



**Generation Interconnection
Feasibility Study Report
for
Queue Project AG1-392
GOLD 115 KV IV
24 MW Capacity / 40 MW Energy**

January 2021

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1 Introduction

This Feasibility Study has been prepared in accordance with the PJM Open Access Transmission Tariff, 36.2, as well as the Feasibility Study Agreement between the Interconnection Customer (IC), and PJM Interconnection, LLC (PJM), Transmission Provider (TP). The Interconnected Transmission Owner (ITO) is Mid-Atlantic Interstate Transmission, LLC (MAIT) (PENELEC zone).

2 Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. Cost allocation rules for network upgrades can be found in PJM Manual 14A, Attachment B. 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 impact study is performed.

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

The Feasibility 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.

3 General

The Interconnection Customer (IC), has proposed a Solar; Storage generating facility located in Potter County, Pennsylvania. The installed facilities will have a total capability of 40 MW with 24 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is June 01, 2022. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-392
Project Name	GOLD 115 KV IV
State	Pennsylvania
County	Potter
Transmission Owner	MAIT (PENELEC zone)
MFO	40
MWE	40
MWC	24
Fuel	Solar; Storage
Basecase Study Year	2024

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

4 Point of Interconnection

4.1 Primary POI

The AG1-392 project is sharing the Point of Interconnection and attachment facilities with the proposed AG1-389, AG1-390 and AG1-391 projects. The IC will not incur any connection facility upgrade costs for this project as long as AG1-389 is constructed before or concurrently with AG1-392.

Attachment 1 shows a one-line diagram of the proposed primary Direct Connection facilities for the AG1-392 generation project to connect to the FirstEnergy (“FE”) Transmission System. The IC will be responsible for constructing the facilities on its side of the POI, including the Attachment Facilities which connect the generator to the FE Transmission System’s Direct Connection facilities.

4.2 Secondary POI

The AG1-392 project would also be sharing the same POI and attachment facilities with the proposed AG1-389, AG1-390 and AG1-391 projects for the secondary POI. The interconnection of the project at a Secondary POI can be accomplished by constructing a new 115 kV three (3) breaker ring bus substation and looping the Hector - Potter 115 kV line into the new station. The new substation would be located approximately 0.3 miles from Gold Substation. A full scope of work or estimated cost is not provided for the proposed Secondary POI.

5 Cost Summary

The AG1-392 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$0
Total System Network Upgrade Costs	\$472,235,345 ¹
Total Costs	\$472,235,345

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 2016-36, 2016-25 I.R.B. (6/20/2016). 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.

Cost allocations for any System Upgrades will be provided in the System Impact Study Report.

¹ This project currently causes and contributes to overloads of the Transmission System (see Summer Peak Load Flow Analysis section below) and therefore has potential to have cost allocation for the system reinforcements listed in the report. This will be re-evaluated in the System Impact phase. The results may vary with queue customers withdrawing from the queue and other generators deactivating over time. If a customer is the first to cause the need for a project (causes loading to exceed 100% of rating), then the customer is responsible. If a customer contributes to a facility that is already overloaded by a prior queue, then they may receive cost allocation.

6 Transmission Owner Scope of Work

This project is sharing the same generator lead line and main potential transformer with the AG1-389, AG1-390 and AG1-391 projects. There is no additional interconnection facility scope of work required if AG1-389 builds the interconnection facilities. If AG1-389 withdraws from the interconnection queue, then AG1-390 will assume the scope and cost of the interconnection described in the AG1-389 Feasibility Study report. If AG1-389 and AG1-390 withdraw from the interconnection queue, then AG1-391 will assume the scope and cost of the interconnection. If AG1-389, AG1-390 and AG1-391 withdraw from the interconnection queue, then AG1-392 will assume the scope and cost of the interconnection.

7 Schedule

This project is sharing the same attachment facilities with the AG1-389, AG1-390 and AG1-391 projects and will share the same schedule with those projects if constructed at the same time.

If the customer is ultimately responsible for network upgrades, then the schedule for those upgrades will be refined in future study phases. The customer would need to wait for those upgrades to be completed prior to commercial operation unless determined deliverable by an interim deliverability study. The elapsed time to complete any network upgrades is provided in the System Reinforcements table of this report.¹

8 Transmission Owner Analysis

8.1 Power Flow Analysis

FE performed an analysis of its underlying transmission <100 kV system. The AG1-392 project did not contribute to any overloads on the FE Transmission <100 kV System.

9 Interconnection Customer Requirements

9.1 System Protection

The IC must design its Customer Facilities in accordance with all applicable standards, including the standards in FE's "Requirements for Transmission Connected Facilities" document located at: <http://www.pjm.com/planning/design-engineering/to-tech-standards/private-firstenergy.aspx>.

Preliminary Protection requirements will be provided as part of the Facilities Study. Detailed Protection Requirements will be provided once the project enters the construction phase.

9.2 Compliance Issues and Interconnection Customer Requirements

The proposed Customer Facilities must be designed in accordance with FE's "Requirements for Transmission Connected Facilities" document located at: <http://www.pjm.com/planning/design-engineering/to-tech-standards/private-firstenergy.aspx>. In particular, the IC is responsible for the following:

1. The purchase and installation of a fully rated 115 kV circuit breaker to protect the AG1-392 generator lead line. A single circuit breaker must be used to protect this line; if the project has several GSU transformers, the individual GSU transformer breakers cannot be used to protect this line.
2. The purchase and installation of the minimum required FE generation interconnection relaying and control facilities. This includes over/under voltage protection, over/under frequency protection, and zero sequence voltage protection relays.

3. The purchase and installation of supervisory control and data acquisition (“SCADA”) equipment to provide information in a compatible format to the FE Transmission System Control Center.
4. Compliance with the FE and PJM generator power factor and voltage control requirements.
5. The execution of a back-up service agreement to serve the customer load supplied from the AG1-392 generation project metering point when the units are out-of-service. This assumes the intent of the IC is to net the generation with the load.

The IC will also be required to meet all PJM, ReliabilityFirst, and NERC reliability criteria and operating procedures for standards compliance. For example, the IC will need to properly locate and report the over and under voltage and over and under frequency system protection elements for its units as well as the submission of the generator model and protection data required to satisfy the PJM and ReliabilityFirst audits. Failure to comply with these requirements may result in a disconnection of service if the violation is found to compromise the reliability of the FE Transmission System.

9.3 Power Factor Requirements

The IC shall design its non-synchronous Customer Facility with the ability to maintain a power factor of at least 0.95 leading (absorbing VARs) to 0.95 lagging (supplying VARs) measured at the high-side of the facility substation transformer(s) connected to the FE Transmission System.

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:

- Back Panel temperature (Fahrenheit) - (Required for plants with Maximum Facility Output of 3 MW or higher)
- Irradiance (Watts/meter²) - (Required for plants with Maximum Facility Output of 3 MW or higher)
- Ambient air temperature (Fahrenheit) - (Accepted, not required)
- Wind speed (meters/second) - (Accepted, not required)
- Wind direction (decimal degrees from true north) - (Accepted, not required)

10.3 Interconnected Transmission Owner Requirements

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

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

11 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AG1-392 was evaluated as a 40.0 MW (Capacity 24.0 MW) injection at the Gold 138 kV substation in the PENELEC area. Project AG1-392 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-392 was studied with a commercial probability of 53.0 %. 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	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
166020469	203348	26HECTOR	115.0	PENELEC	200670	26SABINSVILLE	115.0	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	245.0	92.69	102.69	DC	24.49

11.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
166020337	200582	26RIDGWAY	115.0	PENELEC	200647	26FOREST	115.0	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	277.0	113.7	118.15	DC	12.33
166020199	200668	26FARM VLY	115.0	PENELEC	941190	AE2-113 TAP	115.0	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	160.0	156.24	165.92	DC	15.5
166020300	200670	26SABINSVILLE	115.0	PENELEC	200671	26NILES VA	115.0	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	191.0	115.23	128.06	DC	24.49
166020377	200671	26NILES VA	115.0	PENELEC	200672	26MANSFIELD	115.0	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	185.0	100.75	113.99	DC	24.49
166020149	200674	26TOWANDA	115.0	PENELEC	200677	26NO MESHO	115.0	PENELEC	1	PN-P2_1-PN-230-997-DRT-060	breaker	245.0	190.96	191.66	DC	3.74

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
165073977	200675	26E.TWANDA	230.0	PENELE C	200924	26CANYON	230.0	PENELE C	1	PN-P2-2-PN-230-007T	bus	615.0	183.71	184.23	DC	7.03
167529259	200675	26E.TWANDA	230.0	PENELE C	200924	26CANYON	230.0	PENELE C	1	AP-P2-3-WP-230-449T	breaker	615.0	182.29	182.81	DC	7.12
167529260	200675	26E.TWANDA	230.0	PENELE C	200924	26CANYON	230.0	PENELE C	1	AP-P2-3-WP-230-450T	breaker	615.0	182.29	182.81	DC	7.12
165074042	200706	26N.MESHPN	230.0	PENELE C	200708	26OXBOW	230.0	PENELE C	1	PN-P2-2-PN-230-007T	bus	984.0	147.25	147.71	DC	9.84
165074047	200708	26OXBOW	230.0	PENELE C	208009	LACK	230.0	PPL	1	PN-P2-2-PN-230-007T	bus	984.0	145.76	146.22	DC	9.99
165074048	200708	26OXBOW	230.0	PENELE C	208009	LACK	230.0	PPL	1	AP-P2-2-WP-230-005T	bus	984.0	143.43	143.89	DC	9.9
167529271	200708	26OXBOW	230.0	PENELE C	208009	LACK	230.0	PPL	1	AP-P2-3-WP-230-460T	breaker	984.0	143.46	143.92	DC	9.9
167529272	200708	26OXBOW	230.0	PENELE C	208009	LACK	230.0	PPL	1	AP-P2-3-WP-230-457T	breaker	984.0	143.43	143.89	DC	9.9
165074027	200769	26HOMERCY	345.0	PENELE C	999325	26HOMERCT	1.0	PENELE C	S	PN-P2-2-PN-230-001T	bus	827.0	150.61	151.19	DC	10.52
165074028	200769	26HOMERCY	345.0	PENELE C	999325	26HOMERCT	1.0	PENELE C	S	PN-P2-2-PN-345-001T	bus	827.0	149.63	150.22	DC	10.52
165074057	200769	26HOMERCY	345.0	PENELE C	999324	26HOMERCT	1.0	PENELE C	N	PN-P2-2-PN-345-002T	bus	854.0	143.99	144.55	DC	10.46
165074002	200924	26CANYON	230.0	PENELE C	200706	26N.MESHPN	230.0	PENELE C	1	PN-P2-2-PN-230-007T	bus	666.0	168.38	168.86	DC	7.03
167529263	200924	26CANYON	230.0	PENELE C	200706	26N.MESHPN	230.0	PENELE C	1	AP-P2-3-WP-230-449T	breaker	666.0	167.07	167.55	DC	7.12

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
167529264	200924	26CANYON	230.0	PENELEC	200706	26N.MESHPN	230.0	PENELEC	1	AP-P2-3-WP-230-450T	breaker	666.0	167.07	167.55	DC	7.12
166020226	200927	26FOURMILE	115.0	PENELEC	200820	26ERIE SE	115.0	PENELEC	1	PN-P2-3-PN-230-6G	breaker	245.0	143.0	143.47	DC	2.56
166020389	200944	26PIERCEBRK	115.0	PENELEC	200668	26FARMVLY	115.0	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	245.0	106.24	112.56	DC	15.5
167418923	235197	01KARNSC	138.0	AP	235152	01BUTLER	138.0	AP	1	ATSI-P2-3-CEI-345-004D	breaker	179.0	238.09	238.66	DC	2.27
166020124	941190	AE2-113 TAP	115.0	PENELEC	200582	26RIDGWAY	115.0	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	160.0	217.72	227.41	DC	15.5
165074052	999324	26HOMERCT	1.0	PENELEC	200767	26HOMERCT	230.0	PENELEC	N	PN-P2-2-PN-345-002T	bus	854.0	143.99	144.55	DC	10.46
165074032	999325	26HOMERCT	1.0	PENELEC	200767	26HOMERCT	230.0	PENELEC	S	PN-P2-2-PN-230-001T	bus	827.0	150.59	151.18	DC	10.52
165074033	999325	26HOMERCT	1.0	PENELEC	200767	26HOMERCT	230.0	PENELEC	S	PN-P2-2-PN-345-001T	bus	827.0	149.62	150.2	DC	10.52

11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPAC T
166249648	200674	26TOWAN DA	115.0	PENELE C	200677	26NOMESHO	115.0	PENELE C	1	PN-P1-2-PN-230-013A	operation	245.0	190.27	190.96	DC	3.74
167706252	200675	26E.TWAN DA	230.0	PENELE C	200924	26CANYON	230.0	PENELE C	1	Base Case	operation	515.0	190.07	190.65	DC	6.51
167706253	200675	26E.TWAN DA	230.0	PENELE C	200924	26CANYON	230.0	PENELE C	1	20090826CHAPMA N+ 230 921641 AA1-111 TAP 230 1	operation	615.0	181.77	182.3	DC	7.09
167706301	200706	26N.MESH PN	230.0	PENELE C	200708	26OXBOW	230.0	PENELE C	1	Base Case	operation	855.0	149.88	150.37	DC	9.24
167706323	200708	26OXBOW	230.0	PENELE C	208009	LACK	230.0	PPL	1	20090826CHAPMA N+ 230 921641 AA1-111 TAP 230 1	operation	984.0	139.48	139.94	DC	10.01
167706324	200708	26OXBOW	230.0	PENELE C	208009	LACK	230.0	PPL	1	Base Case	operation	855.0	138.23	138.72	DC	9.38
166249912	200885	26EVERT DR	115.0	PENELE C	200673	26SOUTH TR	115.0	PENELE C	1	PN-P1-2-PN-345-104T	operation	242.0	99.17	102.22	DC	7.39
167706265	200924	26CANYON	230.0	PENELE C	200706	26N.MESH PN	230.0	PENELE C	1	Base Case	operation	546.0	177.74	178.28	DC	6.51
167706266	200924	26CANYON	230.0	PENELE C	200706	26N.MESH PN	230.0	PENELE C	1	20090826CHAPMA N+ 230 921641 AA1-111 TAP 230 1	operation	666.0	166.59	167.08	DC	7.09
167971743	235197	01KARNSC	138.0	AP	235152	01BUTLER	138.0	AP	1	PN-P1-2-PN-345-107T	operation	179.0	236.92	237.51	DC	2.32
167971744	235197	01KARNSC	138.0	AP	235152	01BUTLER	138.0	AP	1	ATSI-P1-2-CEI-345-700T	operation	179.0	236.92	237.51	DC	2.32
166249799	941190	AE2-113 TAP	115.0	PENELE C	200582	26RIDGWAY	115.0	PENELE C	1	PN-P1-2-PN-230-006	operation	160.0	120.91	123.92	DC	4.82
166249803	941190	AE2-113 TAP	115.0	PENELE C	200582	26RIDGWAY	115.0	PENELE C	1	Base Case	operation	133.0	104.54	107.91	DC	4.48

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
165074042	8	26N.MESHPN 230.0 kV - 26OXBOW 230.0 kV Ckt 1	<u>PENELEC</u> No violation, incorrect contingency.	\$0
167529263,165 074002,167529 264	12	26CANYON 230.0 kV - 26N.MESHPN 230.0 kV Ckt 1	Note: It should be noted that some of the contingencies taken in the analysis may not be valid due to system condition changes that were not captured in the model. This will be re-evaluated for validity in the System Impact phase.	\$0
166020226	13	26FOURMILE 115.0 kV - 26ERIE SE 115.0 kV Ckt 1	<u>PENELEC</u> PN-AF2-F-0020A (1362) : Reconnector 4.62 miles of transmission line. Replace line drops at Four Mile and Erie South substations Project Type : FAC Cost : \$14,150,000 Time Estimate : 30.0 Months PN-AF2-F-0020B (1363) : Replace the substation conductor at Four Mile Project Type : FAC Cost : \$200,000 Time Estimate : 12.0 Months PN-AG1-F-0001 (1364) : Replace bus and line side disconnect switches at Erie South Project Type : FAC Cost : \$500,000 Time Estimate : 12.0 Months	\$14,850,000
166020199	3	26FARM VLY 115.0 kV - AE2- 113 TAP 115.0 kV Ckt 1	<u>PENELEC</u> PN-AG1-F-0012A (1394) : Reconnector 5.6 miles of line. Project Type : FAC Cost : \$13,700,000 Time Estimate : 36.0 Months PN-AG1-F-0012B (1395) : Replace substation conductor at Farmers Valley Project Type : FAC Cost : \$200,000 Time Estimate : 12.0 Months PN-AG1-F-0012C (1396) : Adjust line relaying at Farmers Valley Project Type : FAC Cost : \$800,000 Time Estimate : 12.0 Months PN-AG1-F-0012D (1397) : Reconnector 10 miles of line. Project Type : FAC Cost : \$24,500,000 Time Estimate : 48.0 Months	\$39,200,000

ID	Idx	Facility	Upgrade Description	Cost
167418923	15	01KARNSC 138.0 kV - 01BUTLER 138.0 kV Ckt 1	<u>APS</u> WP-AG1-F-0008A (1190) : Replace 336 ACSR, 954 ACSR, & 1024.5 ACAR bus conductor at Karns City substation. Project Type : FAC Cost : \$130,252 Time Estimate : 12.0 Months WP-AG1-F-0008B (1191) : Replace 350 CU, 1.00 IPS CU, & 954 ACSR bus conductor at Butler substation. Project Type : FAC Cost : \$130,252 Time Estimate : 12.0 Months WP-AG1-F-0008C (1192) : Replace 336 ACSR line risers at Butler substation. Project Type : FAC Cost : \$130,252 Time Estimate : 12.0 Months WP-AG1-F-0008D (1193) : Replace 336 ACSR line risers at Karns City substation. Project Type : FAC Cost : \$130,252 Time Estimate : 12.0 Months WP-AG1-F-0008E (1194) : Reconductor 15.6 miles of 336 ACSR on the Butler - Karns City 138 kV line (102 spans). Project Type : FAC Cost : \$40,638,780 Time Estimate : 60.0 Months WP-AG1-F-0008F (1195) : Replace 600 A line side and bus side disconnects at Butler substation. Project Type : FAC Cost : \$390,758 Time Estimate : 12.0 Months WP-AG1-F-0008G (1196) : Replace 350 CU wire to WT at Butler substation. Project Type : FAC Cost : \$130,252 Time Estimate : 12.0 Months WP-AG1-F-0008H (1197) : Replace relaying (WT, ZR) at Butler substation. Project Type : FAC Cost : \$455,884 Time Estimate : 12.0 Months WP-AG1-F-0008I (1198) : Replace relaying (RT, OR, WT, MT) at Karns City substation. Project Type : FAC Cost : \$455,884 Time Estimate : 12.0 Months	\$44,025,345

ID	Idx	Facility	Upgrade Description	Cost
167418923	15	01KARNSC 138.0 kV - 01BUTLER 138.0 kV Ckt 1	<u>Continued:</u> WP-AG1-F-0008J (1199) : Replace 1200 A circuit breaker at Karns City substation. Project Type : FAC Cost : \$781,515 Time Estimate : 12.0 Months WP-AG1-F-0008K (1200) : Replace 1200 A bus & line side disconnects at Karns City substation. Project Type : FAC Cost : \$521,010 Time Estimate : 12.0 Months WP-AG1-F-0008L (1201) : Replace 1272 ACSR 45/7 SCCIR bus taps at Butler Substation. Project Type : FAC Cost : \$130,252 Time Estimate : 12.0 Months	
166020377	5	26NILES VA 115.0 kV - 26MANSFIEL 115.0 kV Ckt 1	<u>PENELEC</u> PN-AG1-F-0028A (1468) : Replace line traps at Mansfield and Niles Valley Project Type : FAC Cost : \$300,000 Time Estimate : 12.0 Months PN-AG1-F-0028B (1469) : Replace substation conductor at Mansfield and Niles Valley Project Type : FAC Cost : \$300,000 Time Estimate : 12.0 Months PN-AG1-F-0028C (1470) : Adjust CT ratios at Mansfield and Niles Valley Project Type : FAC Cost : \$1,800,000 Time Estimate : 12.0 Months	\$2,400,000

ID	Idx	Facility	Upgrade Description	Cost
165074047,165074048,167529271,167529272	9	26OXBOW 230.0 kV - LACK 230.0 kV Ckt 1	<u>PPL</u> R-PL-0019 (793) : Install a new 230kV terminal at LACK 230kV yard for First Energys new North Meshoppen-Lackawanna #2 230 kV line. Project Type : CON Cost : \$1,600,000 Time Estimate : 24.0 Months <u>PENELEC</u> PN-AF2-F-0048A (1415) : Construct a new 230 kV circuit (approximately 27 miles) between North Meshoppen and Lackawanna 230 kV. Connect the new circuit between the Canyon & North Meshoppen #3 230/115 kV lines in the ring bus position created by b2952 Project Type : CON Cost : \$115,600,000 Time Estimate : 72.0 Months PN-AF2-F-0048B (1416) : PPL would need to provide a reinforcement to expand Lackawanna 230 kV substation to include a position for the new circuit Project Type : FAC Cost : \$0 Time Estimate : N/A Months Note: It should be noted that some of the contingencies taken in the analysis may not be valid due to system condition changes that were not captured in the model. This will be re-evaluated for validity in the System Impact phase.	\$117,200,000
166020149	6	26TOWANDA 115.0 kV - 26NO MESHO 115.0 kV Ckt 1	<u>PENELEC</u> PN-AF2-F-0045 (1401) : Reconductor 2 miles of line. Adjust relay settings as necessary at East Towanda and North Meshoppen Project Type : FAC Cost : \$6,200,000 Time Estimate : 30.0 Months b3137 (1521) : PJM Baseline Upgrade b3137. Rebuild 20 miles of the East Towanda - North Meshoppen 115 kV line. The baseline project has an projected in-service date of 06/01/2024. Project Type : FAC Cost : \$0 Time Estimate : N/A Months b2678 (1522) : PJM Baseline Upgrade b2678. Convert the East Towanda 115 kV substation to breaker and half configuration. The baseline project has an projected in-service date of 06/01/2020. Project Type : FAC Cost : \$0 Time Estimate : N/A Months s1729 (1523) : Expand the existing North Meshoppen 115 kV yard to a breaker-and-a-half configuration. (s1729) Project Type : FAC Cost : \$0 Time Estimate : N/A Months	\$6,200,000

ID	Idx	Facility	Upgrade Description	Cost
166020469	1	26Z1-069 TAP 115.0 kV - 26SABINSVI 115.0 kV Ckt 1	<u>PENELEC</u> PN-AG1-F-0023 (1452) : Reconductor 7.3 miles of line. Project Type : FAC Cost : \$17,900,000 Time Estimate : 42.0 Months	\$17,900,000
165074028,165 074027	10	26HOMER CY 345.0 kV - 26HOMER CT 1.0 kV Ckt S	<u>PENELEC</u> PN-AF2-F-0005 (1358) : Construct 500 kV yard consisting of three-500 kV breakers configured in a breaker-and-a-half layout (initially a ring bus) Tap the Keystone - Conemaugh 500 kV line and loop into the new Homer City 500 kV yard Install one 500/345 kV transformer Install a new 345 kV breaker-and-a-half string using three new breakers Project Type : CON Cost : \$85,600,000 Time Estimate : 48.0 Months	\$85,600,000
165074033,165 074032	18	26HOMER CT 1.0 kV - 26HOMER CT 230.0 kV Ckt S	Note: It should be noted that some of the contingencies taken in the analysis may not be valid due to system condition changes that were not captured in the model. This will be re-evaluated for validity in the System Impact phase.	
165074057	11	26HOMER CY 345.0 kV - 26HOMER CT 1.0 kV Ckt N	<u>PENELEC</u> PN-AF2-F-0005 (1358) : Construct 500 kV yard consisting of three-500 kV breakers configured in a breaker-and-a-half layout (initially a ring bus) Tap the Keystone - Conemaugh 500 kV line and loop into the new Homer City 500 kV yard Install one 500/345 kV transformer Install a new 345 kV breaker-and-a-half string using three new breakers Project Type : CON Cost : \$85,600,000 Time Estimate : 48.0 Months	\$85,600,000
165074052	17	26HOMER CT 1.0 kV - 26HOMER CT 230.0 kV Ckt N		

ID	Idx	Facility	Upgrade Description	Cost
167529260,165 073977,167529 259	7	26E.TWANDA 230.0 kV - 26CANYON 230.0 kV Ckt 1	<u>PENELEC</u> PN-AF2-F-0046A (1407) : Replace substation conductor at East Towanda Project Type : FAC Cost : \$225,000 Time Estimate : 12.0 Months PN-AF2-F-0046B (1408) : Reconductor 13.01 miles of line. Replace transmission line drop at East Towanda. Project Type : FAC Cost : \$55,735,000 Time Estimate : 54.0 Months PN-AF2-F-0046C (1409) : Replace disconnect switch at Canyon Project Type : FAC Cost : \$275,000 Time Estimate : 12.0 Months PN-AF2-F-0046D (1410) : Replace line trap at East Towanda Project Type : FAC Cost : \$225,000 Time Estimate : 12.0 Months PN-AF2-F-0046E (1411) : Adjust/replace metering and line relaying at East Towanda Project Type : FAC Cost : \$500,000 Time Estimate : 12.0 Months Note: It should be noted that some of the contingencies taken in the analysis may not be valid due to system condition changes that were not captured in the model. This will be re-evaluated for validity in the System Impact phase.	\$56,960,000
166020300	4	26SABINSVI 115.0 kV - 26NILES VA 115.0 kV Ckt 1	<u>PENELEC</u> PN-AG1-F-0022 (1451) : Replace substation conductor at Niles Valley Project Type : FAC Cost : \$200,000 Time Estimate : 12.0 Months	\$200,000

ID	Idx	Facility	Upgrade Description	Cost
166020337	2	26RIDGWAY 115.0 kV - 26FOREST 115.0 kV Ckt 1	<u>PENELEC</u> PN-AF2-F-0063A (1463) : Replace line traps at Forest and Ridgway substations. Project Type : FAC Cost : \$200,000 Time Estimate : 12.0 Months PN-AF2-F-0063B (1464) : Adjust relay settings at Forest. Project Type : FAC Cost : \$450,000 Time Estimate : 12.0 Months PN-AF2-F-0063C (1465) : Replace line relays. Project Type : FAC Cost : \$450,000 Time Estimate : 12.0 Months PN-AF2-F-0063D (1466) : Replace bus conductor at Ridgway. Project Type : FAC Cost : \$200,000 Time Estimate : 12.0 Months PN-AF2-F-0063E (1467) : Replace circuit breakers at Forest and Ridgway. Project Type : FAC Cost : \$800,000 Time Estimate : 12.0 Months	\$2,100,000
			TOTAL COST	\$472,235,345 ¹

11.6 Flow Gate Details - Primary POI

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".

11.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
166020469	203348	26HECTOR	PENELEC	200670	26SABINSVI	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	245.0	92.69	102.69	DC	24.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	1.3590	50/50	1.3590
916202	Z1-069 E	36.7235	50/50	36.7235
931091	AB1-160 C	0.3883	50/50	0.3883
931092	AB1-160 E	10.4924	50/50	10.4924
940861	AE2-074 C	7.5311	50/50	7.5311
940862	AE2-074 E	9.9136	50/50	9.9136
941191	AE2-113 C	14.2446	50/50	14.2446
941192	AE2-113 E	15.3369	50/50	15.3369
946111	AF1-276 C	23.3234	50/50	23.3234
946112	AF1-276 E	11.4876	50/50	11.4876
946121	AF1-277 C	23.3234	50/50	23.3234
946122	AF1-277 E	11.4876	50/50	11.4876
946131	AF1-278 C	18.6030	50/50	18.6030
946132	AF1-278 E	9.2458	50/50	9.2458
961212	AF2-412 BAT	12.0887	Merchant Transmission	12.0887
963571	AG1-206 C	0.1926	Adder	0.43
963572	AG1-206 E	0.1037	Adder	0.23
965241	AG1-389 C O1	7.3478	50/50	7.3478
965242	AG1-389 E O1	4.8986	50/50	4.8986
965251	AG1-390 C O1	7.3478	50/50	7.3478
965252	AG1-390 E O1	4.8986	50/50	4.8986
965261	AG1-391 C O1	7.3478	50/50	7.3478
965262	AG1-391 E O1	4.8986	50/50	4.8986
965271	AG1-392 C O1	14.6957	50/50	14.6957
965272	AG1-392 E O1	9.7971	50/50	9.7971
WEC	WEC	0.0227	Confirmed LTF	0.0227
LGEE	LGEE	0.0434	Confirmed LTF	0.0434
CPL	CPL	0.0293	Confirmed LTF	0.0293
CBM-W2	CBM-W2	0.5914	Confirmed LTF	0.5914
NY	NY	0.5746	Confirmed LTF	0.5746
TVA	TVA	0.0868	Confirmed LTF	0.0868
O-066	O-066	1.3393	Confirmed LTF	1.3393
SIGE	SIGE	0.0281	Confirmed LTF	0.0281
CBM-S2	CBM-S2	0.5011	Confirmed LTF	0.5011
CBM-S1	CBM-S1	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1911	Confirmed LTF	0.1911
MEC	MEC	0.1112	Confirmed LTF	0.1112
LAGN	LAGN	0.1103	Confirmed LTF	0.1103
CBM-W1	CBM-W1	1.0655	Confirmed LTF	1.0655

11.6.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
166020337	200582	26RIDGWAY	PENELEC	200647	26FOREST	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	277.0	113.7	118.15	DC	12.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200649	26PENNTech	4.8519	50/50	4.8519
203349	26Z1-069 C	0.5876	50/50	0.5876
916202	Z1-069 E	15.8783	50/50	15.8783
931091	AB1-160 C	0.1679	50/50	0.1679
931092	AB1-160 E	4.5366	50/50	4.5366
940861	AE2-074 C	6.0265	50/50	6.0265
940862	AE2-074 E	7.9329	50/50	7.9329
941191	AE2-113 C	38.4652	50/50	38.4652
941192	AE2-113 E	41.4146	50/50	41.4146
941321	AE2-126 C	5.0311	50/50	5.0311
941322	AE2-126 E	3.3541	50/50	3.3541
941331	AE2-129 C	0.6977	Adder	0.82
941332	AE2-129 E	0.4651	Adder	0.55
941351	AE2-131 C (Suspended)	0.6977	Adder	0.82
941352	AE2-131 E (Suspended)	0.4651	Adder	0.55
946111	AF1-276 C	34.7402	50/50	34.7402
946112	AF1-276 E	17.1108	50/50	17.1108
946121	AF1-277 C	34.7402	50/50	34.7402
946122	AF1-277 E	17.1108	50/50	17.1108
946131	AF1-278 C	27.7092	50/50	27.7092
946132	AF1-278 E	13.7716	50/50	13.7716
946423	AF1-306 BAT	18.4505	Merchant Transmission	18.4505
957451	AF2-039 C	0.6261	Adder	0.74
957452	AF2-039 E	0.4174	Adder	0.49
957941	AF2-088 C	0.3015	Adder	0.35
957942	AF2-088 E	0.2010	Adder	0.24
958271	AF2-121 C	0.6977	Adder	0.82
958272	AF2-121 E	0.4651	Adder	0.55
961211	AF2-412	8.1350	Adder	9.57
962411	AG1-090 C O1	1.8489	Adder	4.1
962412	AG1-090 E O1	1.2326	Adder	2.74
962951	AG1-144 C	0.3698	Adder	0.82
962952	AG1-144 E	0.2465	Adder	0.55
963571	AG1-206 C	3.2639	50/50	3.2639
963572	AG1-206 E	1.7575	50/50	1.7575
964451	AG1-308 C O1	0.2805	Adder	0.62
964452	AG1-308 E O1	0.3920	Adder	0.87
965121	AG1-377 C O1	0.3698	Adder	0.82
965122	AG1-377 E O1	0.2465	Adder	0.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965131	AG1-378 C O1	0.3698	Adder	0.82
965132	AG1-378 E O1	0.2465	Adder	0.55
965241	AG1-389 C O1	3.6982	50/50	3.6982
965242	AG1-389 E O1	2.4654	50/50	2.4654
965251	AG1-390 C O1	3.6982	50/50	3.6982
965252	AG1-390 E O1	2.4654	50/50	2.4654
965261	AG1-391 C O1	3.6982	50/50	3.6982
965262	AG1-391 E O1	2.4654	50/50	2.4654
965271	AG1-392 C O1	7.3963	50/50	7.3963
965272	AG1-392 E O1	4.9309	50/50	4.9309
965301	AG1-395 C	0.4752	Adder	1.05
965302	AG1-395 E	0.1411	Adder	0.31
G-007A	G-007A	0.5778	Confirmed LTF	0.5778
VFT	VFT	1.6125	Confirmed LTF	1.6125
CALDERWOOD	CALDERWOOD	0.0631	Confirmed LTF	0.0631
PRAIRIE	PRAIRIE	0.3978	Confirmed LTF	0.3978
CHEOAH	CHEOAH	0.0636	Confirmed LTF	0.0636
CBM-N	CBM-N	0.3300	Confirmed LTF	0.3300
COTTONWOOD	COTTONWOOD	0.2919	Confirmed LTF	0.2919
HAMLET	HAMLET	0.0537	Confirmed LTF	0.0537
GIBSON	GIBSON	0.0874	Confirmed LTF	0.0874
BLUEG	BLUEG	0.2743	Confirmed LTF	0.2743
TRIMBLE	TRIMBLE	0.0879	Confirmed LTF	0.0879
CATAWBA	CATAWBA	0.0364	Confirmed LTF	0.0364

11.6.3 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
166020199	200668	26FARM VLY	PENELEC	941190	AE2-113 TAP	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	160.0	156.24	165.92	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	0.7391	50/50	0.7391
203999	P-047 E	5.0737	Adder	5.97
916202	Z1-069 E	19.9714	50/50	19.9714
931091	AB1-160 C	0.2112	50/50	0.2112
931092	AB1-160 E	5.7061	50/50	5.7061
940861	AE2-074 C	7.5775	50/50	7.5775
940862	AE2-074 E	9.9746	50/50	9.9746
946111	AF1-276 C	43.6706	50/50	43.6706
946112	AF1-276 E	21.5094	50/50	21.5094
946121	AF1-277 C	43.6706	50/50	43.6706
946122	AF1-277 E	21.5094	50/50	21.5094
946131	AF1-278 C	34.8322	50/50	34.8322
946132	AF1-278 E	17.3118	50/50	17.3118
959471	AF2-238 C	0.6301	Adder	0.74
959472	AF2-238 E	0.4200	Adder	0.49
959741	AF2-265 C	0.4515	Adder	0.53
959742	AF2-265 E	0.3360	Adder	0.4
961211	AF2-412	10.2655	Adder	12.08
965241	AG1-389 C O1	4.6511	50/50	4.6511
965242	AG1-389 E O1	3.1007	50/50	3.1007
965251	AG1-390 C O1	4.6511	50/50	4.6511
965252	AG1-390 E O1	3.1007	50/50	3.1007
965261	AG1-391 C O1	4.6511	50/50	4.6511
965262	AG1-391 E O1	3.1007	50/50	3.1007
965271	AG1-392 C O1	9.3022	50/50	9.3022
965272	AG1-392 E O1	6.2014	50/50	6.2014
G-007A	G-007A	0.4148	Confirmed LTF	0.4148
VFT	VFT	1.1868	Confirmed LTF	1.1868
CALDERWOOD	CALDERWOOD	0.0333	Confirmed LTF	0.0333
PRAIRIE	PRAIRIE	0.1989	Confirmed LTF	0.1989
CHEOAH	CHEOAH	0.0335	Confirmed LTF	0.0335
CBM-N	CBM-N	0.2592	Confirmed LTF	0.2592
COTTONWOOD	COTTONWOOD	0.1512	Confirmed LTF	0.1512
HAMLET	HAMLET	0.0312	Confirmed LTF	0.0312
GIBSON	GIBSON	0.0431	Confirmed LTF	0.0431
BLUEG	BLUEG	0.1371	Confirmed LTF	0.1371
TRIMBLE	TRIMBLE	0.0440	Confirmed LTF	0.0440
CATAWBA	CATAWBA	0.0203	Confirmed LTF	0.0203

11.6.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
166020300	200670	26SABINSVI	PENELEC	200671	26NILES VA	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	191.0	115.23	128.06	DC	24.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	1.3590	50/50	1.3590
916202	Z1-069 E	36.7235	50/50	36.7235
931091	AB1-160 C	0.3883	50/50	0.3883
931092	AB1-160 E	10.4924	50/50	10.4924
940861	AE2-074 C	7.5311	50/50	7.5311
940862	AE2-074 E	9.9136	50/50	9.9136
941191	AE2-113 C	14.2446	50/50	14.2446
941192	AE2-113 E	15.3369	50/50	15.3369
946111	AF1-276 C	23.3234	50/50	23.3234
946112	AF1-276 E	11.4876	50/50	11.4876
946121	AF1-277 C	23.3234	50/50	23.3234
946122	AF1-277 E	11.4876	50/50	11.4876
946131	AF1-278 C	18.6030	50/50	18.6030
946132	AF1-278 E	9.2458	50/50	9.2458
961212	AF2-412 BAT	12.0887	Merchant Transmission	12.0887
963571	AG1-206 C	0.1926	Adder	0.43
963572	AG1-206 E	0.1037	Adder	0.23
965241	AG1-389 C O1	7.3478	50/50	7.3478
965242	AG1-389 E O1	4.8986	50/50	4.8986
965251	AG1-390 C O1	7.3478	50/50	7.3478
965252	AG1-390 E O1	4.8986	50/50	4.8986
965261	AG1-391 C O1	7.3478	50/50	7.3478
965262	AG1-391 E O1	4.8986	50/50	4.8986
965271	AG1-392 C O1	14.6957	50/50	14.6957
965272	AG1-392 E O1	9.7971	50/50	9.7971
WEC	WEC	0.0227	Confirmed LTF	0.0227
LGEE	LGEE	0.0434	Confirmed LTF	0.0434
CPL	CPL	0.0293	Confirmed LTF	0.0293
CBM-W2	CBM-W2	0.5914	Confirmed LTF	0.5914
NY	NY	0.5746	Confirmed LTF	0.5746
TVA	TVA	0.0868	Confirmed LTF	0.0868
O-066	O-066	1.3393	Confirmed LTF	1.3393
SIGE	SIGE	0.0281	Confirmed LTF	0.0281
CBM-S2	CBM-S2	0.5011	Confirmed LTF	0.5011
CBM-S1	CBM-S1	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1911	Confirmed LTF	0.1911
MEC	MEC	0.1112	Confirmed LTF	0.1112
LAGN	LAGN	0.1103	Confirmed LTF	0.1103
CBM-W1	CBM-W1	1.0655	Confirmed LTF	1.0655

