 E	4.3729	Adder	5.14
945741	AF1-239 C	0.6859	Adder	0.81
945742	AF1-239 E	1.0289	Adder	1.21
957221	AF2-016 C	16.9584	50/50	16.9584
957222	AF2-016 E	25.4376	50/50	25.4376
957251	AF2-019 C	0.8219	50/50	0.8219
957252	AF2-019 E	1.2329	50/50	1.2329
957261	AF2-020 C	0.3949	Adder	0.46
957262	AF2-020 E	0.5924	Adder	0.7
957271	AF2-021 C	3.2110	50/50	3.2110
957272	AF2-021 E	4.8164	50/50	4.8164
957311	AF2-025 C	1.1624	50/50	1.1624
957312	AF2-025 E	1.7436	50/50	1.7436

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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
139740051	206297	28MANITOU	JCP&L	206296	28LEISUR U	JCP&L	1	JC-P1-2-JCC-230-019	single	817.0	121.5	126.5	AC	41.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	112.4674	80/20	112.4674
938421	AE1-061 C	0.2119	80/20	0.2119
938422	AE1-061 E	0.2119	80/20	0.2119
938781	AE1-104 C O1	11.6729	80/20	11.6729
938782	AE1-104 E O1	29.8648	80/20	29.8648
939301	AE1-161 C	1.2140	80/20	1.2140
939302	AE1-161 E	1.8210	80/20	1.8210
940161	AE2-000 C O1	91.7750	80/20	91.7750
940162	AE2-000 E O1	234.8208	80/20	234.8208
940361	AE2-020 C	13.2548	80/20	13.2548
940362	AE2-020 E	62.0598	80/20	62.0598
940371	AE2-021 C	13.2548	80/20	13.2548
940372	AE2-021 E	62.0598	80/20	62.0598
940381	AE2-022 C	7.7319	80/20	7.7319
940382	AE2-022 E	36.2015	80/20	36.2015
942101	AE2-222 C O1	9.8233	80/20	9.8233
942102	AE2-222 E O1	24.6767	80/20	24.6767
942381	AE2-251 C	41.9908	80/20	41.9908
942382	AE2-251 E	107.4428	80/20	107.4428
944332	AF1-101 E O1	230.2180	80/20	230.2180
945431	AF1-208 C O1	0.0001	80/20	0.0001
945432	AF1-208 E O1	0.5822	80/20	0.5822
945731	AF1-238 C	3.6113	80/20	3.6113
945732	AF1-238 E	5.4170	80/20	5.4170
945741	AF1-239 C	0.8497	80/20	0.8497
945742	AF1-239 E	1.2746	80/20	1.2746
957221	AF2-016 C	16.6188	80/20	16.6188
957222	AF2-016 E	24.9282	80/20	24.9282
957251	AF2-019 C	0.8229	80/20	0.8229
957252	AF2-019 E	1.2343	80/20	1.2343
957261	AF2-020 C	0.4995	80/20	0.4995
957262	AF2-020 E	0.7493	80/20	0.7493
957271	AF2-021 C	3.0030	80/20	3.0030
957272	AF2-021 E	4.5044	80/20	4.5044
957311	AF2-025 C	1.1369	80/20	1.1369
957312	AF2-025 E	1.7053	80/20	1.7053
957783	AF2-072 BAT	4.6310	80/20	4.6310

1.1.24 Index 31

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
139740061	206297	28MANITOU	JCP&L	206295	28LEISURD	JCP&L	1	JC-P1-2-JCC-230-020	single	817.0	121.18	126.21	AC	41.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	112.4652	80/20	112.4652
938421	AE1-061 C	0.2119	80/20	0.2119
938422	AE1-061 E	0.2119	80/20	0.2119
938781	AE1-104 C O1	11.6729	80/20	11.6729
938782	AE1-104 E O1	29.8648	80/20	29.8648
939301	AE1-161 C	1.2142	80/20	1.2142
939302	AE1-161 E	1.8213	80/20	1.8213
940161	AE2-000 C O1	91.7732	80/20	91.7732
940162	AE2-000 E O1	234.8161	80/20	234.8161
940361	AE2-020 C	13.2548	80/20	13.2548
940362	AE2-020 E	62.0598	80/20	62.0598
940371	AE2-021 C	13.2548	80/20	13.2548
940372	AE2-021 E	62.0598	80/20	62.0598
940381	AE2-022 C	7.7319	80/20	7.7319
940382	AE2-022 E	36.2015	80/20	36.2015
942101	AE2-222 C O1	9.8233	80/20	9.8233
942102	AE2-222 E O1	24.6767	80/20	24.6767
942381	AE2-251 C	41.9908	80/20	41.9908
942382	AE2-251 E	107.4428	80/20	107.4428
944332	AF1-101 E O1	230.2134	80/20	230.2134
945431	AF1-208 C O1	0.0001	80/20	0.0001
945432	AF1-208 E O1	0.5823	80/20	0.5823
945731	AF1-238 C	3.6113	80/20	3.6113
945732	AF1-238 E	5.4170	80/20	5.4170
945741	AF1-239 C	0.8497	80/20	0.8497
945742	AF1-239 E	1.2746	80/20	1.2746
957221	AF2-016 C	16.6200	80/20	16.6200
957222	AF2-016 E	24.9300	80/20	24.9300
957251	AF2-019 C	0.8229	80/20	0.8229
957252	AF2-019 E	1.2343	80/20	1.2343
957261	AF2-020 C	0.4995	80/20	0.4995
957262	AF2-020 E	0.7493	80/20	0.7493
957271	AF2-021 C	3.0030	80/20	3.0030
957272	AF2-021 E	4.5044	80/20	4.5044
957311	AF2-025 C	1.1369	80/20	1.1369
957312	AF2-025 E	1.7053	80/20	1.7053
957783	AF2-072 BAT	4.6330	80/20	4.6330

1.1.25 Index 32

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
139739794	206302	28OYSTER C	JCP&L	206297	28MANITOU	JCP&L	1	JC-P1-2-JCC-230-022	single	817.0	182.17	188.53	AC	55.08

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	155.1660	80/20	155.1660
938421	AE1-061 C	0.2672	80/20	0.2672
938422	AE1-061 E	0.2672	80/20	0.2672
938781	AE1-104 C O1	15.3673	80/20	15.3673
938782	AE1-104 E O1	39.3170	80/20	39.3170
938871	AE1-115 C	0.5424	80/20	0.5424
938872	AE1-115 E	0.5424	80/20	0.5424
939301	AE1-161 C	1.4824	80/20	1.4824
939302	AE1-161 E	2.2236	80/20	2.2236
940161	AE2-000 C O1	126.6176	80/20	126.6176
940162	AE2-000 E O1	323.9711	80/20	323.9711
940361	AE2-020 C	17.6759	80/20	17.6759
940362	AE2-020 E	82.7596	80/20	82.7596
940371	AE2-021 C	17.6759	80/20	17.6759
940372	AE2-021 E	82.7596	80/20	82.7596
940381	AE2-022 C	10.3109	80/20	10.3109
940382	AE2-022 E	48.2765	80/20	48.2765
942101	AE2-222 C O1	13.0481	80/20	13.0481
942102	AE2-222 E O1	32.7775	80/20	32.7775
942381	AE2-251 C	55.9968	80/20	55.9968
942382	AE2-251 E	143.2800	80/20	143.2800
944332	AF1-101 E O1	317.6209	80/20	317.6209
945431	AF1-208 C O1	0.0001	80/20	0.0001
945432	AF1-208 E O1	0.7144	80/20	0.7144
945731	AF1-238 C	4.5405	80/20	4.5405
945732	AF1-238 E	6.8108	80/20	6.8108
945741	AF1-239 C	1.0684	80/20	1.0684
945742	AF1-239 E	1.6025	80/20	1.6025
957221	AF2-016 C	22.0308	80/20	22.0308
957222	AF2-016 E	33.0462	80/20	33.0462
957251	AF2-019 C	1.0737	80/20	1.0737
957252	AF2-019 E	1.6105	80/20	1.6105
957261	AF2-020 C	0.6186	80/20	0.6186
957262	AF2-020 E	0.9280	80/20	0.9280
957271	AF2-021 C	4.1222	80/20	4.1222
957272	AF2-021 E	6.1834	80/20	6.1834
957291	AF2-023 C	0.9222	80/20	0.9222
957292	AF2-023 E	1.3834	80/20	1.3834
957311	AF2-025 C	1.5093	80/20	1.5093
957312	AF2-025 E	2.2639	80/20	2.2639
957783	AF2-072 BAT	4.5515	80/20	4.5515