11.6.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
166020377	200671	26NILES VA	PENELEC	200672	26MANSFIEL	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	185.0	100.75	113.99	DC	24.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	1.3590	50/50	1.3590
916202	Z1-069 E	36.7235	50/50	36.7235
931091	AB1-160 C	0.3883	50/50	0.3883
931092	AB1-160 E	10.4924	50/50	10.4924
940861	AE2-074 C	7.5311	50/50	7.5311
940862	AE2-074 E	9.9136	50/50	9.9136
941191	AE2-113 C	14.2446	50/50	14.2446
941192	AE2-113 E	15.3369	50/50	15.3369
946111	AF1-276 C	23.3234	50/50	23.3234
946112	AF1-276 E	11.4876	50/50	11.4876
946121	AF1-277 C	23.3234	50/50	23.3234
946122	AF1-277 E	11.4876	50/50	11.4876
946131	AF1-278 C	18.6030	50/50	18.6030
946132	AF1-278 E	9.2458	50/50	9.2458
961212	AF2-412 BAT	12.0887	Merchant Transmission	12.0887
963571	AG1-206 C	0.1926	Adder	0.43
963572	AG1-206 E	0.1037	Adder	0.23
965241	AG1-389 C O1	7.3478	50/50	7.3478
965242	AG1-389 E O1	4.8986	50/50	4.8986
965251	AG1-390 C O1	7.3478	50/50	7.3478
965252	AG1-390 E O1	4.8986	50/50	4.8986
965261	AG1-391 C O1	7.3478	50/50	7.3478
965262	AG1-391 E O1	4.8986	50/50	4.8986
965271	AG1-392 C O1	14.6957	50/50	14.6957
965272	AG1-392 E O1	9.7971	50/50	9.7971
WEC	WEC	0.0227	Confirmed LTF	0.0227
LGEE	LGEE	0.0434	Confirmed LTF	0.0434
CPL	CPL	0.0293	Confirmed LTF	0.0293
CBM-W2	CBM-W2	0.5914	Confirmed LTF	0.5914
NY	NY	0.5746	Confirmed LTF	0.5746
TVA	TVA	0.0868	Confirmed LTF	0.0868
O-066	O-066	1.3393	Confirmed LTF	1.3393
SIGE	SIGE	0.0281	Confirmed LTF	0.0281
CBM-S2	CBM-S2	0.5011	Confirmed LTF	0.5011
CBM-S1	CBM-S1	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1911	Confirmed LTF	0.1911
MEC	MEC	0.1112	Confirmed LTF	0.1112
LAGN	LAGN	0.1103	Confirmed LTF	0.1103
CBM-W1	CBM-W1	1.0655	Confirmed LTF	1.0655

11.6.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
166020149	200674	26TOWANDA	PENELEC	200677	26NO MESHO	PENELEC	1	PN-P2_1-PN-230-997-DRT-060	breaker	245.0	190.96	191.66	DC	3.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200887	26ARMNA MT	0.4036	50/50	0.4036
200894	26K02	7.9951	50/50	7.9951
203283	26MANOR_T86	0.0418	50/50	0.0418
203350	26MILZ1-092	0.5469	50/50	0.5469
203351	26GROZ1-110	0.5368	50/50	0.5368
203352	26CANZ2-011	0.5268	50/50	0.5268
203922	X1-109 G1	11.5570	50/50	11.5570
203923	X1-109 G2	11.5570	50/50	11.5570
203932	AA2-133 GEN	0.9410	Adder	1.11
203999	P-047 E	13.0346	50/50	13.0346
916202	Z1-069 E	4.7405	Adder	5.58
919201	AA1-144 OP	30.7418	50/50	30.7418
921642	AA2-000	39.4298	Adder	46.39
930511	AB2-092	1.4477	Adder	1.7
931092	AB1-160 E	1.3544	Adder	1.59
936421	AD2-055	2.9807	Adder	3.51
940861	AE2-074 C	1.0046	Adder	1.18
940862	AE2-074 E	1.3224	Adder	1.56
941191	AE2-113 C	2.8483	Adder	3.35
941192	AE2-113 E	3.0667	Adder	3.61
941421	AE2-139 C	11.0608	50/50	11.0608
941422	AE2-139 E	7.3739	50/50	7.3739
943751	AF1-043	8.9420	Adder	10.52
944321	AF1-100 C	6.4158	Adder	7.55
944322	AF1-100 E	4.2772	Adder	5.03
944411	AF1-106 O1	3.3012	50/50	3.3012
946111	AF1-276 C	2.8965	Adder	3.41
946112	AF1-276 E	1.4266	Adder	1.68
946121	AF1-277 C	2.8965	Adder	3.41
946122	AF1-277 E	1.4266	Adder	1.68
946131	AF1-278 C	2.3103	Adder	2.72
946132	AF1-278 E	1.1482	Adder	1.35
946211	AF1-286 C	1.3370	50/50	1.3370
946212	AF1-286 E	0.9078	50/50	0.9078
959061	AF2-197 C O1	9.6062	50/50	9.6062
959062	AF2-197 E O1	14.4094	50/50	14.4094
959471	AF2-238 C	2.0173	50/50	2.0173
959472	AF2-238 E	1.3449	50/50	1.3449
959481	AF2-239 C	2.2616	50/50	2.2616

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959482	AF2-239 E	1.8134	50/50	1.8134
959491	AF2-240 C	0.6239	50/50	0.6239
959492	AF2-240 E	0.5315	50/50	0.5315
959501	AF2-241 C	1.8652	50/50	1.8652
959502	AF2-241 E	1.4360	50/50	1.4360
959741	AF2-265 C	1.4457	50/50	1.4457
959742	AF2-265 E	1.0759	50/50	1.0759
960271	AF2-318 C	2.4450	50/50	2.4450
960272	AF2-318 E	1.6300	50/50	1.6300
961141	AF2-405	1.6506	50/50	1.6506
961151	AF2-406	12.3795	50/50	12.3795
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	27.5910	Adder	32.46
961211	AF2-412	14.7153	Adder	17.31
961451	AF2-436	0.0710	Adder	0.08
963941	AG1-247 C	0.8088	50/50	0.8088
963942	AG1-247 E	0.4292	50/50	0.4292
965241	AG1-389 C O1	0.5059	Adder	1.12
965242	AG1-389 E O1	0.3373	Adder	0.75
965251	AG1-390 C O1	0.5059	Adder	1.12
965252	AG1-390 E O1	0.3373	Adder	0.75
965261	AG1-391 C O1	0.5059	Adder	1.12
965262	AG1-391 E O1	0.3373	Adder	0.75
965271	AG1-392 C O1	1.0119	Adder	2.25
965272	AG1-392 E O1	0.6746	Adder	1.5
WEC	WEC	0.1802	Confirmed LTF	0.1802
LGEE	LGEE	0.3474	Confirmed LTF	0.3474
CPL	CPL	0.2239	Confirmed LTF	0.2239
CBM-W2	CBM-W2	4.6682	Confirmed LTF	4.6682
TVA	TVA	0.6860	Confirmed LTF	0.6860
O-066	O-066	12.7937	Confirmed LTF	12.7937
SIGE	SIGE	0.2576	Confirmed LTF	0.2576
CBM-S2	CBM-S2	3.9359	Confirmed LTF	3.9359
CBM-S1	CBM-S1	0.1904	Confirmed LTF	0.1904
G-007	G-007	1.8543	Confirmed LTF	1.8543
MEC	MEC	0.8803	Confirmed LTF	0.8803
LAGN	LAGN	0.8680	Confirmed LTF	0.8680
CBM-W1	CBM-W1	8.3559	Confirmed LTF	8.3559

11.6.7 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
165073977	200675	26E.TWANDA	PENELEC	200924	26CANYON	PENELEC	1	PN-P2-2-PN-230-007T	bus	615.0	183.71	184.23	DC	7.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200894	26K02	17.6960	50/50	17.6960
203283	26MANOR_T86	0.0582	50/50	0.0582
203350	26MILZ1-092	0.8988	50/50	0.8988
203351	26GROZ1-110	1.0826	50/50	1.0826
203352	26CANZ2-011	1.0623	50/50	1.0623
203922	X1-109 G1	24.7826	50/50	24.7826
203923	X1-109 G2	24.7826	50/50	24.7826
203932	AA2-133 GEN	2.1231	Adder	2.5
203999	P-047 E	17.6345	Adder	20.75
235003	AC1-025 E	0.1744	Adder	0.21
236828	01GRAYMONT	0.4701	Adder	0.55
916202	Z1-069 E	8.7970	Adder	10.35
919201	AA1-144 OP	66.0052	50/50	66.0052
921642	AA2-000	92.7912	Adder	109.17
930511	AB2-092	3.4070	Adder	4.01
931092	AB1-160 E	2.5134	Adder	2.96
936421	AD2-055	7.0145	Adder	8.25
938332	AE1-051 BAT	0.9479	Merchant Transmission	0.9479
939171	AE1-147 C	1.4127	Adder	1.66
939172	AE1-147 E	0.9418	Adder	1.11
940201	AE2-001 C	1.4114	Adder	1.66
940202	AE2-001 E	0.9409	Adder	1.11
940681	AE2-055 C (Suspended)	1.3908	Adder	1.64
940682	AE2-055 E (Suspended)	0.9272	Adder	1.09
940861	AE2-074 C	1.9758	Adder	2.32
940862	AE2-074 E	2.6009	Adder	3.06
941191	AE2-113 C	6.5799	Adder	7.74
941192	AE2-113 E	7.0845	Adder	8.33
941261	AE2-120 C	1.4106	Adder	1.66
941262	AE2-120 E	0.9404	Adder	1.11
941271	AE2-121 C	0.7523	Adder	0.89
941272	AE2-121 E	0.5023	Adder	0.59
941321	AE2-126 C	1.2282	Adder	1.44
941322	AE2-126 E	0.8188	Adder	0.96
941331	AE2-129 C	1.0121	Adder	1.19
941332	AE2-129 E	0.6748	Adder	0.79
941351	AE2-131 C (Suspended)	1.0121	Adder	1.19
941352	AE2-131 E (Suspended)	0.6748	Adder	0.79
941421	AE2-139 C	23.8022	50/50	23.8022
941422	AE2-139 E	15.8681	50/50	15.8681
942351	AE2-248 C	1.1195	Adder	1.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942352	AE2-248 E	0.7463	Adder	0.88
942491	AE2-262 C	6.1710	Adder	7.26
942492	AE2-262 E	4.1469	Adder	4.88
942501	AE2-263 C	5.8007	Adder	6.82
942502	AE2-263 E	3.8729	Adder	4.56
942961	AE2-316 C	3.3408	Adder	3.93
942962	AE2-316 E	4.7640	Adder	5.6
943751	AF1-043	21.0434	Adder	24.76
944001	AF1-068 C O1 (Withdrawn : 12/15/2020)	1.4899	Adder	1.75
944002	AF1-068 E O1 (Withdrawn : 12/15/2020)	0.8381	Adder	0.99
944311	AF1-099 C	9.3676	Adder	11.02
944312	AF1-099 E	6.2451	Adder	7.35
944321	AF1-100 C	17.9903	Adder	21.17
944322	AF1-100 E	11.9935	Adder	14.11
944381	AF1-103 O1	1.6097	Adder	1.89
944411	AF1-106 O1	5.4258	50/50	5.4258
944471	AF1-112 C	1.4016	Adder	1.65
944472	AF1-112 E	0.9344	Adder	1.1
944671	AF1-132 C O1 (Withdrawn : 12/15/2020)	1.3953	Adder	1.64
944672	AF1-132 E O1 (Withdrawn : 12/15/2020)	0.9302	Adder	1.09
944691	AF1-134 C	0.9284	Adder	1.09
944692	AF1-134 E	0.6189	Adder	0.73
944771	AF1-142 C	14.9881	Adder	17.63
944772	AF1-142 E	9.9921	Adder	11.76
944881	AF1-153 C O1	1.2104	Adder	1.42
944882	AF1-153 E O1	0.8070	Adder	0.95
944901	AF1-155 C	1.2043	Adder	1.42
944902	AF1-155 E	0.8029	Adder	0.94
945491	AF1-214 C (Withdrawn : 12/03/2020)	1.4107	Adder	1.66
945492	AF1-214 E (Withdrawn : 12/03/2020)	0.9404	Adder	1.11
946111	AF1-276 C	6.4479	Adder	7.59
946112	AF1-276 E	3.1758	Adder	3.74
946121	AF1-277 C	6.4479	Adder	7.59
946122	AF1-277 E	3.1758	Adder	3.74
946131	AF1-278 C	5.1429	Adder	6.05
946132	AF1-278 E	2.5561	Adder	3.01
946211	AF1-286 C	2.1974	50/50	2.1974
946212	AF1-286 E	1.4921	50/50	1.4921
946381	AF1-302 C	1.4589	Adder	1.72
946382	AF1-302 E	1.9451	Adder	2.29
946421	AF1-306 C	5.2880	Adder	6.22
946422	AF1-306 E	21.1520	Adder	24.88
957451	AF2-039 C	0.8155	Adder	0.96
957452	AF2-039 E	0.5436	Adder	0.64
957941	AF2-088 C	0.3926	Adder	0.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957942	AF2-088 E	0.2618	Adder	0.31
958271	AF2-121 C	1.0121	Adder	1.19
958272	AF2-121 E	0.6748	Adder	0.79
959061	AF2-197 C O1	12.9326	50/50	12.9326
959062	AF2-197 E O1	19.3990	50/50	19.3990
959471	AF2-238 C	3.3199	50/50	3.3199
959472	AF2-238 E	2.2133	50/50	2.2133
959481	AF2-239 C	3.1511	50/50	3.1511
959482	AF2-239 E	2.5265	50/50	2.5265
959491	AF2-240 C	1.0255	50/50	1.0255
959492	AF2-240 E	0.8736	50/50	0.8736
959501	AF2-241 C	3.0656	50/50	3.0656
959502	AF2-241 E	2.3602	50/50	2.3602
959741	AF2-265 C	2.3793	50/50	2.3793
959742	AF2-265 E	1.7706	50/50	1.7706
959913	AF2-282 BAT	0.1422	Merchant Transmission	0.1422
959923	AF2-283 BAT	0.1422	Merchant Transmission	0.1422
960022	AF2-293 E	0.1373	Adder	0.16
960041	AF2-295 C	1.2043	Adder	1.42
960042	AF2-295 E	0.8029	Adder	0.94
960051	AF2-296 C	0.9284	Adder	1.09
960052	AF2-296 E	0.6189	Adder	0.73
960271	AF2-318 C	3.4066	50/50	3.4066
960272	AF2-318 E	2.2710	50/50	2.2710
961141	AF2-405	2.7129	50/50	2.7129
961151	AF2-406	20.3468	50/50	20.3468
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	54.2028	Adder	63.77
961211	AF2-412	25.5929	Adder	30.11
961451	AF2-436	0.1601	Adder	0.19
962411	AG1-090 C O1	2.6822	Adder	5.95
962412	AG1-090 E O1	1.7881	Adder	3.97
962951	AG1-144 C	0.5364	Adder	1.19
962952	AG1-144 E	0.3576	Adder	0.79
963571	AG1-206 C	0.3540	Adder	0.79
963572	AG1-206 E	0.1906	Adder	0.42
963891	AG1-242 C	0.2665	Adder	0.59
963892	AG1-242 E	0.1435	Adder	0.32
963941	AG1-247 C	1.3293	50/50	1.3293
963942	AG1-247 E	0.7054	50/50	0.7054
964031	AG1-257 C	0.5145	Adder	1.14
964032	AG1-257 E	0.7190	Adder	1.6
964041	AG1-258 C	0.5145	Adder	1.14
964042	AG1-258 E	0.7190	Adder	1.6
964341	AG1-296 C	0.2583	Adder	0.57
964342	AG1-296 E	0.1391	Adder	0.31
964451	AG1-308 C O1	0.3929	Adder	0.87
964452	AG1-308 E O1	0.5491	Adder	1.22
965121	AG1-377 C O1	0.5364	Adder	1.19
965122	AG1-377 E O1	0.3576	Adder	0.79
965131	AG1-378 C O1	0.5364	Adder	1.19
965132	AG1-378 E O1	0.3576	Adder	0.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965201	AG1-385 C	0.8249	Adder	1.83
965202	AG1-385 E	0.2443	Adder	0.54
965241	AG1-389 C O1	0.9501	Adder	2.11
965242	AG1-389 E O1	0.6334	Adder	1.41
965251	AG1-390 C O1	0.9501	Adder	2.11
965252	AG1-390 E O1	0.6334	Adder	1.41
965261	AG1-391 C O1	0.9501	Adder	2.11
965262	AG1-391 E O1	0.6334	Adder	1.41
965271	AG1-392 C O1	1.9001	Adder	4.22
965272	AG1-392 E O1	1.2667	Adder	2.81
965301	AG1-395 C	0.6893	Adder	1.53
965302	AG1-395 E	0.2047	Adder	0.45
966041	AG1-473 C	1.8943	Adder	4.2
966042	AG1-473 E	1.2629	Adder	2.8
966121	AG1-481	0.6625	Adder	1.47
WEC	WEC	0.3758	Confirmed LTF	0.3758
LGEE	LGEE	0.7219	Confirmed LTF	0.7219
CPL	CPL	0.4368	Confirmed LTF	0.4368
CBM-W2	CBM-W2	9.6410	Confirmed LTF	9.6410
TVA	TVA	1.4084	Confirmed LTF	1.4084
O-066	O-066	27.0075	Confirmed LTF	27.0075
SIG	SIG	0.5418	Confirmed LTF	0.5418
CBM-S2	CBM-S2	7.8300	Confirmed LTF	7.8300
CBM-S1	CBM-S1	0.3922	Confirmed LTF	0.3922
G-007	G-007	3.9427	Confirmed LTF	3.9427
MEC	MEC	1.8289	Confirmed LTF	1.8289
LAGN	LAGN	1.7850	Confirmed LTF	1.7850
CBM-W1	CBM-W1	17.4970	Confirmed LTF	17.4970

11.6.8 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
165074042	200706	26N.MESHPN	PENELEC	200708	26OXBOW	PENELEC	1	PN-P2-2-PN-230-007T	bus	984.0	147.25	147.71	DC	9.84

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	35.7405	50/50	35.7405
200851	26MEHOOP3	5.3659	50/50	5.3659
200894	26K02	17.4935	Adder	20.58
200917	26MTNTP_P28	1.9918	50/50	1.9918
203283	26MANOR_T86	0.0945	50/50	0.0945
203347	26NME_Y1-047	1.9463	50/50	1.9463
203922	X1-109 G1	28.4734	50/50	28.4734
203923	X1-109 G2	28.4734	50/50	28.4734
203932	AA2-133 GEN	9.0484	50/50	9.0484
203999	P-047 E	25.0367	Adder	29.45
235003	AC1-025 E	0.2081	Adder	0.24
236828	01GRAYMONT	0.5618	Adder	0.66
294573	P-028 E	69.1752	50/50	69.1752
916202	Z1-069 E	12.3394	Adder	14.52
919201	AA1-144 OP	75.8895	50/50	75.8895
920341	AA2-132 (Withdrawn : 12/07/2020)	8.7148	50/50	8.7148
921642	AA2-000	109.1865	Adder	128.45
930511	AB2-092	4.0090	Adder	4.72
931092	AB1-160 E	3.5255	Adder	4.15
936421	AD2-055	8.2538	Adder	9.71
938332	AE1-051 BAT	1.2964	Merchant Transmission	1.2964
939171	AE1-147 C	1.6887	Adder	1.99
939172	AE1-147 E	1.1258	Adder	1.32
940201	AE2-001 C	1.6869	Adder	1.98
940202	AE2-001 E	1.1246	Adder	1.32
940681	AE2-055 C (Suspended)	1.6591	Adder	1.95
940682	AE2-055 E (Suspended)	1.1061	Adder	1.3
940861	AE2-074 C	2.7480	Adder	3.23
940862	AE2-074 E	3.6173	Adder	4.26
941191	AE2-113 C	8.7344	Adder	10.28
941192	AE2-113 E	9.4042	Adder	11.06
941261	AE2-120 C	1.6859	Adder	1.98
941262	AE2-120 E	1.1239	Adder	1.32
941271	AE2-121 C	0.8995	Adder	1.06
941272	AE2-121 E	0.6006	Adder	0.71
941321	AE2-126 C	1.5384	Adder	1.81
941322	AE2-126 E	1.0256	Adder	1.21
941421	AE2-139 C	27.4027	50/50	27.4027
941422	AE2-139 E	18.2685	50/50	18.2685
942351	AE2-248 C	1.3365	Adder	1.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942352	AE2-248 E	0.8910	Adder	1.05
942491	AE2-262 C	7.4201	Adder	8.73
942492	AE2-262 E	4.9863	Adder	5.87
942501	AE2-263 C	6.9749	Adder	8.21
942502	AE2-263 E	4.6568	Adder	5.48
943751	AF1-043	24.7615	Adder	29.13
944001	AF1-068 C O1 (Withdrawn : 12/15/2020)	1.7783	Adder	2.09
944002	AF1-068 E O1 (Withdrawn : 12/15/2020)	1.0003	Adder	1.18
944311	AF1-099 C	11.2637	Adder	13.25
944312	AF1-099 E	7.5091	Adder	8.83
944321	AF1-100 C	21.8140	Adder	25.66
944322	AF1-100 E	14.5427	Adder	17.11
944381	AF1-103 O1	2.1480	Adder	2.53
944411	AF1-106 O1	6.6886	Adder	7.87
944471	AF1-112 C	1.6737	Adder	1.97
944472	AF1-112 E	1.1158	Adder	1.31
944671	AF1-132 C O1 (Withdrawn : 12/15/2020)	1.6653	Adder	1.96
944672	AF1-132 E O1 (Withdrawn : 12/15/2020)	1.1102	Adder	1.31
944771	AF1-142 C	18.0219	Adder	21.2
944772	AF1-142 E	12.0146	Adder	14.13
944881	AF1-153 C O1	1.5039	Adder	1.77
944882	AF1-153 E O1	1.0026	Adder	1.18
944901	AF1-155 C	1.4969	Adder	1.76
944902	AF1-155 E	0.9979	Adder	1.17
945491	AF1-214 C (Withdrawn : 12/03/2020)	1.6860	Adder	1.98
945492	AF1-214 E (Withdrawn : 12/03/2020)	1.1240	Adder	1.32
946111	AF1-276 C	8.8318	Adder	10.39
946112	AF1-276 E	4.3500	Adder	5.12
946121	AF1-277 C	8.8318	Adder	10.39
946122	AF1-277 E	4.3500	Adder	5.12
946131	AF1-278 C	7.0444	Adder	8.29
946132	AF1-278 E	3.5011	Adder	4.12
946211	AF1-286 C	2.7089	Adder	3.19
946212	AF1-286 E	1.8394	Adder	2.16
946421	AF1-306 C	6.5728	Adder	7.73
946422	AF1-306 E	26.2912	Adder	30.93
957451	AF2-039 C	1.0038	Adder	1.18
957452	AF2-039 E	0.6692	Adder	0.79
957941	AF2-088 C	0.4833	Adder	0.57
957942	AF2-088 E	0.3222	Adder	0.38
959061	AF2-197 C O1	18.6282	50/50	18.6282
959062	AF2-197 E O1	27.9424	50/50	27.9424
959471	AF2-238 C	3.8729	Adder	4.56
959472	AF2-238 E	2.5820	Adder	3.04
959481	AF2-239 C	5.1134	50/50	5.1134

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959482	AF2-239 E	4.1000	50/50	4.1000
959491	AF2-240 C	1.2642	Adder	1.49
959492	AF2-240 E	1.0769	Adder	1.27
959501	AF2-241 C	3.7791	Adder	4.45
959502	AF2-241 E	2.9096	Adder	3.42
959741	AF2-265 C	2.7756	Adder	3.27
959742	AF2-265 E	2.0656	Adder	2.43
959913	AF2-282 BAT	0.1945	Merchant Transmission	0.1945
959923	AF2-283 BAT	0.1945	Merchant Transmission	0.1945
960022	AF2-293 E	0.1642	Adder	0.19
960031	AF2-294 C	5.2552	50/50	5.2552
960032	AF2-294 E	3.5034	50/50	3.5034
960041	AF2-295 C	1.4969	Adder	1.76
960042	AF2-295 E	0.9979	Adder	1.17
960271	AF2-318 C	5.5280	50/50	5.5280
960272	AF2-318 E	3.6854	50/50	3.6854
961141	AF2-405	3.3443	Adder	3.93
961151	AF2-406	25.0824	Adder	29.51
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	77.4256	Adder	91.09
961211	AF2-412	36.3191	Adder	42.73
961451	AF2-436	0.6824	50/50	0.6824
963571	AG1-206 C	0.4453	Adder	0.99
963572	AG1-206 E	0.2398	Adder	0.53
963941	AG1-247 C	0.8685	Adder	1.93
963942	AG1-247 E	0.4608	Adder	1.02
964031	AG1-257 C	0.6145	Adder	1.36
964032	AG1-257 E	0.8588	Adder	1.91
964041	AG1-258 C	0.6145	Adder	1.36
964042	AG1-258 E	0.8588	Adder	1.91
964451	AG1-308 C O1	0.4868	Adder	1.08
964452	AG1-308 E O1	0.6804	Adder	1.51
964701	AG1-333 C	1.9269	50/50	1.9269
964702	AG1-333 E	0.2628	50/50	0.2628
965201	AG1-385 C	1.0249	Adder	2.28
965202	AG1-385 E	0.3035	Adder	0.67
965241	AG1-389 C O1	1.3303	Adder	2.95
965242	AG1-389 E O1	0.8868	Adder	1.97
965251	AG1-390 C O1	1.3303	Adder	2.95
965252	AG1-390 E O1	0.8868	Adder	1.97
965261	AG1-391 C O1	1.3303	Adder	2.95
965262	AG1-391 E O1	0.8868	Adder	1.97
965271	AG1-392 C O1	2.6605	Adder	5.91
965272	AG1-392 E O1	1.7737	Adder	3.94
966041	AG1-473 C	2.2335	Adder	4.96
966042	AG1-473 E	1.4890	Adder	3.31
966121	AG1-481	0.8840	Adder	1.96
WEC	WEC	0.5122	Confirmed LTF	0.5122
LGEE	LGEE	0.9845	Confirmed LTF	0.9845
CPL	CPL	0.5958	Confirmed LTF	0.5958
CBM-W2	CBM-W2	13.1443	Confirmed LTF	13.1443
TVA	TVA	1.9208	Confirmed LTF	1.9208

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
O-066	O-066	36.8400	Confirmed LTF	36.8400
SIGE	SIGE	0.7389	Confirmed LTF	0.7389
CBM-S2	CBM-S2	10.6906	Confirmed LTF	10.6906
CBM-S1	CBM-S1	0.5347	Confirmed LTF	0.5347
G-007	G-007	5.3771	Confirmed LTF	5.3771
MEC	MEC	2.4947	Confirmed LTF	2.4947
LAGN	LAGN	2.4343	Confirmed LTF	2.4343
CBM-W1	CBM-W1	23.8480	Confirmed LTF	23.8480

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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
165074047	200708	26OXBOW	PENELEC	208009	LACK	PPL	1	PN-P2-2-PN-230-007T	bus	984.0	145.76	146.22	DC	9.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	36.4479	50/50	36.4479
200851	26MEHOOP3	5.4721	50/50	5.4721
200894	26K02	17.7115	Adder	20.84
200917	26MTNTP_P28	2.0312	50/50	2.0312
203283	26MANOR_T86	0.0987	50/50	0.0987
203347	26NME_Y1-047	1.9848	50/50	1.9848
203907	26Y2-042	1.9697	50/50	1.9697
203922	X1-109 G1	28.8246	50/50	28.8246
203923	X1-109 G2	28.8246	50/50	28.8246
203932	AA2-133 GEN	10.5282	50/50	10.5282
203999	P-047 E	25.4445	Adder	29.93
235003	AC1-025 E	0.2108	Adder	0.25
236828	01GRAYMONT	0.5689	Adder	0.67
294573	P-028 E	70.5444	50/50	70.5444
916202	Z1-069 E	12.5264	Adder	14.74
919201	AA1-144 OP	76.8268	50/50	76.8268
920341	AA2-132 (Withdrawn : 12/07/2020)	7.5383	Adder	8.87
921642	AA2-000	110.5600	Adder	130.07
930511	AB2-092	4.0594	Adder	4.78
931092	AB1-160 E	3.5790	Adder	4.21
936421	AD2-055	8.3577	Adder	9.83
939171	AE1-147 C	1.7100	Adder	2.01
939172	AE1-147 E	1.1400	Adder	1.34
940201	AE2-001 C	1.7082	Adder	2.01
940202	AE2-001 E	1.1388	Adder	1.34
940681	AE2-055 C (Suspended)	1.6800	Adder	1.98
940682	AE2-055 E (Suspended)	1.1200	Adder	1.32
940861	AE2-074 C	2.7886	Adder	3.28
940862	AE2-074 E	3.6707	Adder	4.32
941191	AE2-113 C	8.8547	Adder	10.42
941192	AE2-113 E	9.5336	Adder	11.22
941261	AE2-120 C	1.7072	Adder	2.01
941262	AE2-120 E	1.1381	Adder	1.34
941271	AE2-121 C	0.9108	Adder	1.07
941272	AE2-121 E	0.6082	Adder	0.72
941321	AE2-126 C	1.5585	Adder	1.83
941322	AE2-126 E	1.0390	Adder	1.22
941421	AE2-139 C	12.4973	Adder	27.74
941422	AE2-139 E	8.3316	Adder	18.49
942351	AE2-248 C	1.3534	Adder	1.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942352	AE2-248 E	0.9023	Adder	1.06
942491	AE2-262 C	7.5144	Adder	8.84
942492	AE2-262 E	5.0497	Adder	5.94
942501	AE2-263 C	7.0636	Adder	8.31
942502	AE2-263 E	4.7161	Adder	5.55
943751	AF1-043	25.0730	Adder	29.5
944001	AF1-068 C O1 (Withdrawn : 12/15/2020)	1.8007	Adder	2.12
944002	AF1-068 E O1 (Withdrawn : 12/15/2020)	1.0129	Adder	1.19
944311	AF1-099 C	11.4069	Adder	13.42
944312	AF1-099 E	7.6046	Adder	8.95
944321	AF1-100 C	22.0932	Adder	25.99
944322	AF1-100 E	14.7288	Adder	17.33
944411	AF1-106 O1	6.7964	Adder	8.0
944471	AF1-112 C	1.6948	Adder	1.99
944472	AF1-112 E	1.1299	Adder	1.33
944671	AF1-132 C O1 (Withdrawn : 12/15/2020)	1.6863	Adder	1.98
944672	AF1-132 E O1 (Withdrawn : 12/15/2020)	1.1242	Adder	1.32
944771	AF1-142 C	18.2510	Adder	21.47
944772	AF1-142 E	12.1674	Adder	14.31
944881	AF1-153 C O1	1.5234	Adder	1.79
944882	AF1-153 E O1	1.0156	Adder	1.19
944901	AF1-155 C	1.5163	Adder	1.78
944902	AF1-155 E	1.0109	Adder	1.19
945491	AF1-214 C (Withdrawn : 12/03/2020)	1.7073	Adder	2.01
945492	AF1-214 E (Withdrawn : 12/03/2020)	1.1382	Adder	1.34
946111	AF1-276 C	8.9560	Adder	10.54
946112	AF1-276 E	4.4111	Adder	5.19
946121	AF1-277 C	8.9560	Adder	10.54
946122	AF1-277 E	4.4111	Adder	5.19
946131	AF1-278 C	7.1434	Adder	8.4
946132	AF1-278 E	3.5503	Adder	4.18
946211	AF1-286 C	2.7526	Adder	3.24
946212	AF1-286 E	1.8690	Adder	2.2
946421	AF1-306 C	6.6583	Adder	7.83
946422	AF1-306 E	26.6331	Adder	31.33
957451	AF2-039 C	1.0167	Adder	1.2
957452	AF2-039 E	0.6778	Adder	0.8
957941	AF2-088 C	0.4895	Adder	0.58
957942	AF2-088 E	0.3264	Adder	0.38
959061	AF2-197 C O1	16.1154	Adder	18.96
959062	AF2-197 E O1	28.4389	50/50	28.4389
959471	AF2-238 C	3.9342	Adder	4.63
959472	AF2-238 E	2.6228	Adder	3.09
959481	AF2-239 C	5.3434	50/50	5.3434
959482	AF2-239 E	4.2844	50/50	4.2844

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959491	AF2-240 C	1.2845	Adder	1.51
959492	AF2-240 E	1.0942	Adder	1.29
959501	AF2-241 C	3.8400	Adder	4.52
959502	AF2-241 E	2.9564	Adder	3.48
959741	AF2-265 C	2.8195	Adder	3.32
959742	AF2-265 E	2.0983	Adder	2.47
960022	AF2-293 E	0.1662	Adder	0.2
960031	AF2-294 C	4.5457	Adder	5.35
960032	AF2-294 E	3.0305	Adder	3.57
960041	AF2-295 C	1.5163	Adder	1.78
960042	AF2-295 E	1.0109	Adder	1.19
960271	AF2-318 C	5.7767	50/50	5.7767
960272	AF2-318 E	3.8511	50/50	3.8511
961141	AF2-405	3.3982	Adder	4.0
961151	AF2-406	25.4866	Adder	29.98
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	78.5706	Adder	92.44
961211	AF2-412	36.8849	Adder	43.39
961451	AF2-436	0.7940	50/50	0.7940
961461	AF2-437	0.1615	50/50	0.1615
963571	AG1-206 C	0.4512	Adder	1.0
963572	AG1-206 E	0.2429	Adder	0.54
963941	AG1-247 C	0.8825	Adder	1.96
963942	AG1-247 E	0.4683	Adder	1.04
964031	AG1-257 C	0.6222	Adder	1.38
964032	AG1-257 E	0.8696	Adder	1.93
964041	AG1-258 C	0.6222	Adder	1.38
964042	AG1-258 E	0.8696	Adder	1.93
964701	AG1-333 C	0.8834	Adder	1.96
964702	AG1-333 E	0.1205	Adder	0.27
965201	AG1-385 C	1.0382	Adder	2.3
965202	AG1-385 E	0.3075	Adder	0.68
965241	AG1-389 C O1	1.3503	Adder	3.0
965242	AG1-389 E O1	0.9002	Adder	2.0
965251	AG1-390 C O1	1.3503	Adder	3.0
965252	AG1-390 E O1	0.9002	Adder	2.0
965261	AG1-391 C O1	1.3503	Adder	3.0
965262	AG1-391 E O1	0.9002	Adder	2.0
965271	AG1-392 C O1	2.7005	Adder	5.99
965272	AG1-392 E O1	1.8003	Adder	4.0
966041	AG1-473 C	2.2613	Adder	5.02
966042	AG1-473 E	1.5075	Adder	3.35
WEC	WEC	0.5172	Confirmed LTF	0.5172
LGEE	LGEE	0.9940	Confirmed LTF	0.9940
CPL	CPL	0.5992	Confirmed LTF	0.5992
CBM-W2	CBM-W2	13.2608	Confirmed LTF	13.2608
TVA	TVA	1.9376	Confirmed LTF	1.9376
O-066	O-066	37.4255	Confirmed LTF	37.4255
SIGE	SIGE	0.7496	Confirmed LTF	0.7496
CBM-S2	CBM-S2	10.7636	Confirmed LTF	10.7636
CBM-S1	CBM-S1	0.5396	Confirmed LTF	0.5396
G-007	G-007	5.4621	Confirmed LTF	5.4621

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
MEC	MEC	2.5186	Confirmed LTF	2.5186
LAGN	LAGN	2.4553	Confirmed LTF	2.4553
CBM-W1	CBM-W1	24.0864	Confirmed LTF	24.0864

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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
165074027	200769	26HOMER CY	PENELEC	999325	26HOMER CT	PENELEC	S	PN-P2-2-PN-230-001T	bus	827.0	150.61	151.19	DC	10.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	6.6102	Adder	7.78
200829	26HNSMLK 2	2.2196	50/50	2.2196
200830	26HNSMLK 3	2.2196	50/50	2.2196
200831	26HNSMLK 4	2.2196	50/50	2.2196
200832	26HNSMLK 5	2.2196	50/50	2.2196
200835	26ARN_Z1-066	-0.8367	Adder	-0.98
200838	26HOMER C2	49.5163	50/50	49.5163
200839	26HOMER C3	52.4195	50/50	52.4195
200894	26K02	6.6231	Adder	7.79
203932	AA2-133 GEN	2.4885	Adder	2.93
203999	P-047 E	15.7508	Adder	18.53
294573	P-028 E	12.7939	Adder	15.05
915951	Y3-092 FTIR	144.0000	Merchant Transmission	144.0000
916202	Z1-069 E	12.6232	Adder	14.85
917673	Z2-108 BAT	2.2147	Merchant Transmission	2.2147
919201	AA1-144 OP	22.0946	Adder	25.99
920341	AA2-132 (Withdrawn : 12/07/2020)	3.2807	Adder	3.86
921642	AA2-000	46.4114	Adder	54.6
930511	AB2-092	1.7041	Adder	2.0
931092	AB1-160 E	3.6066	Adder	4.24
936421	AD2-055	3.5084	Adder	4.13
938352	AE1-053 BAT	1.2304	Merchant Transmission	1.2304
938951	AE1-123	1.8975	Adder	2.23
939291	AE1-160 C	1.6649	Adder	1.96
939292	AE1-160 E	0.9570	Adder	1.13
940861	AE2-074 C	4.0226	50/50	4.0226
940862	AE2-074 E	5.2951	50/50	5.2951
941191	AE2-113 C	11.4753	Adder	13.5
941192	AE2-113 E	12.3552	Adder	14.54
941321	AE2-126 C	1.0857	Adder	1.28
941322	AE2-126 E	0.7238	Adder	0.85
941421	AE2-139 C	4.2742	Adder	9.49
941422	AE2-139 E	2.8494	Adder	6.32
942811	AE2-299 C	4.5854	Adder	5.39
942812	AE2-299 E	18.3415	Adder	21.58
942961	AE2-316 C	5.6883	Adder	6.69
942962	AE2-316 E	8.1115	Adder	9.54
943151	AE2-344 C	9.8225	Adder	11.56
943152	AE2-344 E	6.5483	Adder	7.7
943351	AF1-006 C	1.7032	Adder	2.0