1.1.26 Index 33

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
139739806	206302	28OYSTER C	JCP&L	206297	28MANITOU	JCP&L	2	JC-P1-2-JCC-230-021	single	869.0	171.27	177.27	AC	55.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	155.1952	80/20	155.1952
938421	AE1-061 C	0.2672	80/20	0.2672
938422	AE1-061 E	0.2672	80/20	0.2672
938781	AE1-104 C O1	15.3702	80/20	15.3702
938782	AE1-104 E O1	39.3244	80/20	39.3244
938871	AE1-115 C	0.5425	80/20	0.5425
938872	AE1-115 E	0.5425	80/20	0.5425
939301	AE1-161 C	1.4826	80/20	1.4826
939302	AE1-161 E	2.2239	80/20	2.2239
940161	AE2-000 C O1	126.6415	80/20	126.6415
940162	AE2-000 E O1	324.0321	80/20	324.0321
940361	AE2-020 C	17.6793	80/20	17.6793
940362	AE2-020 E	82.7756	80/20	82.7756
940371	AE2-021 C	17.6793	80/20	17.6793
940372	AE2-021 E	82.7756	80/20	82.7756
940381	AE2-022 C	10.3129	80/20	10.3129
940382	AE2-022 E	48.2858	80/20	48.2858
942101	AE2-222 C O1	13.0501	80/20	13.0501
942102	AE2-222 E O1	32.7827	80/20	32.7827
942381	AE2-251 C	56.0076	80/20	56.0076
942382	AE2-251 E	143.3076	80/20	143.3076
944332	AF1-101 E O1	317.6807	80/20	317.6807
945431	AF1-208 C O1	0.0001	80/20	0.0001
945432	AF1-208 E O1	0.7145	80/20	0.7145
945731	AF1-238 C	4.5416	80/20	4.5416
945732	AF1-238 E	6.8123	80/20	6.8123
945741	AF1-239 C	1.0686	80/20	1.0686
945742	AF1-239 E	1.6029	80/20	1.6029
957221	AF2-016 C	22.0344	80/20	22.0344
957222	AF2-016 E	33.0516	80/20	33.0516
957251	AF2-019 C	1.0739	80/20	1.0739
957252	AF2-019 E	1.6109	80/20	1.6109
957261	AF2-020 C	0.6188	80/20	0.6188
957262	AF2-020 E	0.9282	80/20	0.9282
957271	AF2-021 C	4.1230	80/20	4.1230
957272	AF2-021 E	6.1846	80/20	6.1846
957291	AF2-023 C	0.9224	80/20	0.9224
957292	AF2-023 E	1.3836	80/20	1.3836
957311	AF2-025 C	1.5096	80/20	1.5096
957312	AF2-025 E	2.2644	80/20	2.2644
957783	AF2-072 BAT	4.5525	80/20	4.5525

1.1.27 Index 34

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99005799	206314	28RED OAKA	JCP&L	206305	28RAR RVR	JCP&L	1	JC-P2-3-JCC-230-26B	breaker	869.0	118.55	120.33	AC	17.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	**28O C GEN (Deactivation : 17/09/2018)**	**35.3813**	**50/50**	**35.3813**
933332	**AC2-145 E (Suspended)**	**-0.0093**	**Adder**	**-0.01**
938781	AE1-104 C O1	4.5073	Adder	5.3
938782	AE1-104 E O1	11.5320	Adder	13.57
939981	AE1-238 C	53.8668	50/50	53.8668
939982	AE1-238 E	141.4901	50/50	141.4901
940161	AE2-000 C O1	28.8716	50/50	28.8716
940162	AE2-000 E O1	73.8726	50/50	73.8726
940361	AE2-020 C	4.6750	Adder	5.5
940362	AE2-020 E	21.8886	Adder	25.75
940371	AE2-021 C	4.6750	Adder	5.5
940372	AE2-021 E	21.8886	Adder	25.75
940381	AE2-022 C	2.7271	Adder	3.21
940382	AE2-022 E	12.7683	Adder	15.02
940401	AE2-024 C O1	23.4782	50/50	23.4782
940402	AE2-024 E O1	109.9225	50/50	109.9225
940411	AE2-025 C	11.8518	50/50	11.8518
940412	AE2-025 E	55.4838	50/50	55.4838
942101	AE2-222 C O1	3.5572	Adder	4.18
942102	AE2-222 E O1	8.9358	Adder	10.51
942381	AE2-251 C	14.8102	Adder	17.42
942382	AE2-251 E	37.8952	Adder	44.58
943561	AF1-027	0.2162	50/50	0.2162
944332	AF1-101 E O1	72.4246	50/50	72.4246
945201	AF1-185 1	-1.0936	Adder	-1.29
945211	AF1-185 2	-0.2430	Adder	-0.29
945571	AF1-222 C	33.5770	50/50	33.5770
945572	AF1-222 E	88.5211	50/50	88.5211
957221	AF2-016 C	6.1006	Adder	7.18
957222	AF2-016 E	9.1509	Adder	10.77
957271	AF2-021 C	0.9899	50/50	0.9899
957272	AF2-021 E	1.4849	50/50	1.4849
957311	AF2-025 C	0.4133	Adder	0.49
957312	AF2-025 E	0.6200	Adder	0.73
957771	AF2-071	5.2513	Adder	6.18
957781	AF2-072 C	4.7265	50/50	4.7265
957782	AF2-072 E	4.7265	50/50	4.7265
961222	AF2-413 BAT	71.4750	50/50	71.4750

1.1.28 Index 35

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
99005789	206315	28RED OAKB	JCP&L	206305	28RAR RVR	JCP&L	1	JC-P2-3-JCC-230-26D	breaker	869.0	119.47	121.24	AC	17.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	**28O C GEN (Deactivation : 17/09/2018)**	**35.2104**	**50/50**	**35.2104**
933332	**AC2-145 E (Suspended)**	**-0.0093**	**Adder**	**-0.01**
938781	AE1-104 C O1	4.4776	Adder	5.27
938782	AE1-104 E O1	11.4559	Adder	13.48
939981	AE1-238 C	53.6256	50/50	53.6256
939982	AE1-238 E	140.8566	50/50	140.8566
940161	AE2-000 C O1	28.7322	50/50	28.7322
940162	AE2-000 E O1	73.5159	50/50	73.5159
940361	AE2-020 C	4.6460	Adder	5.47
940362	AE2-020 E	21.7530	Adder	25.59
940371	AE2-021 C	4.6460	Adder	5.47
940372	AE2-021 E	21.7530	Adder	25.59
940381	AE2-022 C	2.7102	Adder	3.19
940382	AE2-022 E	12.6893	Adder	14.93
940401	AE2-024 C O1	23.3689	50/50	23.3689
940402	AE2-024 E O1	109.4109	50/50	109.4109
940411	AE2-025 C	11.7966	50/50	11.7966
940412	AE2-025 E	55.2256	50/50	55.2256
942101	AE2-222 C O1	3.5345	Adder	4.16
942102	AE2-222 E O1	8.8789	Adder	10.45
942381	AE2-251 C	14.7185	Adder	17.32
942382	AE2-251 E	37.6605	Adder	44.31
943561	AF1-027	0.2151	50/50	0.2151
944332	AF1-101 E O1	72.0749	50/50	72.0749
945201	AF1-185 1	-1.0900	Adder	-1.28
945211	AF1-185 2	-0.2422	Adder	-0.28
945571	AF1-222 C	33.4266	50/50	33.4266
945572	AF1-222 E	88.1247	50/50	88.1247
957221	AF2-016 C	6.0608	Adder	7.13
957222	AF2-016 E	9.0913	Adder	10.7
957271	AF2-021 C	0.9849	50/50	0.9849
957272	AF2-021 E	1.4773	50/50	1.4773
957311	AF2-025 C	0.4107	Adder	0.48
957312	AF2-025 E	0.6160	Adder	0.72
957771	AF2-071	5.2190	Adder	6.14
957781	AF2-072 C	4.7045	50/50	4.7045
957782	AF2-072 E	4.7045	50/50	4.7045
961222	AF2-413 BAT	71.2425	50/50	71.2425

1.1.29 Index 36

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
139740359	206316	28WINDSOR	JCP&L	219752	CLRKSVLL_1	PSE&G	1	PJM500_PS_P1-2_5022	single	813.0	102.79	105.09	AC	18.56

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	29.8152	80/20	29.8152
937523	AD2-213 BAT	1.8076	80/20	1.8076
938781	AE1-104 C O1	5.6825	80/20	5.6825
938782	AE1-104 E O1	14.5386	80/20	14.5386
939981	AE1-238 C	24.7572	80/20	24.7572
939982	AE1-238 E	65.0289	80/20	65.0289
940161	AE2-000 C O1	24.3296	80/20	24.3296
940162	AE2-000 E O1	62.2512	80/20	62.2512
940361	AE2-020 C	5.6490	80/20	5.6490
940362	AE2-020 E	26.4490	80/20	26.4490
940371	AE2-021 C	5.6490	80/20	5.6490
940372	AE2-021 E	26.4490	80/20	26.4490
940381	AE2-022 C	3.2952	80/20	3.2952
940382	AE2-022 E	15.4286	80/20	15.4286
940401	AE2-024 C O1	19.3888	80/20	19.3888
940402	AE2-024 E O1	90.7765	80/20	90.7765
940411	AE2-025 C	9.7875	80/20	9.7875
940412	AE2-025 E	45.8198	80/20	45.8198
942101	AE2-222 C O1	4.3004	80/20	4.3004
942102	AE2-222 E O1	10.8028	80/20	10.8028
942381	AE2-251 C	17.8959	80/20	17.8959
942382	AE2-251 E	45.7905	80/20	45.7905
943561	AF1-027	0.2993	80/20	0.2993
944332	AF1-101 E O1	61.0310	80/20	61.0310
944432	AF1-108 BAT	1.8656	80/20	1.8656
944442	AF1-109 BAT	5.2358	80/20	5.2358
945201	AF1-185 1	0.2917	80/20	0.2917
945211	AF1-185 2	0.0648	80/20	0.0648
945571	AF1-222 C	15.4320	80/20	15.4320
945572	AF1-222 E	40.6843	80/20	40.6843
945723	AF1-237 BAT	38.0900	80/20	38.0900
957221	AF2-016 C	7.4244	80/20	7.4244
957222	AF2-016 E	11.1366	80/20	11.1366
957251	AF2-019 C	0.4421	80/20	0.4421
957252	AF2-019 E	0.6631	80/20	0.6631
957271	AF2-021 C	0.8679	80/20	0.8679
957272	AF2-021 E	1.3019	80/20	1.3019
957311	AF2-025 C	0.5016	80/20	0.5016
957312	AF2-025 E	0.7524	80/20	0.7524
957771	AF2-071	36.8700	80/20	36.8700
957781	AF2-072 C	3.9033	80/20	3.9033