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943352	AF1-006 E	0.9580	Adder	1.13
943751	AF1-043	10.5253	Adder	12.38
944261	AF1-094 C	1.6151	Adder	1.9
944262	AF1-094 E	1.0767	Adder	1.27
944281	AF1-096 C	1.5731	Adder	1.85
944282	AF1-096 E	1.0488	Adder	1.23
944301	AF1-098 C	6.8250	Adder	8.03
944302	AF1-098 E	4.5500	Adder	5.35
944321	AF1-100 C	11.3309	Adder	13.33
944322	AF1-100 E	7.5539	Adder	8.89
944381	AF1-103 O1	3.2387	Adder	3.81
944391	AF1-104 O1	2.5471	Adder	3.0
944411	AF1-106 O1	3.5788	Adder	4.21
944751	AF1-140 C	-1.1169	Adder	-1.31
944881	AF1-153 C O1	1.3182	Adder	1.55
944882	AF1-153 E O1	0.8788	Adder	1.03
944901	AF1-155 C	1.3227	Adder	1.56
944902	AF1-155 E	0.8818	Adder	1.04
945021	AF1-167 C	1.0283	Adder	1.21
945022	AF1-167 E	0.6868	Adder	0.81
945051	AF1-170 C	6.3477	Adder	7.47
945052	AF1-170 E	4.2318	Adder	4.98
945451	AF1-210 C	1.1628	Adder	1.37
945452	AF1-210 E	0.7752	Adder	0.91
945673	AF1-232 BAT (Withdrawn : 01/19/2021)	2.8766	Merchant Transmission	2.8766
946111	AF1-276 C	17.9232	50/50	17.9232
946112	AF1-276 E	8.8278	50/50	8.8278
946121	AF1-277 C	17.9232	50/50	17.9232
946122	AF1-277 E	8.8278	50/50	8.8278
946131	AF1-278 C	14.2957	50/50	14.2957
946132	AF1-278 E	7.1051	50/50	7.1051
946211	AF1-286 C	1.4494	Adder	1.71
946212	AF1-286 E	0.9842	Adder	1.16
946221	AF1-287 C	1.6941	Adder	1.99
946222	AF1-287 E	1.1294	Adder	1.33
946381	AF1-302 C	2.4840	Adder	2.92
946382	AF1-302 E	3.3119	Adder	3.9
946401	AF1-304 C	7.7852	Adder	9.16
946402	AF1-304 E	5.1901	Adder	6.11
946421	AF1-306 C	5.4330	Adder	6.39
946422	AF1-306 E	21.7319	Adder	25.57
946771	AF1-217 C	1.6942	Adder	1.99
946772	AF1-217 E	1.1295	Adder	1.33
957161	AF2-010 C	6.1837	Adder	7.27
957162	AF2-010 E	4.1673	Adder	4.9
957513	AF2-045 BAT	2.4860	Merchant Transmission	2.4860
957571	AF2-051 C	5.2341	Adder	6.16
957572	AF2-051 E	2.6964	Adder	3.17
957931	AF2-087 C (Suspended)	-0.2640	Adder	-0.31
958361	AF2-130 C	1.4037	Adder	1.65
958362	AF2-130 E	0.9358	Adder	1.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958472	AF2-141 BAT	2.4608	Merchant Transmission	2.4608
958731	AF2-164 C O1	10.7292	Adder	12.62
958732	AF2-164 E O1	7.1528	Adder	8.42
958741	AF2-165 C	1.5827	Adder	1.86
958742	AF2-165 E	1.0552	Adder	1.24
958751	AF2-166 C	1.4037	Adder	1.65
958752	AF2-166 E	0.9358	Adder	1.1
959061	AF2-197 C O1	5.8053	Adder	6.83
959062	AF2-197 E O1	8.7080	Adder	10.24
959441	AF2-235 C	0.7866	Adder	0.93
959442	AF2-235 E	0.5244	Adder	0.62
959471	AF2-238 C	2.1677	Adder	2.55
959472	AF2-238 E	1.4451	Adder	1.7
959481	AF2-239 C	1.5587	Adder	1.83
959482	AF2-239 E	1.2497	Adder	1.47
959491	AF2-240 C	0.6764	Adder	0.8
959492	AF2-240 E	0.5762	Adder	0.68
959501	AF2-241 C	2.0220	Adder	2.38
959502	AF2-241 E	1.5568	Adder	1.83
959521	AF2-243 C	1.1871	Adder	1.4
959522	AF2-243 E	0.7914	Adder	0.93
959741	AF2-265 C	1.5535	Adder	1.83
959742	AF2-265 E	1.1561	Adder	1.36
959793	AF2-270 BAT	0.2157	Merchant Transmission	0.2157
959822	AF2-273 E	0.4605	Adder	0.54
960031	AF2-294 C	1.9783	Adder	2.33
960032	AF2-294 E	1.3189	Adder	1.55
960041	AF2-295 C	1.3227	Adder	1.56
960042	AF2-295 E	0.8818	Adder	1.04
960271	AF2-318 C	1.6850	Adder	1.98
960272	AF2-318 E	1.1234	Adder	1.32
960891	AF2-380 C	0.7492	Adder	0.88
960892	AF2-380 E	0.4995	Adder	0.59
961141	AF2-405	1.7894	Adder	2.11
961151	AF2-406	13.4206	Adder	15.79
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	85.5300	50/50	85.5300
961211	AF2-412	28.2062	Adder	33.18
961451	AF2-436	0.1877	Adder	0.22
961971	AG1-040 C	0.9429	Adder	2.09
961972	AG1-040 E	0.6286	Adder	1.4
962511	AG1-100 C	0.8989	Adder	2.0
962512	AG1-100 E	0.5993	Adder	1.33
962642	AG1-113 BAT	0.6861	Merchant Transmission	0.6861
962652	AG1-114 BAT	0.6521	Merchant Transmission	0.6521
962891	AG1-138 C	0.2945	Adder	0.65
962892	AG1-138 E	0.0155	Adder	0.03
962901	AG1-139 C	0.3320	Adder	0.74
962902	AG1-139 E	0.0175	Adder	0.04
962911	AG1-140 C	0.1367	Adder	0.3
962912	AG1-140 E	0.0623	Adder	0.14
963281	AG1-177 C O1	0.8560	Adder	1.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O1	0.5707	Adder	1.27
963441	AG1-193 C	0.9864	Adder	2.19
963442	AG1-193 E	0.6576	Adder	1.46
963481	AG1-197 C	0.7148	Adder	1.59
963482	AG1-197 E	0.4765	Adder	1.06
963491	AG1-198 C	0.5136	Adder	1.14
963492	AG1-198 E	0.3424	Adder	0.76
963531	AG1-202 C	0.4684	Adder	1.04
963532	AG1-202 E	0.2413	Adder	0.54
963571	AG1-206 C	0.3468	Adder	0.77
963572	AG1-206 E	0.1868	Adder	0.41
963941	AG1-247 C	0.4647	Adder	1.03
963942	AG1-247 E	0.2466	Adder	0.55
963991	AG1-253 C	0.2051	Adder	0.46
963992	AG1-253 E	0.0987	Adder	0.22
964341	AG1-296 C	0.5006	Adder	1.11
964342	AG1-296 E	0.2695	Adder	0.6
964411	AG1-303 C O1	2.2193	Adder	4.93
964412	AG1-303 E O1	1.4795	Adder	3.28
964701	AG1-333 C	0.3844	Adder	0.85
964702	AG1-333 E	0.0524	Adder	0.12
964753	AG1-338 BAT	0.3233	Merchant Transmission	0.3233
964763	AG1-339 BAT	0.3233	Merchant Transmission	0.3233
964773	AG1-340 BAT	0.3233	Merchant Transmission	0.3233
965201	AG1-385 C	0.8984	Adder	1.99
965202	AG1-385 E	0.2661	Adder	0.59
965241	AG1-389 C O1	1.4215	Adder	3.16
965242	AG1-389 E O1	0.9476	Adder	2.1
965251	AG1-390 C O1	1.4215	Adder	3.16
965252	AG1-390 E O1	0.9476	Adder	2.1
965261	AG1-391 C O1	1.4215	Adder	3.16
965262	AG1-391 E O1	0.9476	Adder	2.1
965271	AG1-392 C O1	2.8429	Adder	6.31
965272	AG1-392 E O1	1.8953	Adder	4.21
965861	AG1-455	2.5323	Adder	5.62
966121	AG1-481	1.3329	Adder	2.96
966771	AG1-548 C	8.2177	Adder	18.24
966772	AG1-548 E	2.5010	Adder	5.55
966783	AG1-549 BAT	1.5891	Merchant Transmission	1.5891
WEC	WEC	0.0986	Confirmed LTF	0.0986
LGEE	LGEE	0.1269	Confirmed LTF	0.1269
CALDERWOOD	CALDERWOOD	0.0432	Confirmed LTF	0.0432
CBM-W2	CBM-W2	1.0573	Confirmed LTF	1.0573
TVA	TVA	0.0112	Confirmed LTF	0.0112
O-066	O-066	5.2427	Confirmed LTF	5.2427
SIGE	SIGE	0.1041	Confirmed LTF	0.1041
CHEOAH	CHEOAH	0.0470	Confirmed LTF	0.0470
CBM-S1	CBM-S1	0.0163	Confirmed LTF	0.0163
G-007	G-007	0.9418	Confirmed LTF	0.9418
HAMLET	HAMLET	0.2339	Confirmed LTF	0.2339
MEC	MEC	0.3861	Confirmed LTF	0.3861
LAGN	LAGN	0.0630	Confirmed LTF	0.0630

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1085	Confirmed LTF	0.1085
CBM-W1	CBM-W1	6.4772	Confirmed LTF	6.4772

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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
165074057	200769	26HOMER CY	PENELEC	999324	26HOMER CT	PENELEC	N	PN-P2-2-PN-345-002T	bus	854.0	143.99	144.55	DC	10.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	6.5754	Adder	7.74
200829	26HNSMLK 2	2.2076	50/50	2.2076
200830	26HNSMLK 3	2.2076	50/50	2.2076
200831	26HNSMLK 4	2.2076	50/50	2.2076
200832	26HNSMLK 5	2.2076	50/50	2.2076
200835	26ARN_Z1-066	-0.8316	Adder	-0.98
200838	26HOMER C2	49.2411	50/50	49.2411
200839	26HOMER C3	52.1282	50/50	52.1282
200894	26K02	6.5883	Adder	7.75
203932	AA2-133 GEN	2.4753	Adder	2.91
203999	P-047 E	15.6652	Adder	18.43
294573	P-028 E	12.7265	Adder	14.97
915951	Y3-092 FTIR	143.2300	Merchant Transmission	143.2300
916202	Z1-069 E	12.5548	Adder	14.77
917673	Z2-108 BAT	2.2012	Merchant Transmission	2.2012
919201	AA1-144 OP	21.9768	Adder	25.86
920341	AA2-132 (Withdrawn : 12/07/2020)	3.2631	Adder	3.84
921642	AA2-000	46.1713	Adder	54.32
930511	AB2-092	1.6953	Adder	1.99
931092	AB1-160 E	3.5871	Adder	4.22
936421	AD2-055	3.4903	Adder	4.11
938352	AE1-053 BAT	1.2229	Merchant Transmission	1.2229
938951	AE1-123	1.8876	Adder	2.22
939291	AE1-160 C	1.6561	Adder	1.95
939292	AE1-160 E	0.9519	Adder	1.12
940861	AE2-074 C	4.0007	50/50	4.0007
940862	AE2-074 E	5.2663	50/50	5.2663
941191	AE2-113 C	11.4130	Adder	13.43
941192	AE2-113 E	12.2881	Adder	14.46
941321	AE2-126 C	1.0801	Adder	1.27
941322	AE2-126 E	0.7201	Adder	0.85
941421	AE2-139 C	4.2516	Adder	9.44
941422	AE2-139 E	2.8344	Adder	6.29
942811	AE2-299 C	4.5609	Adder	5.37
942812	AE2-299 E	18.2436	Adder	21.46
942961	AE2-316 C	5.6581	Adder	6.66
942962	AE2-316 E	8.0685	Adder	9.49
943151	AE2-344 C	9.7702	Adder	11.49
943152	AE2-344 E	6.5135	Adder	7.66
943351	AF1-006 C	1.6941	Adder	1.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943352	AF1-006 E	0.9529	Adder	1.12
943751	AF1-043	10.4708	Adder	12.32
944261	AF1-094 C	1.6065	Adder	1.89
944262	AF1-094 E	1.0710	Adder	1.26
944281	AF1-096 C	1.5648	Adder	1.84
944282	AF1-096 E	1.0432	Adder	1.23
944301	AF1-098 C	6.7887	Adder	7.99
944302	AF1-098 E	4.5258	Adder	5.32
944321	AF1-100 C	11.2736	Adder	13.26
944322	AF1-100 E	7.5157	Adder	8.84
944381	AF1-103 O1	3.2213	Adder	3.79
944391	AF1-104 O1	2.5337	Adder	2.98
944411	AF1-106 O1	3.5595	Adder	4.19
944751	AF1-140 C	-1.1101	Adder	-1.31
944881	AF1-153 C O1	1.3113	Adder	1.54
944882	AF1-153 E O1	0.8742	Adder	1.03
944901	AF1-155 C	1.3158	Adder	1.55
944902	AF1-155 E	0.8772	Adder	1.03
945021	AF1-167 C	1.0229	Adder	1.2
945022	AF1-167 E	0.6832	Adder	0.8
945051	AF1-170 C	6.3141	Adder	7.43
945052	AF1-170 E	4.2094	Adder	4.95
945451	AF1-210 C	1.1567	Adder	1.36
945452	AF1-210 E	0.7711	Adder	0.91
945673	AF1-232 BAT (Withdrawn : 01/19/2021)	2.8594	Merchant Transmission	2.8594
946111	AF1-276 C	17.8260	50/50	17.8260
946112	AF1-276 E	8.7800	50/50	8.7800
946121	AF1-277 C	17.8260	50/50	17.8260
946122	AF1-277 E	8.7800	50/50	8.7800
946131	AF1-278 C	14.2182	50/50	14.2182
946132	AF1-278 E	7.0666	50/50	7.0666
946211	AF1-286 C	1.4416	Adder	1.7
946212	AF1-286 E	0.9789	Adder	1.15
946221	AF1-287 C	1.6851	Adder	1.98
946222	AF1-287 E	1.1234	Adder	1.32
946381	AF1-302 C	2.4708	Adder	2.91
946382	AF1-302 E	3.2944	Adder	3.88
946401	AF1-304 C	7.7438	Adder	9.11
946402	AF1-304 E	5.1626	Adder	6.07
946421	AF1-306 C	5.4045	Adder	6.36
946422	AF1-306 E	21.6180	Adder	25.43
946771	AF1-217 C	1.6851	Adder	1.98
946772	AF1-217 E	1.1234	Adder	1.32
957161	AF2-010 C	6.1504	Adder	7.24
957162	AF2-010 E	4.1449	Adder	4.88
957513	AF2-045 BAT	2.4710	Merchant Transmission	2.4710
957571	AF2-051 C	5.2061	Adder	6.12
957572	AF2-051 E	2.6819	Adder	3.16
957931	AF2-087 C (Suspended)	-0.2624	Adder	-0.31
958361	AF2-130 C	1.3964	Adder	1.64
958362	AF2-130 E	0.9309	Adder	1.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958472	AF2-141 BAT	2.4458	Merchant Transmission	2.4458
958731	AF2-164 C O1	10.6708	Adder	12.55
958732	AF2-164 E O1	7.1139	Adder	8.37
958741	AF2-165 C	1.5743	Adder	1.85
958742	AF2-165 E	1.0495	Adder	1.23
958751	AF2-166 C	1.3964	Adder	1.64
958752	AF2-166 E	0.9309	Adder	1.1
959061	AF2-197 C O1	5.7745	Adder	6.79
959062	AF2-197 E O1	8.6617	Adder	10.19
959441	AF2-235 C	0.7824	Adder	0.92
959442	AF2-235 E	0.5216	Adder	0.61
959471	AF2-238 C	2.1560	Adder	2.54
959472	AF2-238 E	1.4373	Adder	1.69
959481	AF2-239 C	1.5504	Adder	1.82
959482	AF2-239 E	1.2431	Adder	1.46
959491	AF2-240 C	0.6727	Adder	0.79
959492	AF2-240 E	0.5731	Adder	0.67
959501	AF2-241 C	2.0111	Adder	2.37
959502	AF2-241 E	1.5484	Adder	1.82
959521	AF2-243 C	1.1807	Adder	1.39
959522	AF2-243 E	0.7871	Adder	0.93
959741	AF2-265 C	1.5451	Adder	1.82
959742	AF2-265 E	1.1499	Adder	1.35
959793	AF2-270 BAT	0.2144	Merchant Transmission	0.2144
959822	AF2-273 E	0.4581	Adder	0.54
960031	AF2-294 C	1.9677	Adder	2.31
960032	AF2-294 E	1.3118	Adder	1.54
960041	AF2-295 C	1.3158	Adder	1.55
960042	AF2-295 E	0.8772	Adder	1.03
960271	AF2-318 C	1.6761	Adder	1.97
960272	AF2-318 E	1.1174	Adder	1.31
960891	AF2-380 C	0.7454	Adder	0.88
960892	AF2-380 E	0.4969	Adder	0.58
961141	AF2-405	1.7797	Adder	2.09
961151	AF2-406	13.3480	Adder	15.7
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	85.0620	50/50	85.0620
961211	AF2-412	28.0526	Adder	33.0
961451	AF2-436	0.1867	Adder	0.22
961971	AG1-040 C	0.9378	Adder	2.08
961972	AG1-040 E	0.6252	Adder	1.39
962511	AG1-100 C	0.8941	Adder	1.98
962512	AG1-100 E	0.5961	Adder	1.32
962642	AG1-113 BAT	0.6820	Merchant Transmission	0.6820
962652	AG1-114 BAT	0.6481	Merchant Transmission	0.6481
962891	AG1-138 C	0.2929	Adder	0.65
962892	AG1-138 E	0.0154	Adder	0.03
962901	AG1-139 C	0.3303	Adder	0.73
962902	AG1-139 E	0.0174	Adder	0.04
962911	AG1-140 C	0.1360	Adder	0.3
962912	AG1-140 E	0.0619	Adder	0.14
963281	AG1-177 C O1	0.8514	Adder	1.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O1	0.5676	Adder	1.26
963441	AG1-193 C	0.9811	Adder	2.18
963442	AG1-193 E	0.6541	Adder	1.45
963481	AG1-197 C	0.7110	Adder	1.58
963482	AG1-197 E	0.4740	Adder	1.05
963491	AG1-198 C	0.5109	Adder	1.13
963492	AG1-198 E	0.3406	Adder	0.76
963531	AG1-202 C	0.4659	Adder	1.03
963532	AG1-202 E	0.2400	Adder	0.53
963571	AG1-206 C	0.3450	Adder	0.77
963572	AG1-206 E	0.1858	Adder	0.41
963941	AG1-247 C	0.4622	Adder	1.03
963942	AG1-247 E	0.2452	Adder	0.54
963991	AG1-253 C	0.2040	Adder	0.45
963992	AG1-253 E	0.0982	Adder	0.22
964341	AG1-296 C	0.4979	Adder	1.11
964342	AG1-296 E	0.2681	Adder	0.6
964411	AG1-303 C O1	2.2074	Adder	4.9
964412	AG1-303 E O1	1.4716	Adder	3.27
964701	AG1-333 C	0.3824	Adder	0.85
964702	AG1-333 E	0.0521	Adder	0.12
964753	AG1-338 BAT	0.3214	Merchant Transmission	0.3214
964763	AG1-339 BAT	0.3214	Merchant Transmission	0.3214
964773	AG1-340 BAT	0.3214	Merchant Transmission	0.3214
965201	AG1-385 C	0.8936	Adder	1.98
965202	AG1-385 E	0.2647	Adder	0.59
965241	AG1-389 C O1	1.4137	Adder	3.14
965242	AG1-389 E O1	0.9425	Adder	2.09
965251	AG1-390 C O1	1.4137	Adder	3.14
965252	AG1-390 E O1	0.9425	Adder	2.09
965261	AG1-391 C O1	1.4137	Adder	3.14
965262	AG1-391 E O1	0.9425	Adder	2.09
965271	AG1-392 C O1	2.8274	Adder	6.28
965272	AG1-392 E O1	1.8850	Adder	4.18
965861	AG1-455	2.5189	Adder	5.59
966121	AG1-481	1.3257	Adder	2.94
966771	AG1-548 C	8.1742	Adder	18.14
966772	AG1-548 E	2.4878	Adder	5.52
966783	AG1-549 BAT	1.5794	Merchant Transmission	1.5794
WEC	WEC	0.0995	Confirmed LTF	0.0995
LGEE	LGEE	0.1294	Confirmed LTF	0.1294
CALDERWOOD	CALDERWOOD	0.0408	Confirmed LTF	0.0408
CBM-W2	CBM-W2	1.0931	Confirmed LTF	1.0931
TVA	TVA	0.0182	Confirmed LTF	0.0182
O-066	O-066	5.1821	Confirmed LTF	5.1821
SIGE	SIGE	0.1035	Confirmed LTF	0.1035
CHEOAH	CHEOAH	0.0445	Confirmed LTF	0.0445
CBM-S1	CBM-S1	0.0182	Confirmed LTF	0.0182
G-007	G-007	0.9314	Confirmed LTF	0.9314
HAMLET	HAMLET	0.2293	Confirmed LTF	0.2293
MEC	MEC	0.3925	Confirmed LTF	0.3925
LAGN	LAGN	0.0718	Confirmed LTF	0.0718

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1061	Confirmed LTF	0.1061
CBM-W1	CBM-W1	6.5053	Confirmed LTF	6.5053

11.6.12 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
165074002	200924	26CANYON	PENELEC	200706	26N.MESHPN	PENELEC	1	PN-P2-2-PN-230-007T	bus	666.0	168.38	168.86	DC	7.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200894	26K02	17.6960	50/50	17.6960
203283	26MANOR_T86	0.0582	50/50	0.0582
203350	26MILZ1-092	0.8988	50/50	0.8988
203351	26GROZ1-110	1.0826	50/50	1.0826
203352	26CANZ2-011	1.0623	50/50	1.0623
203922	X1-109 G1	24.7826	50/50	24.7826
203923	X1-109 G2	24.7826	50/50	24.7826
203932	AA2-133 GEN	2.1231	Adder	2.5
203999	P-047 E	17.6345	Adder	20.75
235003	AC1-025 E	0.1744	Adder	0.21
236828	01GRAYMONT	0.4701	Adder	0.55
916202	Z1-069 E	8.7970	Adder	10.35
919201	AA1-144 OP	66.0052	50/50	66.0052
921642	AA2-000	92.7912	Adder	109.17
930511	AB2-092	3.4070	Adder	4.01
931092	AB1-160 E	2.5134	Adder	2.96
936421	AD2-055	7.0145	Adder	8.25
938332	AE1-051 BAT	0.9479	Merchant Transmission	0.9479
939171	AE1-147 C	1.4127	Adder	1.66
939172	AE1-147 E	0.9418	Adder	1.11
940201	AE2-001 C	1.4114	Adder	1.66
940202	AE2-001 E	0.9409	Adder	1.11
940681	AE2-055 C (Suspended)	1.3908	Adder	1.64
940682	AE2-055 E (Suspended)	0.9272	Adder	1.09
940861	AE2-074 C	1.9758	Adder	2.32
940862	AE2-074 E	2.6009	Adder	3.06
941191	AE2-113 C	6.5799	Adder	7.74
941192	AE2-113 E	7.0845	Adder	8.33
941261	AE2-120 C	1.4106	Adder	1.66
941262	AE2-120 E	0.9404	Adder	1.11
941271	AE2-121 C	0.7523	Adder	0.89
941272	AE2-121 E	0.5023	Adder	0.59
941321	AE2-126 C	1.2282	Adder	1.44
941322	AE2-126 E	0.8188	Adder	0.96
941331	AE2-129 C	1.0121	Adder	1.19
941332	AE2-129 E	0.6748	Adder	0.79
941351	AE2-131 C (Suspended)	1.0121	Adder	1.19
941352	AE2-131 E (Suspended)	0.6748	Adder	0.79
941421	AE2-139 C	23.8022	50/50	23.8022
941422	AE2-139 E	15.8681	50/50	15.8681
942351	AE2-248 C	1.1195	Adder	1.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942352	AE2-248 E	0.7463	Adder	0.88
942491	AE2-262 C	6.1710	Adder	7.26
942492	AE2-262 E	4.1469	Adder	4.88
942501	AE2-263 C	5.8007	Adder	6.82
942502	AE2-263 E	3.8729	Adder	4.56
942961	AE2-316 C	3.3408	Adder	3.93
942962	AE2-316 E	4.7640	Adder	5.6
943751	AF1-043	21.0434	Adder	24.76
944001	AF1-068 C O1 (Withdrawn : 12/15/2020)	1.4899	Adder	1.75
944002	AF1-068 E O1 (Withdrawn : 12/15/2020)	0.8381	Adder	0.99
944311	AF1-099 C	9.3676	Adder	11.02
944312	AF1-099 E	6.2451	Adder	7.35
944321	AF1-100 C	17.9903	Adder	21.17
944322	AF1-100 E	11.9935	Adder	14.11
944381	AF1-103 O1	1.6097	Adder	1.89
944411	AF1-106 O1	5.4258	50/50	5.4258
944471	AF1-112 C	1.4016	Adder	1.65
944472	AF1-112 E	0.9344	Adder	1.1
944671	AF1-132 C O1 (Withdrawn : 12/15/2020)	1.3953	Adder	1.64
944672	AF1-132 E O1 (Withdrawn : 12/15/2020)	0.9302	Adder	1.09
944691	AF1-134 C	0.9284	Adder	1.09
944692	AF1-134 E	0.6189	Adder	0.73
944771	AF1-142 C	14.9881	Adder	17.63
944772	AF1-142 E	9.9921	Adder	11.76
944881	AF1-153 C O1	1.2104	Adder	1.42
944882	AF1-153 E O1	0.8070	Adder	0.95
944901	AF1-155 C	1.2043	Adder	1.42
944902	AF1-155 E	0.8029	Adder	0.94
945491	AF1-214 C (Withdrawn : 12/03/2020)	1.4107	Adder	1.66
945492	AF1-214 E (Withdrawn : 12/03/2020)	0.9404	Adder	1.11
946111	AF1-276 C	6.4479	Adder	7.59
946112	AF1-276 E	3.1758	Adder	3.74
946121	AF1-277 C	6.4479	Adder	7.59
946122	AF1-277 E	3.1758	Adder	3.74
946131	AF1-278 C	5.1429	Adder	6.05
946132	AF1-278 E	2.5561	Adder	3.01
946211	AF1-286 C	2.1974	50/50	2.1974
946212	AF1-286 E	1.4921	50/50	1.4921
946381	AF1-302 C	1.4589	Adder	1.72
946382	AF1-302 E	1.9451	Adder	2.29
946421	AF1-306 C	5.2880	Adder	6.22
946422	AF1-306 E	21.1520	Adder	24.88
957451	AF2-039 C	0.8155	Adder	0.96
957452	AF2-039 E	0.5436	Adder	0.64
957941	AF2-088 C	0.3926	Adder	0.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957942	AF2-088 E	0.2618	Adder	0.31
958271	AF2-121 C	1.0121	Adder	1.19
958272	AF2-121 E	0.6748	Adder	0.79
959061	AF2-197 C O1	12.9326	50/50	12.9326
959062	AF2-197 E O1	19.3990	50/50	19.3990
959471	AF2-238 C	3.3199	50/50	3.3199
959472	AF2-238 E	2.2133	50/50	2.2133
959481	AF2-239 C	3.1511	50/50	3.1511
959482	AF2-239 E	2.5265	50/50	2.5265
959491	AF2-240 C	1.0255	50/50	1.0255
959492	AF2-240 E	0.8736	50/50	0.8736
959501	AF2-241 C	3.0656	50/50	3.0656
959502	AF2-241 E	2.3602	50/50	2.3602
959741	AF2-265 C	2.3793	50/50	2.3793
959742	AF2-265 E	1.7706	50/50	1.7706
959913	AF2-282 BAT	0.1422	Merchant Transmission	0.1422
959923	AF2-283 BAT	0.1422	Merchant Transmission	0.1422
960022	AF2-293 E	0.1373	Adder	0.16
960041	AF2-295 C	1.2043	Adder	1.42
960042	AF2-295 E	0.8029	Adder	0.94
960051	AF2-296 C	0.9284	Adder	1.09
960052	AF2-296 E	0.6189	Adder	0.73
960271	AF2-318 C	3.4066	50/50	3.4066
960272	AF2-318 E	2.2710	50/50	2.2710
961141	AF2-405	2.7129	50/50	2.7129
961151	AF2-406	20.3468	50/50	20.3468
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	54.2028	Adder	63.77
961211	AF2-412	25.5929	Adder	30.11
961451	AF2-436	0.1601	Adder	0.19
962411	AG1-090 C O1	2.6822	Adder	5.95
962412	AG1-090 E O1	1.7881	Adder	3.97
962951	AG1-144 C	0.5364	Adder	1.19
962952	AG1-144 E	0.3576	Adder	0.79
963571	AG1-206 C	0.3540	Adder	0.79
963572	AG1-206 E	0.1906	Adder	0.42
963891	AG1-242 C	0.2665	Adder	0.59
963892	AG1-242 E	0.1435	Adder	0.32
963941	AG1-247 C	1.3293	50/50	1.3293
963942	AG1-247 E	0.7054	50/50	0.7054
964031	AG1-257 C	0.5145	Adder	1.14
964032	AG1-257 E	0.7190	Adder	1.6
964041	AG1-258 C	0.5145	Adder	1.14
964042	AG1-258 E	0.7190	Adder	1.6
964341	AG1-296 C	0.2583	Adder	0.57
964342	AG1-296 E	0.1391	Adder	0.31
964451	AG1-308 C O1	0.3929	Adder	0.87
964452	AG1-308 E O1	0.5491	Adder	1.22
965121	AG1-377 C O1	0.5364	Adder	1.19
965122	AG1-377 E O1	0.3576	Adder	0.79
965131	AG1-378 C O1	0.5364	Adder	1.19
965132	AG1-378 E O1	0.3576	Adder	0.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965201	AG1-385 C	0.8249	Adder	1.83
965202	AG1-385 E	0.2443	Adder	0.54
965241	AG1-389 C O1	0.9501	Adder	2.11
965242	AG1-389 E O1	0.6334	Adder	1.41
965251	AG1-390 C O1	0.9501	Adder	2.11
965252	AG1-390 E O1	0.6334	Adder	1.41
965261	AG1-391 C O1	0.9501	Adder	2.11
965262	AG1-391 E O1	0.6334	Adder	1.41
965271	AG1-392 C O1	1.9001	Adder	4.22
965272	AG1-392 E O1	1.2667	Adder	2.81
965301	AG1-395 C	0.6893	Adder	1.53
965302	AG1-395 E	0.2047	Adder	0.45
966041	AG1-473 C	1.8943	Adder	4.2
966042	AG1-473 E	1.2629	Adder	2.8
966121	AG1-481	0.6625	Adder	1.47
WEC	WEC	0.3758	Confirmed LTF	0.3758
LGEE	LGEE	0.7219	Confirmed LTF	0.7219
CPL	CPL	0.4368	Confirmed LTF	0.4368
CBM-W2	CBM-W2	9.6410	Confirmed LTF	9.6410
TVA	TVA	1.4084	Confirmed LTF	1.4084
O-066	O-066	27.0075	Confirmed LTF	27.0075
SIGE	SIGE	0.5418	Confirmed LTF	0.5418
CBM-S2	CBM-S2	7.8300	Confirmed LTF	7.8300
CBM-S1	CBM-S1	0.3922	Confirmed LTF	0.3922
G-007	G-007	3.9427	Confirmed LTF	3.9427
MEC	MEC	1.8289	Confirmed LTF	1.8289
LAGN	LAGN	1.7850	Confirmed LTF	1.7850
CBM-W1	CBM-W1	17.4970	Confirmed LTF	17.4970

11.6.13 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
166020226	200927	26FOURMILE	PENELEC	200820	26ERIE SE	PENELEC	1	PN-P2-3-PN-230-6G	breaker	245.0	143.0	143.47	DC	2.56

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200642	26SENECA#1	3.8734	50/50	3.8734
200643	26SENECA#2	3.6582	50/50	3.6582
200644	26SENECA#3	0.3997	50/50	0.3997
201201	26WRREN CT	1.3722	50/50	1.3722
203999	P-047 E	3.5684	Adder	4.2
915952	Y3-092 NFTWR	51.9200	Merchant Transmission	51.9200
916202	Z1-069 E	3.0218	Adder	3.56
920341	AA2-132 (Withdrawn : 12/07/2020)	0.9483	Adder	1.12
923821	AB2-019 FTWR	1.4538	Merchant Transmission	1.4538
931092	AB1-160 E	0.8634	Adder	1.02
940861	AE2-074 C	0.8692	Adder	1.02
940862	AE2-074 E	1.1442	Adder	1.35
941191	AE2-113 C	3.5512	Adder	4.18
941192	AE2-113 E	3.8235	Adder	4.5
942811	AE2-299 C	13.8259	50/50	13.8259
942812	AE2-299 E	55.3037	50/50	55.3037
944301	AF1-098 C	21.7925	50/50	21.7925
944302	AF1-098 E	14.5283	50/50	14.5283
944381	AF1-103 O1	3.0518	50/50	3.0518
944392	AF1-104 BAT	1.0814	Merchant Transmission	1.0814
944411	AF1-106 O1	0.9938	Adder	1.17
945121	AF1-177	0.1204	50/50	0.1204
946111	AF1-276 C	4.8140	Adder	5.66
946112	AF1-276 E	2.3711	Adder	2.79
946121	AF1-277 C	4.8140	Adder	5.66
946122	AF1-277 E	2.3711	Adder	2.79
946131	AF1-278 C	3.8397	Adder	4.52
946132	AF1-278 E	1.9083	Adder	2.25
946211	AF1-286 C	0.4025	Adder	0.47
946212	AF1-286 E	0.2733	Adder	0.32
946403	AF1-304 BAT	5.2490	Merchant Transmission	5.2490
946421	AF1-306 C	2.1904	Adder	2.58
946422	AF1-306 E	8.7615	Adder	10.31
959471	AF2-238 C	0.5178	Adder	0.61
959472	AF2-238 E	0.3452	Adder	0.41
959491	AF2-240 C	0.1878	Adder	0.22
959492	AF2-240 E	0.1600	Adder	0.19
959501	AF2-241 C	0.5615	Adder	0.66
959502	AF2-241 E	0.4323	Adder	0.51
959741	AF2-265 C	0.3711	Adder	0.44
959742	AF2-265 E	0.2761	Adder	0.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960031	AF2-294 C	0.5718	Adder	0.67
960032	AF2-294 E	0.3812	Adder	0.45
961141	AF2-405	0.4969	Adder	0.58
961151	AF2-406	3.7268	Adder	4.38
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	13.7981	Adder	16.23
961211	AF2-412	5.9780	Adder	7.03
962911	AG1-140 C	0.7777	50/50	0.7777
962912	AG1-140 E	0.3543	50/50	0.3543
963571	AG1-206 C	0.1516	Adder	0.34
963572	AG1-206 E	0.0816	Adder	0.18
963941	AG1-247 C	0.1290	Adder	0.29
963942	AG1-247 E	0.0685	Adder	0.15
963991	AG1-253 C	1.1666	50/50	1.1666
963992	AG1-253 E	0.5617	50/50	0.5617
964701	AG1-333 C	0.1111	Adder	0.25
964702	AG1-333 E	0.0152	Adder	0.03
965241	AG1-389 C O1	0.3453	Adder	0.77
965242	AG1-389 E O1	0.2302	Adder	0.51
965251	AG1-390 C O1	0.3453	Adder	0.77
965252	AG1-390 E O1	0.2302	Adder	0.51
965261	AG1-391 C O1	0.3453	Adder	0.77
965262	AG1-391 E O1	0.2302	Adder	0.51
965271	AG1-392 C O1	0.6907	Adder	1.53
965272	AG1-392 E O1	0.4604	Adder	1.02
965862	AG1-455 BAT	1.6163	Merchant Transmission	1.6163
966121	AG1-481	2.3697	50/50	2.3697
966773	AG1-548 BAT	3.7852	50/50	3.7852
G-007A	G-007A	2.0139	Confirmed LTF	2.0139
VFT	VFT	5.5664	Confirmed LTF	5.5664
CALDERWOOD	CALDERWOOD	0.2326	Confirmed LTF	0.2326
PRAIRIE	PRAIRIE	1.4749	Confirmed LTF	1.4749
CHEOAH	CHEOAH	0.2327	Confirmed LTF	0.2327
CBM-N	CBM-N	1.1100	Confirmed LTF	1.1100
COTTONWOOD	COTTONWOOD	1.0815	Confirmed LTF	1.0815
HAMLET	HAMLET	0.1946	Confirmed LTF	0.1946
GIBSON	GIBSON	0.3238	Confirmed LTF	0.3238
BLUEG	BLUEG	1.0173	Confirmed LTF	1.0173
TRIMBLE	TRIMBLE	0.3267	Confirmed LTF	0.3267
CATAWBA	CATAWBA	0.1323	Confirmed LTF	0.1323

11.6.14 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
166020389	200944	26PIERCEBRK	PENELEC	200668	26FARM VLY	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	245.0	106.24	112.56	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	0.7391	50/50	0.7391
203999	P-047 E	5.0737	Adder	5.97
916202	Z1-069 E	19.9714	50/50	19.9714
931091	AB1-160 C	0.2112	50/50	0.2112
931092	AB1-160 E	5.7061	50/50	5.7061
940861	AE2-074 C	7.5775	50/50	7.5775
940862	AE2-074 E	9.9746	50/50	9.9746
946111	AF1-276 C	43.6706	50/50	43.6706
946112	AF1-276 E	21.5094	50/50	21.5094
946121	AF1-277 C	43.6706	50/50	43.6706
946122	AF1-277 E	21.5094	50/50	21.5094
946131	AF1-278 C	34.8322	50/50	34.8322
946132	AF1-278 E	17.3118	50/50	17.3118
959471	AF2-238 C	0.6301	Adder	0.74
959472	AF2-238 E	0.4200	Adder	0.49
959741	AF2-265 C	0.4515	Adder	0.53
959742	AF2-265 E	0.3360	Adder	0.4
961211	AF2-412	10.2655	Adder	12.08
965241	AG1-389 C O1	4.6511	50/50	4.6511
965242	AG1-389 E O1	3.1007	50/50	3.1007
965251	AG1-390 C O1	4.6511	50/50	4.6511
965252	AG1-390 E O1	3.1007	50/50	3.1007
965261	AG1-391 C O1	4.6511	50/50	4.6511
965262	AG1-391 E O1	3.1007	50/50	3.1007
965271	AG1-392 C O1	9.3022	50/50	9.3022
965272	AG1-392 E O1	6.2014	50/50	6.2014
G-007A	G-007A	0.4148	Confirmed LTF	0.4148
VFT	VFT	1.1868	Confirmed LTF	1.1868
CALDERWOOD	CALDERWOOD	0.0333	Confirmed LTF	0.0333
PRAIRIE	PRAIRIE	0.1989	Confirmed LTF	0.1989
CHEOAH	CHEOAH	0.0335	Confirmed LTF	0.0335
CBM-N	CBM-N	0.2592	Confirmed LTF	0.2592
COTTONWOOD	COTTONWOOD	0.1512	Confirmed LTF	0.1512
HAMLET	HAMLET	0.0312	Confirmed LTF	0.0312
GIBSON	GIBSON	0.0431	Confirmed LTF	0.0431
BLUEG	BLUEG	0.1371	Confirmed LTF	0.1371
TRIMBLE	TRIMBLE	0.0440	Confirmed LTF	0.0440
CATAWBA	CATAWBA	0.0203	Confirmed LTF	0.0203

11.6.15 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
167418923	235197	01KARNSC	AP	235152	01BUTLER	AP	1	ATSI-P2-3-CEI-345-004D	breaker	179.0	238.09	238.66	DC	2.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200608	26PINEY #1	0.7388	50/50	0.7388
200662	26SCRUB GR	1.6803	50/50	1.6803
235030	01MHNG-T155	0.1596	50/50	0.1596
236828	01GRAYMONT	0.1716	Adder	0.2
290086	Q-036 E	1.7010	Adder	2.0
293393	V3-030E	1.2402	Adder	1.46
915951	Y3-092 FTIR	95.0500	Merchant Transmission	95.0500
916202	Z1-069 E	2.6874	Adder	3.16
921642	AA2-000	21.5351	Adder	25.34
930511	AB2-092	0.7907	Adder	0.93
931092	AB1-160 E	0.7678	Adder	0.9
935191	AD1-154	2.3032	50/50	2.3032
936421	AD2-055	1.6279	Adder	1.92
936991	AD2-133 C	0.7655	Adder	0.9
936992	AD2-133 E	3.5011	Adder	4.12
938951	AE1-123	2.7911	50/50	2.7911
939171	AE1-147 C	0.5172	Adder	0.61
939172	AE1-147 E	0.3448	Adder	0.41
939291	AE1-160 C	1.4995	50/50	1.4995
939292	AE1-160 E	0.8619	50/50	0.8619
940201	AE2-001 C	0.5159	Adder	0.61
940202	AE2-001 E	0.3439	Adder	0.4
940861	AE2-074 C	0.7659	Adder	0.9
940862	AE2-074 E	1.0081	Adder	1.19
941191	AE2-113 C	3.5353	Adder	4.16
941192	AE2-113 E	3.8063	Adder	4.48
941261	AE2-120 C	0.5152	Adder	0.61
941262	AE2-120 E	0.3435	Adder	0.4
941271	AE2-121 C	0.2762	Adder	0.32
941272	AE2-121 E	0.1844	Adder	0.22
941321	AE2-126 C	0.6680	Adder	0.79
941322	AE2-126 E	0.4453	Adder	0.52
941331	AE2-129 C	0.5598	Adder	0.66
941332	AE2-129 E	0.3732	Adder	0.44
941351	AE2-131 C (Suspended)	0.5598	Adder	0.66
941352	AE2-131 E (Suspended)	0.3732	Adder	0.44
942491	AE2-262 C	2.4259	Adder	2.85
942492	AE2-262 E	1.6302	Adder	1.92
942501	AE2-263 C	2.2803	Adder	2.68
942502	AE2-263 E	1.5225	Adder	1.79
942811	AE2-299 C	2.0656	Adder	2.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942812	AE2-299 E	8.2623	Adder	9.72
942961	AE2-316 C	4.3499	50/50	4.3499
942962	AE2-316 E	6.2031	50/50	6.2031
943151	AE2-344 C	5.2796	Adder	6.21
943152	AE2-344 E	3.5197	Adder	4.14
943351	AF1-006 C	0.9302	Adder	1.09
943352	AF1-006 E	0.5233	Adder	0.62
943751	AF1-043	4.8838	Adder	5.75
944181	AF1-086 C O1	1.0729	Adder	1.26
944182	AF1-086 E O1	4.6675	Adder	5.49
944261	AF1-094 C	0.9660	Adder	1.14
944262	AF1-094 E	0.6440	Adder	0.76
944281	AF1-096 C	1.4168	50/50	1.4168
944282	AF1-096 E	0.9446	50/50	0.9446
944301	AF1-098 C	3.2077	Adder	3.77
944302	AF1-098 E	2.1385	Adder	2.52
944311	AF1-099 C	3.6825	Adder	4.33
944312	AF1-099 E	2.4550	Adder	2.89
944321	AF1-100 C	7.9114	Adder	9.31
944322	AF1-100 E	5.2742	Adder	6.2
944381	AF1-103 O1	1.2386	Adder	1.46
944391	AF1-104 O1	1.5677	Adder	1.84
944691	AF1-134 C	0.6241	Adder	0.73
944692	AF1-134 E	0.4161	Adder	0.49
944771	AF1-142 C	5.8920	Adder	6.93
944772	AF1-142 E	3.9280	Adder	4.62
944881	AF1-153 C O1	0.9010	Adder	1.06
944882	AF1-153 E O1	0.6006	Adder	0.71
944901	AF1-155 C	0.9096	Adder	1.07
944902	AF1-155 E	0.6064	Adder	0.71
945021	AF1-167 C	1.5046	50/50	1.5046
945022	AF1-167 E	1.0049	50/50	1.0049
945051	AF1-170 C	3.6027	Adder	4.24
945052	AF1-170 E	2.4018	Adder	2.83
945451	AF1-210 C	1.7061	50/50	1.7061
945452	AF1-210 E	1.1374	50/50	1.1374
945491	AF1-214 C (Withdrawn : 12/03/2020)	0.5153	Adder	0.61
945492	AF1-214 E (Withdrawn : 12/03/2020)	0.3435	Adder	0.4
945751	AF1-240 C O1	1.3819	50/50	1.3819
945752	AF1-240 E O1	0.9213	50/50	0.9213
946111	AF1-276 C	3.7393	Adder	4.4
946112	AF1-276 E	1.8418	Adder	2.17
946121	AF1-277 C	3.7393	Adder	4.4
946122	AF1-277 E	1.8418	Adder	2.17
946131	AF1-278 C	2.9825	Adder	3.51
946132	AF1-278 E	1.4823	Adder	1.74
946221	AF1-287 C	0.9076	Adder	1.07
946222	AF1-287 E	0.6051	Adder	0.71
946381	AF1-302 C	1.8995	50/50	1.8995
946382	AF1-302 E	2.5327	50/50	2.5327
946401	AF1-304 C	7.6224	50/50	7.6224

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
946402	AF1-304 E	5.0816	50/50	5.0816
946421	AF1-306 C	3.1031	Adder	3.65
946422	AF1-306 E	12.4123	Adder	14.6
946771	AF1-217 C	0.9076	Adder	1.07
946772	AF1-217 E	0.6051	Adder	0.71
957161	AF2-010 C	3.7466	Adder	4.41
957162	AF2-010 E	2.5249	Adder	2.97
957451	AF2-039 C	0.4190	Adder	0.49
957452	AF2-039 E	0.2793	Adder	0.33
957571	AF2-051 C	2.7680	Adder	3.26
957572	AF2-051 E	1.4259	Adder	1.68
957941	AF2-088 C	0.2017	Adder	0.24
957942	AF2-088 E	0.1345	Adder	0.16
958271	AF2-121 C	0.5598	Adder	0.66
958272	AF2-121 E	0.3732	Adder	0.44
958361	AF2-130 C	1.7143	50/50	1.7143
958362	AF2-130 E	1.1429	50/50	1.1429
958731	AF2-164 C O1	3.9772	Adder	4.68
958732	AF2-164 E O1	2.6515	Adder	3.12
958741	AF2-165 C	1.5448	50/50	1.5448
958742	AF2-165 E	1.0298	50/50	1.0298
958751	AF2-166 C	1.7143	50/50	1.7143
958752	AF2-166 E	1.1429	50/50	1.1429
959441	AF2-235 C	0.7084	50/50	0.7084
959442	AF2-235 E	0.4723	50/50	0.4723
959521	AF2-243 C	1.1586	50/50	1.1586
959522	AF2-243 E	0.7724	50/50	0.7724
959822	AF2-273 E	0.6750	50/50	0.6750
960022	AF2-293 E	0.0503	Adder	0.06
960041	AF2-295 C	0.9096	Adder	1.07
960042	AF2-295 E	0.6064	Adder	0.71
960051	AF2-296 C	0.6241	Adder	0.73
960052	AF2-296 E	0.4161	Adder	0.49
960891	AF2-380 C	3.6836	50/50	3.6836
960892	AF2-380 E	2.4557	50/50	2.4557
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	12.7653	Adder	15.02
961971	AG1-040 C	0.5056	Adder	1.12
961972	AG1-040 E	0.3370	Adder	0.75
962411	AG1-090 C O1	1.4834	Adder	3.29
962412	AG1-090 E O1	0.9889	Adder	2.2
962511	AG1-100 C	0.4897	Adder	1.09
962512	AG1-100 E	0.3265	Adder	0.72
962891	AG1-138 C	0.6786	50/50	0.6786
962892	AG1-138 E	0.0357	50/50	0.0357
962901	AG1-139 C	0.6115	50/50	0.6115
962902	AG1-139 E	0.0322	50/50	0.0322
962911	AG1-140 C	0.0616	Adder	0.14
962912	AG1-140 E	0.0281	Adder	0.06
962951	AG1-144 C	0.2967	Adder	0.66
962952	AG1-144 E	0.1978	Adder	0.44
963281	AG1-177 C O1	0.5120	Adder	1.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O1	0.3413	Adder	0.76
963441	AG1-193 C	1.3675	50/50	1.3675
963442	AG1-193 E	0.9117	50/50	0.9117
963481	AG1-197 C	0.3834	Adder	0.85
963482	AG1-197 E	0.2556	Adder	0.57
963491	AG1-198 C	0.3072	Adder	0.68
963492	AG1-198 E	0.2048	Adder	0.45
963531	AG1-202 C	0.2719	Adder	0.6
963532	AG1-202 E	0.1401	Adder	0.31
963571	AG1-206 C	0.1952	Adder	0.43
963572	AG1-206 E	0.1051	Adder	0.23
963891	AG1-242 C	0.1792	Adder	0.4
963892	AG1-242 E	0.0965	Adder	0.21
963991	AG1-253 C	0.0924	Adder	0.21
963992	AG1-253 E	0.0445	Adder	0.1
964341	AG1-296 C	0.7284	50/50	0.7284
964342	AG1-296 E	0.3922	50/50	0.3922
964411	AG1-303 C O1	1.1736	Adder	2.61
964412	AG1-303 E O1	0.7824	Adder	1.74
964451	AG1-308 C O1	0.2120	Adder	0.47
964452	AG1-308 E O1	0.2963	Adder	0.66
965121	AG1-377 C O1	0.2967	Adder	0.66
965122	AG1-377 E O1	0.1978	Adder	0.44
965131	AG1-378 C O1	0.2967	Adder	0.66
965132	AG1-378 E O1	0.1978	Adder	0.44
965201	AG1-385 C	0.6140	Adder	1.36
965202	AG1-385 E	0.1819	Adder	0.4
965241	AG1-389 C O1	0.3064	Adder	0.68
965242	AG1-389 E O1	0.2043	Adder	0.45
965251	AG1-390 C O1	0.3064	Adder	0.68
965252	AG1-390 E O1	0.2043	Adder	0.45
965261	AG1-391 C O1	0.3064	Adder	0.68
965262	AG1-391 E O1	0.2043	Adder	0.45
965271	AG1-392 C O1	0.6128	Adder	1.36
965272	AG1-392 E O1	0.4085	Adder	0.91
965301	AG1-395 C	0.3812	Adder	0.85
965302	AG1-395 E	0.1132	Adder	0.25
965861	AG1-455	1.4372	Adder	3.19
966121	AG1-481	0.5097	Adder	1.13
966771	AG1-548 C	4.8243	Adder	10.71
966772	AG1-548 E	1.4683	Adder	3.26
G-007A	G-007A	1.8820	Confirmed LTF	1.8820
VFT	VFT	5.1923	Confirmed LTF	5.1923
CALDERWOOD	CALDERWOOD	0.2798	Confirmed LTF	0.2798
PRAIRIE	PRAIRIE	1.6660	Confirmed LTF	1.6660
CHEOAH	CHEOAH	0.2803	Confirmed LTF	0.2803
CBM-N	CBM-N	1.0296	Confirmed LTF	1.0296
COTTONWOOD	COTTONWOOD	1.2579	Confirmed LTF	1.2579
HAMLET	HAMLET	0.2535	Confirmed LTF	0.2535
GIBSON	GIBSON	0.3647	Confirmed LTF	0.3647
BLUEG	BLUEG	1.1562	Confirmed LTF	1.1562
TRIMBLE	TRIMBLE	0.3712	Confirmed LTF	0.3712

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1677	Confirmed LTF	0.1677

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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
166020124	941190	AE2-113 TAP	PENELEC	200582	26RIDGWAY	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	160.0	217.72	227.41	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	0.7391	50/50	0.7391
203999	P-047 E	5.0737	Adder	5.97
916202	Z1-069 E	19.9714	50/50	19.9714
931091	AB1-160 C	0.2112	50/50	0.2112
931092	AB1-160 E	5.7061	50/50	5.7061
940861	AE2-074 C	7.5775	50/50	7.5775
940862	AE2-074 E	9.9746	50/50	9.9746
941191	AE2-113 C	48.3497	50/50	48.3497
941192	AE2-113 E	52.0571	50/50	52.0571
946111	AF1-276 C	43.6706	50/50	43.6706
946112	AF1-276 E	21.5094	50/50	21.5094
946121	AF1-277 C	43.6706	50/50	43.6706
946122	AF1-277 E	21.5094	50/50	21.5094
946131	AF1-278 C	34.8322	50/50	34.8322
946132	AF1-278 E	17.3118	50/50	17.3118
961211	AF2-412	10.2655	Adder	12.08
965241	AG1-389 C O1	4.6511	50/50	4.6511
965242	AG1-389 E O1	3.1007	50/50	3.1007
965251	AG1-390 C O1	4.6511	50/50	4.6511
965252	AG1-390 E O1	3.1007	50/50	3.1007
965261	AG1-391 C O1	4.6511	50/50	4.6511
965262	AG1-391 E O1	3.1007	50/50	3.1007
965271	AG1-392 C O1	9.3022	50/50	9.3022
965272	AG1-392 E O1	6.2014	50/50	6.2014
G-007A	G-007A	0.4148	Confirmed LTF	0.4148
VFT	VFT	1.1868	Confirmed LTF	1.1868
CALDERWOOD	CALDERWOOD	0.0333	Confirmed LTF	0.0333
PRAIRIE	PRAIRIE	0.1989	Confirmed LTF	0.1989
CHEOAH	CHEOAH	0.0335	Confirmed LTF	0.0335
CBM-N	CBM-N	0.2592	Confirmed LTF	0.2592
COTTONWOOD	COTTONWOOD	0.1512	Confirmed LTF	0.1512
HAMLET	HAMLET	0.0312	Confirmed LTF	0.0312
GIBSON	GIBSON	0.0431	Confirmed LTF	0.0431
BLUEG	BLUEG	0.1371	Confirmed LTF	0.1371
TRIMBLE	TRIMBLE	0.0440	Confirmed LTF	0.0440
CATAWBA	CATAWBA	0.0203	Confirmed LTF	0.0203

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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
165074052	999324	26HOMER CT	PENELEC	200767	26HOMER CT	PENELEC	N	PN-P2-2-PN-345-002T	bus	854.0	143.99	144.55	DC	10.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	6.5754	Adder	7.74
200829	26HNSMLK 2	2.2076	50/50	2.2076
200830	26HNSMLK 3	2.2076	50/50	2.2076
200831	26HNSMLK 4	2.2076	50/50	2.2076
200832	26HNSMLK 5	2.2076	50/50	2.2076
200835	26ARN_Z1-066	-0.8316	Adder	-0.98
200838	26HOMER C2	49.2411	50/50	49.2411
200839	26HOMER C3	52.1282	50/50	52.1282
200894	26K02	6.5883	Adder	7.75
203932	AA2-133 GEN	2.4753	Adder	2.91
203999	P-047 E	15.6652	Adder	18.43
294573	P-028 E	12.7265	Adder	14.97
915951	Y3-092 FTIR	143.2300	Merchant Transmission	143.2300
916202	Z1-069 E	12.5548	Adder	14.77
917673	Z2-108 BAT	2.2012	Merchant Transmission	2.2012
919201	AA1-144 OP	21.9768	Adder	25.86
920341	AA2-132 (Withdrawn : 12/07/2020)	3.2631	Adder	3.84
921642	AA2-000	46.1713	Adder	54.32
930511	AB2-092	1.6953	Adder	1.99
931092	AB1-160 E	3.5871	Adder	4.22
936421	AD2-055	3.4903	Adder	4.11
938352	AE1-053 BAT	1.2229	Merchant Transmission	1.2229
938951	AE1-123	1.8876	Adder	2.22
939291	AE1-160 C	1.6561	Adder	1.95
939292	AE1-160 E	0.9519	Adder	1.12
940861	AE2-074 C	4.0007	50/50	4.0007
940862	AE2-074 E	5.2663	50/50	5.2663
941191	AE2-113 C	11.4130	Adder	13.43
941192	AE2-113 E	12.2881	Adder	14.46
941321	AE2-126 C	1.0801	Adder	1.27
941322	AE2-126 E	0.7201	Adder	0.85
941421	AE2-139 C	4.2516	Adder	9.44
941422	AE2-139 E	2.8344	Adder	6.29
942811	AE2-299 C	4.5609	Adder	5.37
942812	AE2-299 E	18.2436	Adder	21.46
942961	AE2-316 C	5.6581	Adder	6.66
942962	AE2-316 E	8.0685	Adder	9.49
943151	AE2-344 C	9.7702	Adder	11.49
943152	AE2-344 E	6.5135	Adder	7.66
943351	AF1-006 C	1.6941	Adder	1.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943352	AF1-006 E	0.9529	Adder	1.12
943751	AF1-043	10.4708	Adder	12.32
944261	AF1-094 C	1.6065	Adder	1.89
944262	AF1-094 E	1.0710	Adder	1.26
944281	AF1-096 C	1.5648	Adder	1.84
944282	AF1-096 E	1.0432	Adder	1.23
944301	AF1-098 C	6.7887	Adder	7.99
944302	AF1-098 E	4.5258	Adder	5.32
944321	AF1-100 C	11.2736	Adder	13.26
944322	AF1-100 E	7.5157	Adder	8.84
944381	AF1-103 O1	3.2213	Adder	3.79
944391	AF1-104 O1	2.5337	Adder	2.98
944411	AF1-106 O1	3.5595	Adder	4.19
944751	AF1-140 C	-1.1101	Adder	-1.31
944881	AF1-153 C O1	1.3113	Adder	1.54
944882	AF1-153 E O1	0.8742	Adder	1.03
944901	AF1-155 C	1.3158	Adder	1.55
944902	AF1-155 E	0.8772	Adder	1.03
945021	AF1-167 C	1.0229	Adder	1.2
945022	AF1-167 E	0.6832	Adder	0.8
945051	AF1-170 C	6.3141	Adder	7.43
945052	AF1-170 E	4.2094	Adder	4.95
945451	AF1-210 C	1.1567	Adder	1.36
945452	AF1-210 E	0.7711	Adder	0.91
945673	AF1-232 BAT (Withdrawn : 01/19/2021)	2.8594	Merchant Transmission	2.8594
946111	AF1-276 C	17.8260	50/50	17.8260
946112	AF1-276 E	8.7800	50/50	8.7800
946121	AF1-277 C	17.8260	50/50	17.8260
946122	AF1-277 E	8.7800	50/50	8.7800
946131	AF1-278 C	14.2182	50/50	14.2182
946132	AF1-278 E	7.0666	50/50	7.0666
946211	AF1-286 C	1.4416	Adder	1.7
946212	AF1-286 E	0.9789	Adder	1.15
946221	AF1-287 C	1.6851	Adder	1.98
946222	AF1-287 E	1.1234	Adder	1.32
946381	AF1-302 C	2.4708	Adder	2.91
946382	AF1-302 E	3.2944	Adder	3.88
946401	AF1-304 C	7.7438	Adder	9.11
946402	AF1-304 E	5.1626	Adder	6.07
946421	AF1-306 C	5.4045	Adder	6.36
946422	AF1-306 E	21.6180	Adder	25.43
946771	AF1-217 C	1.6851	Adder	1.98
946772	AF1-217 E	1.1234	Adder	1.32
957161	AF2-010 C	6.1504	Adder	7.24
957162	AF2-010 E	4.1449	Adder	4.88
957513	AF2-045 BAT	2.4710	Merchant Transmission	2.4710
957571	AF2-051 C	5.2061	Adder	6.12
957572	AF2-051 E	2.6819	Adder	3.16
957931	AF2-087 C (Suspended)	-0.2624	Adder	-0.31
958361	AF2-130 C	1.3964	Adder	1.64
958362	AF2-130 E	0.9309	Adder	1.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958472	AF2-141 BAT	2.4458	Merchant Transmission	2.4458
958731	AF2-164 C O1	10.6708	Adder	12.55
958732	AF2-164 E O1	7.1139	Adder	8.37
958741	AF2-165 C	1.5743	Adder	1.85
958742	AF2-165 E	1.0495	Adder	1.23
958751	AF2-166 C	1.3964	Adder	1.64
958752	AF2-166 E	0.9309	Adder	1.1
959061	AF2-197 C O1	5.7745	Adder	6.79
959062	AF2-197 E O1	8.6617	Adder	10.19
959441	AF2-235 C	0.7824	Adder	0.92
959442	AF2-235 E	0.5216	Adder	0.61
959471	AF2-238 C	2.1560	Adder	2.54
959472	AF2-238 E	1.4373	Adder	1.69
959481	AF2-239 C	1.5504	Adder	1.82
959482	AF2-239 E	1.2431	Adder	1.46
959491	AF2-240 C	0.6727	Adder	0.79
959492	AF2-240 E	0.5731	Adder	0.67
959501	AF2-241 C	2.0111	Adder	2.37
959502	AF2-241 E	1.5484	Adder	1.82
959521	AF2-243 C	1.1807	Adder	1.39
959522	AF2-243 E	0.7871	Adder	0.93
959741	AF2-265 C	1.5451	Adder	1.82
959742	AF2-265 E	1.1499	Adder	1.35
959793	AF2-270 BAT	0.2144	Merchant Transmission	0.2144
959822	AF2-273 E	0.4581	Adder	0.54
960031	AF2-294 C	1.9677	Adder	2.31
960032	AF2-294 E	1.3118	Adder	1.54
960041	AF2-295 C	1.3158	Adder	1.55
960042	AF2-295 E	0.8772	Adder	1.03
960271	AF2-318 C	1.6761	Adder	1.97
960272	AF2-318 E	1.1174	Adder	1.31
960891	AF2-380 C	0.7454	Adder	0.88
960892	AF2-380 E	0.4969	Adder	0.58
961141	AF2-405	1.7797	Adder	2.09
961151	AF2-406	13.3480	Adder	15.7
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	85.0620	50/50	85.0620
961211	AF2-412	28.0526	Adder	33.0
961451	AF2-436	0.1867	Adder	0.22
961971	AG1-040 C	0.9378	Adder	2.08
961972	AG1-040 E	0.6252	Adder	1.39
962511	AG1-100 C	0.8941	Adder	1.98
962512	AG1-100 E	0.5961	Adder	1.32
962642	AG1-113 BAT	0.6820	Merchant Transmission	0.6820
962652	AG1-114 BAT	0.6481	Merchant Transmission	0.6481
962891	AG1-138 C	0.2929	Adder	0.65
962892	AG1-138 E	0.0154	Adder	0.03
962901	AG1-139 C	0.3303	Adder	0.73
962902	AG1-139 E	0.0174	Adder	0.04
962911	AG1-140 C	0.1360	Adder	0.3
962912	AG1-140 E	0.0619	Adder	0.14
963281	AG1-177 C O1	0.8514	Adder	1.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O1	0.5676	Adder	1.26
963441	AG1-193 C	0.9811	Adder	2.18
963442	AG1-193 E	0.6541	Adder	1.45
963481	AG1-197 C	0.7110	Adder	1.58
963482	AG1-197 E	0.4740	Adder	1.05
963491	AG1-198 C	0.5109	Adder	1.13
963492	AG1-198 E	0.3406	Adder	0.76
963531	AG1-202 C	0.4659	Adder	1.03
963532	AG1-202 E	0.2400	Adder	0.53
963571	AG1-206 C	0.3450	Adder	0.77
963572	AG1-206 E	0.1858	Adder	0.41
963941	AG1-247 C	0.4622	Adder	1.03
963942	AG1-247 E	0.2452	Adder	0.54
963991	AG1-253 C	0.2040	Adder	0.45
963992	AG1-253 E	0.0982	Adder	0.22
964341	AG1-296 C	0.4979	Adder	1.11
964342	AG1-296 E	0.2681	Adder	0.6
964411	AG1-303 C O1	2.2074	Adder	4.9
964412	AG1-303 E O1	1.4716	Adder	3.27
964701	AG1-333 C	0.3824	Adder	0.85
964702	AG1-333 E	0.0521	Adder	0.12
964753	AG1-338 BAT	0.3214	Merchant Transmission	0.3214
964763	AG1-339 BAT	0.3214	Merchant Transmission	0.3214
964773	AG1-340 BAT	0.3214	Merchant Transmission	0.3214
965201	AG1-385 C	0.8936	Adder	1.98
965202	AG1-385 E	0.2647	Adder	0.59
965241	AG1-389 C O1	1.4137	Adder	3.14
965242	AG1-389 E O1	0.9425	Adder	2.09
965251	AG1-390 C O1	1.4137	Adder	3.14
965252	AG1-390 E O1	0.9425	Adder	2.09
965261	AG1-391 C O1	1.4137	Adder	3.14
965262	AG1-391 E O1	0.9425	Adder	2.09
965271	AG1-392 C O1	2.8274	Adder	6.28
965272	AG1-392 E O1	1.8850	Adder	4.18
965861	AG1-455	2.5189	Adder	5.59
966121	AG1-481	1.3257	Adder	2.94
966771	AG1-548 C	8.1742	Adder	18.14
966772	AG1-548 E	2.4878	Adder	5.52
966783	AG1-549 BAT	1.5794	Merchant Transmission	1.5794
WEC	WEC	0.0995	Confirmed LTF	0.0995
LGEE	LGEE	0.1294	Confirmed LTF	0.1294
CALDERWOOD	CALDERWOOD	0.0408	Confirmed LTF	0.0408
CBM-W2	CBM-W2	1.0931	Confirmed LTF	1.0931
TVA	TVA	0.0182	Confirmed LTF	0.0182
O-066	O-066	5.1821	Confirmed LTF	5.1821
SIGE	SIGE	0.1035	Confirmed LTF	0.1035
CHEOAH	CHEOAH	0.0445	Confirmed LTF	0.0445
CBM-S1	CBM-S1	0.0182	Confirmed LTF	0.0182
G-007	G-007	0.9314	Confirmed LTF	0.9314
HAMLET	HAMLET	0.2293	Confirmed LTF	0.2293
MEC	MEC	0.3925	Confirmed LTF	0.3925
LAGN	LAGN	0.0718	Confirmed LTF	0.0718

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1061	Confirmed LTF	0.1061
CBM-W1	CBM-W1	6.5053	Confirmed LTF	6.5053

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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
165074032	999325	26HOMER CT	PENELEC	200767	26HOMER CT	PENELEC	S	PN-P2-2-PN-230-001T	bus	827.0	150.59	151.18	DC	10.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	6.6102	Adder	7.78
200829	26HNSMLK 2	2.2196	50/50	2.2196
200830	26HNSMLK 3	2.2196	50/50	2.2196
200831	26HNSMLK 4	2.2196	50/50	2.2196
200832	26HNSMLK 5	2.2196	50/50	2.2196
200835	26ARN_Z1-066	-0.8367	Adder	-0.98
200838	26HOMER C2	49.5163	50/50	49.5163
200839	26HOMER C3	52.4195	50/50	52.4195
200894	26K02	6.6231	Adder	7.79
203932	AA2-133 GEN	2.4885	Adder	2.93
203999	P-047 E	15.7508	Adder	18.53
294573	P-028 E	12.7939	Adder	15.05
915951	Y3-092 FTIR	144.0000	Merchant Transmission	144.0000
916202	Z1-069 E	12.6232	Adder	14.85
917673	Z2-108 BAT	2.2147	Merchant Transmission	2.2147
919201	AA1-144 OP	22.0946	Adder	25.99
920341	AA2-132 (Withdrawn : 12/07/2020)	3.2807	Adder	3.86
921642	AA2-000	46.4114	Adder	54.6
930511	AB2-092	1.7041	Adder	2.0
931092	AB1-160 E	3.6066	Adder	4.24
936421	AD2-055	3.5084	Adder	4.13
938352	AE1-053 BAT	1.2304	Merchant Transmission	1.2304
938951	AE1-123	1.8975	Adder	2.23
939291	AE1-160 C	1.6649	Adder	1.96
939292	AE1-160 E	0.9570	Adder	1.13
940861	AE2-074 C	4.0226	50/50	4.0226
940862	AE2-074 E	5.2951	50/50	5.2951
941191	AE2-113 C	11.4753	Adder	13.5
941192	AE2-113 E	12.3552	Adder	14.54
941321	AE2-126 C	1.0857	Adder	1.28
941322	AE2-126 E	0.7238	Adder	0.85
941421	AE2-139 C	4.2742	Adder	9.49
941422	AE2-139 E	2.8494	Adder	6.32
942811	AE2-299 C	4.5854	Adder	5.39
942812	AE2-299 E	18.3415	Adder	21.58
942961	AE2-316 C	5.6883	Adder	6.69
942962	AE2-316 E	8.1115	Adder	9.54
943151	AE2-344 C	9.8225	Adder	11.56
943152	AE2-344 E	6.5483	Adder	7.7
943351	AF1-006 C	1.7032	Adder	2.0

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943352	AF1-006 E	0.9580	Adder	1.13
943751	AF1-043	10.5253	Adder	12.38
944261	AF1-094 C	1.6151	Adder	1.9
944262	AF1-094 E	1.0767	Adder	1.27
944281	AF1-096 C	1.5731	Adder	1.85
944282	AF1-096 E	1.0488	Adder	1.23
944301	AF1-098 C	6.8250	Adder	8.03
944302	AF1-098 E	4.5500	Adder	5.35
944321	AF1-100 C	11.3309	Adder	13.33
944322	AF1-100 E	7.5539	Adder	8.89
944381	AF1-103 O1	3.2387	Adder	3.81
944391	AF1-104 O1	2.5471	Adder	3.0
944411	AF1-106 O1	3.5788	Adder	4.21
944751	AF1-140 C	-1.1169	Adder	-1.31
944881	AF1-153 C O1	1.3182	Adder	1.55
944882	AF1-153 E O1	0.8788	Adder	1.03
944901	AF1-155 C	1.3227	Adder	1.56
944902	AF1-155 E	0.8818	Adder	1.04
945021	AF1-167 C	1.0283	Adder	1.21
945022	AF1-167 E	0.6868	Adder	0.81
945051	AF1-170 C	6.3477	Adder	7.47
945052	AF1-170 E	4.2318	Adder	4.98
945451	AF1-210 C	1.1628	Adder	1.37
945452	AF1-210 E	0.7752	Adder	0.91
945673	AF1-232 BAT (Withdrawn : 01/19/2021)	2.8766	Merchant Transmission	2.8766
946111	AF1-276 C	17.9232	50/50	17.9232
946112	AF1-276 E	8.8278	50/50	8.8278
946121	AF1-277 C	17.9232	50/50	17.9232
946122	AF1-277 E	8.8278	50/50	8.8278
946131	AF1-278 C	14.2957	50/50	14.2957
946132	AF1-278 E	7.1051	50/50	7.1051
946211	AF1-286 C	1.4494	Adder	1.71
946212	AF1-286 E	0.9842	Adder	1.16
946221	AF1-287 C	1.6941	Adder	1.99
946222	AF1-287 E	1.1294	Adder	1.33
946381	AF1-302 C	2.4840	Adder	2.92
946382	AF1-302 E	3.3119	Adder	3.9
946401	AF1-304 C	7.7852	Adder	9.16
946402	AF1-304 E	5.1901	Adder	6.11
946421	AF1-306 C	5.4330	Adder	6.39
946422	AF1-306 E	21.7319	Adder	25.57
946771	AF1-217 C	1.6942	Adder	1.99
946772	AF1-217 E	1.1295	Adder	1.33
957161	AF2-010 C	6.1837	Adder	7.27
957162	AF2-010 E	4.1673	Adder	4.9
957513	AF2-045 BAT	2.4860	Merchant Transmission	2.4860
957571	AF2-051 C	5.2341	Adder	6.16
957572	AF2-051 E	2.6964	Adder	3.17
957931	AF2-087 C (Suspended)	-0.2640	Adder	-0.31
958361	AF2-130 C	1.4037	Adder	1.65
958362	AF2-130 E	0.9358	Adder	1.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958472	AF2-141 BAT	2.4608	Merchant Transmission	2.4608
958731	AF2-164 C O1	10.7292	Adder	12.62
958732	AF2-164 E O1	7.1528	Adder	8.42
958741	AF2-165 C	1.5827	Adder	1.86
958742	AF2-165 E	1.0552	Adder	1.24
958751	AF2-166 C	1.4037	Adder	1.65
958752	AF2-166 E	0.9358	Adder	1.1
959061	AF2-197 C O1	5.8053	Adder	6.83
959062	AF2-197 E O1	8.7080	Adder	10.24
959441	AF2-235 C	0.7866	Adder	0.93
959442	AF2-235 E	0.5244	Adder	0.62
959471	AF2-238 C	2.1677	Adder	2.55
959472	AF2-238 E	1.4451	Adder	1.7
959481	AF2-239 C	1.5587	Adder	1.83
959482	AF2-239 E	1.2497	Adder	1.47
959491	AF2-240 C	0.6764	Adder	0.8
959492	AF2-240 E	0.5762	Adder	0.68
959501	AF2-241 C	2.0220	Adder	2.38
959502	AF2-241 E	1.5568	Adder	1.83
959521	AF2-243 C	1.1871	Adder	1.4
959522	AF2-243 E	0.7914	Adder	0.93
959741	AF2-265 C	1.5535	Adder	1.83
959742	AF2-265 E	1.1561	Adder	1.36
959793	AF2-270 BAT	0.2157	Merchant Transmission	0.2157
959822	AF2-273 E	0.4605	Adder	0.54
960031	AF2-294 C	1.9783	Adder	2.33
960032	AF2-294 E	1.3189	Adder	1.55
960041	AF2-295 C	1.3227	Adder	1.56
960042	AF2-295 E	0.8818	Adder	1.04
960271	AF2-318 C	1.6850	Adder	1.98
960272	AF2-318 E	1.1234	Adder	1.32
960891	AF2-380 C	0.7492	Adder	0.88
960892	AF2-380 E	0.4995	Adder	0.59
961141	AF2-405	1.7894	Adder	2.11
961151	AF2-406	13.4206	Adder	15.79
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	85.5300	50/50	85.5300
961211	AF2-412	28.2062	Adder	33.18
961451	AF2-436	0.1877	Adder	0.22
961971	AG1-040 C	0.9429	Adder	2.09
961972	AG1-040 E	0.6286	Adder	1.4
962511	AG1-100 C	0.8989	Adder	2.0
962512	AG1-100 E	0.5993	Adder	1.33
962642	AG1-113 BAT	0.6861	Merchant Transmission	0.6861
962652	AG1-114 BAT	0.6521	Merchant Transmission	0.6521
962891	AG1-138 C	0.2945	Adder	0.65
962892	AG1-138 E	0.0155	Adder	0.03
962901	AG1-139 C	0.3320	Adder	0.74
962902	AG1-139 E	0.0175	Adder	0.04
962911	AG1-140 C	0.1367	Adder	0.3
962912	AG1-140 E	0.0623	Adder	0.14
963281	AG1-177 C O1	0.8560	Adder	1.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O1	0.5707	Adder	1.27
963441	AG1-193 C	0.9864	Adder	2.19
963442	AG1-193 E	0.6576	Adder	1.46
963481	AG1-197 C	0.7148	Adder	1.59
963482	AG1-197 E	0.4765	Adder	1.06
963491	AG1-198 C	0.5136	Adder	1.14
963492	AG1-198 E	0.3424	Adder	0.76
963531	AG1-202 C	0.4684	Adder	1.04
963532	AG1-202 E	0.2413	Adder	0.54
963571	AG1-206 C	0.3468	Adder	0.77
963572	AG1-206 E	0.1868	Adder	0.41
963941	AG1-247 C	0.4647	Adder	1.03
963942	AG1-247 E	0.2466	Adder	0.55
963991	AG1-253 C	0.2051	Adder	0.46
963992	AG1-253 E	0.0987	Adder	0.22
964341	AG1-296 C	0.5006	Adder	1.11
964342	AG1-296 E	0.2695	Adder	0.6
964411	AG1-303 C O1	2.2193	Adder	4.93
964412	AG1-303 E O1	1.4795	Adder	3.28
964701	AG1-333 C	0.3844	Adder	0.85
964702	AG1-333 E	0.0524	Adder	0.12
964753	AG1-338 BAT	0.3233	Merchant Transmission	0.3233
964763	AG1-339 BAT	0.3233	Merchant Transmission	0.3233
964773	AG1-340 BAT	0.3233	Merchant Transmission	0.3233
965201	AG1-385 C	0.8984	Adder	1.99
965202	AG1-385 E	0.2661	Adder	0.59
965241	AG1-389 C O1	1.4215	Adder	3.16
965242	AG1-389 E O1	0.9476	Adder	2.1
965251	AG1-390 C O1	1.4215	Adder	3.16
965252	AG1-390 E O1	0.9476	Adder	2.1
965261	AG1-391 C O1	1.4215	Adder	3.16
965262	AG1-391 E O1	0.9476	Adder	2.1
965271	AG1-392 C O1	2.8429	Adder	6.31
965272	AG1-392 E O1	1.8953	Adder	4.21
965861	AG1-455	2.5323	Adder	5.62
966121	AG1-481	1.3329	Adder	2.96
966771	AG1-548 C	8.2177	Adder	18.24
966772	AG1-548 E	2.5010	Adder	5.55
966783	AG1-549 BAT	1.5891	Merchant Transmission	1.5891
WEC	WEC	0.0986	Confirmed LTF	0.0986
LGEE	LGEE	0.1269	Confirmed LTF	0.1269
CALDERWOOD	CALDERWOOD	0.0432	Confirmed LTF	0.0432
CBM-W2	CBM-W2	1.0573	Confirmed LTF	1.0573
TVA	TVA	0.0112	Confirmed LTF	0.0112
O-066	O-066	5.2427	Confirmed LTF	5.2427
SIGE	SIGE	0.1041	Confirmed LTF	0.1041
CHEOAH	CHEOAH	0.0470	Confirmed LTF	0.0470
CBM-S1	CBM-S1	0.0163	Confirmed LTF	0.0163
G-007	G-007	0.9418	Confirmed LTF	0.9418
HAMLET	HAMLET	0.2339	Confirmed LTF	0.2339
MEC	MEC	0.3861	Confirmed LTF	0.3861
LAGN	LAGN	0.0630	Confirmed LTF	0.0630

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1085	Confirmed LTF	0.1085
CBM-W1	CBM-W1	6.4772	Confirmed LTF	6.4772

11.7 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
AA1-144	East Towanda-Grover 230kV	Engineering and Procurement
AA2-000	N/A	N/A
AA2-132	Thompson 34.5kV	Withdrawn
AA2-133	Wyalusing 34.5kV	In Service
AB1-160	Gold-Sabinsville 115kV	In Service
AB2-019	Erie West 345kV	Engineering and Procurement
AB2-092	Bergen 138kV	Partially in Service - Under Construction
AC1-025	Dale Summit	In Service
AD1-154	Timblin 34.5 kV	Active
AD2-055	Moshannon-East Towanda 230 kV	Active
AD2-133	Eagle Valley 115kV	Active
AE1-051	East Carbondale-Lackawanna 69kV	Active
AE1-053	Meyersdale North	Active
AE1-123	Emlenton 34.5 kV	Engineering and Procurement
AE1-147	Bellefonte 46 kV	Engineering and Procurement
AE1-160	Venango 34.5 kV	Engineering and Procurement
AE2-001	Nittany-Zion 46 kV	Active
AE2-055	Shingletown-Boalsburg 46 kV	Suspended
AE2-074	Potter 46 kV	Active
AE2-113	Farmers Valley-Ridgeway 115 kV	Active
AE2-120	Graymont-Zion 46 kV	Active
AE2-121	Milesburg-Tanney Junction 46 kV	Active
AE2-126	Dubois-Curwensville 34.5 kV	Engineering and Procurement
AE2-129	Philipsburg-Clarence 34.5 kV	Engineering and Procurement
AE2-131	Philipsburg-Karthauss 34.5	Suspended
AE2-139	East Towanda-Grover 230 kV	Active
AE2-248	Fillmore-Thompson Farm 46 kV	Active
AE2-262	Moshannon-Milesburg 230 kV	Active
AE2-263	Moshannon-Milesburg 230 kV	Active
AE2-299	Erie East 230 kV	Active
AE2-316	Brookville-Squab Hollow 138 kV	Active
AE2-344	Edinboro South-Venango Junction 115 kV	Active
AF1-006	Fairview East 34.5 kV	Active
AF1-043	Moshannon-East Towanda 230 kV	Active
AF1-068	Boalsburg-Centre Hall 46 kV	Withdrawn
AF1-086	Madera-Westover South 115 kV	Active
AF1-094	Union City-Cambridge Springs 34.5 kV	Active
AF1-096	Titusville-Oil Creek 34.5 kV	Active
AF1-098	Four Mile Jct-Corry East 115 kV	Active