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957782	AF2-072 E	3.9033	80/20	3.9033
961221	AF2-413	16.2050	80/20	16.2050

1.1.30 Index 37

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
99007234	206318	28VANHISVL	JCP&L	206294	28LARRABEE	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	107.21	112.37	AC	40.47

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	88.2655	50/50	88.2655
919663	AA2-048 BAT	1.0054	50/50	1.0054
938421	AE1-061 C	0.2165	Adder	0.25
938422	AE1-061 E	0.2165	Adder	0.25
938431	AE1-062 C	0.6595	Adder	0.78
938432	AE1-062 E	0.6595	Adder	0.78
938781	AE1-104 C O1	11.7408	50/50	11.7408
938782	AE1-104 E O1	30.0387	50/50	30.0387
938871	AE1-115 C	0.5739	Adder	0.68
938872	AE1-115 E	0.5739	Adder	0.68
939301	AE1-161 C	1.3835	Adder	1.63
939302	AE1-161 E	2.0752	Adder	2.44
940161	AE2-000 C O1	72.0259	50/50	72.0259
940162	AE2-000 E O1	184.2895	50/50	184.2895
940361	AE2-020 C	12.5454	50/50	12.5454
940362	AE2-020 E	58.7387	50/50	58.7387
940371	AE2-021 C	12.5454	50/50	12.5454
940372	AE2-021 E	58.7387	50/50	58.7387
940381	AE2-022 C	7.3182	50/50	7.3182
940382	AE2-022 E	34.2642	50/50	34.2642
942101	AE2-222 C O1	9.4775	50/50	9.4775
942102	AE2-222 E O1	23.8081	50/50	23.8081
942381	AE2-251 C	39.7437	50/50	39.7437
942382	AE2-251 E	101.6931	50/50	101.6931
943561	AF1-027	0.4824	50/50	0.4824
944332	AF1-101 E O1	180.6772	50/50	180.6772
944951	AF1-160 C	0.6595	Adder	0.78
944952	AF1-160 E	0.6595	Adder	0.78
945201	AF1-185 1	-0.3631	Adder	-0.43
945211	AF1-185 2	-0.0807	Adder	-0.09
945431	AF1-208 C O1	0.0001	Adder	0.0
945432	AF1-208 E O1	0.6528	Adder	0.77
945731	AF1-238 C	3.7225	Adder	4.38
945732	AF1-238 E	5.5837	Adder	6.57
945741	AF1-239 C	0.8759	Adder	1.03
945742	AF1-239 E	1.3138	Adder	1.55
957221	AF2-016 C	16.1880	50/50	16.1880
957222	AF2-016 E	24.2820	50/50	24.2820
957251	AF2-019 C	0.8613	50/50	0.8613
957252	AF2-019 E	1.2919	50/50	1.2919
957261	AF2-020 C	0.5429	Adder	0.64

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957262	AF2-020 E	0.8144	Adder	0.96
957271	AF2-021 C	2.4296	50/50	2.4296
957272	AF2-021 E	3.6444	50/50	3.6444
957291	AF2-023 C	0.9757	Adder	1.15
957292	AF2-023 E	1.4635	Adder	1.72
957301	AF2-024 C	0.4898	Adder	0.58
957302	AF2-024 E	0.7346	Adder	0.86
957311	AF2-025 C	1.0995	50/50	1.0995
957312	AF2-025 E	1.6493	50/50	1.6493
957783	AF2-072 BAT	10.1280	50/50	10.1280

1.1.31 Index 38

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
99007248	206319	28WHITINGS	JCP&L	206720	28MANCHSTR	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	113.85	119.14	AC	41.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	119.5914	50/50	119.5914
938421	AE1-061 C	0.1697	Adder	0.2
938422	AE1-061 E	0.1697	Adder	0.2
938781	AE1-104 C O1	11.6631	50/50	11.6631
938782	AE1-104 E O1	29.8400	50/50	29.8400
939301	AE1-161 C	0.9309	Adder	1.1
939302	AE1-161 E	1.3964	Adder	1.64
940161	AE2-000 C O1	97.5882	50/50	97.5882
940162	AE2-000 E O1	249.6948	50/50	249.6948
940361	AE2-020 C	13.4728	50/50	13.4728
940362	AE2-020 E	63.0804	50/50	63.0804
940371	AE2-021 C	13.4728	50/50	13.4728
940372	AE2-021 E	63.0804	50/50	63.0804
940381	AE2-022 C	7.8591	50/50	7.8591
940382	AE2-022 E	36.7969	50/50	36.7969
942101	AE2-222 C O1	9.9320	50/50	9.9320
942102	AE2-222 E O1	24.9496	50/50	24.9496
942381	AE2-251 C	42.6814	50/50	42.6814
942382	AE2-251 E	109.2098	50/50	109.2098
944332	AF1-101 E O1	244.8005	50/50	244.8005
945431	AF1-208 C O1	0.0000	Adder	0.0
945432	AF1-208 E O1	0.4494	Adder	0.53
945731	AF1-238 C	2.8823	Adder	3.39
945732	AF1-238 E	4.3235	Adder	5.09
945741	AF1-239 C	0.6782	Adder	0.8
945742	AF1-239 E	1.0173	Adder	1.2
957221	AF2-016 C	16.7592	50/50	16.7592
957222	AF2-016 E	25.1388	50/50	25.1388
957251	AF2-019 C	0.8124	50/50	0.8124
957252	AF2-019 E	1.2186	50/50	1.2186
957261	AF2-020 C	0.3906	Adder	0.46
957262	AF2-020 E	0.5859	Adder	0.69
957271	AF2-021 C	3.1721	50/50	3.1721
957272	AF2-021 E	4.7581	50/50	4.7581
957311	AF2-025 C	1.1487	50/50	1.1487
957312	AF2-025 E	1.7231	50/50	1.7231

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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
139739923	206323	28LAKEWOOD	JCP&L	206294	28LARRABEE	JCP&L	2	JC-P1-2-JCC-230-014	single	817.0	130.63	135.97	AC	43.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	117.8312	80/20	117.8312
938421	AE1-061 C	0.2179	80/20	0.2179
938422	AE1-061 E	0.2179	80/20	0.2179
938781	AE1-104 C O1	12.0963	80/20	12.0963
938782	AE1-104 E O1	30.9482	80/20	30.9482
939301	AE1-161 C	1.2404	80/20	1.2404
939302	AE1-161 E	1.8606	80/20	1.8606
940161	AE2-000 C O1	96.1519	80/20	96.1519
940162	AE2-000 E O1	246.0198	80/20	246.0198
940361	AE2-020 C	13.7819	80/20	13.7819
940362	AE2-020 E	64.5276	80/20	64.5276
940371	AE2-021 C	13.7819	80/20	13.7819
940372	AE2-021 E	64.5276	80/20	64.5276
940381	AE2-022 C	8.0394	80/20	8.0394
940382	AE2-022 E	37.6411	80/20	37.6411
942101	AE2-222 C O1	10.2039	80/20	10.2039
942102	AE2-222 E O1	25.6329	80/20	25.6329
942381	AE2-251 C	43.6607	80/20	43.6607
942382	AE2-251 E	111.7154	80/20	111.7154
944332	AF1-101 E O1	241.1975	80/20	241.1975
945431	AF1-208 C O1	0.0001	80/20	0.0001
945432	AF1-208 E O1	0.5940	80/20	0.5940
945731	AF1-238 C	3.7046	80/20	3.7046
945732	AF1-238 E	5.5570	80/20	5.5570
945741	AF1-239 C	0.8717	80/20	0.8717
945742	AF1-239 E	1.3075	80/20	1.3075
957221	AF2-016 C	17.2548	80/20	17.2548
957222	AF2-016 E	25.8822	80/20	25.8822
957251	AF2-019 C	0.8506	80/20	0.8506
957252	AF2-019 E	1.2760	80/20	1.2760
957261	AF2-020 C	0.5107	80/20	0.5107
957262	AF2-020 E	0.7661	80/20	0.7661
957271	AF2-021 C	3.1426	80/20	3.1426
957272	AF2-021 E	4.7140	80/20	4.7140
957311	AF2-025 C	1.1808	80/20	1.1808
957312	AF2-025 E	1.7712	80/20	1.7712
957783	AF2-072 BAT	5.0590	80/20	5.0590