Queue Number	Project Name	Status
AF1-099	Moshannon-Milesburg 230 kV	Active
AF1-100	Shawville-Moshannon 230 kV	Active
AF1-103	Warren 34.5 kV	Active
AF1-104	Erie West 34.5 kV	Active
AF1-106	East Sayre 34.5 kV	Active
AF1-112	Centre Hall-Boalsburg 46 kV	Active
AF1-132	Shingletown-Boalsburg 46 kV	Withdrawn
AF1-134	Philipsburg-Madera 34.5 kV	Active
AF1-140	Claysburg 23 kV	Engineering and Procurement
AF1-142	Moshannon-Milesburg 230 kV	Active
AF1-153	Motion-Ridgeway 46 kV	Active
AF1-155	Paper City-Wilcox 46 kV	Engineering and Procurement
AF1-167	West Freedom-C&K Coal 25 kV	Active
AF1-170	Springboro-Venango Junction 115 kV	Active
AF1-177	Warren 115 kV	Partially in Service - Under Construction
AF1-210	Burma 23 kV	Engineering and Procurement
AF1-214	Nittany-Zion 46 kV	Withdrawn
AF1-217	Edinboro -Cambridge Springs 34.5 kV	Active
AF1-232	Allegheny-Somerset 115 kV	Withdrawn
AF1-240	Timblin 34.5 kV	Active
AF1-276	Lewis Run-Pierce Brook 230 kV	Active
AF1-277	Lewis Run-Pierce Brook 2 230 kV	Active
AF1-278	Lewis Run-Pierce Brook 3 230 kV	Active
AF1-286	East Sayre 34.5 kV II	Active
AF1-287	Edinboro South 34.5 kV II	Active
AF1-302	Brookville-Squab Hollow 138 kV	Active
AF1-304	Titusville-Grandview 115 kV	Active
AF1-306	Squab Hollow 230 kV	Active
AF2-010	Union City-Titusville 115 kV	Active
AF2-039	Shawville-Clearfield 34.5 kV	Active
AF2-045	Cambria Nug 115 kV	Engineering and Procurement
AF2-051	Geneva 115 kV	Active
AF2-087	East Altoona-Pinecroft 12.47 kV	Suspended
AF2-088	Shawville-Clearfield 34.5 kV II	Active
AF2-121	Philipsburg-Shawville 34.5 kV	Active
AF2-130	Wolfs Corners 34.5 kV	Active
AF2-141	Lick Run 115 kV	Active
AF2-164	Handsome Lake 34.5 kV	Active
AF2-165	Clark Summit-Emlenton 34.5 kV	Active
AF2-166	Clark Summit-Emlenton 34 kV	Active
AF2-197	East Towanda 115 kV	Active
AF2-235	Titusville-Oil Creek 34.5 kV	Active
AF2-238	Mansfield-South Troy 34.5 kV	Active
AF2-239	Wyalusing-Hollenback WRC 34.5 kV	Active
AF2-240	North Orwell 12.47 kV	Active
AF2-241	Athens-Milan 34.5 kV	Active
AF2-243	Clark Summit 34.5 kV	Active
AF2-265	South Troy-Athens 34.5 kV	Active
AF2-270	Bedford South RCB-Bedford Area 23 kV	Engineering and Procurement
AF2-273	Sligo 25 kV	Engineering and Procurement
AF2-282	Edelle 12.47 kV	Engineering and Procurement
AF2-283	Greenfield 12.47 kV	Engineering and Procurement

Queue Number	Project Name	Status
AF2-293	Beech Creek 12.47 kV	Active
AF2-294	Thompson 34.5 kV	Active
AF2-295	Wilcox-Paper City 46 kV	Active
AF2-296	Madera 34.5 kV	Active
AF2-318	East Towanda-New Albany 34.5 kV	Active
AF2-380	Karns City-Bear Creek 25 kV	Active
AF2-405	East Sayre 34.5 kV III	Active
AF2-406	Sayre 115 kV	Active
AF2-411	Mainesburg 345 kV	Withdrawn
AF2-412	Mainesburg 115 kV	Active
AF2-436	Wyalusing 34.5 kV II	Engineering and Procurement
AF2-437	Oxbow 34.5 kV III	In Service
AG1-040	Morgan Street-Mount Hope 34.5 kV	Active
AG1-090	Philipsburg 115 kV	Active
AG1-100	Venango-Saegertown 34.5 kV	Active
AG1-113	Somerset Windpower 22.86 kV	Active
AG1-114	Meyersdale North 115 kV	Active
AG1-138	Wolfs Corners 34.5 kV	Active
AG1-139	Clark Summit-Emlenton 34.5 kV	Active
AG1-140	Union City 34.5 kV	Active
AG1-144	Phillipsburg 34.5 kV	Active
AG1-177	Union City 34.5 kV	Active
AG1-193	Utica Junction 34.5 kV	Active
AG1-197	Morgan Street-Cochran 34.5 kV	Active
AG1-198	Union City 34.5 kV	Active
AG1-202	Springboro 12.47 kV	Active
AG1-206	Snyder Twp 34.5 kV	Active
AG1-242	Beccaria 34.5 kV	Active
AG1-247	North Orwell 12.47 kV	Active
AG1-253	Erie East-Union City 34.5 kV	Active
AG1-257	Madisonburg Jct-Millheim 46 kV	Active
AG1-258	Madisonburg Jct-Millheim 46 kV	Active
AG1-296	Snyder Township 34.5 kV	Active
AG1-303	Geneva 115 kV	Active
AG1-308	Shawville-Philipsburg 115 kV	Active
AG1-333	Lake Como-Pine Mills 12.47 kV	Active
AG1-338	Curryville-RKB-Yellow Creek 23 kV I	Active
AG1-339	Curryville-RKB-Yellow Creek 23 kV II	Active
AG1-340	Curryville 23 kV	Active
AG1-377	Philipsburg 115 kV	Active
AG1-378	Philipsburg 115 kV	Active
AG1-385	Motion-Ridgeway 46 kV	Active
AG1-389	Gold 115 kV I	Active
AG1-390	Gold 115 kV II	Active
AG1-391	Gold 115 kV III	Active
AG1-392	Gold 115 kV IV	Active
AG1-395	Philipsburg-Kartha 34.5 kV 2	Active
AG1-455	Springboro-Venango Junction 115 kV	Active
AG1-473	Shingletown-Lewistown 230 kV	Active
AG1-481	Warren 34.5 kV	Active
AG1-548	Erie South-Union City 115 kV	Active
AG1-549	Shelock 115 kV	Active

Queue Number	Project Name	Status
V3-030	St. Benedict-Patton 46kV	In Service
X1-109	E. Towanda 230kV	In Service
X3-003	Mehoopany II 115 kV	In Service
Y1-047	North Meshoppen 34.5kV	In Service
Y2-042	Oxbow 25kV	In Service
Y3-092	Erie West 345kV	Engineering and Procurement
Z1-066	Arnold 34.5kV	In Service
Z1-069	Gold-Sabinsville 115kV	In Service
Z1-092	Milan 34kV	In Service
Z1-110	Grover 34kV	In Service
Z2-011	Canton 34.5kV	In Service
Z2-108	Meyersdale North 115kV	In Service

11.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
ATSI-P2-3-CEI-345-004D	CONTINGENCY 'ATSI-P2-3-CEI-345-004D' /* ERIE WEST 345KV BKR 8 DISCONNECT BRANCH FROM BUS 200599 TO BUS 200600 CKT 1 /* 26ERIE W 345 26ERIE SO 345 DISCONNECT BRANCH FROM BUS 200599 TO BUS 238547 CKT 1 /* 26ERIE W 345 02AT 345 DISCONNECT BRANCH FROM BUS 238547 TO BUS 239036 CKT 1 /* 02AT 345 02PERRY 345 DISCONNECT BRANCH FROM BUS 238547 TO BUS 239082 CKT 1 /* 02AT 345 02S8-ATT 345 DISCONNECT BUS 200600 /* 26ERIE SO 345 DISCONNECT BUS 238547 /* 02AT 345 END
PN-P2-2-PN-230-001T	CONTINGENCY 'PN-P2-2-PN-230-001T' /* HOMER CITY NORTH 230KV BUS DISCONNECT BRANCH FROM BUS 200769 TO BUS 200767 TO BUS 202640 CKT N/* 26HOMER CY 345 26HOMER CT 230 26HOMERCITYN 23.00 DISCONNECT BRANCH FROM BUS 200767 TO BUS 200807 CKT 1 /* 26HOMER CT 230 26PIERC230 230 REMOVE MACHINE 1 FROM BUS 200809 /* 26SITHE 138 DISCONNECT BUS 200807 /* 26PIERC230 230 DISCONNECT BUS 200808 /* 26PIERC138 138 DISCONNECT BUS 200809 /* 26SITHE 138 END
PN-P2_1-PN-230-997-DRT-060	CONTINGENCY 'PN-P2_1-PN-230-997-DRT-060' /* 26ETOWANDA B62 INTERNAL FAULT DISCONNECT BRANCH FROM BUS 200675 TO BUS 200924 CKT 1 /* 26ETOWANDA - 26CANYON 230 END
PN-P2-2-PN-345-002T	CONTINGENCY 'PN-P2-2-PN-345-002T' /* HOMER CITY SOUTH 345KV BUS DISCONNECT BRANCH FROM BUS 200769 TO BUS 200767 TO BUS 202641 CKT S/* 26HOMER CY 345 26HOMER CT 230 26HOMERCITYS 23.00 END
AP-P2-2-WP-230-005T	CONTINGENCY 'AP-P2-2-WP-230-005T' /* SHINGLETOWN #2 230KV BUS DISCONNECT BRANCH FROM BUS 235248 TO BUS 235970 CKT 1 /* 01SHINGL 230 01DALE 230 DISCONNECT BRANCH FROM BUS 235248 TO BUS 966040 CKT 1 /* 01SHINGL 230 AG1- 473 TAP 230 DISCONNECT BRANCH FROM BUS 235248 TO BUS 236711 CKT 82 /* 01SHINGL 230 01SHINGLTN 46 END

Contingency Name	Contingency Definition
AP-P2-3-WP-230-449T	CONTINGENCY 'AP-P2-3-WP-230-449T' /* 458 DISCONNECT BRANCH FROM BUS 944320 TO BUS 235220 CKT 1 /* AF1-100 TAP 230 01MOSHAN 230 DISCONNECT BRANCH FROM BUS 200908 TO BUS 235220 CKT 1 /* 26CHAPMAN+ 230 01MOSHAN 230 DISCONNECT BRANCH FROM BUS 942490 TO BUS 235220 CKT 1 /* AE2-262 TAP 230 01MOSHAN 230 DISCONNECT BRANCH FROM BUS 235220 TO BUS 235236 CKT 1 /* 01MOSHAN 230 01QUEHAN 230 END
PN-P2_1-PN-345-997-DRT-051	CONTINGENCY 'PN-P2_1-PN-345-997-DRT-051' /* B8 INTERNAL FAULT DISCONNECT BRANCH FROM BUS 946110 TO BUS 200704 CKT 1 /* AF1-276 TAP - PIERCEBRK 345 DISCONNECT BRANCH FROM BUS 200942 TO BUS 200943 CKT 1 /* 26PIERCEBRK XFMR BK_1 END
ATSI-P1-2-CEI-345-700T	CONTINGENCY 'ATSI-P1-2-CEI-345-700T' /* PN/ATSI ERIE WEST - ASHTABULA - PERRY 345KV DISCONNECT BRANCH FROM BUS 239036 TO BUS 238547 CKT 1 /* 02PERRY 345 02AT 345 DISCONNECT BRANCH FROM BUS 238547 TO BUS 239082 CKT 1 /* 02AT 345 02S8-ATT 345 DISCONNECT BRANCH FROM BUS 239082 TO BUS 238544 CKT 8 /* 02S8-ATT 345 02ASH_3 138 DISCONNECT BRANCH FROM BUS 238547 TO BUS 200599 CKT 1 /* 02AT 345 26ERIE W 345 END
PN-P1-2-PN-230-006	CONTINGENCY 'PN-P1-2-PN-230-006' /* GLADE - FOREST 230KV DISCONNECT BRANCH FROM BUS 200593 TO BUS 200581 CKT 1 /* 26GLADE 230 26FOREST 230 END
AP-P2-3-WP-230-460T	CONTINGENCY 'AP-P2-3-WP-230-460T' /* 467 DISCONNECT BRANCH FROM BUS 966040 TO BUS 235248 CKT 1 /* AG1-473 TAP 230 01SHINGL 230 DISCONNECT BRANCH FROM BUS 200726 TO BUS 235248 CKT 1 /* 26SHAWVL 2 230 01SHINGL 230 DISCONNECT BRANCH FROM BUS 235248 TO BUS 235970 CKT 1 /* 01SHINGL 230 01DALE 230 DISCONNECT BRANCH FROM BUS 236711 TO BUS 235248 CKT 81 /* 01SHINGLTN 46 01SHINGL 230 DISCONNECT BRANCH FROM BUS 236711 TO BUS 235248 CKT 82 /* 01SHINGLTN 46 01SHINGL 230 END

Contingency Name	Contingency Definition
PN-P1-2-PN-345-104T	CONTINGENCY 'PN-P1-2-PN-345-104T' /* MAINESBURG - WATERCURE ROAD (NYSEG) 345KV LINE DISCONNECT BRANCH FROM BUS 200930 TO BUS 130757 CKT 1 /* 26MAINESBURG345 WATRC345 345 END
200908 26CHAPMAN+ 230 921641 AA1-111 TAP 230 1	CONTINGENCY '200908 26CHAPMAN+ 230 921641 AA1-111 TAP 230 1' OPEN BRANCH FROM BUS 200908 TO BUS 921641 CKT 1 END
PN-P2-2-PN-230-007T	CONTINGENCY 'PN-P2-2-PN-230-007T' /* LEWISTOWN #2 230KV BUS DISCONNECT BRANCH FROM BUS 200513 TO BUS 200531 CKT 2 /* 26LEWISTWN 230 26YEAGRTWN 230 DISCONNECT BRANCH FROM BUS 200513 TO BUS 966040 CKT 1 /* 26LEWISTWN 230 AG1-473 TAP 230 DISCONNECT BRANCH FROM BUS 200513 TO BUS 200517 CKT 1 /* 26LEWISTWN 230 26RAYSTOWN 230 END
AP-P2-3-WP-230-450T	CONTINGENCY 'AP-P2-3-WP-230-450T' /* 459Q DISCONNECT BRANCH FROM BUS 944320 TO BUS 235220 CKT 1 /* AF1-100 TAP 230 01MOSHAN 230 DISCONNECT BRANCH FROM BUS 200908 TO BUS 235220 CKT 1 /* 26CHAPMAN+ 230 01MOSHAN 230 DISCONNECT BRANCH FROM BUS 942490 TO BUS 235220 CKT 1 /* AE2-262 TAP 230 01MOSHAN 2300 DISCONNECT BRANCH FROM BUS 235220 TO BUS 235236 CKT 1 /* 01MOSHAN 230 01QUEHAN 230 DISCONNECT BRANCH FROM BUS 235175 TO BUS 235236 CKT 1 /* 01ELKO 230 01QUEHAN 230 DISCONNECT BRANCH FROM BUS 235236 TO BUS 236732 CKT 81 /* 01QUEHAN 230 01QUEHANNA 46 END
PN-P2-3-PN-230-6G	CONTINGENCY 'PN-P2-3-PN-230-6G' /* ERIE SOUTH 230KV SB 35 OPEN BUS 200819 /*ERIE SOUTH 1 230KV BUS OPEN BUS 200918 /*ERIE SOUTH 230 KV BUS TIE END
Base Case	
AP-P2-3-WP-230-457T	CONTINGENCY 'AP-P2-3-WP-230-457T' /* 464 DISCONNECT BRANCH FROM BUS 966040 TO BUS 235248 CKT 1 /* AG1-473 TAP 230 01SHINGL 230 DISCONNECT BRANCH FROM BUS 236711 TO BUS 235248 CKT 82 /* 01SHINGLTN 46 01SHINGL 230 DISCONNECT BRANCH FROM BUS 235248 TO BUS 235970 CKT 1 /* 01SHINGL 230 01DALE 230 END

Contingency Name	Contingency Definition
PN-P1-2-PN-230-013A	CONTINGENCY 'PN-P1-2-PN-230-013A' /* EAST TOWANDA - NORTH MESHOPPEN 230KV DISCONNECT BRANCH FROM BUS 200675 TO BUS 200924 CKT 1 /* 26E.TWANDA 230 26CANYON 230 DISCONNECT BRANCH FROM BUS 200924 TO BUS 200706 CKT 1 /* 26CANYON 230 26N.MESHPN 230 END
PN-P1-2-PN-345-107T	CONTINGENCY 'PN-P1-2-PN-345-107T' /* ERIE WEST - ASHTABULA - PERRY 345KV DISCONNECT BRANCH FROM BUS 200599 TO BUS 238547 CKT 1 /* 26ERIE W 345 02AT 345 DISCONNECT BRANCH FROM BUS 238547 TO BUS 239082 CKT 1 /* 02AT 345 02S8-ATT 345 DISCONNECT BRANCH FROM BUS 238547 TO BUS 239036 CKT 1 /* 02AT 345 02PERRY 345 DISCONNECT BUS 238547 /* 02AT 345 END
PN-P2-2-PN-345-001T	CONTINGENCY 'PN-P2-2-PN-345-001T' /* HOMER CITY NORTH 345KV BUS DISCONNECT BRANCH FROM BUS 200769 TO BUS 200767 TO BUS 202640 CKT N/* 26HOMER CY 345 26HOMER CT 230 26HOMERCITYN 23.00 END

12 Short Circuit Analysis - Primary POI

The following Breakers are overdutied:

None

12.1 System Reinforcements - Short Circuit

None

13 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AG1-392 was evaluated as a 40.0 MW (Capacity 24.0 MW) injection tapping the Gold to Tennessee Gas 138 kV line in the PENELEC area. Project AG1-392 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-392 was studied with a commercial probability of 53.0 %. Potential network impacts were as follows:

13.1 Generation Deliverability

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

None

13.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
166020469	203348	26HECTOR	115.0	PENELEC	200670	26SABINSVILLE	115.0	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	245.0	92.67	102.67	DC	24.49

13.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
166020337	200582	26RIDGWAY	115.0	PENEL EC	200647	26FOREST	115.0	PENEL EC	1	PN-P2_1-PN-345-997-DRT-051	breaker	277.0	112.57	117.02	DC	12.33
166020199	200668	26FARM VLY	115.0	PENEL EC	941190	AE2-113 TAP	115.0	PENEL EC	1	PN-P2_1-PN-345-997-DRT-051	breaker	160.0	156.32	166.01	DC	15.5
166020300	200670	26SABINSVILLE	115.0	PENEL EC	200671	26NILES VA	115.0	PENEL EC	1	PN-P2_1-PN-345-997-DRT-051	breaker	191.0	115.21	128.03	DC	24.49
166020377	200671	26NILES VA	115.0	PENEL EC	200672	26MANSFIELD	115.0	PENEL EC	1	PN-P2_1-PN-345-997-DRT-051	breaker	185.0	100.73	113.97	DC	24.49
166020149	200674	26TOWANDA	115.0	PENEL EC	200677	26NO MESH	115.0	PENEL EC	1	PN-P2_1-PN-230-997-DRT-060	breaker	245.0	190.96	191.66	DC	3.74
165073977	200675	26E.TWANDA	230.0	PENEL EC	200924	26CANYON	230.0	PENEL EC	1	PN-P2-2-PN-230-007T	bus	615.0	183.97	184.49	DC	7.03
165073978	200675	26E.TWANDA	230.0	PENEL EC	200924	26CANYON	230.0	PENEL EC	1	AP-P2-2-WP-230-005T	bus	615.0	180.89	181.41	DC	6.96
165074328	200675	26E.TWANDA	230.0	PENEL EC	200924	26CANYON	230.0	PENEL EC	1	PL:48:P71:102649	tower	615.0	168.81	169.29	DC	6.49
165074329	200675	26E.TWANDA	230.0	PENEL EC	200924	26CANYON	230.0	PENEL EC	1	PECO_P7-1_220-9091/* \$ BUCKS \$ PECO_P7-1_220-9091 \$ DCT	tower	615.0	162.76	163.24	DC	6.5
174079500	200675	26E.TWANDA	230.0	PENEL EC	200924	26CANYON	230.0	PENEL EC	1	PL:02:P42:001063	breaker	615.0	177.19	177.67	DC	6.46
165074042	200706	26N.MESH PN	230.0	PENEL EC	200708	26OXBOW	230.0	PENEL EC	1	PN-P2-2-PN-230-007T	bus	984.0	147.89	148.35	DC	9.84
165074047	200708	26OXBOW	230.0	PENEL EC	208009	LACK	230.0	PPL	1	PN-P2-2-PN-230-007T	bus	984.0	146.53	146.99	DC	9.99
165074048	200708	26OXBOW	230.0	PENEL EC	208009	LACK	230.0	PPL	1	AP-P2-2-WP-230-005T	bus	984.0	144.17	144.63	DC	9.9

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
174079573	200708	26OXBOW	230.0	PENEL EC	208009	LACK	230.0	PPL	1	AP-P2-3-WP-230-450T	breaker	984.0	143.16	143.62	DC	10.04
165074027	200769	26HOMER CY	345.0	PENEL EC	999325	26HOMER CT	1.0	PENEL EC	S	PN-P2-2-PN-230-001T	bus	827.0	150.97	151.55	DC	10.52
165074028	200769	26HOMER CY	345.0	PENEL EC	999325	26HOMER CT	1.0	PENEL EC	S	PN-P2-2-PN-345-001T	bus	827.0	149.99	150.58	DC	10.52
165074057	200769	26HOMER CY	345.0	PENEL EC	999324	26HOMER CT	1.0	PENEL EC	N	PN-P2-2-PN-345-002T	bus	854.0	144.33	144.89	DC	10.46
165074002	200924	26CANYON	230.0	PENEL EC	200706	26N.MESH PN	230.0	PENEL EC	1	PN-P2-2-PN-230-007T	bus	666.0	168.62	169.1	DC	7.03
165074003	200924	26CANYON	230.0	PENEL EC	200706	26N.MESH PN	230.0	PENEL EC	1	AP-P2-3-WP-230-005T	breaker	666.0	165.78	166.26	DC	6.96
167529264	200924	26CANYON	230.0	PENEL EC	200706	26N.MESH PN	230.0	PENEL EC	1	AP-P2-3-WP-230-450T	breaker	666.0	167.07	167.55	DC	7.12
166020226	200927	26FOURMILE	115.0	PENEL EC	200820	26ERIE SE	115.0	PENEL EC	1	PN-P2-3-PN-230-6G	breaker	245.0	143.0	143.47	DC	2.56
166020389	200944	26PIERCEBARK	115.0	PENEL EC	200668	26FARM VLY	115.0	PENEL EC	1	PN-P2_1-PN-345-997-DRT-051	breaker	245.0	106.25	112.58	DC	15.5
167418923	235197	01KARNSC	138.0	AP	235152	01BUTLER	138.0	AP	1	ATSI-P2-3-CEI-345-004D	breaker	179.0	238.0	238.57	DC	2.27
166020124	941190	AE2-113 TAP	115.0	PENEL EC	200582	26RIDGWAY	115.0	PENEL EC	1	PN-P2_1-PN-345-997-DRT-051	breaker	160.0	217.74	227.43	DC	15.5
165074052	999324	26HOMER CT	1.0	PENEL EC	200767	26HOMER CT	230.0	PENEL EC	N	PN-P2-2-PN-345-002T	bus	854.0	144.33	144.89	DC	10.46
165074032	999325	26HOMER CT	1.0	PENEL EC	200767	26HOMER CT	230.0	PENEL EC	S	PN-P2-2-PN-230-001T	bus	827.0	150.95	151.53	DC	10.52
165074033	999325	26HOMER CT	1.0	PENEL EC	200767	26HOMER CT	230.0	PENEL EC	S	PN-P2-2-PN-345-001T	bus	827.0	149.98	150.56	DC	10.52

13.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
166249648	200674	26TOWANDA	115.0	PENELE C	200677	26NO MESHO	115.0	PENELE C	1	PN-P1-2-PN-230-013A	operation	245.0	190.27	190.96	DC	3.74
167706252	200675	26E.TWANDA	230.0	PENELE C	200924	26CANYON	230.0	PENELE C	1	Base Case	operation	515.0	190.65	191.23	DC	6.51
167706301	200706	26N.MESH PN	230.0	PENELE C	200708	26OXBOW	230.0	PENELE C	1	Base Case	operation	855.0	149.87	150.37	DC	9.24

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
1677063 23	20070 8	26OXBOW	230. 0	PENELE C	20800 9	LACK	230. 0	PPL	1	200908 26CHAPMA N+ 230 921641 AA1-111 TAP 230 1	operati on	984. 0	139.48	139.94	DC	10.01
1677063 24	20070 8	26OXBOW	230. 0	PENELE C	20800 9	LACK	230. 0	PPL	1	Base Case	operati on	855. 0	138.22	138.72	DC	9.38
1662499 12	20088 5	26EVERT DR	115. 0	PENELE C	20067 3	26SOUTH TR	115. 0	PENELE C	1	PN-P1-2- PN-345- 104T	operati on	242. 0	99.16	102.21	DC	7.39
1677062 65	20092 4	26CANYON	230. 0	PENELE C	20070 6	26N.MESH PN	230. 0	PENELE C	1	Base Case	operati on	546. 0	178.29	178.83	DC	6.51
1679717 43	23519 7	01KARNSC	138. 0	AP	23515 2	01BUTLER	138. 0	AP	1	PN-P1-2- PN-345- 107T	operati on	179. 0	236.76	237.35	DC	2.32
1662497 99	94119 0	AE2-113 TAP	115. 0	PENELE C	20058 2	26RIDGWA Y	115. 0	PENELE C	1	PN-P1-2- PN-230-006	operati on	160. 0	120.92	123.93	DC	4.82
1662498 03	94119 0	AE2-113 TAP	115. 0	PENELE C	20058 2	26RIDGWA Y	115. 0	PENELE C	1	Base Case	operati on	133. 0	104.54	107.91	DC	4.48

13.5 Flow Gate Details - Secondary POI

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".

13.5.1 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
166020469	203348	26HECTOR	PENELEC	200670	26SABINSVI	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	245.0	92.67	102.67	DC	24.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	1.3590	50/50	1.3590
916202	Z1-069 E	36.7235	50/50	36.7235
931091	AB1-160 C	0.3883	50/50	0.3883
931092	AB1-160 E	10.4924	50/50	10.4924
940861	AE2-074 C	7.5311	50/50	7.5311
940862	AE2-074 E	9.9136	50/50	9.9136
941191	AE2-113 C	14.2446	50/50	14.2446
941192	AE2-113 E	15.3369	50/50	15.3369
946111	AF1-276 C	23.3234	50/50	23.3234
946112	AF1-276 E	11.4876	50/50	11.4876
946121	AF1-277 C	23.3234	50/50	23.3234
946122	AF1-277 E	11.4876	50/50	11.4876
946131	AF1-278 C	18.6030	50/50	18.6030
946132	AF1-278 E	9.2458	50/50	9.2458
961212	AF2-412 BAT	12.0887	Merchant Transmission	12.0887
963571	AG1-206 C	0.1926	Adder	0.43
963572	AG1-206 E	0.1037	Adder	0.23
965241	AG1-389 C O1	7.3478	50/50	7.3478
965242	AG1-389 E O1	4.8986	50/50	4.8986
965251	AG1-390 C O2	7.3220	50/50	7.3220
965252	AG1-390 E O2	4.8814	50/50	4.8814
965261	AG1-391 C O1	7.3478	50/50	7.3478
965262	AG1-391 E O1	4.8986	50/50	4.8986
965271	AG1-392 C O1	14.6957	50/50	14.6957
965272	AG1-392 E O1	9.7971	50/50	9.7971
WEC	WEC	0.0227	Confirmed LTF	0.0227
LGEE	LGEE	0.0434	Confirmed LTF	0.0434
CPL	CPL	0.0293	Confirmed LTF	0.0293
CBM-W2	CBM-W2	0.5914	Confirmed LTF	0.5914
NY	NY	0.5746	Confirmed LTF	0.5746
TVA	TVA	0.0868	Confirmed LTF	0.0868
O-066	O-066	1.3393	Confirmed LTF	1.3393
SIGE	SIGE	0.0281	Confirmed LTF	0.0281
CBM-S2	CBM-S2	0.5011	Confirmed LTF	0.5011
CBM-S1	CBM-S1	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1911	Confirmed LTF	0.1911
MEC	MEC	0.1112	Confirmed LTF	0.1112
LAGN	LAGN	0.1103	Confirmed LTF	0.1103
CBM-W1	CBM-W1	1.0655	Confirmed LTF	1.0655

13.5.2 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
166020337	200582	26RIDGWAY	PENELEC	200647	26FOREST	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	277.0	112.57	117.02	DC	12.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200649	26PENNTech	4.8519	50/50	4.8519
203349	26Z1-069 C	0.5876	50/50	0.5876
916202	Z1-069 E	15.8783	50/50	15.8783
931091	AB1-160 C	0.1679	50/50	0.1679
931092	AB1-160 E	4.5366	50/50	4.5366
940861	AE2-074 C	6.0265	50/50	6.0265
940862	AE2-074 E	7.9329	50/50	7.9329
941191	AE2-113 C	38.4652	50/50	38.4652
941192	AE2-113 E	41.4146	50/50	41.4146
941321	AE2-126 C	5.0311	50/50	5.0311
941322	AE2-126 E	3.3541	50/50	3.3541
941331	AE2-129 C	0.6977	Adder	0.82
941332	AE2-129 E	0.4651	Adder	0.55
941351	AE2-131 C (Suspended)	0.6977	Adder	0.82
941352	AE2-131 E (Suspended)	0.4651	Adder	0.55
946111	AF1-276 C	34.7402	50/50	34.7402
946112	AF1-276 E	17.1108	50/50	17.1108
946121	AF1-277 C	34.7402	50/50	34.7402
946122	AF1-277 E	17.1108	50/50	17.1108
946131	AF1-278 C	27.7092	50/50	27.7092
946132	AF1-278 E	13.7716	50/50	13.7716
946423	AF1-306 BAT	18.4505	Merchant Transmission	18.4505
957451	AF2-039 C	0.6261	Adder	0.74
957452	AF2-039 E	0.4174	Adder	0.49
957941	AF2-088 C	0.3015	Adder	0.35
957942	AF2-088 E	0.2010	Adder	0.24
958271	AF2-121 C	0.6977	Adder	0.82
958272	AF2-121 E	0.4651	Adder	0.55
961211	AF2-412	8.1350	Adder	9.57
962951	AG1-144 C	0.3698	Adder	0.82
962952	AG1-144 E	0.2465	Adder	0.55
963571	AG1-206 C	3.2639	50/50	3.2639
963572	AG1-206 E	1.7575	50/50	1.7575
964451	AG1-308 C O2	0.2558	Adder	0.57
964452	AG1-308 E O2	0.3574	Adder	0.79
965121	AG1-377 C O1	0.3698	Adder	0.82
965122	AG1-377 E O1	0.2465	Adder	0.55
965131	AG1-378 C O1	0.3698	Adder	0.82
965132	AG1-378 E O1	0.2465	Adder	0.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965241	AG1-389 C O1	3.6982	50/50	3.6982
965242	AG1-389 E O1	2.4654	50/50	2.4654
965251	AG1-390 C O2	3.7188	50/50	3.7188
965252	AG1-390 E O2	2.4792	50/50	2.4792
965261	AG1-391 C O1	3.6982	50/50	3.6982
965262	AG1-391 E O1	2.4654	50/50	2.4654
965271	AG1-392 C O1	7.3963	50/50	7.3963
965272	AG1-392 E O1	4.9309	50/50	4.9309
965301	AG1-395 C	0.4752	Adder	1.05
965302	AG1-395 E	0.1411	Adder	0.31
G-007A	G-007A	0.5778	Confirmed LTF	0.5778
VFT	VFT	1.6125	Confirmed LTF	1.6125
CALDERWOOD	CALDERWOOD	0.0631	Confirmed LTF	0.0631
PRAIRIE	PRAIRIE	0.3978	Confirmed LTF	0.3978
CHEOAH	CHEOAH	0.0636	Confirmed LTF	0.0636
CBM-N	CBM-N	0.3300	Confirmed LTF	0.3300
COTTONWOOD	COTTONWOOD	0.2919	Confirmed LTF	0.2919
HAMLET	HAMLET	0.0537	Confirmed LTF	0.0537
GIBSON	GIBSON	0.0874	Confirmed LTF	0.0874
BLUEG	BLUEG	0.2743	Confirmed LTF	0.2743
TRIMBLE	TRIMBLE	0.0879	Confirmed LTF	0.0879
CATAWBA	CATAWBA	0.0364	Confirmed LTF	0.0364

13.5.3 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
166020199	200668	26FARM VLY	PENELEC	941190	AE2-113 TAP	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	160.0	156.32	166.01	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	0.7391	50/50	0.7391
203999	P-047 E	5.0737	Adder	5.97
916202	Z1-069 E	19.9714	50/50	19.9714
931091	AB1-160 C	0.2112	50/50	0.2112
931092	AB1-160 E	5.7061	50/50	5.7061
940861	AE2-074 C	7.5775	50/50	7.5775
940862	AE2-074 E	9.9746	50/50	9.9746
946111	AF1-276 C	43.6706	50/50	43.6706
946112	AF1-276 E	21.5094	50/50	21.5094
946121	AF1-277 C	43.6706	50/50	43.6706
946122	AF1-277 E	21.5094	50/50	21.5094
946131	AF1-278 C	34.8322	50/50	34.8322
946132	AF1-278 E	17.3118	50/50	17.3118
959471	AF2-238 C	0.6301	Adder	0.74
959472	AF2-238 E	0.4200	Adder	0.49
959741	AF2-265 C	0.4515	Adder	0.53
959742	AF2-265 E	0.3360	Adder	0.4
961211	AF2-412	10.2655	Adder	12.08
965241	AG1-389 C O1	4.6511	50/50	4.6511
965242	AG1-389 E O1	3.1007	50/50	3.1007
965251	AG1-390 C O2	4.6769	50/50	4.6769
965252	AG1-390 E O2	3.1179	50/50	3.1179
965261	AG1-391 C O1	4.6511	50/50	4.6511
965262	AG1-391 E O1	3.1007	50/50	3.1007
965271	AG1-392 C O1	9.3022	50/50	9.3022
965272	AG1-392 E O1	6.2014	50/50	6.2014
G-007A	G-007A	0.4148	Confirmed LTF	0.4148
VFT	VFT	1.1868	Confirmed LTF	1.1868
CALDERWOOD	CALDERWOOD	0.0333	Confirmed LTF	0.0333
PRAIRIE	PRAIRIE	0.1989	Confirmed LTF	0.1989
CHEOAH	CHEOAH	0.0335	Confirmed LTF	0.0335
CBM-N	CBM-N	0.2592	Confirmed LTF	0.2592
COTTONWOOD	COTTONWOOD	0.1512	Confirmed LTF	0.1512
HAMLET	HAMLET	0.0312	Confirmed LTF	0.0312
GIBSON	GIBSON	0.0431	Confirmed LTF	0.0431
BLUEG	BLUEG	0.1371	Confirmed LTF	0.1371
TRIMBLE	TRIMBLE	0.0440	Confirmed LTF	0.0440
CATAWBA	CATAWBA	0.0203	Confirmed LTF	0.0203

13.5.4 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
166020300	200670	26SABINSVI	PENELEC	200671	26NILES VA	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	191.0	115.21	128.03	DC	24.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	1.3590	50/50	1.3590
916202	Z1-069 E	36.7235	50/50	36.7235
931091	AB1-160 C	0.3883	50/50	0.3883
931092	AB1-160 E	10.4924	50/50	10.4924
940861	AE2-074 C	7.5311	50/50	7.5311
940862	AE2-074 E	9.9136	50/50	9.9136
941191	AE2-113 C	14.2446	50/50	14.2446
941192	AE2-113 E	15.3369	50/50	15.3369
946111	AF1-276 C	23.3234	50/50	23.3234
946112	AF1-276 E	11.4876	50/50	11.4876
946121	AF1-277 C	23.3234	50/50	23.3234
946122	AF1-277 E	11.4876	50/50	11.4876
946131	AF1-278 C	18.6030	50/50	18.6030
946132	AF1-278 E	9.2458	50/50	9.2458
961212	AF2-412 BAT	12.0887	Merchant Transmission	12.0887
963571	AG1-206 C	0.1926	Adder	0.43
963572	AG1-206 E	0.1037	Adder	0.23
965241	AG1-389 C O1	7.3478	50/50	7.3478
965242	AG1-389 E O1	4.8986	50/50	4.8986
965251	AG1-390 C O2	7.3220	50/50	7.3220
965252	AG1-390 E O2	4.8814	50/50	4.8814
965261	AG1-391 C O1	7.3478	50/50	7.3478
965262	AG1-391 E O1	4.8986	50/50	4.8986
965271	AG1-392 C O1	14.6957	50/50	14.6957
965272	AG1-392 E O1	9.7971	50/50	9.7971
WEC	WEC	0.0227	Confirmed LTF	0.0227
LGEE	LGEE	0.0434	Confirmed LTF	0.0434
CPL	CPL	0.0293	Confirmed LTF	0.0293
CBM-W2	CBM-W2	0.5914	Confirmed LTF	0.5914
NY	NY	0.5746	Confirmed LTF	0.5746
TVA	TVA	0.0868	Confirmed LTF	0.0868
O-066	O-066	1.3393	Confirmed LTF	1.3393
SIGE	SIGE	0.0281	Confirmed LTF	0.0281
CBM-S2	CBM-S2	0.5011	Confirmed LTF	0.5011
CBM-S1	CBM-S1	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1911	Confirmed LTF	0.1911
MEC	MEC	0.1112	Confirmed LTF	0.1112
LAGN	LAGN	0.1103	Confirmed LTF	0.1103
CBM-W1	CBM-W1	1.0655	Confirmed LTF	1.0655

13.5.5 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
166020377	200671	26NILES VA	PENELEC	200672	26MANSFIEL	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	185.0	100.73	113.97	DC	24.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	1.3590	50/50	1.3590
916202	Z1-069 E	36.7235	50/50	36.7235
931091	AB1-160 C	0.3883	50/50	0.3883
931092	AB1-160 E	10.4924	50/50	10.4924
940861	AE2-074 C	7.5311	50/50	7.5311
940862	AE2-074 E	9.9136	50/50	9.9136
941191	AE2-113 C	14.2446	50/50	14.2446
941192	AE2-113 E	15.3369	50/50	15.3369
946111	AF1-276 C	23.3234	50/50	23.3234
946112	AF1-276 E	11.4876	50/50	11.4876
946121	AF1-277 C	23.3234	50/50	23.3234
946122	AF1-277 E	11.4876	50/50	11.4876
946131	AF1-278 C	18.6030	50/50	18.6030
946132	AF1-278 E	9.2458	50/50	9.2458
961212	AF2-412 BAT	12.0887	Merchant Transmission	12.0887
963571	AG1-206 C	0.1926	Adder	0.43
963572	AG1-206 E	0.1037	Adder	0.23
965241	AG1-389 C O1	7.3478	50/50	7.3478
965242	AG1-389 E O1	4.8986	50/50	4.8986
965251	AG1-390 C O2	7.3220	50/50	7.3220
965252	AG1-390 E O2	4.8814	50/50	4.8814
965261	AG1-391 C O1	7.3478	50/50	7.3478
965262	AG1-391 E O1	4.8986	50/50	4.8986
965271	AG1-392 C O1	14.6957	50/50	14.6957
965272	AG1-392 E O1	9.7971	50/50	9.7971
WEC	WEC	0.0227	Confirmed LTF	0.0227
LGEE	LGEE	0.0434	Confirmed LTF	0.0434
CPL	CPL	0.0293	Confirmed LTF	0.0293
CBM-W2	CBM-W2	0.5914	Confirmed LTF	0.5914
NY	NY	0.5746	Confirmed LTF	0.5746
TVA	TVA	0.0868	Confirmed LTF	0.0868
O-066	O-066	1.3393	Confirmed LTF	1.3393
SIGE	SIGE	0.0281	Confirmed LTF	0.0281
CBM-S2	CBM-S2	0.5011	Confirmed LTF	0.5011
CBM-S1	CBM-S1	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1911	Confirmed LTF	0.1911
MEC	MEC	0.1112	Confirmed LTF	0.1112
LAGN	LAGN	0.1103	Confirmed LTF	0.1103
CBM-W1	CBM-W1	1.0655	Confirmed LTF	1.0655

13.5.6 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
166020149	200674	26TOWANDA	PENELEC	200677	26NO MESHO	PENELEC	1	PN-P2_1-PN-230-997-DRT-060	breaker	245.0	190.96	191.66	DC	3.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200887	26ARMNA MT	0.4036	50/50	0.4036
200894	26K02	7.9951	50/50	7.9951
203283	26MANOR_T86	0.0418	50/50	0.0418
203350	26MILZ1-092	0.5469	50/50	0.5469
203351	26GROZ1-110	0.5368	50/50	0.5368
203352	26CANZ2-011	0.5268	50/50	0.5268
203922	X1-109 G1	11.5570	50/50	11.5570
203923	X1-109 G2	11.5570	50/50	11.5570
203932	AA2-133 GEN	0.9410	Adder	1.11
203999	P-047 E	13.0346	50/50	13.0346
916202	Z1-069 E	4.7405	Adder	5.58
919201	AA1-144 OP	30.7418	50/50	30.7418
921642	AA2-000	39.4298	Adder	46.39
930511	AB2-092	1.4477	Adder	1.7
931092	AB1-160 E	1.3544	Adder	1.59
936421	AD2-055	2.9807	Adder	3.51
940861	AE2-074 C	1.0046	Adder	1.18
940862	AE2-074 E	1.3224	Adder	1.56
941191	AE2-113 C	2.8483	Adder	3.35
941192	AE2-113 E	3.0667	Adder	3.61
941421	AE2-139 C	11.0608	50/50	11.0608
941422	AE2-139 E	7.3739	50/50	7.3739
943751	AF1-043	8.9420	Adder	10.52
944321	AF1-100 C	6.4158	Adder	7.55
944322	AF1-100 E	4.2772	Adder	5.03
944411	AF1-106 O1	3.3012	50/50	3.3012
946111	AF1-276 C	2.8965	Adder	3.41
946112	AF1-276 E	1.4266	Adder	1.68
946121	AF1-277 C	2.8965	Adder	3.41
946122	AF1-277 E	1.4266	Adder	1.68
946131	AF1-278 C	2.3103	Adder	2.72
946132	AF1-278 E	1.1482	Adder	1.35
946211	AF1-286 C	1.3370	50/50	1.3370
946212	AF1-286 E	0.9078	50/50	0.9078
959061	AF2-197 C O1	9.6062	50/50	9.6062
959062	AF2-197 E O1	14.4094	50/50	14.4094
959471	AF2-238 C	2.0173	50/50	2.0173
959472	AF2-238 E	1.3449	50/50	1.3449
959481	AF2-239 C	2.2616	50/50	2.2616

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959482	AF2-239 E	1.8134	50/50	1.8134
959491	AF2-240 C	0.6239	50/50	0.6239
959492	AF2-240 E	0.5315	50/50	0.5315
959501	AF2-241 C	1.8652	50/50	1.8652
959502	AF2-241 E	1.4360	50/50	1.4360
959741	AF2-265 C	1.4457	50/50	1.4457
959742	AF2-265 E	1.0759	50/50	1.0759
960271	AF2-318 C	2.4450	50/50	2.4450
960272	AF2-318 E	1.6300	50/50	1.6300
961141	AF2-405	1.6506	50/50	1.6506
961151	AF2-406	12.3795	50/50	12.3795
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	27.5910	Adder	32.46
961211	AF2-412	14.7153	Adder	17.31
961451	AF2-436	0.0710	Adder	0.08
963941	AG1-247 C	0.8088	50/50	0.8088
963942	AG1-247 E	0.4292	50/50	0.4292
965241	AG1-389 C O1	0.5059	Adder	1.12
965242	AG1-389 E O1	0.3373	Adder	0.75
965251	AG1-390 C O2	0.5044	Adder	1.12
965252	AG1-390 E O2	0.3363	Adder	0.75
965261	AG1-391 C O1	0.5059	Adder	1.12
965262	AG1-391 E O1	0.3373	Adder	0.75
965271	AG1-392 C O1	1.0119	Adder	2.25
965272	AG1-392 E O1	0.6746	Adder	1.5
WEC	WEC	0.1802	Confirmed LTF	0.1802
LGEE	LGEE	0.3474	Confirmed LTF	0.3474
CPL	CPL	0.2239	Confirmed LTF	0.2239
CBM-W2	CBM-W2	4.6682	Confirmed LTF	4.6682
TVA	TVA	0.6860	Confirmed LTF	0.6860
O-066	O-066	12.7937	Confirmed LTF	12.7937
SIGE	SIGE	0.2576	Confirmed LTF	0.2576
CBM-S2	CBM-S2	3.9359	Confirmed LTF	3.9359
CBM-S1	CBM-S1	0.1904	Confirmed LTF	0.1904
G-007	G-007	1.8543	Confirmed LTF	1.8543
MEC	MEC	0.8803	Confirmed LTF	0.8803
LAGN	LAGN	0.8680	Confirmed LTF	0.8680
CBM-W1	CBM-W1	8.3559	Confirmed LTF	8.3559

13.5.7 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
165073977	200675	26E.TWANDA	PENELEC	200924	26CANYON	PENELEC	1	PN-P2-2-PN-230-007T	bus	615.0	183.97	184.49	DC	7.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200894	26K02	17.6960	50/50	17.6960
203283	26MANOR_T86	0.0582	50/50	0.0582
203350	26MILZ1-092	0.8988	50/50	0.8988
203351	26GROZ1-110	1.0826	50/50	1.0826
203352	26CANZ2-011	1.0623	50/50	1.0623
203922	X1-109 G1	24.7826	50/50	24.7826
203923	X1-109 G2	24.7826	50/50	24.7826
203932	AA2-133 GEN	2.1231	Adder	2.5
203999	P-047 E	17.6345	Adder	20.75
235003	AC1-025 E	0.1744	Adder	0.21
236828	01GRAYMONT	0.4701	Adder	0.55
916202	Z1-069 E	8.7970	Adder	10.35
919201	AA1-144 OP	66.0052	50/50	66.0052
921642	AA2-000	92.7912	Adder	109.17
930511	AB2-092	3.4070	Adder	4.01
931092	AB1-160 E	2.5134	Adder	2.96
936421	AD2-055	7.0145	Adder	8.25
938332	AE1-051 BAT	0.9479	Merchant Transmission	0.9479
939171	AE1-147 C	1.4127	Adder	1.66
939172	AE1-147 E	0.9418	Adder	1.11
940201	AE2-001 C	1.4114	Adder	1.66
940202	AE2-001 E	0.9409	Adder	1.11
940681	AE2-055 C (Suspended)	1.3908	Adder	1.64
940682	AE2-055 E (Suspended)	0.9272	Adder	1.09
940861	AE2-074 C	1.9758	Adder	2.32
940862	AE2-074 E	2.6009	Adder	3.06
941191	AE2-113 C	6.5799	Adder	7.74
941192	AE2-113 E	7.0845	Adder	8.33
941261	AE2-120 C	1.4106	Adder	1.66
941262	AE2-120 E	0.9404	Adder	1.11
941271	AE2-121 C	0.7523	Adder	0.89
941272	AE2-121 E	0.5023	Adder	0.59
941321	AE2-126 C	1.2282	Adder	1.44
941322	AE2-126 E	0.8188	Adder	0.96
941331	AE2-129 C	1.0121	Adder	1.19
941332	AE2-129 E	0.6748	Adder	0.79
941351	AE2-131 C (Suspended)	1.0121	Adder	1.19
941352	AE2-131 E (Suspended)	0.6748	Adder	0.79
941421	AE2-139 C	23.8022	50/50	23.8022
941422	AE2-139 E	15.8681	50/50	15.8681
942351	AE2-248 C	1.1195	Adder	1.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942352	AE2-248 E	0.7463	Adder	0.88
942491	AE2-262 C	6.1710	Adder	7.26
942492	AE2-262 E	4.1469	Adder	4.88
942501	AE2-263 C	5.8007	Adder	6.82
942502	AE2-263 E	3.8729	Adder	4.56
942961	AE2-316 C	3.3408	Adder	3.93
942962	AE2-316 E	4.7640	Adder	5.6
943751	AF1-043	21.0434	Adder	24.76
944001	AF1-068 C O1 (Withdrawn : 12/15/2020)	1.4899	Adder	1.75
944002	AF1-068 E O1 (Withdrawn : 12/15/2020)	0.8381	Adder	0.99
944311	AF1-099 C	9.3676	Adder	11.02
944312	AF1-099 E	6.2451	Adder	7.35
944321	AF1-100 C	17.9903	Adder	21.17
944322	AF1-100 E	11.9935	Adder	14.11
944381	AF1-103 O1	1.6097	Adder	1.89
944411	AF1-106 O1	5.4258	50/50	5.4258
944471	AF1-112 C	1.4016	Adder	1.65
944472	AF1-112 E	0.9344	Adder	1.1
944671	AF1-132 C O1 (Withdrawn : 12/15/2020)	1.3953	Adder	1.64
944672	AF1-132 E O1 (Withdrawn : 12/15/2020)	0.9302	Adder	1.09
944691	AF1-134 C	0.9284	Adder	1.09
944692	AF1-134 E	0.6189	Adder	0.73
944771	AF1-142 C	14.9881	Adder	17.63
944772	AF1-142 E	9.9921	Adder	11.76
944881	AF1-153 C O1	1.2104	Adder	1.42
944882	AF1-153 E O1	0.8070	Adder	0.95
944901	AF1-155 C	1.2043	Adder	1.42
944902	AF1-155 E	0.8029	Adder	0.94
945491	AF1-214 C (Withdrawn : 12/03/2020)	1.4107	Adder	1.66
945492	AF1-214 E (Withdrawn : 12/03/2020)	0.9404	Adder	1.11
946111	AF1-276 C	6.4479	Adder	7.59
946112	AF1-276 E	3.1758	Adder	3.74
946121	AF1-277 C	6.4479	Adder	7.59
946122	AF1-277 E	3.1758	Adder	3.74
946131	AF1-278 C	5.1429	Adder	6.05
946132	AF1-278 E	2.5561	Adder	3.01
946211	AF1-286 C	2.1974	50/50	2.1974
946212	AF1-286 E	1.4921	50/50	1.4921
946381	AF1-302 C	1.4589	Adder	1.72
946382	AF1-302 E	1.9451	Adder	2.29
946421	AF1-306 C	5.2880	Adder	6.22
946422	AF1-306 E	21.1520	Adder	24.88
957451	AF2-039 C	0.8155	Adder	0.96
957452	AF2-039 E	0.5436	Adder	0.64
957941	AF2-088 C	0.3926	Adder	0.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957942	AF2-088 E	0.2618	Adder	0.31
958271	AF2-121 C	1.0121	Adder	1.19
958272	AF2-121 E	0.6748	Adder	0.79
959061	AF2-197 C O1	12.9326	50/50	12.9326
959062	AF2-197 E O1	19.3990	50/50	19.3990
959471	AF2-238 C	3.3199	50/50	3.3199
959472	AF2-238 E	2.2133	50/50	2.2133
959481	AF2-239 C	3.1511	50/50	3.1511
959482	AF2-239 E	2.5265	50/50	2.5265
959491	AF2-240 C	1.0255	50/50	1.0255
959492	AF2-240 E	0.8736	50/50	0.8736
959501	AF2-241 C	3.0656	50/50	3.0656
959502	AF2-241 E	2.3602	50/50	2.3602
959741	AF2-265 C	2.3793	50/50	2.3793
959742	AF2-265 E	1.7706	50/50	1.7706
959913	AF2-282 BAT	0.1422	Merchant Transmission	0.1422
959923	AF2-283 BAT	0.1422	Merchant Transmission	0.1422
960022	AF2-293 E	0.1373	Adder	0.16
960041	AF2-295 C	1.2043	Adder	1.42
960042	AF2-295 E	0.8029	Adder	0.94
960051	AF2-296 C	0.9284	Adder	1.09
960052	AF2-296 E	0.6189	Adder	0.73
960271	AF2-318 C	3.4066	50/50	3.4066
960272	AF2-318 E	2.2710	50/50	2.2710
961141	AF2-405	2.7129	50/50	2.7129
961151	AF2-406	20.3468	50/50	20.3468
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	54.2028	Adder	63.77
961211	AF2-412	25.5929	Adder	30.11
961451	AF2-436	0.1601	Adder	0.19
962411	AG1-090 C O2	3.6774	Adder	8.16
962412	AG1-090 E O2	2.4516	Adder	5.44
962951	AG1-144 C	0.5364	Adder	1.19
962952	AG1-144 E	0.3576	Adder	0.79
963571	AG1-206 C	0.3540	Adder	0.79
963572	AG1-206 E	0.1906	Adder	0.42
963891	AG1-242 C	0.2665	Adder	0.59
963892	AG1-242 E	0.1435	Adder	0.32
963941	AG1-247 C	1.3293	50/50	1.3293
963942	AG1-247 E	0.7054	50/50	0.7054
964031	AG1-257 C	0.5145	Adder	1.14
964032	AG1-257 E	0.7190	Adder	1.6
964041	AG1-258 C	0.5145	Adder	1.14
964042	AG1-258 E	0.7190	Adder	1.6
964341	AG1-296 C	0.2583	Adder	0.57
964342	AG1-296 E	0.1391	Adder	0.31
964451	AG1-308 C O2	0.3710	Adder	0.82
964452	AG1-308 E O2	0.5186	Adder	1.15
965121	AG1-377 C O1	0.5364	Adder	1.19
965122	AG1-377 E O1	0.3576	Adder	0.79
965131	AG1-378 C O1	0.5364	Adder	1.19
965132	AG1-378 E O1	0.3576	Adder	0.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965201	AG1-385 C	0.8249	Adder	1.83
965202	AG1-385 E	0.2443	Adder	0.54
965241	AG1-389 C O1	0.9501	Adder	2.11
965242	AG1-389 E O1	0.6334	Adder	1.41
965251	AG1-390 C O2	0.9478	Adder	2.1
965252	AG1-390 E O2	0.6319	Adder	1.4
965261	AG1-391 C O1	0.9501	Adder	2.11
965262	AG1-391 E O1	0.6334	Adder	1.41
965271	AG1-392 C O1	1.9001	Adder	4.22
965272	AG1-392 E O1	1.2667	Adder	2.81
965301	AG1-395 C	0.6893	Adder	1.53
965302	AG1-395 E	0.2047	Adder	0.45
966041	AG1-473 C	1.8943	Adder	4.2
966042	AG1-473 E	1.2629	Adder	2.8
966121	AG1-481	0.6625	Adder	1.47
WEC	WEC	0.3758	Confirmed LTF	0.3758
LGEE	LGEE	0.7219	Confirmed LTF	0.7219
CPL	CPL	0.4368	Confirmed LTF	0.4368
CBM-W2	CBM-W2	9.6410	Confirmed LTF	9.6410
TVA	TVA	1.4084	Confirmed LTF	1.4084
O-066	O-066	27.0075	Confirmed LTF	27.0075
SIGE	SIGE	0.5418	Confirmed LTF	0.5418
CBM-S2	CBM-S2	7.8300	Confirmed LTF	7.8300
CBM-S1	CBM-S1	0.3922	Confirmed LTF	0.3922
G-007	G-007	3.9427	Confirmed LTF	3.9427
MEC	MEC	1.8289	Confirmed LTF	1.8289
LAGN	LAGN	1.7850	Confirmed LTF	1.7850
CBM-W1	CBM-W1	17.4970	Confirmed LTF	17.4970

13.5.8 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
165074042	200706	26N.MESHPN	PENELEC	200708	26OXBOW	PENELEC	1	PN-P2-2-PN-230-007T	bus	984.0	147.89	148.35	DC	9.84

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	35.7405	50/50	35.7405
200851	26MEHOOP3	5.3659	50/50	5.3659
200894	26K02	17.4935	Adder	20.58
200917	26MTNTP_P28	1.9918	50/50	1.9918
203283	26MANOR_T86	0.0945	50/50	0.0945
203347	26NME_Y1-047	1.9463	50/50	1.9463
203922	X1-109 G1	28.4734	50/50	28.4734
203923	X1-109 G2	28.4734	50/50	28.4734
203932	AA2-133 GEN	9.0484	50/50	9.0484
203999	P-047 E	25.0367	Adder	29.45
235003	AC1-025 E	0.2081	Adder	0.24
236828	01GRAYMONT	0.5618	Adder	0.66
294573	P-028 E	69.1752	50/50	69.1752
916202	Z1-069 E	12.3394	Adder	14.52
919201	AA1-144 OP	75.8895	50/50	75.8895
920341	AA2-132 (Withdrawn : 12/07/2020)	8.7148	50/50	8.7148
921642	AA2-000	109.1865	Adder	128.45
930511	AB2-092	4.0090	Adder	4.72
931092	AB1-160 E	3.5255	Adder	4.15
936421	AD2-055	8.2538	Adder	9.71
938332	AE1-051 BAT	1.2964	Merchant Transmission	1.2964
939171	AE1-147 C	1.6887	Adder	1.99
939172	AE1-147 E	1.1258	Adder	1.32
940201	AE2-001 C	1.6869	Adder	1.98
940202	AE2-001 E	1.1246	Adder	1.32
940681	AE2-055 C (Suspended)	1.6591	Adder	1.95
940682	AE2-055 E (Suspended)	1.1061	Adder	1.3
940861	AE2-074 C	2.7480	Adder	3.23
940862	AE2-074 E	3.6173	Adder	4.26
941191	AE2-113 C	8.7344	Adder	10.28
941192	AE2-113 E	9.4042	Adder	11.06
941261	AE2-120 C	1.6859	Adder	1.98
941262	AE2-120 E	1.1239	Adder	1.32
941271	AE2-121 C	0.8995	Adder	1.06
941272	AE2-121 E	0.6006	Adder	0.71
941321	AE2-126 C	1.5384	Adder	1.81
941322	AE2-126 E	1.0256	Adder	1.21
941421	AE2-139 C	27.4027	50/50	27.4027
941422	AE2-139 E	18.2685	50/50	18.2685
942351	AE2-248 C	1.3365	Adder	1.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942352	AE2-248 E	0.8910	Adder	1.05
942491	AE2-262 C	7.4201	Adder	8.73
942492	AE2-262 E	4.9863	Adder	5.87
942501	AE2-263 C	6.9749	Adder	8.21
942502	AE2-263 E	4.6568	Adder	5.48
943751	AF1-043	24.7615	Adder	29.13
944001	AF1-068 C O1 (Withdrawn : 12/15/2020)	1.7783	Adder	2.09
944002	AF1-068 E O1 (Withdrawn : 12/15/2020)	1.0003	Adder	1.18
944311	AF1-099 C	11.2637	Adder	13.25
944312	AF1-099 E	7.5091	Adder	8.83
944321	AF1-100 C	21.8140	Adder	25.66
944322	AF1-100 E	14.5427	Adder	17.11
944381	AF1-103 O1	2.1480	Adder	2.53
944411	AF1-106 O1	6.6886	Adder	7.87
944471	AF1-112 C	1.6737	Adder	1.97
944472	AF1-112 E	1.1158	Adder	1.31
944671	AF1-132 C O1 (Withdrawn : 12/15/2020)	1.6653	Adder	1.96
944672	AF1-132 E O1 (Withdrawn : 12/15/2020)	1.1102	Adder	1.31
944771	AF1-142 C	18.0219	Adder	21.2
944772	AF1-142 E	12.0146	Adder	14.13
944881	AF1-153 C O1	1.5039	Adder	1.77
944882	AF1-153 E O1	1.0026	Adder	1.18
944901	AF1-155 C	1.4969	Adder	1.76
944902	AF1-155 E	0.9979	Adder	1.17
945491	AF1-214 C (Withdrawn : 12/03/2020)	1.6860	Adder	1.98
945492	AF1-214 E (Withdrawn : 12/03/2020)	1.1240	Adder	1.32
946111	AF1-276 C	8.8318	Adder	10.39
946112	AF1-276 E	4.3500	Adder	5.12
946121	AF1-277 C	8.8318	Adder	10.39
946122	AF1-277 E	4.3500	Adder	5.12
946131	AF1-278 C	7.0444	Adder	8.29
946132	AF1-278 E	3.5011	Adder	4.12
946211	AF1-286 C	2.7089	Adder	3.19
946212	AF1-286 E	1.8394	Adder	2.16
946421	AF1-306 C	6.5728	Adder	7.73
946422	AF1-306 E	26.2912	Adder	30.93
957451	AF2-039 C	1.0038	Adder	1.18
957452	AF2-039 E	0.6692	Adder	0.79
957941	AF2-088 C	0.4833	Adder	0.57
957942	AF2-088 E	0.3222	Adder	0.38
959061	AF2-197 C O1	18.6282	50/50	18.6282
959062	AF2-197 E O1	27.9424	50/50	27.9424
959471	AF2-238 C	3.8729	Adder	4.56
959472	AF2-238 E	2.5820	Adder	3.04
959481	AF2-239 C	5.1134	50/50	5.1134

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959482	AF2-239 E	4.1000	50/50	4.1000
959491	AF2-240 C	1.2642	Adder	1.49
959492	AF2-240 E	1.0769	Adder	1.27
959501	AF2-241 C	3.7791	Adder	4.45
959502	AF2-241 E	2.9096	Adder	3.42
959741	AF2-265 C	2.7756	Adder	3.27
959742	AF2-265 E	2.0656	Adder	2.43
959913	AF2-282 BAT	0.1945	Merchant Transmission	0.1945
959923	AF2-283 BAT	0.1945	Merchant Transmission	0.1945
960022	AF2-293 E	0.1642	Adder	0.19
960031	AF2-294 C	5.2552	50/50	5.2552
960032	AF2-294 E	3.5034	50/50	3.5034
960041	AF2-295 C	1.4969	Adder	1.76
960042	AF2-295 E	0.9979	Adder	1.17
960271	AF2-318 C	5.5280	50/50	5.5280
960272	AF2-318 E	3.6854	50/50	3.6854
961141	AF2-405	3.3443	Adder	3.93
961151	AF2-406	25.0824	Adder	29.51
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	77.4256	Adder	91.09
961211	AF2-412	36.3191	Adder	42.73
961451	AF2-436	0.6824	50/50	0.6824
962411	AG1-090 C O2	4.4124	Adder	9.79
962412	AG1-090 E O2	2.9416	Adder	6.53
963571	AG1-206 C	0.4453	Adder	0.99
963572	AG1-206 E	0.2398	Adder	0.53
963941	AG1-247 C	0.8685	Adder	1.93
963942	AG1-247 E	0.4608	Adder	1.02
964031	AG1-257 C	0.6145	Adder	1.36
964032	AG1-257 E	0.8588	Adder	1.91
964041	AG1-258 C	0.6145	Adder	1.36
964042	AG1-258 E	0.8588	Adder	1.91
964701	AG1-333 C	1.9269	50/50	1.9269
964702	AG1-333 E	0.2628	50/50	0.2628
965201	AG1-385 C	1.0249	Adder	2.28
965202	AG1-385 E	0.3035	Adder	0.67
965241	AG1-389 C O1	1.3303	Adder	2.95
965242	AG1-389 E O1	0.8868	Adder	1.97
965251	AG1-390 C O2	1.3270	Adder	2.95
965252	AG1-390 E O2	0.8846	Adder	1.96
965261	AG1-391 C O1	1.3303	Adder	2.95
965262	AG1-391 E O1	0.8868	Adder	1.97
965271	AG1-392 C O1	2.6605	Adder	5.91
965272	AG1-392 E O1	1.7737	Adder	3.94
966041	AG1-473 C	2.2335	Adder	4.96
966042	AG1-473 E	1.4890	Adder	3.31
966121	AG1-481	0.8840	Adder	1.96
WEC	WEC	0.5122	Confirmed LTF	0.5122
LGEE	LGEE	0.9845	Confirmed LTF	0.9845
CPL	CPL	0.5958	Confirmed LTF	0.5958
CBM-W2	CBM-W2	13.1443	Confirmed LTF	13.1443
TVA	TVA	1.9208	Confirmed LTF	1.9208

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
O-066	O-066	36.8400	Confirmed LTF	36.8400
SIGE	SIGE	0.7389	Confirmed LTF	0.7389
CBM-S2	CBM-S2	10.6906	Confirmed LTF	10.6906
CBM-S1	CBM-S1	0.5347	Confirmed LTF	0.5347
G-007	G-007	5.3771	Confirmed LTF	5.3771
MEC	MEC	2.4947	Confirmed LTF	2.4947
LAGN	LAGN	2.4343	Confirmed LTF	2.4343
CBM-W1	CBM-W1	23.8480	Confirmed LTF	23.8480

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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
165074047	200708	26OXBOW	PENELEC	208009	LACK	PPL	1	PN-P2-2-PN-230-007T	bus	984.0	146.53	146.99	DC	9.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	36.4479	50/50	36.4479
200851	26MEHOOP3	5.4721	50/50	5.4721
200894	26K02	17.7115	Adder	20.84
200917	26MTNTP_P28	2.0312	50/50	2.0312
203283	26MANOR_T86	0.0987	50/50	0.0987
203347	26NME_Y1-047	1.9848	50/50	1.9848
203907	26Y2-042	1.9697	50/50	1.9697
203922	X1-109 G1	28.8246	50/50	28.8246
203923	X1-109 G2	28.8246	50/50	28.8246
203932	AA2-133 GEN	10.5282	50/50	10.5282
203999	P-047 E	25.4445	Adder	29.93
235003	AC1-025 E	0.2108	Adder	0.25
236828	01GRAYMONT	0.5689	Adder	0.67
294573	P-028 E	70.5444	50/50	70.5444
916202	Z1-069 E	12.5264	Adder	14.74
919201	AA1-144 OP	76.8268	50/50	76.8268
920341	AA2-132 (Withdrawn : 12/07/2020)	7.5383	Adder	8.87
921642	AA2-000	110.5600	Adder	130.07
930511	AB2-092	4.0594	Adder	4.78
931092	AB1-160 E	3.5790	Adder	4.21
936421	AD2-055	8.3577	Adder	9.83
939171	AE1-147 C	1.7100	Adder	2.01
939172	AE1-147 E	1.1400	Adder	1.34
940201	AE2-001 C	1.7082	Adder	2.01
940202	AE2-001 E	1.1388	Adder	1.34
940681	AE2-055 C (Suspended)	1.6800	Adder	1.98
940682	AE2-055 E (Suspended)	1.1200	Adder	1.32
940861	AE2-074 C	2.7886	Adder	3.28
940862	AE2-074 E	3.6707	Adder	4.32
941191	AE2-113 C	8.8547	Adder	10.42
941192	AE2-113 E	9.5336	Adder	11.22
941261	AE2-120 C	1.7072	Adder	2.01
941262	AE2-120 E	1.1381	Adder	1.34
941271	AE2-121 C	0.9108	Adder	1.07
941272	AE2-121 E	0.6082	Adder	0.72
941321	AE2-126 C	1.5585	Adder	1.83
941322	AE2-126 E	1.0390	Adder	1.22
941421	AE2-139 C	12.4973	Adder	27.74
941422	AE2-139 E	8.3316	Adder	18.49
942351	AE2-248 C	1.3534	Adder	1.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942352	AE2-248 E	0.9023	Adder	1.06
942491	AE2-262 C	7.5144	Adder	8.84
942492	AE2-262 E	5.0497	Adder	5.94
942501	AE2-263 C	7.0636	Adder	8.31
942502	AE2-263 E	4.7161	Adder	5.55
943751	AF1-043	25.0730	Adder	29.5
944001	AF1-068 C O1 (Withdrawn : 12/15/2020)	1.8007	Adder	2.12
944002	AF1-068 E O1 (Withdrawn : 12/15/2020)	1.0129	Adder	1.19
944311	AF1-099 C	11.4069	Adder	13.42
944312	AF1-099 E	7.6046	Adder	8.95
944321	AF1-100 C	22.0932	Adder	25.99
944322	AF1-100 E	14.7288	Adder	17.33
944411	AF1-106 O1	6.7964	Adder	8.0
944471	AF1-112 C	1.6948	Adder	1.99
944472	AF1-112 E	1.1299	Adder	1.33
944671	AF1-132 C O1 (Withdrawn : 12/15/2020)	1.6863	Adder	1.98
944672	AF1-132 E O1 (Withdrawn : 12/15/2020)	1.1242	Adder	1.32
944771	AF1-142 C	18.2510	Adder	21.47
944772	AF1-142 E	12.1674	Adder	14.31
944881	AF1-153 C O1	1.5234	Adder	1.79
944882	AF1-153 E O1	1.0156	Adder	1.19
944901	AF1-155 C	1.5163	Adder	1.78
944902	AF1-155 E	1.0109	Adder	1.19
945491	AF1-214 C (Withdrawn : 12/03/2020)	1.7073	Adder	2.01
945492	AF1-214 E (Withdrawn : 12/03/2020)	1.1382	Adder	1.34
946111	AF1-276 C	8.9560	Adder	10.54
946112	AF1-276 E	4.4111	Adder	5.19
946121	AF1-277 C	8.9560	Adder	10.54
946122	AF1-277 E	4.4111	Adder	5.19
946131	AF1-278 C	7.1434	Adder	8.4
946132	AF1-278 E	3.5503	Adder	4.18
946211	AF1-286 C	2.7526	Adder	3.24
946212	AF1-286 E	1.8690	Adder	2.2
946421	AF1-306 C	6.6583	Adder	7.83
946422	AF1-306 E	26.6331	Adder	31.33
957451	AF2-039 C	1.0167	Adder	1.2
957452	AF2-039 E	0.6778	Adder	0.8
957941	AF2-088 C	0.4895	Adder	0.58
957942	AF2-088 E	0.3264	Adder	0.38
959061	AF2-197 C O1	16.1154	Adder	18.96
959062	AF2-197 E O1	28.4389	50/50	28.4389
959471	AF2-238 C	3.9342	Adder	4.63
959472	AF2-238 E	2.6228	Adder	3.09
959481	AF2-239 C	5.3434	50/50	5.3434
959482	AF2-239 E	4.2844	50/50	4.2844

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959491	AF2-240 C	1.2845	Adder	1.51
959492	AF2-240 E	1.0942	Adder	1.29
959501	AF2-241 C	3.8400	Adder	4.52
959502	AF2-241 E	2.9564	Adder	3.48
959741	AF2-265 C	2.8195	Adder	3.32
959742	AF2-265 E	2.0983	Adder	2.47
960022	AF2-293 E	0.1662	Adder	0.2
960031	AF2-294 C	4.5457	Adder	5.35
960032	AF2-294 E	3.0305	Adder	3.57
960041	AF2-295 C	1.5163	Adder	1.78
960042	AF2-295 E	1.0109	Adder	1.19
960271	AF2-318 C	5.7767	50/50	5.7767
960272	AF2-318 E	3.8511	50/50	3.8511
961141	AF2-405	3.3982	Adder	4.0
961151	AF2-406	25.4866	Adder	29.98
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	78.5706	Adder	92.44
961211	AF2-412	36.8849	Adder	43.39
961451	AF2-436	0.7940	50/50	0.7940
961461	AF2-437	0.1615	50/50	0.1615
962411	AG1-090 C O2	4.4681	Adder	9.92
962412	AG1-090 E O2	2.9787	Adder	6.61
963571	AG1-206 C	0.4512	Adder	1.0
963572	AG1-206 E	0.2429	Adder	0.54
963941	AG1-247 C	0.8825	Adder	1.96
963942	AG1-247 E	0.4683	Adder	1.04
964031	AG1-257 C	0.6222	Adder	1.38
964032	AG1-257 E	0.8696	Adder	1.93
964041	AG1-258 C	0.6222	Adder	1.38
964042	AG1-258 E	0.8696	Adder	1.93
964701	AG1-333 C	0.8834	Adder	1.96
964702	AG1-333 E	0.1205	Adder	0.27
965201	AG1-385 C	1.0382	Adder	2.3
965202	AG1-385 E	0.3075	Adder	0.68
965241	AG1-389 C O1	1.3503	Adder	3.0
965242	AG1-389 E O1	0.9002	Adder	2.0
965251	AG1-390 C O2	1.3470	Adder	2.99
965252	AG1-390 E O2	0.8980	Adder	1.99
965261	AG1-391 C O1	1.3503	Adder	3.0
965262	AG1-391 E O1	0.9002	Adder	2.0
965271	AG1-392 C O1	2.7005	Adder	5.99
965272	AG1-392 E O1	1.8003	Adder	4.0
966041	AG1-473 C	2.2613	Adder	5.02
966042	AG1-473 E	1.5075	Adder	3.35
WEC	WEC	0.5172	Confirmed LTF	0.5172
LGEE	LGEE	0.9940	Confirmed LTF	0.9940
CPL	CPL	0.5992	Confirmed LTF	0.5992
CBM-W2	CBM-W2	13.2608	Confirmed LTF	13.2608
TVA	TVA	1.9376	Confirmed LTF	1.9376
O-066	O-066	37.4255	Confirmed LTF	37.4255
SIGE	SIGE	0.7496	Confirmed LTF	0.7496
CBM-S2	CBM-S2	10.7636	Confirmed LTF	10.7636

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-S1	CBM-S1	0.5396	Confirmed LTF	0.5396
G-007	G-007	5.4621	Confirmed LTF	5.4621
MEC	MEC	2.5186	Confirmed LTF	2.5186
LAGN	LAGN	2.4553	Confirmed LTF	2.4553
CBM-W1	CBM-W1	24.0864	Confirmed LTF	24.0864

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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
165074027	200769	26HOMER CY	PENELEC	999325	26HOMER CT	PENELEC	S	PN-P2-2-PN-230-001T	bus	827.0	150.97	151.55	DC	10.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	6.6102	Adder	7.78
200829	26HNSMLK 2	2.2196	50/50	2.2196
200830	26HNSMLK 3	2.2196	50/50	2.2196
200831	26HNSMLK 4	2.2196	50/50	2.2196
200832	26HNSMLK 5	2.2196	50/50	2.2196
200835	26ARN_Z1-066	-0.8367	Adder	-0.98
200838	26HOMER C2	49.5163	50/50	49.5163
200839	26HOMER C3	52.4195	50/50	52.4195
200894	26K02	6.6231	Adder	7.79
203932	AA2-133 GEN	2.4885	Adder	2.93
203999	P-047 E	15.7508	Adder	18.53
294573	P-028 E	12.7939	Adder	15.05
915951	Y3-092 FTIR	144.0000	Merchant Transmission	144.0000
916202	Z1-069 E	12.6232	Adder	14.85
917673	Z2-108 BAT	2.2147	Merchant Transmission	2.2147
919201	AA1-144 OP	22.0946	Adder	25.99
920341	AA2-132 (Withdrawn : 12/07/2020)	3.2807	Adder	3.86
921642	AA2-000	46.4114	Adder	54.6
930511	AB2-092	1.7041	Adder	2.0
931092	AB1-160 E	3.6066	Adder	4.24
936421	AD2-055	3.5084	Adder	4.13
938352	AE1-053 BAT	1.2304	Merchant Transmission	1.2304
938951	AE1-123	1.8975	Adder	2.23
939291	AE1-160 C	1.6649	Adder	1.96
939292	AE1-160 E	0.9570	Adder	1.13
940861	AE2-074 C	4.0226	50/50	4.0226
940862	AE2-074 E	5.2951	50/50	5.2951
941191	AE2-113 C	11.4753	Adder	13.5
941192	AE2-113 E	12.3552	Adder	14.54
941321	AE2-126 C	1.0857	Adder	1.28
941322	AE2-126 E	0.7238	Adder	0.85
941421	AE2-139 C	4.2742	Adder	9.49
941422	AE2-139 E	2.8494	Adder	6.32
942811	AE2-299 C	4.5854	Adder	5.39
942812	AE2-299 E	18.3415	Adder	21.58
942961	AE2-316 C	5.6883	Adder	6.69
942962	AE2-316 E	8.1115	Adder	9.54
943151	AE2-344 C	9.8225	Adder	11.56
943152	AE2-344 E	6.5483	Adder	7.7
943351	AF1-006 C	1.7032	Adder	2.0