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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
139740034	206323	28LAKEWOOD	JCP&L	206294	28LARRABEE	JCP&L	1	JC-P1-2-JCC-230-013	single	869.0	123.15	128.0	AC	43.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	117.8447	80/20	117.8447
938421	AE1-061 C	0.2179	80/20	0.2179
938422	AE1-061 E	0.2179	80/20	0.2179
938781	AE1-104 C O1	12.0973	80/20	12.0973
938782	AE1-104 E O1	30.9507	80/20	30.9507
939301	AE1-161 C	1.2406	80/20	1.2406
939302	AE1-161 E	1.8609	80/20	1.8609
940161	AE2-000 C O1	96.1629	80/20	96.1629
940162	AE2-000 E O1	246.0479	80/20	246.0479
940361	AE2-020 C	13.7827	80/20	13.7827
940362	AE2-020 E	64.5316	80/20	64.5316
940371	AE2-021 C	13.7827	80/20	13.7827
940372	AE2-021 E	64.5316	80/20	64.5316
940381	AE2-022 C	8.0399	80/20	8.0399
940382	AE2-022 E	37.6435	80/20	37.6435
942101	AE2-222 C O1	10.2053	80/20	10.2053
942102	AE2-222 E O1	25.6363	80/20	25.6363
942381	AE2-251 C	43.6634	80/20	43.6634
942382	AE2-251 E	111.7223	80/20	111.7223
944332	AF1-101 E O1	241.2251	80/20	241.2251
945431	AF1-208 C O1	0.0001	80/20	0.0001
945432	AF1-208 E O1	0.5941	80/20	0.5941
945731	AF1-238 C	3.7046	80/20	3.7046
945732	AF1-238 E	5.5570	80/20	5.5570
945741	AF1-239 C	0.8717	80/20	0.8717
945742	AF1-239 E	1.3075	80/20	1.3075
957221	AF2-016 C	17.2572	80/20	17.2572
957222	AF2-016 E	25.8858	80/20	25.8858
957251	AF2-019 C	0.8507	80/20	0.8507
957252	AF2-019 E	1.2761	80/20	1.2761
957261	AF2-020 C	0.5107	80/20	0.5107
957262	AF2-020 E	0.7661	80/20	0.7661
957271	AF2-021 C	3.1430	80/20	3.1430
957272	AF2-021 E	4.7144	80/20	4.7144
957311	AF2-025 C	1.1809	80/20	1.1809
957312	AF2-025 E	1.7713	80/20	1.7713
957783	AF2-072 BAT	5.0460	80/20	5.0460

1.1.34 Index 41

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
139740490	206326	28E WINDSR	JCP&L	206316	28WINDSOR	JCP&L	1	PJM500_PS_P1-2_5022	single	869.0	102.19	104.35	AC	18.41

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	28.3900	80/20	28.3900
937523	AD2-213 BAT	1.7908	80/20	1.7908
938781	AE1-104 C O1	5.6660	80/20	5.6660
938782	AE1-104 E O1	14.4963	80/20	14.4963
939981	AE1-238 C	23.1552	80/20	23.1552
939982	AE1-238 E	60.8210	80/20	60.8210
940161	AE2-000 C O1	23.1666	80/20	23.1666
940162	AE2-000 E O1	59.2755	80/20	59.2755
940361	AE2-020 C	5.5851	80/20	5.5851
940362	AE2-020 E	26.1499	80/20	26.1499
940371	AE2-021 C	5.5851	80/20	5.5851
940372	AE2-021 E	26.1499	80/20	26.1499
940381	AE2-022 C	3.2580	80/20	3.2580
940382	AE2-022 E	15.2541	80/20	15.2541
940401	AE2-024 C O1	18.5009	80/20	18.5009
940402	AE2-024 E O1	86.6194	80/20	86.6194
940411	AE2-025 C	9.3393	80/20	9.3393
940412	AE2-025 E	43.7215	80/20	43.7215
942101	AE2-222 C O1	4.2607	80/20	4.2607
942102	AE2-222 E O1	10.7033	80/20	10.7033
942381	AE2-251 C	17.6936	80/20	17.6936
942382	AE2-251 E	45.2728	80/20	45.2728
944332	AF1-101 E O1	58.1136	80/20	58.1136
944432	AF1-108 BAT	1.8466	80/20	1.8466
944442	AF1-109 BAT	5.0880	80/20	5.0880
945201	AF1-185 1	0.2324	80/20	0.2324
945211	AF1-185 2	0.0516	80/20	0.0516
945571	AF1-222 C	14.4334	80/20	14.4334
945572	AF1-222 E	38.0517	80/20	38.0517
945723	AF1-237 BAT	37.0760	80/20	37.0760
957221	AF2-016 C	7.3656	80/20	7.3656
957222	AF2-016 E	11.0484	80/20	11.0484
957251	AF2-019 C	0.4432	80/20	0.4432
957252	AF2-019 E	0.6648	80/20	0.6648
957271	AF2-021 C	0.8334	80/20	0.8334
957272	AF2-021 E	1.2500	80/20	1.2500
957311	AF2-025 C	0.4972	80/20	0.4972
957312	AF2-025 E	0.7458	80/20	0.7458
957772	AF2-071 BAT	61.1630	80/20	61.1630
957781	AF2-072 C	3.7245	80/20	3.7245
957782	AF2-072 E	3.7245	80/20	3.7245
961221	AF2-413	12.9125	80/20	12.9125

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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
99005928	206410	28R11RINGB	JCP&L	206315	28RED OAKB	JCP&L	1	JC-P2-3-JCC-230-26D	breaker	869.0	105.65	107.49	AC	18.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	35.5454	50/50	35.5454
933332	AC2-145 E (Suspended)	-0.0091	Adder	-0.01
938781	AE1-104 C O1	4.5998	Adder	5.41
938782	AE1-104 E O1	11.7685	Adder	13.85
939981	AE1-238 C	53.8938	50/50	53.8938
939982	AE1-238 E	141.5610	50/50	141.5610
940161	AE2-000 C O1	29.0055	50/50	29.0055
940162	AE2-000 E O1	74.2152	50/50	74.2152
940361	AE2-020 C	4.7539	Adder	5.59
940362	AE2-020 E	22.2580	Adder	26.19
940371	AE2-021 C	4.7539	Adder	5.59
940372	AE2-021 E	22.2580	Adder	26.19
940381	AE2-022 C	2.7731	Adder	3.26
940382	AE2-022 E	12.9838	Adder	15.28
940401	AE2-024 C O1	23.5540	50/50	23.5540
940402	AE2-024 E O1	110.2772	50/50	110.2772
940411	AE2-025 C	11.8900	50/50	11.8900
940412	AE2-025 E	55.6628	50/50	55.6628
942101	AE2-222 C O1	3.6211	Adder	4.26
942102	AE2-222 E O1	9.0963	Adder	10.7
942381	AE2-251 C	15.0602	Adder	17.72
942382	AE2-251 E	38.5347	Adder	45.33
943561	AF1-027	0.2181	50/50	0.2181
944332	AF1-101 E O1	72.7605	50/50	72.7605
945201	AF1-185 1	-1.0843	Adder	-1.28
945211	AF1-185 2	-0.2410	Adder	-0.28
945571	AF1-222 C	33.5938	50/50	33.5938
945572	AF1-222 E	88.5655	50/50	88.5655
957221	AF2-016 C	6.2128	Adder	7.31
957222	AF2-016 E	9.3192	Adder	10.96
957251	AF2-019 C	0.3456	Adder	0.41
957252	AF2-019 E	0.5184	Adder	0.61
957271	AF2-021 C	0.9968	50/50	0.9968
957272	AF2-021 E	1.4952	50/50	1.4952
957311	AF2-025 C	0.4208	Adder	0.5
957312	AF2-025 E	0.6312	Adder	0.74
957771	AF2-071	5.3457	Adder	6.29
957781	AF2-072 C	4.7417	50/50	4.7417
957782	AF2-072 E	4.7417	50/50	4.7417
961222	AF2-413 BAT	70.8700	50/50	70.8700

1.1.36 Index 43

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
99005899	206411	28R11RINGA	JCP&L	206314	28RED OAKA	JCP&L	1	JC-P2-3-JCC-230-26B	breaker	869.0	107.55	109.34	AC	18.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	**28O C GEN (Deactivation : 17/09/2018)**	**35.6600**	**50/50**	**35.6600**
933332	**AC2-145 E (Suspended)**	**-0.0091**	**Adder**	**-0.01**
938781	AE1-104 C O1	4.6097	Adder	5.42
938782	AE1-104 E O1	11.7939	Adder	13.88
939981	AE1-238 C	54.0900	50/50	54.0900
939982	AE1-238 E	142.0764	50/50	142.0764
940161	AE2-000 C O1	29.0991	50/50	29.0991
940162	AE2-000 E O1	74.4546	50/50	74.4546
940361	AE2-020 C	4.7647	Adder	5.61
940362	AE2-020 E	22.3088	Adder	26.25
940371	AE2-021 C	4.7647	Adder	5.61
940372	AE2-021 E	22.3088	Adder	26.25
940381	AE2-022 C	2.7794	Adder	3.27
940382	AE2-022 E	13.0135	Adder	15.31
940401	AE2-024 C O1	23.6322	50/50	23.6322
940402	AE2-024 E O1	110.6435	50/50	110.6435
940411	AE2-025 C	11.9295	50/50	11.9295
940412	AE2-025 E	55.8477	50/50	55.8477
942101	AE2-222 C O1	3.6292	Adder	4.27
942102	AE2-222 E O1	9.1167	Adder	10.73
942381	AE2-251 C	15.0946	Adder	17.76
942382	AE2-251 E	38.6227	Adder	45.44
943561	AF1-027	0.2187	50/50	0.2187
944332	AF1-101 E O1	72.9952	50/50	72.9952
945201	AF1-185 1	-1.0888	Adder	-1.28
945211	AF1-185 2	-0.2420	Adder	-0.28
945571	AF1-222 C	33.7161	50/50	33.7161
945572	AF1-222 E	88.8879	50/50	88.8879
957221	AF2-016 C	6.2271	Adder	7.33
957222	AF2-016 E	9.3407	Adder	10.99
957251	AF2-019 C	0.3462	Adder	0.41
957252	AF2-019 E	0.5193	Adder	0.61
957271	AF2-021 C	0.9998	50/50	0.9998
957272	AF2-021 E	1.4998	50/50	1.4998
957311	AF2-025 C	0.4217	Adder	0.5
957312	AF2-025 E	0.6326	Adder	0.74
957771	AF2-071	5.3567	Adder	6.3
957781	AF2-072 C	4.7575	50/50	4.7575
957782	AF2-072 E	4.7575	50/50	4.7575
961222	AF2-413 BAT	71.1650	50/50	71.1650