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943352	AF1-006 E	0.9580	Adder	1.13
943751	AF1-043	10.5253	Adder	12.38
944261	AF1-094 C	1.6151	Adder	1.9
944262	AF1-094 E	1.0767	Adder	1.27
944281	AF1-096 C	1.5731	Adder	1.85
944282	AF1-096 E	1.0488	Adder	1.23
944301	AF1-098 C	6.8250	Adder	8.03
944302	AF1-098 E	4.5500	Adder	5.35
944321	AF1-100 C	11.3309	Adder	13.33
944322	AF1-100 E	7.5539	Adder	8.89
944381	AF1-103 O1	3.2387	Adder	3.81
944391	AF1-104 O1	2.5471	Adder	3.0
944411	AF1-106 O1	3.5788	Adder	4.21
944751	AF1-140 C	-1.1169	Adder	-1.31
944881	AF1-153 C O1	1.3182	Adder	1.55
944882	AF1-153 E O1	0.8788	Adder	1.03
944901	AF1-155 C	1.3227	Adder	1.56
944902	AF1-155 E	0.8818	Adder	1.04
945021	AF1-167 C	1.0283	Adder	1.21
945022	AF1-167 E	0.6868	Adder	0.81
945051	AF1-170 C	6.3477	Adder	7.47
945052	AF1-170 E	4.2318	Adder	4.98
945451	AF1-210 C	1.1628	Adder	1.37
945452	AF1-210 E	0.7752	Adder	0.91
945673	AF1-232 BAT (Withdrawn : 01/19/2021)	2.8766	Merchant Transmission	2.8766
946111	AF1-276 C	17.9232	50/50	17.9232
946112	AF1-276 E	8.8278	50/50	8.8278
946121	AF1-277 C	17.9232	50/50	17.9232
946122	AF1-277 E	8.8278	50/50	8.8278
946131	AF1-278 C	14.2957	50/50	14.2957
946132	AF1-278 E	7.1051	50/50	7.1051
946211	AF1-286 C	1.4494	Adder	1.71
946212	AF1-286 E	0.9842	Adder	1.16
946221	AF1-287 C	1.6941	Adder	1.99
946222	AF1-287 E	1.1294	Adder	1.33
946381	AF1-302 C	2.4840	Adder	2.92
946382	AF1-302 E	3.3119	Adder	3.9
946401	AF1-304 C	7.7852	Adder	9.16
946402	AF1-304 E	5.1901	Adder	6.11
946421	AF1-306 C	5.4330	Adder	6.39
946422	AF1-306 E	21.7319	Adder	25.57
946771	AF1-217 C	1.6942	Adder	1.99
946772	AF1-217 E	1.1295	Adder	1.33
957161	AF2-010 C	6.1837	Adder	7.27
957162	AF2-010 E	4.1673	Adder	4.9
957513	AF2-045 BAT	2.4860	Merchant Transmission	2.4860
957571	AF2-051 C	5.2341	Adder	6.16
957572	AF2-051 E	2.6964	Adder	3.17
957931	AF2-087 C (Suspended)	-0.2640	Adder	-0.31
958361	AF2-130 C	1.4037	Adder	1.65
958362	AF2-130 E	0.9358	Adder	1.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958472	AF2-141 BAT	2.4608	Merchant Transmission	2.4608
958731	AF2-164 C O1	10.7292	Adder	12.62
958732	AF2-164 E O1	7.1528	Adder	8.42
958741	AF2-165 C	1.5827	Adder	1.86
958742	AF2-165 E	1.0552	Adder	1.24
958751	AF2-166 C	1.4037	Adder	1.65
958752	AF2-166 E	0.9358	Adder	1.1
959061	AF2-197 C O1	5.8053	Adder	6.83
959062	AF2-197 E O1	8.7080	Adder	10.24
959441	AF2-235 C	0.7866	Adder	0.93
959442	AF2-235 E	0.5244	Adder	0.62
959471	AF2-238 C	2.1677	Adder	2.55
959472	AF2-238 E	1.4451	Adder	1.7
959481	AF2-239 C	1.5587	Adder	1.83
959482	AF2-239 E	1.2497	Adder	1.47
959491	AF2-240 C	0.6764	Adder	0.8
959492	AF2-240 E	0.5762	Adder	0.68
959501	AF2-241 C	2.0220	Adder	2.38
959502	AF2-241 E	1.5568	Adder	1.83
959521	AF2-243 C	1.1871	Adder	1.4
959522	AF2-243 E	0.7914	Adder	0.93
959741	AF2-265 C	1.5535	Adder	1.83
959742	AF2-265 E	1.1561	Adder	1.36
959793	AF2-270 BAT	0.2157	Merchant Transmission	0.2157
959822	AF2-273 E	0.4605	Adder	0.54
960031	AF2-294 C	1.9783	Adder	2.33
960032	AF2-294 E	1.3189	Adder	1.55
960041	AF2-295 C	1.3227	Adder	1.56
960042	AF2-295 E	0.8818	Adder	1.04
960271	AF2-318 C	1.6850	Adder	1.98
960272	AF2-318 E	1.1234	Adder	1.32
960891	AF2-380 C	0.7492	Adder	0.88
960892	AF2-380 E	0.4995	Adder	0.59
961141	AF2-405	1.7894	Adder	2.11
961151	AF2-406	13.4206	Adder	15.79
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	85.5300	50/50	85.5300
961211	AF2-412	28.2062	Adder	33.18
961451	AF2-436	0.1877	Adder	0.22
961971	AG1-040 C	0.9429	Adder	2.09
961972	AG1-040 E	0.6286	Adder	1.4
962511	AG1-100 C	0.8989	Adder	2.0
962512	AG1-100 E	0.5993	Adder	1.33
962642	AG1-113 BAT	0.6861	Merchant Transmission	0.6861
962652	AG1-114 BAT	0.6521	Merchant Transmission	0.6521
962891	AG1-138 C	0.2945	Adder	0.65
962892	AG1-138 E	0.0155	Adder	0.03
962901	AG1-139 C	0.3320	Adder	0.74
962902	AG1-139 E	0.0175	Adder	0.04
962911	AG1-140 C	0.1367	Adder	0.3
962912	AG1-140 E	0.0623	Adder	0.14
963281	AG1-177 C O2	0.8979	Adder	1.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O2	0.5986	Adder	1.33
963441	AG1-193 C	0.9864	Adder	2.19
963442	AG1-193 E	0.6576	Adder	1.46
963481	AG1-197 C	0.7148	Adder	1.59
963482	AG1-197 E	0.4765	Adder	1.06
963491	AG1-198 C	0.5136	Adder	1.14
963492	AG1-198 E	0.3424	Adder	0.76
963531	AG1-202 C	0.4684	Adder	1.04
963532	AG1-202 E	0.2413	Adder	0.54
963571	AG1-206 C	0.3468	Adder	0.77
963572	AG1-206 E	0.1868	Adder	0.41
963941	AG1-247 C	0.4647	Adder	1.03
963942	AG1-247 E	0.2466	Adder	0.55
963991	AG1-253 C	0.2051	Adder	0.46
963992	AG1-253 E	0.0987	Adder	0.22
964341	AG1-296 C	0.5006	Adder	1.11
964342	AG1-296 E	0.2695	Adder	0.6
964411	AG1-303 C O2	2.2291	Adder	4.95
964412	AG1-303 E O2	1.4861	Adder	3.3
964701	AG1-333 C	0.3844	Adder	0.85
964702	AG1-333 E	0.0524	Adder	0.12
964753	AG1-338 BAT	0.3233	Merchant Transmission	0.3233
964763	AG1-339 BAT	0.3233	Merchant Transmission	0.3233
964773	AG1-340 BAT	0.3233	Merchant Transmission	0.3233
965201	AG1-385 C	0.8984	Adder	1.99
965202	AG1-385 E	0.2661	Adder	0.59
965241	AG1-389 C O1	1.4215	Adder	3.16
965242	AG1-389 E O1	0.9476	Adder	2.1
965251	AG1-390 C O2	3.1560	50/50	3.1560
965252	AG1-390 E O2	2.1040	50/50	2.1040
965261	AG1-391 C O1	1.4215	Adder	3.16
965262	AG1-391 E O1	0.9476	Adder	2.1
965271	AG1-392 C O1	2.8429	Adder	6.31
965272	AG1-392 E O1	1.8953	Adder	4.21
965861	AG1-455	2.5323	Adder	5.62
966121	AG1-481	1.3329	Adder	2.96
966771	AG1-548 C	8.2177	Adder	18.24
966772	AG1-548 E	2.5010	Adder	5.55
966783	AG1-549 BAT	1.9876	Merchant Transmission	1.9876
WEC	WEC	0.0986	Confirmed LTF	0.0986
LGEE	LGEE	0.1269	Confirmed LTF	0.1269
CALDERWOOD	CALDERWOOD	0.0432	Confirmed LTF	0.0432
CBM-W2	CBM-W2	1.0573	Confirmed LTF	1.0573
TVA	TVA	0.0112	Confirmed LTF	0.0112
O-066	O-066	5.2427	Confirmed LTF	5.2427
SIGE	SIGE	0.1041	Confirmed LTF	0.1041
CHEOAH	CHEOAH	0.0470	Confirmed LTF	0.0470
CBM-S1	CBM-S1	0.0163	Confirmed LTF	0.0163
G-007	G-007	0.9418	Confirmed LTF	0.9418
HAMLET	HAMLET	0.2339	Confirmed LTF	0.2339
MEC	MEC	0.3861	Confirmed LTF	0.3861
LAGN	LAGN	0.0630	Confirmed LTF	0.0630

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1085	Confirmed LTF	0.1085
CBM-W1	CBM-W1	6.4772	Confirmed LTF	6.4772

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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
165074057	200769	26HOMER CY	PENELEC	999324	26HOMER CT	PENELEC	N	PN-P2-2-PN-345-002T	bus	854.0	144.33	144.89	DC	10.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	6.5754	Adder	7.74
200829	26HNSMLK 2	2.2076	50/50	2.2076
200830	26HNSMLK 3	2.2076	50/50	2.2076
200831	26HNSMLK 4	2.2076	50/50	2.2076
200832	26HNSMLK 5	2.2076	50/50	2.2076
200835	26ARN_Z1-066	-0.8316	Adder	-0.98
200838	26HOMER C2	49.2411	50/50	49.2411
200839	26HOMER C3	52.1282	50/50	52.1282
200894	26K02	6.5883	Adder	7.75
203932	AA2-133 GEN	2.4753	Adder	2.91
203999	P-047 E	15.6652	Adder	18.43
294573	P-028 E	12.7265	Adder	14.97
915951	Y3-092 FTIR	143.2300	Merchant Transmission	143.2300
916202	Z1-069 E	12.5548	Adder	14.77
917673	Z2-108 BAT	2.2012	Merchant Transmission	2.2012
919201	AA1-144 OP	21.9768	Adder	25.86
920341	AA2-132 (Withdrawn : 12/07/2020)	3.2631	Adder	3.84
921642	AA2-000	46.1713	Adder	54.32
930511	AB2-092	1.6953	Adder	1.99
931092	AB1-160 E	3.5871	Adder	4.22
936421	AD2-055	3.4903	Adder	4.11
938352	AE1-053 BAT	1.2229	Merchant Transmission	1.2229
938951	AE1-123	1.8876	Adder	2.22
939291	AE1-160 C	1.6561	Adder	1.95
939292	AE1-160 E	0.9519	Adder	1.12
940861	AE2-074 C	4.0007	50/50	4.0007
940862	AE2-074 E	5.2663	50/50	5.2663
941191	AE2-113 C	11.4130	Adder	13.43
941192	AE2-113 E	12.2881	Adder	14.46
941321	AE2-126 C	1.0801	Adder	1.27
941322	AE2-126 E	0.7201	Adder	0.85
941421	AE2-139 C	4.2516	Adder	9.44
941422	AE2-139 E	2.8344	Adder	6.29
942811	AE2-299 C	4.5609	Adder	5.37
942812	AE2-299 E	18.2436	Adder	21.46
942961	AE2-316 C	5.6581	Adder	6.66
942962	AE2-316 E	8.0685	Adder	9.49
943151	AE2-344 C	9.7702	Adder	11.49
943152	AE2-344 E	6.5135	Adder	7.66
943351	AF1-006 C	1.6941	Adder	1.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943352	AF1-006 E	0.9529	Adder	1.12
943751	AF1-043	10.4708	Adder	12.32
944261	AF1-094 C	1.6065	Adder	1.89
944262	AF1-094 E	1.0710	Adder	1.26
944281	AF1-096 C	1.5648	Adder	1.84
944282	AF1-096 E	1.0432	Adder	1.23
944301	AF1-098 C	6.7887	Adder	7.99
944302	AF1-098 E	4.5258	Adder	5.32
944321	AF1-100 C	11.2736	Adder	13.26
944322	AF1-100 E	7.5157	Adder	8.84
944381	AF1-103 O1	3.2213	Adder	3.79
944391	AF1-104 O1	2.5337	Adder	2.98
944411	AF1-106 O1	3.5595	Adder	4.19
944751	AF1-140 C	-1.1101	Adder	-1.31
944881	AF1-153 C O1	1.3113	Adder	1.54
944882	AF1-153 E O1	0.8742	Adder	1.03
944901	AF1-155 C	1.3158	Adder	1.55
944902	AF1-155 E	0.8772	Adder	1.03
945021	AF1-167 C	1.0229	Adder	1.2
945022	AF1-167 E	0.6832	Adder	0.8
945051	AF1-170 C	6.3141	Adder	7.43
945052	AF1-170 E	4.2094	Adder	4.95
945451	AF1-210 C	1.1567	Adder	1.36
945452	AF1-210 E	0.7711	Adder	0.91
945673	AF1-232 BAT (Withdrawn : 01/19/2021)	2.8594	Merchant Transmission	2.8594
946111	AF1-276 C	17.8260	50/50	17.8260
946112	AF1-276 E	8.7800	50/50	8.7800
946121	AF1-277 C	17.8260	50/50	17.8260
946122	AF1-277 E	8.7800	50/50	8.7800
946131	AF1-278 C	14.2182	50/50	14.2182
946132	AF1-278 E	7.0666	50/50	7.0666
946211	AF1-286 C	1.4416	Adder	1.7
946212	AF1-286 E	0.9789	Adder	1.15
946221	AF1-287 C	1.6851	Adder	1.98
946222	AF1-287 E	1.1234	Adder	1.32
946381	AF1-302 C	2.4708	Adder	2.91
946382	AF1-302 E	3.2944	Adder	3.88
946401	AF1-304 C	7.7438	Adder	9.11
946402	AF1-304 E	5.1626	Adder	6.07
946421	AF1-306 C	5.4045	Adder	6.36
946422	AF1-306 E	21.6180	Adder	25.43
946771	AF1-217 C	1.6851	Adder	1.98
946772	AF1-217 E	1.1234	Adder	1.32
957161	AF2-010 C	6.1504	Adder	7.24
957162	AF2-010 E	4.1449	Adder	4.88
957513	AF2-045 BAT	2.4710	Merchant Transmission	2.4710
957571	AF2-051 C	5.2061	Adder	6.12
957572	AF2-051 E	2.6819	Adder	3.16
957931	AF2-087 C (Suspended)	-0.2624	Adder	-0.31
958361	AF2-130 C	1.3964	Adder	1.64
958362	AF2-130 E	0.9309	Adder	1.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958472	AF2-141 BAT	2.4458	Merchant Transmission	2.4458
958731	AF2-164 C O1	10.6708	Adder	12.55
958732	AF2-164 E O1	7.1139	Adder	8.37
958741	AF2-165 C	1.5743	Adder	1.85
958742	AF2-165 E	1.0495	Adder	1.23
958751	AF2-166 C	1.3964	Adder	1.64
958752	AF2-166 E	0.9309	Adder	1.1
959061	AF2-197 C O1	5.7745	Adder	6.79
959062	AF2-197 E O1	8.6617	Adder	10.19
959441	AF2-235 C	0.7824	Adder	0.92
959442	AF2-235 E	0.5216	Adder	0.61
959471	AF2-238 C	2.1560	Adder	2.54
959472	AF2-238 E	1.4373	Adder	1.69
959481	AF2-239 C	1.5504	Adder	1.82
959482	AF2-239 E	1.2431	Adder	1.46
959491	AF2-240 C	0.6727	Adder	0.79
959492	AF2-240 E	0.5731	Adder	0.67
959501	AF2-241 C	2.0111	Adder	2.37
959502	AF2-241 E	1.5484	Adder	1.82
959521	AF2-243 C	1.1807	Adder	1.39
959522	AF2-243 E	0.7871	Adder	0.93
959741	AF2-265 C	1.5451	Adder	1.82
959742	AF2-265 E	1.1499	Adder	1.35
959793	AF2-270 BAT	0.2144	Merchant Transmission	0.2144
959822	AF2-273 E	0.4581	Adder	0.54
960031	AF2-294 C	1.9677	Adder	2.31
960032	AF2-294 E	1.3118	Adder	1.54
960041	AF2-295 C	1.3158	Adder	1.55
960042	AF2-295 E	0.8772	Adder	1.03
960271	AF2-318 C	1.6761	Adder	1.97
960272	AF2-318 E	1.1174	Adder	1.31
960891	AF2-380 C	0.7454	Adder	0.88
960892	AF2-380 E	0.4969	Adder	0.58
961141	AF2-405	1.7797	Adder	2.09
961151	AF2-406	13.3480	Adder	15.7
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	85.0620	50/50	85.0620
961211	AF2-412	28.0526	Adder	33.0
961451	AF2-436	0.1867	Adder	0.22
961971	AG1-040 C	0.9378	Adder	2.08
961972	AG1-040 E	0.6252	Adder	1.39
962511	AG1-100 C	0.8941	Adder	1.98
962512	AG1-100 E	0.5961	Adder	1.32
962642	AG1-113 BAT	0.6820	Merchant Transmission	0.6820
962652	AG1-114 BAT	0.6481	Merchant Transmission	0.6481
962891	AG1-138 C	0.2929	Adder	0.65
962892	AG1-138 E	0.0154	Adder	0.03
962901	AG1-139 C	0.3303	Adder	0.73
962902	AG1-139 E	0.0174	Adder	0.04
962911	AG1-140 C	0.1360	Adder	0.3
962912	AG1-140 E	0.0619	Adder	0.14
963281	AG1-177 C O2	0.8931	Adder	1.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O2	0.5954	Adder	1.32
963441	AG1-193 C	0.9811	Adder	2.18
963442	AG1-193 E	0.6541	Adder	1.45
963481	AG1-197 C	0.7110	Adder	1.58
963482	AG1-197 E	0.4740	Adder	1.05
963491	AG1-198 C	0.5109	Adder	1.13
963492	AG1-198 E	0.3406	Adder	0.76
963531	AG1-202 C	0.4659	Adder	1.03
963532	AG1-202 E	0.2400	Adder	0.53
963571	AG1-206 C	0.3450	Adder	0.77
963572	AG1-206 E	0.1858	Adder	0.41
963941	AG1-247 C	0.4622	Adder	1.03
963942	AG1-247 E	0.2452	Adder	0.54
963991	AG1-253 C	0.2040	Adder	0.45
963992	AG1-253 E	0.0982	Adder	0.22
964341	AG1-296 C	0.4979	Adder	1.11
964342	AG1-296 E	0.2681	Adder	0.6
964411	AG1-303 C O2	2.2172	Adder	4.92
964412	AG1-303 E O2	1.4782	Adder	3.28
964701	AG1-333 C	0.3824	Adder	0.85
964702	AG1-333 E	0.0521	Adder	0.12
964753	AG1-338 BAT	0.3214	Merchant Transmission	0.3214
964763	AG1-339 BAT	0.3214	Merchant Transmission	0.3214
964773	AG1-340 BAT	0.3214	Merchant Transmission	0.3214
965201	AG1-385 C	0.8936	Adder	1.98
965202	AG1-385 E	0.2647	Adder	0.59
965241	AG1-389 C O1	1.4137	Adder	3.14
965242	AG1-389 E O1	0.9425	Adder	2.09
965251	AG1-390 C O2	3.1388	50/50	3.1388
965252	AG1-390 E O2	2.0926	50/50	2.0926
965261	AG1-391 C O1	1.4137	Adder	3.14
965262	AG1-391 E O1	0.9425	Adder	2.09
965271	AG1-392 C O1	2.8274	Adder	6.28
965272	AG1-392 E O1	1.8850	Adder	4.18
965861	AG1-455	2.5189	Adder	5.59
966121	AG1-481	1.3257	Adder	2.94
966771	AG1-548 C	8.1742	Adder	18.14
966772	AG1-548 E	2.4878	Adder	5.52
966783	AG1-549 BAT	1.9757	Merchant Transmission	1.9757
WEC	WEC	0.0995	Confirmed LTF	0.0995
LGEE	LGEE	0.1294	Confirmed LTF	0.1294
CALDERWOOD	CALDERWOOD	0.0408	Confirmed LTF	0.0408
CBM-W2	CBM-W2	1.0931	Confirmed LTF	1.0931
TVA	TVA	0.0182	Confirmed LTF	0.0182
O-066	O-066	5.1821	Confirmed LTF	5.1821
SIGE	SIGE	0.1035	Confirmed LTF	0.1035
CHEOAH	CHEOAH	0.0445	Confirmed LTF	0.0445
CBM-S1	CBM-S1	0.0182	Confirmed LTF	0.0182
G-007	G-007	0.9314	Confirmed LTF	0.9314
HAMLET	HAMLET	0.2293	Confirmed LTF	0.2293
MEC	MEC	0.3925	Confirmed LTF	0.3925
LAGN	LAGN	0.0718	Confirmed LTF	0.0718

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1061	Confirmed LTF	0.1061
CBM-W1	CBM-W1	6.5053	Confirmed LTF	6.5053

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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
165074002	200924	26CANYON	PENELEC	200706	26N.MESHPN	PENELEC	1	PN-P2-2-PN-230-007T	bus	666.0	168.62	169.1	DC	7.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200894	26K02	17.6960	50/50	17.6960
203283	26MANOR_T86	0.0582	50/50	0.0582
203350	26MILZ1-092	0.8988	50/50	0.8988
203351	26GROZ1-110	1.0826	50/50	1.0826
203352	26CANZ2-011	1.0623	50/50	1.0623
203922	X1-109 G1	24.7826	50/50	24.7826
203923	X1-109 G2	24.7826	50/50	24.7826
203932	AA2-133 GEN	2.1231	Adder	2.5
203999	P-047 E	17.6345	Adder	20.75
235003	AC1-025 E	0.1744	Adder	0.21
236828	01GRAYMONT	0.4701	Adder	0.55
916202	Z1-069 E	8.7970	Adder	10.35
919201	AA1-144 OP	66.0052	50/50	66.0052
921642	AA2-000	92.7912	Adder	109.17
930511	AB2-092	3.4070	Adder	4.01
931092	AB1-160 E	2.5134	Adder	2.96
936421	AD2-055	7.0145	Adder	8.25
938332	AE1-051 BAT	0.9479	Merchant Transmission	0.9479
939171	AE1-147 C	1.4127	Adder	1.66
939172	AE1-147 E	0.9418	Adder	1.11
940201	AE2-001 C	1.4114	Adder	1.66
940202	AE2-001 E	0.9409	Adder	1.11
940681	AE2-055 C (Suspended)	1.3908	Adder	1.64
940682	AE2-055 E (Suspended)	0.9272	Adder	1.09
940861	AE2-074 C	1.9758	Adder	2.32
940862	AE2-074 E	2.6009	Adder	3.06
941191	AE2-113 C	6.5799	Adder	7.74
941192	AE2-113 E	7.0845	Adder	8.33
941261	AE2-120 C	1.4106	Adder	1.66
941262	AE2-120 E	0.9404	Adder	1.11
941271	AE2-121 C	0.7523	Adder	0.89
941272	AE2-121 E	0.5023	Adder	0.59
941321	AE2-126 C	1.2282	Adder	1.44
941322	AE2-126 E	0.8188	Adder	0.96
941331	AE2-129 C	1.0121	Adder	1.19
941332	AE2-129 E	0.6748	Adder	0.79
941351	AE2-131 C (Suspended)	1.0121	Adder	1.19
941352	AE2-131 E (Suspended)	0.6748	Adder	0.79
941421	AE2-139 C	23.8022	50/50	23.8022
941422	AE2-139 E	15.8681	50/50	15.8681
942351	AE2-248 C	1.1195	Adder	1.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942352	AE2-248 E	0.7463	Adder	0.88
942491	AE2-262 C	6.1710	Adder	7.26
942492	AE2-262 E	4.1469	Adder	4.88
942501	AE2-263 C	5.8007	Adder	6.82
942502	AE2-263 E	3.8729	Adder	4.56
942961	AE2-316 C	3.3408	Adder	3.93
942962	AE2-316 E	4.7640	Adder	5.6
943751	AF1-043	21.0434	Adder	24.76
944001	AF1-068 C O1 (Withdrawn : 12/15/2020)	1.4899	Adder	1.75
944002	AF1-068 E O1 (Withdrawn : 12/15/2020)	0.8381	Adder	0.99
944311	AF1-099 C	9.3676	Adder	11.02
944312	AF1-099 E	6.2451	Adder	7.35
944321	AF1-100 C	17.9903	Adder	21.17
944322	AF1-100 E	11.9935	Adder	14.11
944381	AF1-103 O1	1.6097	Adder	1.89
944411	AF1-106 O1	5.4258	50/50	5.4258
944471	AF1-112 C	1.4016	Adder	1.65
944472	AF1-112 E	0.9344	Adder	1.1
944671	AF1-132 C O1 (Withdrawn : 12/15/2020)	1.3953	Adder	1.64
944672	AF1-132 E O1 (Withdrawn : 12/15/2020)	0.9302	Adder	1.09
944691	AF1-134 C	0.9284	Adder	1.09
944692	AF1-134 E	0.6189	Adder	0.73
944771	AF1-142 C	14.9881	Adder	17.63
944772	AF1-142 E	9.9921	Adder	11.76
944881	AF1-153 C O1	1.2104	Adder	1.42
944882	AF1-153 E O1	0.8070	Adder	0.95
944901	AF1-155 C	1.2043	Adder	1.42
944902	AF1-155 E	0.8029	Adder	0.94
945491	AF1-214 C (Withdrawn : 12/03/2020)	1.4107	Adder	1.66
945492	AF1-214 E (Withdrawn : 12/03/2020)	0.9404	Adder	1.11
946111	AF1-276 C	6.4479	Adder	7.59
946112	AF1-276 E	3.1758	Adder	3.74
946121	AF1-277 C	6.4479	Adder	7.59
946122	AF1-277 E	3.1758	Adder	3.74
946131	AF1-278 C	5.1429	Adder	6.05
946132	AF1-278 E	2.5561	Adder	3.01
946211	AF1-286 C	2.1974	50/50	2.1974
946212	AF1-286 E	1.4921	50/50	1.4921
946381	AF1-302 C	1.4589	Adder	1.72
946382	AF1-302 E	1.9451	Adder	2.29
946421	AF1-306 C	5.2880	Adder	6.22
946422	AF1-306 E	21.1520	Adder	24.88
957451	AF2-039 C	0.8155	Adder	0.96
957452	AF2-039 E	0.5436	Adder	0.64
957941	AF2-088 C	0.3926	Adder	0.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957942	AF2-088 E	0.2618	Adder	0.31
958271	AF2-121 C	1.0121	Adder	1.19
958272	AF2-121 E	0.6748	Adder	0.79
959061	AF2-197 C O1	12.9326	50/50	12.9326
959062	AF2-197 E O1	19.3990	50/50	19.3990
959471	AF2-238 C	3.3199	50/50	3.3199
959472	AF2-238 E	2.2133	50/50	2.2133
959481	AF2-239 C	3.1511	50/50	3.1511
959482	AF2-239 E	2.5265	50/50	2.5265
959491	AF2-240 C	1.0255	50/50	1.0255
959492	AF2-240 E	0.8736	50/50	0.8736
959501	AF2-241 C	3.0656	50/50	3.0656
959502	AF2-241 E	2.3602	50/50	2.3602
959741	AF2-265 C	2.3793	50/50	2.3793
959742	AF2-265 E	1.7706	50/50	1.7706
959913	AF2-282 BAT	0.1422	Merchant Transmission	0.1422
959923	AF2-283 BAT	0.1422	Merchant Transmission	0.1422
960022	AF2-293 E	0.1373	Adder	0.16
960041	AF2-295 C	1.2043	Adder	1.42
960042	AF2-295 E	0.8029	Adder	0.94
960051	AF2-296 C	0.9284	Adder	1.09
960052	AF2-296 E	0.6189	Adder	0.73
960271	AF2-318 C	3.4066	50/50	3.4066
960272	AF2-318 E	2.2710	50/50	2.2710
961141	AF2-405	2.7129	50/50	2.7129
961151	AF2-406	20.3468	50/50	20.3468
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	54.2028	Adder	63.77
961211	AF2-412	25.5929	Adder	30.11
961451	AF2-436	0.1601	Adder	0.19
962411	AG1-090 C O2	3.6774	Adder	8.16
962412	AG1-090 E O2	2.4516	Adder	5.44
962951	AG1-144 C	0.5364	Adder	1.19
962952	AG1-144 E	0.3576	Adder	0.79
963571	AG1-206 C	0.3540	Adder	0.79
963572	AG1-206 E	0.1906	Adder	0.42
963891	AG1-242 C	0.2665	Adder	0.59
963892	AG1-242 E	0.1435	Adder	0.32
963941	AG1-247 C	1.3293	50/50	1.3293
963942	AG1-247 E	0.7054	50/50	0.7054
964031	AG1-257 C	0.5145	Adder	1.14
964032	AG1-257 E	0.7190	Adder	1.6
964041	AG1-258 C	0.5145	Adder	1.14
964042	AG1-258 E	0.7190	Adder	1.6
964341	AG1-296 C	0.2583	Adder	0.57
964342	AG1-296 E	0.1391	Adder	0.31
964451	AG1-308 C O2	0.3710	Adder	0.82
964452	AG1-308 E O2	0.5186	Adder	1.15
965121	AG1-377 C O1	0.5364	Adder	1.19
965122	AG1-377 E O1	0.3576	Adder	0.79
965131	AG1-378 C O1	0.5364	Adder	1.19
965132	AG1-378 E O1	0.3576	Adder	0.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965201	AG1-385 C	0.8249	Adder	1.83
965202	AG1-385 E	0.2443	Adder	0.54
965241	AG1-389 C O1	0.9501	Adder	2.11
965242	AG1-389 E O1	0.6334	Adder	1.41
965251	AG1-390 C O2	0.9478	Adder	2.1
965252	AG1-390 E O2	0.6319	Adder	1.4
965261	AG1-391 C O1	0.9501	Adder	2.11
965262	AG1-391 E O1	0.6334	Adder	1.41
965271	AG1-392 C O1	1.9001	Adder	4.22
965272	AG1-392 E O1	1.2667	Adder	2.81
965301	AG1-395 C	0.6893	Adder	1.53
965302	AG1-395 E	0.2047	Adder	0.45
966041	AG1-473 C	1.8943	Adder	4.2
966042	AG1-473 E	1.2629	Adder	2.8
966121	AG1-481	0.6625	Adder	1.47
WEC	WEC	0.3758	Confirmed LTF	0.3758
LGEE	LGEE	0.7219	Confirmed LTF	0.7219
CPL	CPL	0.4368	Confirmed LTF	0.4368
CBM-W2	CBM-W2	9.6410	Confirmed LTF	9.6410
TVA	TVA	1.4084	Confirmed LTF	1.4084
O-066	O-066	27.0075	Confirmed LTF	27.0075
SIGE	SIGE	0.5418	Confirmed LTF	0.5418
CBM-S2	CBM-S2	7.8300	Confirmed LTF	7.8300
CBM-S1	CBM-S1	0.3922	Confirmed LTF	0.3922
G-007	G-007	3.9427	Confirmed LTF	3.9427
MEC	MEC	1.8289	Confirmed LTF	1.8289
LAGN	LAGN	1.7850	Confirmed LTF	1.7850
CBM-W1	CBM-W1	17.4970	Confirmed LTF	17.4970

13.5.13 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
166020226	200927	26FOURMILE	PENELEC	200820	26ERIE SE	PENELEC	1	PN-P2-3-PN-230-6G	breaker	245.0	143.0	143.47	DC	2.56

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200642	26SENECA#1	3.8734	50/50	3.8734
200643	26SENECA#2	3.6582	50/50	3.6582
200644	26SENECA#3	0.3997	50/50	0.3997
201201	26WRREN CT	1.3722	50/50	1.3722
203999	P-047 E	3.5684	Adder	4.2
915952	Y3-092 NFTWR	51.9200	Merchant Transmission	51.9200
916202	Z1-069 E	3.0218	Adder	3.56
920341	AA2-132 (Withdrawn : 12/07/2020)	0.9483	Adder	1.12
923821	AB2-019 FTWR	1.4538	Merchant Transmission	1.4538
931092	AB1-160 E	0.8634	Adder	1.02
940861	AE2-074 C	0.8692	Adder	1.02
940862	AE2-074 E	1.1442	Adder	1.35
941191	AE2-113 C	3.5512	Adder	4.18
941192	AE2-113 E	3.8235	Adder	4.5
942811	AE2-299 C	13.8259	50/50	13.8259
942812	AE2-299 E	55.3037	50/50	55.3037
944301	AF1-098 C	21.7925	50/50	21.7925
944302	AF1-098 E	14.5283	50/50	14.5283
944381	AF1-103 O1	3.0518	50/50	3.0518
944392	AF1-104 BAT	1.0814	Merchant Transmission	1.0814
944411	AF1-106 O1	0.9938	Adder	1.17
945121	AF1-177	0.1204	50/50	0.1204
946111	AF1-276 C	4.8134	Adder	5.66
946112	AF1-276 E	2.3708	Adder	2.79
946121	AF1-277 C	4.8134	Adder	5.66
946122	AF1-277 E	2.3708	Adder	2.79
946131	AF1-278 C	3.8392	Adder	4.52
946132	AF1-278 E	1.9081	Adder	2.24
946211	AF1-286 C	0.4025	Adder	0.47
946212	AF1-286 E	0.2733	Adder	0.32
946403	AF1-304 BAT	5.2490	Merchant Transmission	5.2490
946421	AF1-306 C	2.1904	Adder	2.58
946422	AF1-306 E	8.7615	Adder	10.31
959471	AF2-238 C	0.5178	Adder	0.61
959472	AF2-238 E	0.3452	Adder	0.41
959491	AF2-240 C	0.1878	Adder	0.22
959492	AF2-240 E	0.1600	Adder	0.19
959501	AF2-241 C	0.5615	Adder	0.66
959502	AF2-241 E	0.4323	Adder	0.51
959741	AF2-265 C	0.3711	Adder	0.44
959742	AF2-265 E	0.2761	Adder	0.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960031	AF2-294 C	0.5718	Adder	0.67
960032	AF2-294 E	0.3812	Adder	0.45
961141	AF2-405	0.4969	Adder	0.58
961151	AF2-406	3.7268	Adder	4.38
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	13.7981	Adder	16.23
961211	AF2-412	5.9780	Adder	7.03
962911	AG1-140 C	0.7777	50/50	0.7777
962912	AG1-140 E	0.3543	50/50	0.3543
963571	AG1-206 C	0.1516	Adder	0.34
963572	AG1-206 E	0.0816	Adder	0.18
963941	AG1-247 C	0.1290	Adder	0.29
963942	AG1-247 E	0.0685	Adder	0.15
963991	AG1-253 C	1.1666	50/50	1.1666
963992	AG1-253 E	0.5617	50/50	0.5617
964701	AG1-333 C	0.1111	Adder	0.25
964702	AG1-333 E	0.0152	Adder	0.03
965241	AG1-389 C O1	0.3453	Adder	0.77
965242	AG1-389 E O1	0.2302	Adder	0.51
965251	AG1-390 C O2	0.3457	Adder	0.77
965252	AG1-390 E O2	0.2305	Adder	0.51
965261	AG1-391 C O1	0.3453	Adder	0.77
965262	AG1-391 E O1	0.2302	Adder	0.51
965271	AG1-392 C O1	0.6907	Adder	1.53
965272	AG1-392 E O1	0.4604	Adder	1.02
965862	AG1-455 BAT	1.6163	Merchant Transmission	1.6163
966121	AG1-481	2.3697	50/50	2.3697
966773	AG1-548 BAT	3.7852	50/50	3.7852
G-007A	G-007A	2.0139	Confirmed LTF	2.0139
VFT	VFT	5.5664	Confirmed LTF	5.5664
CALDERWOOD	CALDERWOOD	0.2326	Confirmed LTF	0.2326
PRAIRIE	PRAIRIE	1.4749	Confirmed LTF	1.4749
CHEOAH	CHEOAH	0.2327	Confirmed LTF	0.2327
CBM-N	CBM-N	1.1100	Confirmed LTF	1.1100
COTTONWOOD	COTTONWOOD	1.0815	Confirmed LTF	1.0815
HAMLET	HAMLET	0.1946	Confirmed LTF	0.1946
GIBSON	GIBSON	0.3238	Confirmed LTF	0.3238
BLUEG	BLUEG	1.0173	Confirmed LTF	1.0173
TRIMBLE	TRIMBLE	0.3267	Confirmed LTF	0.3267
CATAWBA	CATAWBA	0.1323	Confirmed LTF	0.1323

13.5.14 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
166020389	200944	26PIERCEBRK	PENELEC	200668	26FARM VLY	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	245.0	106.25	112.58	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	0.7391	50/50	0.7391
203999	P-047 E	5.0737	Adder	5.97
916202	Z1-069 E	19.9714	50/50	19.9714
931091	AB1-160 C	0.2112	50/50	0.2112
931092	AB1-160 E	5.7061	50/50	5.7061
940861	AE2-074 C	7.5775	50/50	7.5775
940862	AE2-074 E	9.9746	50/50	9.9746
946111	AF1-276 C	43.6706	50/50	43.6706
946112	AF1-276 E	21.5094	50/50	21.5094
946121	AF1-277 C	43.6706	50/50	43.6706
946122	AF1-277 E	21.5094	50/50	21.5094
946131	AF1-278 C	34.8322	50/50	34.8322
946132	AF1-278 E	17.3118	50/50	17.3118
959471	AF2-238 C	0.6301	Adder	0.74
959472	AF2-238 E	0.4200	Adder	0.49
959741	AF2-265 C	0.4515	Adder	0.53
959742	AF2-265 E	0.3360	Adder	0.4
961211	AF2-412	10.2655	Adder	12.08
965241	AG1-389 C O1	4.6511	50/50	4.6511
965242	AG1-389 E O1	3.1007	50/50	3.1007
965251	AG1-390 C O2	4.6769	50/50	4.6769
965252	AG1-390 E O2	3.1179	50/50	3.1179
965261	AG1-391 C O1	4.6511	50/50	4.6511
965262	AG1-391 E O1	3.1007	50/50	3.1007
965271	AG1-392 C O1	9.3022	50/50	9.3022
965272	AG1-392 E O1	6.2014	50/50	6.2014
G-007A	G-007A	0.4148	Confirmed LTF	0.4148
VFT	VFT	1.1868	Confirmed LTF	1.1868
CALDERWOOD	CALDERWOOD	0.0333	Confirmed LTF	0.0333
PRAIRIE	PRAIRIE	0.1989	Confirmed LTF	0.1989
CHEOAH	CHEOAH	0.0335	Confirmed LTF	0.0335
CBM-N	CBM-N	0.2592	Confirmed LTF	0.2592
COTTONWOOD	COTTONWOOD	0.1512	Confirmed LTF	0.1512
HAMLET	HAMLET	0.0312	Confirmed LTF	0.0312
GIBSON	GIBSON	0.0431	Confirmed LTF	0.0431
BLUEG	BLUEG	0.1371	Confirmed LTF	0.1371
TRIMBLE	TRIMBLE	0.0440	Confirmed LTF	0.0440
CATAWBA	CATAWBA	0.0203	Confirmed LTF	0.0203

13.5.15 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
167418923	235197	01KARNSC	AP	235152	01BUTLER	AP	1	ATSI-P2-3-CEI-345-004D	breaker	179.0	238.0	238.57	DC	2.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200608	26PINEY #1	0.7388	50/50	0.7388
200662	26SCRUB GR	1.6803	50/50	1.6803
235030	01MHNG-T155	0.1596	50/50	0.1596
236828	01GRAYMONT	0.1716	Adder	0.2
290086	Q-036 E	1.7010	Adder	2.0
293393	V3-030E	1.2402	Adder	1.46
915951	Y3-092 FTIR	95.0500	Merchant Transmission	95.0500
916202	Z1-069 E	2.6874	Adder	3.16
921642	AA2-000	21.5351	Adder	25.34
930511	AB2-092	0.7907	Adder	0.93
931092	AB1-160 E	0.7678	Adder	0.9
935191	AD1-154	2.3032	50/50	2.3032
936421	AD2-055	1.6279	Adder	1.92
936991	AD2-133 C	0.7655	Adder	0.9
936992	AD2-133 E	3.5011	Adder	4.12
938951	AE1-123	2.7911	50/50	2.7911
939171	AE1-147 C	0.5172	Adder	0.61
939172	AE1-147 E	0.3448	Adder	0.41
939291	AE1-160 C	1.4995	50/50	1.4995
939292	AE1-160 E	0.8619	50/50	0.8619
940201	AE2-001 C	0.5159	Adder	0.61
940202	AE2-001 E	0.3439	Adder	0.4
940861	AE2-074 C	0.7659	Adder	0.9
940862	AE2-074 E	1.0081	Adder	1.19
941191	AE2-113 C	3.5353	Adder	4.16
941192	AE2-113 E	3.8063	Adder	4.48
941261	AE2-120 C	0.5152	Adder	0.61
941262	AE2-120 E	0.3435	Adder	0.4
941271	AE2-121 C	0.2762	Adder	0.32
941272	AE2-121 E	0.1844	Adder	0.22
941321	AE2-126 C	0.6680	Adder	0.79
941322	AE2-126 E	0.4453	Adder	0.52
941331	AE2-129 C	0.5598	Adder	0.66
941332	AE2-129 E	0.3732	Adder	0.44
941351	AE2-131 C (Suspended)	0.5598	Adder	0.66
941352	AE2-131 E (Suspended)	0.3732	Adder	0.44
942491	AE2-262 C	2.4259	Adder	2.85
942492	AE2-262 E	1.6302	Adder	1.92
942501	AE2-263 C	2.2803	Adder	2.68
942502	AE2-263 E	1.5225	Adder	1.79
942811	AE2-299 C	2.0656	Adder	2.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942812	AE2-299 E	8.2623	Adder	9.72
942961	AE2-316 C	4.3499	50/50	4.3499
942962	AE2-316 E	6.2031	50/50	6.2031
943151	AE2-344 C	5.2796	Adder	6.21
943152	AE2-344 E	3.5197	Adder	4.14
943351	AF1-006 C	0.9302	Adder	1.09
943352	AF1-006 E	0.5233	Adder	0.62
943751	AF1-043	4.8838	Adder	5.75
944181	AF1-086 C O1	1.0729	Adder	1.26
944182	AF1-086 E O1	4.6675	Adder	5.49
944261	AF1-094 C	0.9660	Adder	1.14
944262	AF1-094 E	0.6440	Adder	0.76
944281	AF1-096 C	1.4168	50/50	1.4168
944282	AF1-096 E	0.9446	50/50	0.9446
944301	AF1-098 C	3.2077	Adder	3.77
944302	AF1-098 E	2.1385	Adder	2.52
944311	AF1-099 C	3.6825	Adder	4.33
944312	AF1-099 E	2.4550	Adder	2.89
944321	AF1-100 C	7.9114	Adder	9.31
944322	AF1-100 E	5.2742	Adder	6.2
944381	AF1-103 O1	1.2386	Adder	1.46
944391	AF1-104 O1	1.5677	Adder	1.84
944691	AF1-134 C	0.6241	Adder	0.73
944692	AF1-134 E	0.4161	Adder	0.49
944771	AF1-142 C	5.8920	Adder	6.93
944772	AF1-142 E	3.9280	Adder	4.62
944881	AF1-153 C O1	0.9010	Adder	1.06
944882	AF1-153 E O1	0.6006	Adder	0.71
944901	AF1-155 C	0.9096	Adder	1.07
944902	AF1-155 E	0.6064	Adder	0.71
945021	AF1-167 C	1.5046	50/50	1.5046
945022	AF1-167 E	1.0049	50/50	1.0049
945051	AF1-170 C	3.6027	Adder	4.24
945052	AF1-170 E	2.4018	Adder	2.83
945451	AF1-210 C	1.7061	50/50	1.7061
945452	AF1-210 E	1.1374	50/50	1.1374
945491	AF1-214 C (Withdrawn : 12/03/2020)	0.5153	Adder	0.61
945492	AF1-214 E (Withdrawn : 12/03/2020)	0.3435	Adder	0.4
945751	AF1-240 C O1	1.3819	50/50	1.3819
945752	AF1-240 E O1	0.9213	50/50	0.9213
946111	AF1-276 C	3.7393	Adder	4.4
946112	AF1-276 E	1.8418	Adder	2.17
946121	AF1-277 C	3.7393	Adder	4.4
946122	AF1-277 E	1.8418	Adder	2.17
946131	AF1-278 C	2.9825	Adder	3.51
946132	AF1-278 E	1.4823	Adder	1.74
946221	AF1-287 C	0.9076	Adder	1.07
946222	AF1-287 E	0.6051	Adder	0.71
946381	AF1-302 C	1.8995	50/50	1.8995
946382	AF1-302 E	2.5327	50/50	2.5327
946401	AF1-304 C	7.6224	50/50	7.6224