1.1.37 Index 44

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
99007255	206720	28MANCHSTR	JCP&L	206318	28VANHISVL	JCP&L	1	JC-P7-1-JCC-230-12	tower	869.0	112.77	118.29	AC	41.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
206325	28O C GEN (Deactivation : 17/09/2018)	119.5914	50/50	119.5914
938421	AE1-061 C	0.1697	Adder	0.2
938422	AE1-061 E	0.1697	Adder	0.2
938781	AE1-104 C O1	11.6631	50/50	11.6631
938782	AE1-104 E O1	29.8400	50/50	29.8400
939301	AE1-161 C	0.9309	Adder	1.1
939302	AE1-161 E	1.3964	Adder	1.64
940161	AE2-000 C O1	97.5882	50/50	97.5882
940162	AE2-000 E O1	249.6948	50/50	249.6948
940361	AE2-020 C	13.4728	50/50	13.4728
940362	AE2-020 E	63.0804	50/50	63.0804
940371	AE2-021 C	13.4728	50/50	13.4728
940372	AE2-021 E	63.0804	50/50	63.0804
940381	AE2-022 C	7.8591	50/50	7.8591
940382	AE2-022 E	36.7969	50/50	36.7969
942101	AE2-222 C O1	9.9320	50/50	9.9320
942102	AE2-222 E O1	24.9496	50/50	24.9496
942381	AE2-251 C	42.6814	50/50	42.6814
942382	AE2-251 E	109.2098	50/50	109.2098
944332	AF1-101 E O1	244.8005	50/50	244.8005
945431	AF1-208 C O1	0.0000	Adder	0.0
945432	AF1-208 E O1	0.4494	Adder	0.53
945731	AF1-238 C	2.8823	Adder	3.39
945732	AF1-238 E	4.3235	Adder	5.09
945741	AF1-239 C	0.6782	Adder	0.8
945742	AF1-239 E	1.0173	Adder	1.2
957221	AF2-016 C	16.7592	50/50	16.7592
957222	AF2-016 E	25.1388	50/50	25.1388
957251	AF2-019 C	0.8124	50/50	0.8124
957252	AF2-019 E	1.2186	50/50	1.2186
957261	AF2-020 C	0.3906	Adder	0.46
957262	AF2-020 E	0.5859	Adder	0.69
957271	AF2-021 C	3.1721	50/50	3.1721
957272	AF2-021 E	4.7581	50/50	4.7581
957311	AF2-025 C	1.1487	50/50	1.1487
957312	AF2-025 E	1.7231	50/50	1.7231

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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
99832014	227900	CARDIFF	AE	219100	NEWFRDM	PSE&G	1	JC-P7-1-JCC-230-13	tower	692.0	196.25	212.05	AC	102.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938421	AE1-061 C	0.3972	50/50	0.3972
938422	AE1-061 E	0.3972	50/50	0.3972
938781	AE1-104 C O1	27.9385	50/50	27.9385
938782	AE1-104 E O1	71.4802	50/50	71.4802
938871	AE1-115 C	0.5413	Adder	0.64
938872	AE1-115 E	0.5413	Adder	0.64
939301	AE1-161 C	1.5643	Adder	1.84
939302	AE1-161 E	2.3465	Adder	2.76
940161	AE2-000 C O1	71.9855	50/50	71.9855
940162	AE2-000 E O1	184.1863	50/50	184.1863
940361	AE2-020 C	36.0755	50/50	36.0755
940362	AE2-020 E	168.9081	50/50	168.9081
940371	AE2-021 C	36.0755	50/50	36.0755
940372	AE2-021 E	168.9081	50/50	168.9081
940381	AE2-022 C	21.0440	50/50	21.0440
940382	AE2-022 E	98.5298	50/50	98.5298
942101	AE2-222 C O1	23.3265	50/50	23.3265
942102	AE2-222 E O1	58.5975	50/50	58.5975
942381	AE2-251 C	114.2865	50/50	114.2865
942382	AE2-251 E	292.4271	50/50	292.4271
944332	AF1-101 E O1	180.5760	50/50	180.5760
945431	AF1-208 C O1	0.0001	Adder	0.0
945432	AF1-208 E O1	0.8347	Adder	0.98
945731	AF1-238 C	6.8524	50/50	6.8524
945732	AF1-238 E	10.2785	50/50	10.2785
945741	AF1-239 C	1.6123	50/50	1.6123
945742	AF1-239 E	2.4185	50/50	2.4185
957221	AF2-016 C	40.9320	50/50	40.9320
957222	AF2-016 E	61.3980	50/50	61.3980
957251	AF2-019 C	1.8926	50/50	1.8926
957252	AF2-019 E	2.8388	50/50	2.8388
957261	AF2-020 C	0.8831	50/50	0.8831
957262	AF2-020 E	1.3247	50/50	1.3247
957271	AF2-021 C	3.1659	50/50	3.1659
957272	AF2-021 E	4.7489	50/50	4.7489
957291	AF2-023 C	0.9209	Adder	1.08
957292	AF2-023 E	1.3813	Adder	1.63
957311	AF2-025 C	2.7344	50/50	2.7344
957312	AF2-025 E	4.1016	50/50	4.1016

1.1.39 Index 46

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
99830961	227900	CARDIFF	AE	227955	CEDAR	AE	1	AE_P4-2 AE7	breaker	805.0	117.27	125.94	DC	69.8

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938421	AE1-061 C	0.3166	50/50	0.3166
938422	AE1-061 E	0.3166	50/50	0.3166
938781	AE1-104 C O1	19.3871	50/50	19.3871
938782	AE1-104 E O1	49.6016	50/50	49.6016
938871	AE1-115 C	0.5380	Adder	0.63
938872	AE1-115 E	0.5380	Adder	0.63
939301	AE1-161 C	1.4246	Adder	1.68
939302	AE1-161 E	2.1369	Adder	2.51
940361	AE2-020 C	26.5904	50/50	26.5904
940362	AE2-020 E	124.4983	50/50	124.4983
940371	AE2-021 C	26.5904	50/50	26.5904
940372	AE2-021 E	124.4983	50/50	124.4983
940381	AE2-022 C	15.5111	50/50	15.5111
940382	AE2-022 E	72.6240	50/50	72.6240
942101	AE2-222 C O1	14.8371	50/50	14.8371
942102	AE2-222 E O1	37.2717	50/50	37.2717
942381	AE2-251 C	84.2380	50/50	84.2380
942382	AE2-251 E	215.5412	50/50	215.5412
945431	AF1-208 C O1	0.0001	Adder	0.0
945432	AF1-208 E O1	0.7254	Adder	0.85
945731	AF1-238 C	5.5284	50/50	5.5284
945732	AF1-238 E	8.2926	50/50	8.2926
945741	AF1-239 C	1.3008	50/50	1.3008
945742	AF1-239 E	1.9512	50/50	1.9512
957221	AF2-016 C	27.9180	50/50	27.9180
957222	AF2-016 E	41.8770	50/50	41.8770
957251	AF2-019 C	1.3526	50/50	1.3526
957252	AF2-019 E	2.0290	50/50	2.0290
957261	AF2-020 C	0.6329	Adder	0.74
957262	AF2-020 E	0.9493	Adder	1.12
957273	AF2-021 BAT	11.2716	50/50	11.2716
957291	AF2-023 C	0.9151	Adder	1.08
957292	AF2-023 E	1.3727	Adder	1.61
957311	AF2-025 C	1.7628	50/50	1.7628
957312	AF2-025 E	2.6442	50/50	2.6442

1.1.40 Index 47

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
99005750	227955	CEDAR	AE	206302	28OYSTER C	JCP&L	1	AE_P4-2 AE6	breaker	564.0	165.81	180.72	DC	84.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938421	AE1-061 C	0.3773	50/50	0.3773
938422	AE1-061 E	0.3773	50/50	0.3773
938781	AE1-104 C O1	23.1961	50/50	23.1961
938782	AE1-104 E O1	59.3470	50/50	59.3470
938871	AE1-115 C	0.6083	Adder	0.72
938872	AE1-115 E	0.6083	Adder	0.72
939301	AE1-161 C	1.6849	Adder	1.98
939302	AE1-161 E	2.5273	Adder	2.97
940361	AE2-020 C	28.2696	50/50	28.2696
940362	AE2-020 E	132.3604	50/50	132.3604
940371	AE2-021 C	28.2696	50/50	28.2696
940372	AE2-021 E	132.3604	50/50	132.3604
940381	AE2-022 C	16.4906	50/50	16.4906
940382	AE2-022 E	77.2102	50/50	77.2102
942101	AE2-222 C O1	19.5243	50/50	19.5243
942102	AE2-222 E O1	49.0461	50/50	49.0461
942381	AE2-251 C	89.5576	50/50	89.5576
942382	AE2-251 E	229.1528	50/50	229.1528
945431	AF1-208 C O1	0.0001	Adder	0.0
945432	AF1-208 E O1	0.8368	Adder	0.98
945731	AF1-238 C	6.4382	50/50	6.4382
945732	AF1-238 E	9.6574	50/50	9.6574
945741	AF1-239 C	1.5149	50/50	1.5149
945742	AF1-239 E	2.2723	50/50	2.2723
957221	AF2-016 C	33.6204	50/50	33.6204
957222	AF2-016 E	50.4306	50/50	50.4306
957251	AF2-019 C	1.6024	50/50	1.6024
957252	AF2-019 E	2.4036	50/50	2.4036
957261	AF2-020 C	0.8622	50/50	0.8622
957262	AF2-020 E	1.2934	50/50	1.2934
957271	AF2-021 C	4.9446	50/50	4.9446
957272	AF2-021 E	7.4168	50/50	7.4168
957291	AF2-023 C	1.0346	Adder	1.22
957292	AF2-023 E	1.5519	Adder	1.83
957311	AF2-025 C	2.2633	50/50	2.2633
957312	AF2-025 E	3.3949	50/50	3.3949

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
AA2-048	Allenwood-Larrabee 34kV	Engineering and Procurement
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
AC2-145	Beach Glen 4.8kV	Suspended
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

Queue Number	Project Name	Status
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
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
AF2-060	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

12.8 Contingency Descriptions

Contingency Name	Contingency Definition
JC-P2-3-JCC-230-15F	CONTINGENCY 'JC-P2-3-JCC-230-15F' /* LARRABEE - SMITHBURG (D2004) & LARRABEE NW BUS 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 1 /* LARRABEE-SMITHBURG (D2004) REMOVE LOAD 7 FROM BUS 206294 /* LARRABEE BK7 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 9 /* LARRABEE BK9 END
JC-P7-1-JCC-230-7A	CONTINGENCY 'JC-P7-1-JCC-230-7A' /* SMITHBURG - LARRABEE 230 LINES DISCONNECT BRANCH FROM BUS 206309 TO BUS 206294 CKT 1 DISCONNECT BRANCH FROM BUS 206309 TO BUS 206294 CKT 2 END
JC-P1-2-JCC-230-020	CONTINGENCY 'JC-P1-2-JCC-230-020' /* LEISURE VILLAGE - MANITOU (C2029) 230 KV DISCONNECT BRANCH FROM BUS 206296 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206296 TO BUS 206276 CKT 3 SET BUS 206296 LOAD TO 0 MW END
AE_P7-1 AE15TOWER	CONTINGENCY 'AE_P7-1 AE15TOWER' DISCONNECT BRANCH FROM BUS 227901 TO BUS 227949 CKT 1 /* DOR TO LEW 138 KV DISCONNECT BRANCH FROM BUS 228002 TO BUS 227900 CKT 1 /* ORCH TO CARD 230 KV 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
PJM500_PS_P1-2_5015	CONTINGENCY 'PJM500_PS_P1-2_5015' /* HOPE CREEK TO RED LION TRIP LINE FROM BUS 200027 TO BUS 200029 CKT 1 /* HOPE CREEK TO RED LION END
PECO_P1-2_PBTIE1/* $ CHESCO $ PBTIE1 $ L	CONTINGENCY 'PECO_P1-2_PBTIE1/* $ CHESCO $ PBTIE1 $ L' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 1 /* PCHBTM2S 500.00 PCHBTM1N 500.00 $ CHESCO $ PBTIE1 $ L TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z1 /* PCHBTM1S 500.00 PCHBTM2S 500.00 $ CHESCO $ PBTIE1 $ L TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z1 /* PCHBTM2N 500.00 PCHBTM1N 500.00 $ CHESCO $ PBTIE1 $ L END

Contingency Name	Contingency Definition
JC-P1-2-JCC-230-018	CONTINGENCY 'JC-P1-2-JCC-230-018' /* LARRABEE - SMITHBURG (H2008) 230 KV DISCONNECT BRANCH FROM BUS 206309 TO BUS 206294 CKT 2 DISCONNECT BRANCH FROM BUS 200017 TO BUS 206309 CKT 4 /* SMITHBURG SMITHBURG 500 230 END
JC-P1-2-JCC-230-019	CONTINGENCY 'JC-P1-2-JCC-230-019' /* LEISURE VILLAGE - MANITOU (A2027) 230 KV DISCONNECT BRANCH FROM BUS 206295 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206277 CKT 7 END
JC-P1-2-JCC-230-002T	CONTINGENCY 'JC-P1-2-JCC-230-002T' /** OYSTER CREEK - CEDAR (S2045) 230 KV DISCONNECT BRANCH FROM BUS 206302 TO BUS 227955 CKT 1 /* 28OYSTER C 230 CEDAR 230 END
JC-P1-2-JCC-230-017	CONTINGENCY 'JC-P1-2-JCC-230-017' /* FUTURE BREAKERS LARRABEE - SMITHBURG (D2004) 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 1 END
JC-P1-2-JCC-230-014	CONTINGENCY 'JC-P1-2-JCC-230-014' /* FUTURE BREAKERS LAKEWOOD - LARRABEE (Z2026) 230 KV & LAR BK 8 & 12 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206294 CKT 1 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 12 SET BUS 206294 LOAD TO 38 MW END
JC-P1-2-JCC-230-015	CONTINGENCY 'JC-P1-2-JCC-230-015' /* LAKEWOOD - LEISURE VILLAGE (U2021) 230 KV DISCONNECT BRANCH FROM BUS 206323 TO BUS 206296 CKT 1 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206282 CKT 6 DISCONNECT BUS 206999 DISCONNECT BUS 207110 DISCONNECT BUS 207010 DISCONNECT BUS 207111 END
JC-P1-2-JCC-230-013	CONTINGENCY 'JC-P1-2-JCC-230-013' /* LAKEWOOD - LARRABEE (K2011) 230 KV DISCONNECT BRANCH FROM BUS 206323 TO BUS 206294 CKT 2 END

Contingency Name	Contingency Definition
JC-P7-1-JCC-230-10A	CONTINGENCY 'JC-P7-1-JCC-230-10A' /* LAKEWOOD - LARRABEE 230 KV LINES DISCONNECT BRANCH FROM BUS 206323 TO BUS 206294 CKT 2 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206294 CKT 1 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206274 CKT 3 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 12 /* LARRABEE 12 FUTURE BREAKER AND A HALF SET BUS 206294 LOAD TO 38 MW /* LARRABEE 8 FUTURE BREAKER AND A HALF END
PECO_P1-2_PBTIE2/* $ CHESCO $ PBTIE2 $ L	CONTINGENCY 'PECO_P1-2_PBTIE2/* $ CHESCO $ PBTIE2 $ L' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 2 /* PCHBTM2S 500.00 PCHBTM1N 500.00 $ CHESCO $ PBTIE2 $ L TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z2 /* PCHBTM1S 500.00 PCHBTM2S 500.00 $ CHESCO $ PBTIE2 $ L TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z2 /* PCHBTM2N 500.00 PCHBTM1N 500.00 $ CHESCO $ PBTIE2 $ L END
JC-P2-3-JCC-230-26D	CONTINGENCY 'JC-P2-3-JCC-230-26D' /* RARITAN RIVER B146 STUCK BREAKER DISCONNECT BUS 206314 /* RED OAK 230 KV A TAP DISCONNECT BUS 206363 /* RED OAK 230 KV #2 DISCONNECT BUS 206364 /* RED OAK 230 KV #3 DISCONNECT BRANCH FROM BUS 206305 TO BUS 206303 CKT 13 /* RARITAN RIVER #13 230/115 KV TRANSFORMER DISCONNECT BUS 206403 /* WOODBRIDGE GENERATOR END
AE_P1-2 NCNT-CENT	CONTINGENCY 'AE_P1-2 NCNT-CENT' OPEN LINE FROM BUS 228714 TO BUS 228704 CIRCUIT 1 / END
AE_P1-2 ENG-MERION	CONTINGENCY 'AE_P1-2 ENG-MERION' OPEN LINE FROM BUS 228197 TO BUS 228110 CIRCUIT 1 / OPEN LINE FROM BUS 228197 TO BUS 228199 CIRCUIT 1 / CLOSE LINE FROM BUS 228198 TO BUS 228199 CIRCUIT 1 / END
JC-P2-3-JCC-230-026C	CONTINGENCY 'JC-P2-3-JCC-230-026C' /* RARITAN RIVER B145 STUCK BREAKER DISCONNECT BUS 206314 /* RED OAK 230 KV A TAP DISCONNECT BUS 206363 /* RED OAK 230 KV #2 DISCONNECT BUS 206364 /* RED OAK 230 KV #3 DISCONNECT BRANCH FROM BUS 206305 TO BUS 206303 CKT 17 /* RARITAN RIVER #17 230/115 KV TRANSFORMER DISCONNECT BUS 206350 /* SAYREVILLE GENERATOR DISCONNECT BUS 206351 /* SAYREVILLE GENERATOR END

Contingency Name	Contingency Definition
AE_P1-2 ORCHARD XF	CONTINGENCY 'AE_P1-2 ORCHARD XF' OPEN LINE FROM BUS 200063 TO BUS 228002 CIRCUIT 1 / END
AE_P7-1 AE3TOWER	CONTINGENCY 'AE_P7-1 AE3TOWER' DISCONNECT BRANCH FROM BUS 227900 TO BUS 227955 CKT 1 /* CARDIFF TO CEDAR 230 KV DISCONNECT BRANCH FROM BUS 227913 TO BUS 227902 CKT 1 /* CARDIFF TO LEWIS 138 KV END
JC-P2-3-JCC-230-15G	CONTINGENCY 'JC-P2-3-JCC-230-15G' /* LARRABEE-SMITHBURG (H2008) 230 KV & LARRABEE NW BUS 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 2 /* LARRABEE-SMITHBURG (H2008) REMOVE LOAD 7 FROM BUS 206294 /* LARRABEE BK7 DISCONNECT BRANCH FROM BUS 206294 TO BUS 206275 CKT 9 /* LARRABEE BK9 END
AE_P1-2 LEWIS #1-LEWIS #3	CONTINGENCY 'AE_P1-2 LEWIS #1-LEWIS #3' DISCONNECT BRANCH FROM BUS 227902 TO BUS 227949 CKT 1 END
JC-P2-3-JCC-230-15A	CONTINGENCY 'JC-P2-3-JCC-230-15A' /* LAKEWOOD-LARRABEE (K2011) & LARRABEE-SMITHBURG (H2008) 230 KV DISCONNECT BRANCH FROM BUS 206294 TO BUS 206323 CKT 1 /* LARRABEE - LAKEWOOD (K2011) DISCONNECT BRANCH FROM BUS 206294 TO BUS 206309 CKT 2 /* LARRABEE-SMITHBURG (H2008) END
PJM_P4_P484B	CONTINGENCY 'PJM_P4_P484B' /* VALID FROM 2009 DISCONNECT BRANCH FROM BUS 200028 TO BUS 200006 CKT 1 /* WINDSOR DEANS 500500 DISCONNECT BRANCH FROM BUS 200006 TO BUS 218306 CKT 1 /* DEANS XF 2 500230 END
AE_P1-2 CNT-V-BUT	CONTINGENCY 'AE_P1-2 CNT-V-BUT' DISCONNECT BUS 228713 / END
PS_P1-2_2310	CONTINGENCY 'PS_P1-2_2310' /* NEW FREEDOM TO CARDIFF TIELINE TRIP LINE FROM BUS 219100 TO BUS 227900 CKT 1 /* NEW FREEDOM TO CARDIFF END

Contingency Name	Contingency Definition
JC-P7-1-JCC-230-12	CONTINGENCY 'JC-P7-1-JCC-230-12' /* LEISURE VILLAGE-MANITOU A2027 & C2029 DISCONNECT BRANCH FROM BUS 206295 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206277 CKT 7 DISCONNECT BRANCH FROM BUS 206296 TO BUS 206297 CKT 1 DISCONNECT BRANCH FROM BUS 206296 TO BUS 206276 CKT 3 SET BUS 206296 LOAD TO 0 MW END
JC-P7-1-JCC-230-13	CONTINGENCY 'JC-P7-1-JCC-230-13' /* MANITOU-OYSTER CREEK 230 LINES & OYSTER GEN DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 1 DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 2 DISCONNECT BRANCH FROM BUS 206302 TO BUS 206325 CKT 1 END
AE_P4-2 AE33	CONTINGENCY 'AE_P4-2 AE33' /*LEWIS TO CARDIFF BREAKER V DISCONNECT BRANCH FROM BUS 227902 TO BUS 227913 CKT 1 /*LEWIS CARDIFF 138 138 DISCONNECT BRANCH FROM BUS 227902 TO BUS 227903 CKT 1 /*LEWIS MILL #1 138 138 DISCONNECT BRANCH FROM BUS 227902 TO BUS 227918 CKT 1 /*LEWIS 138 69 T1 END
PJM_P4_86	CONTINGENCY 'PJM_P4_86' /* WINDSOR BREAKER SALEMTAP DISCONNECT BRANCH FROM BUS 200012 TO BUS 200063 CKT 1 /* NEW FREE SALEMTAP 500500 DISCONNECT BRANCH FROM BUS 200063 TO BUS 200014 CKT 1 /* SALEMTAP SALEM 500500 DISCONNECT BRANCH FROM BUS 200063 TO BUS 228002 CKT 1 /* SALEMTAP CHRCHTWNTAP XF 500230 END
AE_P1-2 ORCH-CARD	CONTINGENCY 'AE_P1-2 ORCH-CARD' OPEN LINE FROM BUS 228002 TO BUS 227900 CIRCUIT 1 / END
PJM500_PS_P2-3_DEAN5_5-6	CONTINGENCY 'PJM500_PS_P2-3_DEAN5_5-6' DISCONNECT BRANCH FROM BUS 200006 TO BUS 218306 CKT 2/* BRANCHBURG TX -2 TRIP LINE FROM BUS 200006 TO BUS 200028 CKT 1 /* DEANS TO WINSOR END
AE_P1-2 CARD-LEW2	CONTINGENCY 'AE_P1-2 CARD-LEW2' OPEN LINE FROM BUS 227934 TO BUS 227945 CIRCUIT 1 / END

Contingency Name	Contingency Definition
AE_P1-2 CARD-LEW1	CONTINGENCY 'AE_P1-2 CARD-LEW1' OPEN LINE FROM BUS 227913 TO BUS 227902 CIRCUIT 1 / 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
AE_P1-3 CARD 7 XFR	CONTINGENCY 'AE_P1-3 CARD 7 XFR' OPEN LINE FROM BUS 227900 TO BUS 227934 CIRCUIT 1 / END
AE_P1-2 MERION-CORSN	CONTINGENCY 'AE_P1-2 MERION-CORSN' OPEN LINE FROM BUS 228197 TO BUS 228106 CIRCUIT 1 / OPEN LINE FROM BUS 228197 TO BUS 228198 CIRCUIT 1 / CLOSE LINE FROM BUS 228198 TO BUS 228199 CIRCUIT 1 / END
JC-P1-2-JCC-230-021	CONTINGENCY 'JC-P1-2-JCC-230-021' /* MANITOU - OYSTER CREEK (N1028) 230 KV DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 1 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
Base Case	
PJM500_PS_P1-2_5022	CONTINGENCY 'PJM500_PS_P1-2_5022' /* DEANS TO WINDSOR TRIP LINE FROM BUS 200006 TO BUS 200028 CKT 1 /* DEANS TO WINDSOR END
AE_P1-3 CARD 6 XFR	CONTINGENCY 'AE_P1-3 CARD 6 XFR' OPEN LINE FROM BUS 227900 TO BUS 227913 CIRCUIT 1 / END

Contingency Name	Contingency Definition
JC-P1-2-JCC-230-028	CONTINGENCY 'JC-P1-2-JCC-230-028' /* RARITAN RIVER - RED OAK - SOUTH RIVER JCT(T1034) 230 KV DISCONNECT BRANCH FROM BUS 206305 TO BUS 206314 CKT 1 /* 28RAR RVR 230.00 28RED OAKA 230.00 DISCONNECT BRANCH FROM BUS 206314 TO BUS 206411 CKT 1 /* 28RED OAKA 230.00 28R11RINGA 230.00 . DISCONNECT BUS 206314 /* 28RED OAKA 230.00 DISCONNECT BUS 206363 /* 28RDOAKCT2 18.00 DISCONNECT BUS 206364 /* 28RDOAKCT3 18.00 END
PECO_P4_PEACH235/* $ CHESCO $ PEACH235 $ STBK	CONTINGENCY 'PECO_P4_PEACH235/* $ CHESCO $ PEACH235 $ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 1 /* PCHBTM2S 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH235 $ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z1 /* PCHBTM1S 500.00 PCHBTM2S 500.00 $ CHESCO $ PEACH235 $ STBK TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z1 /* PCHBTM2N 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH235 $ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200004 CKT 1 /* PCHBTM1S 500.00 CNASTONE 500.00 $ CHESCO $ PEACH235 $ STBK END
AE_P4-2 AE16	CONTINGENCY 'AE_P4-2 AE16' /*CORSON TO ENGLAND BREAKER R DISCONNECT BRANCH FROM BUS 228107 TO BUS 228216 CKT 1 /*CORSON DENNIS 138 138 DISCONNECT BRANCH FROM BUS 228111 TO BUS 228107 CKT 1 /*MIDDLETAP CORSON 138 138 DISCONNECT BRANCH FROM BUS 228111 TO BUS 228110 CKT 1 /*MIDDLETAP ENGLAND 138 138 DISCONNECT BRANCH FROM BUS 228111 TO BUS 228112 CKT 1 /*MIDDLETAP MIDDLE 138 138 DISCONNECT BRANCH FROM BUS 228107 TO BUS 228115 CKT 1 /*CORSON 138 69 T2 DISCONNECT BUS 228107 /*CORSON 138 #2 BUS SECTION END
JC-P2-3-JCC-230-26B	CONTINGENCY 'JC-P2-3-JCC-230-26B' /* RARITAN RIVER B144 STUCK BREAKER DISCONNECT BUS 206315 /* RED OAK 230 KV B TAP DISCONNECT BUS 206362 /* RED OAK 230 KV #1 DISCONNECT BUS 206365 /* RED OAK 230 KV #4 DISCONNECT BRANCH FROM BUS 206305 TO BUS 206303 CKT 13 /* RARITAN RIVER #13 230/115 KV TRANSFORMER DISCONNECT BUS 206403 /* WOODBRIDGE GENERATOR END

Contingency Name	Contingency Definition
AE_P4-2 AE7	CONTINGENCY 'AE_P4-2 AE7' /*CARDIFF TO NEW FREEDOM BREAKER V DISCONNECT BRANCH FROM BUS 219100 TO BUS 227900 CKT 1 /*NEW FREEDOM TO CARDIFF 230 230 DISCONNECT BRANCH FROM BUS 227900 TO BUS 227910 CKT 1 /*CARDIFF CARDIFF 230 69 T1 END
AE_P4-2 AE6	CONTINGENCY 'AE_P4-2 AE6' /*CARDIFF TO NEW FREEDOM BREAKER W DISCONNECT BRANCH FROM BUS 219100 TO BUS 227900 CKT 1 /*NEW FREEDOM TO CARDIFF 230 230 DISCONNECT BRANCH FROM BUS 227900 TO BUS 227911 CKT 1 /*CARDIFF CARDIFF 230 69 T2 END
AE_P4-2 AE9	CONTINGENCY 'AE_P4-2 AE9' /*CARDIFF TO ORCHARD BREAKER NEW1 DISCONNECT BRANCH FROM BUS 228002 TO BUS 227900 CKT 1 /* CARDIFF TO ORCHARD 230 230 DISCONNECT BRANCH FROM BUS 227900 TO BUS 227934 CKT 1 /*CARDIFF CARDIFF 230 138 T7 END
AE_P1-2 CARD-CEDAR	CONTINGENCY 'AE_P1-2 CARD-CEDAR' OPEN LINE FROM BUS 227900 TO BUS 227955 CIRCUIT 1 / END
JC-P1-2-JCC-230-027	CONTINGENCY 'JC-P1-2-JCC-230-027' /* RARITAN RIVER - RED OAK - R11 (G1047) 230 KV LINE DISCONNECT BRANCH FROM BUS 206305 TO BUS 206315 CKT 1 DISCONNECT BRANCH FROM BUS 206315 TO BUS 206410 CKT 1 DISCONNECT BUS 206315 DISCONNECT BUS 206362 DISCONNECT BUS 206365 END
JC-P1-2-JCC-230-022	CONTINGENCY 'JC-P1-2-JCC-230-022' /* MANITOU - OYSTER CREEK (O1019) 230 KV DISCONNECT BRANCH FROM BUS 206297 TO BUS 206302 CKT 2 END

Contingency Name	Contingency Definition
PECO_P4_PEACH025	CONTINGENCY 'PECO_P4_PEACH025' /* $ CHESCO $ PEACH025 $ STBK TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 1 /* PCHBTM2S 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH025 $ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z1 /* PCHBTM1S 500.00 PCHBTM2S 500.00 $ CHESCO $ PEACH025 $ STBK TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z1 /* PCHBTM2N 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH025 $ STBK TRIP BRANCH FROM BUS 200066 TO BUS 270072 CKT 1 /* PCHBTM1N 500.00 FUR RUN_500 500.00 $ CHESCO $ PEACH025 $ STBK END
AE_P4-2 AE46	CONTINGENCY 'AE_P4-2 AE46' /*ORCHARD 230 BUS BREAKER D DISCONNECT BRANCH FROM BUS 228002 TO BUS 228310 CKT 1 /* ORCHARD TO CHURCHTOWN 230 230 DISCONNECT BRANCH FROM BUS 200063 TO BUS 228002 CKT 1 /*ORCHARD ORCHARD 500 230 T1 END
JC-P2-3-JCC-230-026A	CONTINGENCY 'JC-P2-3-JCC-230-026A' /* RARITAN RIVER B143 STUCK BREAKER DISCONNECT BUS 206315 /* RED OAK 230 KV B TAP DISCONNECT BUS 206362 /* RED OAK 230 KV #1 DISCONNECT BUS 206365 /* RED OAK 230 KV #4 DISCONNECT BRANCH FROM BUS 206305 TO BUS 206303 CKT 17 /* RARITAN RIVER #17 230/115 KV TRANSFORMER DISCONNECT BUS 206350 /* SAYREVILLE GENERATOR DISCONNECT BUS 206351 /* SAYREVILLE GENERATOR 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
PECO_P4_PEACH255/* $ CHESCO $ PEACH255 $ STBK	CONTINGENCY 'PECO_P4_PEACH255/* $ CHESCO $ PEACH255 $ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 2 /* PCHBTM2S 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH255 $ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z2 /* PCHBTM1S 500.00 PCHBTM2S 500.00 $ CHESCO $ PEACH255 $ STBK TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z2 /* PCHBTM2N 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH255 $ STBK DISCONNECT BUS 200122 /* DELTA 500.00 $ CHESCO $ PEACH255 $ STBK DISCONNECT BUS 200192 /* DELTA CT1 13.80 $ CHESCO $ PEACH255 $ STBK DISCONNECT BUS 200193 /* DELTA CT2 13.80 $ CHESCO $ PEACH255 $ STBK DISCONNECT BUS 200194 /* DELTA CT3 13.80 $ CHESCO $ PEACH255 $ STBK DISCONNECT BUS 200195 /* DELTA ST 18.00 $ CHESCO $ PEACH255 $ STBK END

Contingency Name	Contingency Definition
PECO_P4_PEACH045/* $ CHESCO $ PEACH045 $ STBK	CONTINGENCY 'PECO_P4_PEACH045/* $ CHESCO $ PEACH045 $ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 2 /* PCHBTM2S 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH045 $ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z2 /* PCHBTM1S 500.00 PCHBTM2S 500.00 $ CHESCO $ PEACH045 $ STBK TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z2 /* PCHBTM2N 500.00 PCHBTM1N 500.00 $ CHESCO $ PEACH045 $ STBK TRIP BRANCH FROM BUS 200066 TO BUS 213866 CKT 1 /* PCHBTM1N 500.00 PCHBTM 230.00 $ CHESCO $ PEACH045 $ STBK REMOVE MACHINE 1 FROM BUS 213794 /* MDYRN5-6 13.80 $ CHESCO $ PEACH045 $ STBK REMOVE MACHINE 2 FROM BUS 213794 /* MDYRN5-6 13.80 $ CHESCO $ PEACH045 $ STBK REMOVE MACHINE 1 FROM BUS 213795 /* MDYRN7-8 13.80 $ CHESCO $ PEACH045 $ STBK REMOVE MACHINE 2 FROM BUS 213795 /* MDYRN7-8 13.80 $ CHESCO $ PEACH045 $ STBK END
JC-P1-2-JCC-230-016	CONTINGENCY 'JC-P1-2-JCC-230-016' /* LAKEWOOD - LEISURE VILLAGE (D2030) 230 KV DISCONNECT BRANCH FROM BUS 206323 TO BUS 206295 CKT 1 DISCONNECT BRANCH FROM BUS 206295 TO BUS 206276 CKT 4 SET BUS 206295 LOAD TO 0 MW END
PS_P7-1_R2244+M2213	CONTINGENCY 'PS_P7-1_R2244+M2213' TRIP LINE FROM BUS 219100 TO BUS 227900 CKT 1 /* NEW FREEDOM TO CARDIFF TRIP LINE FROM BUS 219100 TO BUS 228600 CKT 1 /* NEW FREEDOM TO SICKLER END

13 Short Circuit Analysis

The following Breakers are overdutied

None

14 Stability and Reactive Power

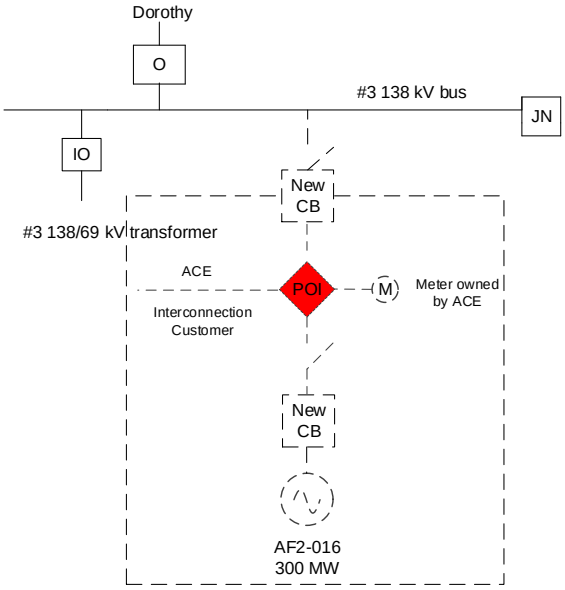
To be determined in the Facilities Study Phase.

15 Affected Systems

None

16 Attachment 1: One Line Diagram

AF2-016
Lewis 138 kV Substation



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

POI Point of Interconnection