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
946402	AF1-304 E	5.0816	50/50	5.0816
946421	AF1-306 C	3.1031	Adder	3.65
946422	AF1-306 E	12.4123	Adder	14.6
946771	AF1-217 C	0.9076	Adder	1.07
946772	AF1-217 E	0.6051	Adder	0.71
957161	AF2-010 C	3.7466	Adder	4.41
957162	AF2-010 E	2.5249	Adder	2.97
957451	AF2-039 C	0.4190	Adder	0.49
957452	AF2-039 E	0.2793	Adder	0.33
957571	AF2-051 C	2.7680	Adder	3.26
957572	AF2-051 E	1.4259	Adder	1.68
957941	AF2-088 C	0.2017	Adder	0.24
957942	AF2-088 E	0.1345	Adder	0.16
958271	AF2-121 C	0.5598	Adder	0.66
958272	AF2-121 E	0.3732	Adder	0.44
958361	AF2-130 C	1.7143	50/50	1.7143
958362	AF2-130 E	1.1429	50/50	1.1429
958731	AF2-164 C O1	3.9772	Adder	4.68
958732	AF2-164 E O1	2.6515	Adder	3.12
958741	AF2-165 C	1.5448	50/50	1.5448
958742	AF2-165 E	1.0298	50/50	1.0298
958751	AF2-166 C	1.7143	50/50	1.7143
958752	AF2-166 E	1.1429	50/50	1.1429
959441	AF2-235 C	0.7084	50/50	0.7084
959442	AF2-235 E	0.4723	50/50	0.4723
959521	AF2-243 C	1.1586	50/50	1.1586
959522	AF2-243 E	0.7724	50/50	0.7724
959822	AF2-273 E	0.6750	50/50	0.6750
960022	AF2-293 E	0.0503	Adder	0.06
960041	AF2-295 C	0.9096	Adder	1.07
960042	AF2-295 E	0.6064	Adder	0.71
960051	AF2-296 C	0.6241	Adder	0.73
960052	AF2-296 E	0.4161	Adder	0.49
960891	AF2-380 C	3.6836	50/50	3.6836
960892	AF2-380 E	2.4557	50/50	2.4557
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	12.7653	Adder	15.02
961971	AG1-040 C	0.5056	Adder	1.12
961972	AG1-040 E	0.3370	Adder	0.75
962411	AG1-090 C O2	1.4234	Adder	3.16
962412	AG1-090 E O2	0.9489	Adder	2.11
962511	AG1-100 C	0.4897	Adder	1.09
962512	AG1-100 E	0.3265	Adder	0.72
962891	AG1-138 C	0.6786	50/50	0.6786
962892	AG1-138 E	0.0357	50/50	0.0357
962901	AG1-139 C	0.6115	50/50	0.6115
962902	AG1-139 E	0.0322	50/50	0.0322
962911	AG1-140 C	0.0616	Adder	0.14
962912	AG1-140 E	0.0281	Adder	0.06
962951	AG1-144 C	0.2967	Adder	0.66
962952	AG1-144 E	0.1978	Adder	0.44
963281	AG1-177 C O2	0.4810	Adder	1.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O2	0.3207	Adder	0.71
963441	AG1-193 C	1.3675	50/50	1.3675
963442	AG1-193 E	0.9117	50/50	0.9117
963481	AG1-197 C	0.3834	Adder	0.85
963482	AG1-197 E	0.2556	Adder	0.57
963491	AG1-198 C	0.3072	Adder	0.68
963492	AG1-198 E	0.2048	Adder	0.45
963531	AG1-202 C	0.2719	Adder	0.6
963532	AG1-202 E	0.1401	Adder	0.31
963571	AG1-206 C	0.1952	Adder	0.43
963572	AG1-206 E	0.1051	Adder	0.23
963891	AG1-242 C	0.1792	Adder	0.4
963892	AG1-242 E	0.0965	Adder	0.21
963991	AG1-253 C	0.0924	Adder	0.21
963992	AG1-253 E	0.0445	Adder	0.1
964341	AG1-296 C	0.7284	50/50	0.7284
964342	AG1-296 E	0.3922	50/50	0.3922
964411	AG1-303 C O2	1.1777	Adder	2.61
964412	AG1-303 E O2	0.7851	Adder	1.74
964451	AG1-308 C O2	0.2052	Adder	0.46
964452	AG1-308 E O2	0.2868	Adder	0.64
965121	AG1-377 C O1	0.2967	Adder	0.66
965122	AG1-377 E O1	0.1978	Adder	0.44
965131	AG1-378 C O1	0.2967	Adder	0.66
965132	AG1-378 E O1	0.1978	Adder	0.44
965201	AG1-385 C	0.6140	Adder	1.36
965202	AG1-385 E	0.1819	Adder	0.4
965241	AG1-389 C O1	0.3064	Adder	0.68
965242	AG1-389 E O1	0.2043	Adder	0.45
965251	AG1-390 C O2	0.3067	Adder	0.68
965252	AG1-390 E O2	0.2045	Adder	0.45
965261	AG1-391 C O1	0.3064	Adder	0.68
965262	AG1-391 E O1	0.2043	Adder	0.45
965271	AG1-392 C O1	0.6128	Adder	1.36
965272	AG1-392 E O1	0.4085	Adder	0.91
965301	AG1-395 C	0.3812	Adder	0.85
965302	AG1-395 E	0.1132	Adder	0.25
965861	AG1-455	1.4372	Adder	3.19
966121	AG1-481	0.5097	Adder	1.13
966771	AG1-548 C	4.8243	Adder	10.71
966772	AG1-548 E	1.4683	Adder	3.26
G-007A	G-007A	1.8820	Confirmed LTF	1.8820
VFT	VFT	5.1923	Confirmed LTF	5.1923
CALDERWOOD	CALDERWOOD	0.2798	Confirmed LTF	0.2798
PRAIRIE	PRAIRIE	1.6660	Confirmed LTF	1.6660
CHEOAH	CHEOAH	0.2803	Confirmed LTF	0.2803
CBM-N	CBM-N	1.0296	Confirmed LTF	1.0296
COTTONWOOD	COTTONWOOD	1.2579	Confirmed LTF	1.2579
HAMLET	HAMLET	0.2535	Confirmed LTF	0.2535
GIBSON	GIBSON	0.3647	Confirmed LTF	0.3647
BLUEG	BLUEG	1.1562	Confirmed LTF	1.1562
TRIMBLE	TRIMBLE	0.3712	Confirmed LTF	0.3712

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1677	Confirmed LTF	0.1677

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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
166020124	941190	AE2-113 TAP	PENELEC	200582	26RIDGWAY	PENELEC	1	PN-P2_1-PN-345-997-DRT-051	breaker	160.0	217.74	227.43	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
203349	26Z1-069 C	0.7391	50/50	0.7391
203999	P-047 E	5.0737	Adder	5.97
916202	Z1-069 E	19.9714	50/50	19.9714
931091	AB1-160 C	0.2112	50/50	0.2112
931092	AB1-160 E	5.7061	50/50	5.7061
940861	AE2-074 C	7.5775	50/50	7.5775
940862	AE2-074 E	9.9746	50/50	9.9746
941191	AE2-113 C	48.3497	50/50	48.3497
941192	AE2-113 E	52.0571	50/50	52.0571
946111	AF1-276 C	43.6706	50/50	43.6706
946112	AF1-276 E	21.5094	50/50	21.5094
946121	AF1-277 C	43.6706	50/50	43.6706
946122	AF1-277 E	21.5094	50/50	21.5094
946131	AF1-278 C	34.8322	50/50	34.8322
946132	AF1-278 E	17.3118	50/50	17.3118
961211	AF2-412	10.2655	Adder	12.08
965241	AG1-389 C O1	4.6511	50/50	4.6511
965242	AG1-389 E O1	3.1007	50/50	3.1007
965251	AG1-390 C O2	4.6769	50/50	4.6769
965252	AG1-390 E O2	3.1179	50/50	3.1179
965261	AG1-391 C O1	4.6511	50/50	4.6511
965262	AG1-391 E O1	3.1007	50/50	3.1007
965271	AG1-392 C O1	9.3022	50/50	9.3022
965272	AG1-392 E O1	6.2014	50/50	6.2014
G-007A	G-007A	0.4148	Confirmed LTF	0.4148
VFT	VFT	1.1868	Confirmed LTF	1.1868
CALDERWOOD	CALDERWOOD	0.0333	Confirmed LTF	0.0333
PRAIRIE	PRAIRIE	0.1989	Confirmed LTF	0.1989
CHEOAH	CHEOAH	0.0335	Confirmed LTF	0.0335
CBM-N	CBM-N	0.2592	Confirmed LTF	0.2592
COTTONWOOD	COTTONWOOD	0.1512	Confirmed LTF	0.1512
HAMLET	HAMLET	0.0312	Confirmed LTF	0.0312
GIBSON	GIBSON	0.0431	Confirmed LTF	0.0431
BLUEG	BLUEG	0.1371	Confirmed LTF	0.1371
TRIMBLE	TRIMBLE	0.0440	Confirmed LTF	0.0440
CATAWBA	CATAWBA	0.0203	Confirmed LTF	0.0203

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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
165074052	999324	26HOMER CT	PENELEC	200767	26HOMER CT	PENELEC	N	PN-P2-2-PN-345-002T	bus	854.0	144.33	144.89	DC	10.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	6.5754	Adder	7.74
200829	26HNSMLK 2	2.2076	50/50	2.2076
200830	26HNSMLK 3	2.2076	50/50	2.2076
200831	26HNSMLK 4	2.2076	50/50	2.2076
200832	26HNSMLK 5	2.2076	50/50	2.2076
200835	26ARN_Z1-066	-0.8316	Adder	-0.98
200838	26HOMER C2	49.2411	50/50	49.2411
200839	26HOMER C3	52.1282	50/50	52.1282
200894	26K02	6.5883	Adder	7.75
203932	AA2-133 GEN	2.4753	Adder	2.91
203999	P-047 E	15.6652	Adder	18.43
294573	P-028 E	12.7265	Adder	14.97
915951	Y3-092 FTIR	143.2300	Merchant Transmission	143.2300
916202	Z1-069 E	12.5548	Adder	14.77
917673	Z2-108 BAT	2.2012	Merchant Transmission	2.2012
919201	AA1-144 OP	21.9768	Adder	25.86
920341	AA2-132 (Withdrawn : 12/07/2020)	3.2631	Adder	3.84
921642	AA2-000	46.1713	Adder	54.32
930511	AB2-092	1.6953	Adder	1.99
931092	AB1-160 E	3.5871	Adder	4.22
936421	AD2-055	3.4903	Adder	4.11
938352	AE1-053 BAT	1.2229	Merchant Transmission	1.2229
938951	AE1-123	1.8876	Adder	2.22
939291	AE1-160 C	1.6561	Adder	1.95
939292	AE1-160 E	0.9519	Adder	1.12
940861	AE2-074 C	4.0007	50/50	4.0007
940862	AE2-074 E	5.2663	50/50	5.2663
941191	AE2-113 C	11.4130	Adder	13.43
941192	AE2-113 E	12.2881	Adder	14.46
941321	AE2-126 C	1.0801	Adder	1.27
941322	AE2-126 E	0.7201	Adder	0.85
941421	AE2-139 C	4.2516	Adder	9.44
941422	AE2-139 E	2.8344	Adder	6.29
942811	AE2-299 C	4.5609	Adder	5.37
942812	AE2-299 E	18.2436	Adder	21.46
942961	AE2-316 C	5.6581	Adder	6.66
942962	AE2-316 E	8.0685	Adder	9.49
943151	AE2-344 C	9.7702	Adder	11.49
943152	AE2-344 E	6.5135	Adder	7.66
943351	AF1-006 C	1.6941	Adder	1.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943352	AF1-006 E	0.9529	Adder	1.12
943751	AF1-043	10.4708	Adder	12.32
944261	AF1-094 C	1.6065	Adder	1.89
944262	AF1-094 E	1.0710	Adder	1.26
944281	AF1-096 C	1.5648	Adder	1.84
944282	AF1-096 E	1.0432	Adder	1.23
944301	AF1-098 C	6.7887	Adder	7.99
944302	AF1-098 E	4.5258	Adder	5.32
944321	AF1-100 C	11.2736	Adder	13.26
944322	AF1-100 E	7.5157	Adder	8.84
944381	AF1-103 O1	3.2213	Adder	3.79
944391	AF1-104 O1	2.5337	Adder	2.98
944411	AF1-106 O1	3.5595	Adder	4.19
944751	AF1-140 C	-1.1101	Adder	-1.31
944881	AF1-153 C O1	1.3113	Adder	1.54
944882	AF1-153 E O1	0.8742	Adder	1.03
944901	AF1-155 C	1.3158	Adder	1.55
944902	AF1-155 E	0.8772	Adder	1.03
945021	AF1-167 C	1.0229	Adder	1.2
945022	AF1-167 E	0.6832	Adder	0.8
945051	AF1-170 C	6.3141	Adder	7.43
945052	AF1-170 E	4.2094	Adder	4.95
945451	AF1-210 C	1.1567	Adder	1.36
945452	AF1-210 E	0.7711	Adder	0.91
945673	AF1-232 BAT (Withdrawn : 01/19/2021)	2.8594	Merchant Transmission	2.8594
946111	AF1-276 C	17.8260	50/50	17.8260
946112	AF1-276 E	8.7800	50/50	8.7800
946121	AF1-277 C	17.8260	50/50	17.8260
946122	AF1-277 E	8.7800	50/50	8.7800
946131	AF1-278 C	14.2182	50/50	14.2182
946132	AF1-278 E	7.0666	50/50	7.0666
946211	AF1-286 C	1.4416	Adder	1.7
946212	AF1-286 E	0.9789	Adder	1.15
946221	AF1-287 C	1.6851	Adder	1.98
946222	AF1-287 E	1.1234	Adder	1.32
946381	AF1-302 C	2.4708	Adder	2.91
946382	AF1-302 E	3.2944	Adder	3.88
946401	AF1-304 C	7.7438	Adder	9.11
946402	AF1-304 E	5.1626	Adder	6.07
946421	AF1-306 C	5.4045	Adder	6.36
946422	AF1-306 E	21.6180	Adder	25.43
946771	AF1-217 C	1.6851	Adder	1.98
946772	AF1-217 E	1.1234	Adder	1.32
957161	AF2-010 C	6.1504	Adder	7.24
957162	AF2-010 E	4.1449	Adder	4.88
957513	AF2-045 BAT	2.4710	Merchant Transmission	2.4710
957571	AF2-051 C	5.2061	Adder	6.12
957572	AF2-051 E	2.6819	Adder	3.16
957931	AF2-087 C (Suspended)	-0.2624	Adder	-0.31
958361	AF2-130 C	1.3964	Adder	1.64
958362	AF2-130 E	0.9309	Adder	1.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958472	AF2-141 BAT	2.4458	Merchant Transmission	2.4458
958731	AF2-164 C O1	10.6708	Adder	12.55
958732	AF2-164 E O1	7.1139	Adder	8.37
958741	AF2-165 C	1.5743	Adder	1.85
958742	AF2-165 E	1.0495	Adder	1.23
958751	AF2-166 C	1.3964	Adder	1.64
958752	AF2-166 E	0.9309	Adder	1.1
959061	AF2-197 C O1	5.7745	Adder	6.79
959062	AF2-197 E O1	8.6617	Adder	10.19
959441	AF2-235 C	0.7824	Adder	0.92
959442	AF2-235 E	0.5216	Adder	0.61
959471	AF2-238 C	2.1560	Adder	2.54
959472	AF2-238 E	1.4373	Adder	1.69
959481	AF2-239 C	1.5504	Adder	1.82
959482	AF2-239 E	1.2431	Adder	1.46
959491	AF2-240 C	0.6727	Adder	0.79
959492	AF2-240 E	0.5731	Adder	0.67
959501	AF2-241 C	2.0111	Adder	2.37
959502	AF2-241 E	1.5484	Adder	1.82
959521	AF2-243 C	1.1807	Adder	1.39
959522	AF2-243 E	0.7871	Adder	0.93
959741	AF2-265 C	1.5451	Adder	1.82
959742	AF2-265 E	1.1499	Adder	1.35
959793	AF2-270 BAT	0.2144	Merchant Transmission	0.2144
959822	AF2-273 E	0.4581	Adder	0.54
960031	AF2-294 C	1.9677	Adder	2.31
960032	AF2-294 E	1.3118	Adder	1.54
960041	AF2-295 C	1.3158	Adder	1.55
960042	AF2-295 E	0.8772	Adder	1.03
960271	AF2-318 C	1.6761	Adder	1.97
960272	AF2-318 E	1.1174	Adder	1.31
960891	AF2-380 C	0.7454	Adder	0.88
960892	AF2-380 E	0.4969	Adder	0.58
961141	AF2-405	1.7797	Adder	2.09
961151	AF2-406	13.3480	Adder	15.7
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	85.0620	50/50	85.0620
961211	AF2-412	28.0526	Adder	33.0
961451	AF2-436	0.1867	Adder	0.22
961971	AG1-040 C	0.9378	Adder	2.08
961972	AG1-040 E	0.6252	Adder	1.39
962511	AG1-100 C	0.8941	Adder	1.98
962512	AG1-100 E	0.5961	Adder	1.32
962642	AG1-113 BAT	0.6820	Merchant Transmission	0.6820
962652	AG1-114 BAT	0.6481	Merchant Transmission	0.6481
962891	AG1-138 C	0.2929	Adder	0.65
962892	AG1-138 E	0.0154	Adder	0.03
962901	AG1-139 C	0.3303	Adder	0.73
962902	AG1-139 E	0.0174	Adder	0.04
962911	AG1-140 C	0.1360	Adder	0.3
962912	AG1-140 E	0.0619	Adder	0.14
963281	AG1-177 C O2	0.8931	Adder	1.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O2	0.5954	Adder	1.32
963441	AG1-193 C	0.9811	Adder	2.18
963442	AG1-193 E	0.6541	Adder	1.45
963481	AG1-197 C	0.7110	Adder	1.58
963482	AG1-197 E	0.4740	Adder	1.05
963491	AG1-198 C	0.5109	Adder	1.13
963492	AG1-198 E	0.3406	Adder	0.76
963531	AG1-202 C	0.4659	Adder	1.03
963532	AG1-202 E	0.2400	Adder	0.53
963571	AG1-206 C	0.3450	Adder	0.77
963572	AG1-206 E	0.1858	Adder	0.41
963941	AG1-247 C	0.4622	Adder	1.03
963942	AG1-247 E	0.2452	Adder	0.54
963991	AG1-253 C	0.2040	Adder	0.45
963992	AG1-253 E	0.0982	Adder	0.22
964341	AG1-296 C	0.4979	Adder	1.11
964342	AG1-296 E	0.2681	Adder	0.6
964411	AG1-303 C O2	2.2172	Adder	4.92
964412	AG1-303 E O2	1.4782	Adder	3.28
964701	AG1-333 C	0.3824	Adder	0.85
964702	AG1-333 E	0.0521	Adder	0.12
964753	AG1-338 BAT	0.3214	Merchant Transmission	0.3214
964763	AG1-339 BAT	0.3214	Merchant Transmission	0.3214
964773	AG1-340 BAT	0.3214	Merchant Transmission	0.3214
965201	AG1-385 C	0.8936	Adder	1.98
965202	AG1-385 E	0.2647	Adder	0.59
965241	AG1-389 C O1	1.4137	Adder	3.14
965242	AG1-389 E O1	0.9425	Adder	2.09
965251	AG1-390 C O2	3.1388	50/50	3.1388
965252	AG1-390 E O2	2.0926	50/50	2.0926
965261	AG1-391 C O1	1.4137	Adder	3.14
965262	AG1-391 E O1	0.9425	Adder	2.09
965271	AG1-392 C O1	2.8274	Adder	6.28
965272	AG1-392 E O1	1.8850	Adder	4.18
965861	AG1-455	2.5189	Adder	5.59
966121	AG1-481	1.3257	Adder	2.94
966771	AG1-548 C	8.1742	Adder	18.14
966772	AG1-548 E	2.4878	Adder	5.52
966783	AG1-549 BAT	1.9757	Merchant Transmission	1.9757
WEC	WEC	0.0995	Confirmed LTF	0.0995
LGEE	LGEE	0.1294	Confirmed LTF	0.1294
CALDERWOOD	CALDERWOOD	0.0408	Confirmed LTF	0.0408
CBM-W2	CBM-W2	1.0931	Confirmed LTF	1.0931
TVA	TVA	0.0182	Confirmed LTF	0.0182
O-066	O-066	5.1821	Confirmed LTF	5.1821
SIGE	SIGE	0.1035	Confirmed LTF	0.1035
CHEOAH	CHEOAH	0.0445	Confirmed LTF	0.0445
CBM-S1	CBM-S1	0.0182	Confirmed LTF	0.0182
G-007	G-007	0.9314	Confirmed LTF	0.9314
HAMLET	HAMLET	0.2293	Confirmed LTF	0.2293
MEC	MEC	0.3925	Confirmed LTF	0.3925
LAGN	LAGN	0.0718	Confirmed LTF	0.0718

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1061	Confirmed LTF	0.1061
CBM-W1	CBM-W1	6.5053	Confirmed LTF	6.5053

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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
165074032	999325	26HOMER CT	PENELEC	200767	26HOMER CT	PENELEC	S	PN-P2-2-PN-230-001T	bus	827.0	150.95	151.53	DC	10.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200823	26MHP_X3-003	6.6102	Adder	7.78
200829	26HNSMLK 2	2.2196	50/50	2.2196
200830	26HNSMLK 3	2.2196	50/50	2.2196
200831	26HNSMLK 4	2.2196	50/50	2.2196
200832	26HNSMLK 5	2.2196	50/50	2.2196
200835	26ARN_Z1-066	-0.8367	Adder	-0.98
200838	26HOMER C2	49.5163	50/50	49.5163
200839	26HOMER C3	52.4195	50/50	52.4195
200894	26K02	6.6231	Adder	7.79
203932	AA2-133 GEN	2.4885	Adder	2.93
203999	P-047 E	15.7508	Adder	18.53
294573	P-028 E	12.7939	Adder	15.05
915951	Y3-092 FTIR	144.0000	Merchant Transmission	144.0000
916202	Z1-069 E	12.6232	Adder	14.85
917673	Z2-108 BAT	2.2147	Merchant Transmission	2.2147
919201	AA1-144 OP	22.0946	Adder	25.99
920341	AA2-132 (Withdrawn : 12/07/2020)	3.2807	Adder	3.86
921642	AA2-000	46.4114	Adder	54.6
930511	AB2-092	1.7041	Adder	2.0
931092	AB1-160 E	3.6066	Adder	4.24
936421	AD2-055	3.5084	Adder	4.13
938352	AE1-053 BAT	1.2304	Merchant Transmission	1.2304
938951	AE1-123	1.8975	Adder	2.23
939291	AE1-160 C	1.6649	Adder	1.96
939292	AE1-160 E	0.9570	Adder	1.13
940861	AE2-074 C	4.0226	50/50	4.0226
940862	AE2-074 E	5.2951	50/50	5.2951
941191	AE2-113 C	11.4753	Adder	13.5
941192	AE2-113 E	12.3552	Adder	14.54
941321	AE2-126 C	1.0857	Adder	1.28
941322	AE2-126 E	0.7238	Adder	0.85
941421	AE2-139 C	4.2742	Adder	9.49
941422	AE2-139 E	2.8494	Adder	6.32
942811	AE2-299 C	4.5854	Adder	5.39
942812	AE2-299 E	18.3415	Adder	21.58
942961	AE2-316 C	5.6883	Adder	6.69
942962	AE2-316 E	8.1115	Adder	9.54
943151	AE2-344 C	9.8225	Adder	11.56
943152	AE2-344 E	6.5483	Adder	7.7
943351	AF1-006 C	1.7032	Adder	2.0

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943352	AF1-006 E	0.9580	Adder	1.13
943751	AF1-043	10.5253	Adder	12.38
944261	AF1-094 C	1.6151	Adder	1.9
944262	AF1-094 E	1.0767	Adder	1.27
944281	AF1-096 C	1.5731	Adder	1.85
944282	AF1-096 E	1.0488	Adder	1.23
944301	AF1-098 C	6.8250	Adder	8.03
944302	AF1-098 E	4.5500	Adder	5.35
944321	AF1-100 C	11.3309	Adder	13.33
944322	AF1-100 E	7.5539	Adder	8.89
944381	AF1-103 O1	3.2387	Adder	3.81
944391	AF1-104 O1	2.5471	Adder	3.0
944411	AF1-106 O1	3.5788	Adder	4.21
944751	AF1-140 C	-1.1169	Adder	-1.31
944881	AF1-153 C O1	1.3182	Adder	1.55
944882	AF1-153 E O1	0.8788	Adder	1.03
944901	AF1-155 C	1.3227	Adder	1.56
944902	AF1-155 E	0.8818	Adder	1.04
945021	AF1-167 C	1.0283	Adder	1.21
945022	AF1-167 E	0.6868	Adder	0.81
945051	AF1-170 C	6.3477	Adder	7.47
945052	AF1-170 E	4.2318	Adder	4.98
945451	AF1-210 C	1.1628	Adder	1.37
945452	AF1-210 E	0.7752	Adder	0.91
945673	AF1-232 BAT (Withdrawn : 01/19/2021)	2.8766	Merchant Transmission	2.8766
946111	AF1-276 C	17.9232	50/50	17.9232
946112	AF1-276 E	8.8278	50/50	8.8278
946121	AF1-277 C	17.9232	50/50	17.9232
946122	AF1-277 E	8.8278	50/50	8.8278
946131	AF1-278 C	14.2957	50/50	14.2957
946132	AF1-278 E	7.1051	50/50	7.1051
946211	AF1-286 C	1.4494	Adder	1.71
946212	AF1-286 E	0.9842	Adder	1.16
946221	AF1-287 C	1.6941	Adder	1.99
946222	AF1-287 E	1.1294	Adder	1.33
946381	AF1-302 C	2.4840	Adder	2.92
946382	AF1-302 E	3.3119	Adder	3.9
946401	AF1-304 C	7.7852	Adder	9.16
946402	AF1-304 E	5.1901	Adder	6.11
946421	AF1-306 C	5.4330	Adder	6.39
946422	AF1-306 E	21.7319	Adder	25.57
946771	AF1-217 C	1.6942	Adder	1.99
946772	AF1-217 E	1.1295	Adder	1.33
957161	AF2-010 C	6.1837	Adder	7.27
957162	AF2-010 E	4.1673	Adder	4.9
957513	AF2-045 BAT	2.4860	Merchant Transmission	2.4860
957571	AF2-051 C	5.2341	Adder	6.16
957572	AF2-051 E	2.6964	Adder	3.17
957931	AF2-087 C (Suspended)	-0.2640	Adder	-0.31
958361	AF2-130 C	1.4037	Adder	1.65
958362	AF2-130 E	0.9358	Adder	1.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958472	AF2-141 BAT	2.4608	Merchant Transmission	2.4608
958731	AF2-164 C O1	10.7292	Adder	12.62
958732	AF2-164 E O1	7.1528	Adder	8.42
958741	AF2-165 C	1.5827	Adder	1.86
958742	AF2-165 E	1.0552	Adder	1.24
958751	AF2-166 C	1.4037	Adder	1.65
958752	AF2-166 E	0.9358	Adder	1.1
959061	AF2-197 C O1	5.8053	Adder	6.83
959062	AF2-197 E O1	8.7080	Adder	10.24
959441	AF2-235 C	0.7866	Adder	0.93
959442	AF2-235 E	0.5244	Adder	0.62
959471	AF2-238 C	2.1677	Adder	2.55
959472	AF2-238 E	1.4451	Adder	1.7
959481	AF2-239 C	1.5587	Adder	1.83
959482	AF2-239 E	1.2497	Adder	1.47
959491	AF2-240 C	0.6764	Adder	0.8
959492	AF2-240 E	0.5762	Adder	0.68
959501	AF2-241 C	2.0220	Adder	2.38
959502	AF2-241 E	1.5568	Adder	1.83
959521	AF2-243 C	1.1871	Adder	1.4
959522	AF2-243 E	0.7914	Adder	0.93
959741	AF2-265 C	1.5535	Adder	1.83
959742	AF2-265 E	1.1561	Adder	1.36
959793	AF2-270 BAT	0.2157	Merchant Transmission	0.2157
959822	AF2-273 E	0.4605	Adder	0.54
960031	AF2-294 C	1.9783	Adder	2.33
960032	AF2-294 E	1.3189	Adder	1.55
960041	AF2-295 C	1.3227	Adder	1.56
960042	AF2-295 E	0.8818	Adder	1.04
960271	AF2-318 C	1.6850	Adder	1.98
960272	AF2-318 E	1.1234	Adder	1.32
960891	AF2-380 C	0.7492	Adder	0.88
960892	AF2-380 E	0.4995	Adder	0.59
961141	AF2-405	1.7894	Adder	2.11
961151	AF2-406	13.4206	Adder	15.79
961201	AF2-411 O1 (Withdrawn : 12/08/2020)	85.5300	50/50	85.5300
961211	AF2-412	28.2062	Adder	33.18
961451	AF2-436	0.1877	Adder	0.22
961971	AG1-040 C	0.9429	Adder	2.09
961972	AG1-040 E	0.6286	Adder	1.4
962511	AG1-100 C	0.8989	Adder	2.0
962512	AG1-100 E	0.5993	Adder	1.33
962642	AG1-113 BAT	0.6861	Merchant Transmission	0.6861
962652	AG1-114 BAT	0.6521	Merchant Transmission	0.6521
962891	AG1-138 C	0.2945	Adder	0.65
962892	AG1-138 E	0.0155	Adder	0.03
962901	AG1-139 C	0.3320	Adder	0.74
962902	AG1-139 E	0.0175	Adder	0.04
962911	AG1-140 C	0.1367	Adder	0.3
962912	AG1-140 E	0.0623	Adder	0.14
963281	AG1-177 C O2	0.8979	Adder	1.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963282	AG1-177 E O2	0.5986	Adder	1.33
963441	AG1-193 C	0.9864	Adder	2.19
963442	AG1-193 E	0.6576	Adder	1.46
963481	AG1-197 C	0.7148	Adder	1.59
963482	AG1-197 E	0.4765	Adder	1.06
963491	AG1-198 C	0.5136	Adder	1.14
963492	AG1-198 E	0.3424	Adder	0.76
963531	AG1-202 C	0.4684	Adder	1.04
963532	AG1-202 E	0.2413	Adder	0.54
963571	AG1-206 C	0.3468	Adder	0.77
963572	AG1-206 E	0.1868	Adder	0.41
963941	AG1-247 C	0.4647	Adder	1.03
963942	AG1-247 E	0.2466	Adder	0.55
963991	AG1-253 C	0.2051	Adder	0.46
963992	AG1-253 E	0.0987	Adder	0.22
964341	AG1-296 C	0.5006	Adder	1.11
964342	AG1-296 E	0.2695	Adder	0.6
964411	AG1-303 C O2	2.2291	Adder	4.95
964412	AG1-303 E O2	1.4861	Adder	3.3
964701	AG1-333 C	0.3844	Adder	0.85
964702	AG1-333 E	0.0524	Adder	0.12
964753	AG1-338 BAT	0.3233	Merchant Transmission	0.3233
964763	AG1-339 BAT	0.3233	Merchant Transmission	0.3233
964773	AG1-340 BAT	0.3233	Merchant Transmission	0.3233
965201	AG1-385 C	0.8984	Adder	1.99
965202	AG1-385 E	0.2661	Adder	0.59
965241	AG1-389 C O1	1.4215	Adder	3.16
965242	AG1-389 E O1	0.9476	Adder	2.1
965251	AG1-390 C O2	3.1560	50/50	3.1560
965252	AG1-390 E O2	2.1040	50/50	2.1040
965261	AG1-391 C O1	1.4215	Adder	3.16
965262	AG1-391 E O1	0.9476	Adder	2.1
965271	AG1-392 C O1	2.8429	Adder	6.31
965272	AG1-392 E O1	1.8953	Adder	4.21
965861	AG1-455	2.5323	Adder	5.62
966121	AG1-481	1.3329	Adder	2.96
966771	AG1-548 C	8.2177	Adder	18.24
966772	AG1-548 E	2.5010	Adder	5.55
966783	AG1-549 BAT	1.9876	Merchant Transmission	1.9876
WEC	WEC	0.0986	Confirmed LTF	0.0986
LGEE	LGEE	0.1269	Confirmed LTF	0.1269
CALDERWOOD	CALDERWOOD	0.0432	Confirmed LTF	0.0432
CBM-W2	CBM-W2	1.0573	Confirmed LTF	1.0573
TVA	TVA	0.0112	Confirmed LTF	0.0112
O-066	O-066	5.2427	Confirmed LTF	5.2427
SIGE	SIGE	0.1041	Confirmed LTF	0.1041
CHEOAH	CHEOAH	0.0470	Confirmed LTF	0.0470
CBM-S1	CBM-S1	0.0163	Confirmed LTF	0.0163
G-007	G-007	0.9418	Confirmed LTF	0.9418
HAMLET	HAMLET	0.2339	Confirmed LTF	0.2339
MEC	MEC	0.3861	Confirmed LTF	0.3861
LAGN	LAGN	0.0630	Confirmed LTF	0.0630

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.1085	Confirmed LTF	0.1085
CBM-W1	CBM-W1	6.4772	Confirmed LTF	6.4772

13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
ATSI-P2-3-CEI-345-004D	CONTINGENCY 'ATSI-P2-3-CEI-345-004D' / 911 OPEN BRANCH FROM BUS 200599 TO BUS 200600 CKT 1 / 200599 26ERIE W 345 200600 26ERIE SO 345 1 OPEN BRANCH FROM BUS 200599 TO BUS 238547 CKT 1 / 200599 26ERIE W 345 238547 02AT 345 1 OPEN BRANCH FROM BUS 238547 TO BUS 239036 CKT 1 / 238547 02AT 345 239036 02PERRY 345 1 OPEN BRANCH FROM BUS 238547 TO BUS 239082 CKT 1 / 238547 02AT 345 239082 02S8-ATT 345 1 OPEN BRANCH FROM BUS 200568 TO BUS 200600 CKT 5 / 200568 26ERIE SO. 230 200600 26ERIE SO 345 5 OPEN BRANCH FROM BUS 200819 TO BUS 200600 CKT 8 / 200819 26ERIE SE 230 200600 26ERIE SO 345 8 END
PN-P2-2-PN-230-001T	CONTINGENCY 'PN-P2-2-PN-230-001T' /* HOMER CITY NORTH 230KV BUS DISCONNECT BRANCH FROM BUS 200769 TO BUS 200767 TO BUS 202640 CKT N/* 26HOMER CY 345 26HOMER CT 230 26HOMERCITYN 23.00 DISCONNECT BRANCH FROM BUS 200767 TO BUS 200807 CKT 1 /* 26HOMER CT 230 26PIERC230 230 REMOVE MACHINE 1 FROM BUS 200809 /* 26SITHE 138 DISCONNECT BUS 200807 /* 26PIERC230 230 DISCONNECT BUS 200808 /* 26PIERC138 138 DISCONNECT BUS 200809 /* 26SITHE 138 END
PN-P2_1-PN-230-997-DRT-060	CONTINGENCY 'PN-P2_1-PN-230-997-DRT-060' / 570 OPEN BRANCH FROM BUS 200675 TO BUS 200924 CKT 1 / 200675 26E.TWANDA 230 200924 26CANYON 230 1 END
PN-P2-2-PN-345-002T	CONTINGENCY 'PN-P2-2-PN-345-002T' /* HOMER CITY SOUTH 345KV BUS DISCONNECT BRANCH FROM BUS 200769 TO BUS 200767 TO BUS 202641 CKT S/* 26HOMER CY 345 26HOMER CT 230 26HOMERCITYS 23.00 END
AP-P2-2-WP-230-005T	CONTINGENCY 'AP-P2-2-WP-230-005T' /* SHINGLETOWN #2 230KV BUS DISCONNECT BRANCH FROM BUS 235248 TO BUS 235970 CKT 1 /* 01SHINGL 230 01DALE 230 DISCONNECT BRANCH FROM BUS 235248 TO BUS 966040 CKT 1 /* 01SHINGL 230 AG1- 473 TAP 230 DISCONNECT BRANCH FROM BUS 235248 TO BUS 236711 CKT 82 /* 01SHINGL 230 01SHINGLTN 46 END

Contingency Name	Contingency Definition
PN-P2_1-PN-345-997-DRT-051	CONTINGENCY 'PN-P2_1-PN-345-997-DRT-051' /* B8 INTERNAL FAULT DISCONNECT BRANCH FROM BUS 946110 TO BUS 200704 CKT 1 /* AF1-276 TAP - PIERCEBRK 345 DISCONNECT BRANCH FROM BUS 200942 TO BUS 200943 CKT 1 /* 26PIERCEBRK XFMR BK_1 END
PECO_P7-1_220-9091/* \$ BUCKS \$ PECO_P7-1_220-9091 \$ DCT	CONTINGENCY 'PECO_P7-1_220-9091/* \$ BUCKS \$ PECO_P7-1_220-9091 \$ DCT' DISCONNECT BUS 213616 /* FORDACT1 18.00 \$ BUCKS \$ PECO_P7- 1_220-9091 \$ DCT DISCONNECT BUS 213617 /* FORDACT2 18.00 \$ BUCKS \$ PECO_P7- 1_220-9091 \$ DCT DISCONNECT BUS 213618 /* FORDAST1 18.00 \$ BUCKS \$ PECO_P7- 1_220-9091 \$ DCT DISCONNECT BUS 213619 /* FORDBCT1 18.00 \$ BUCKS \$ PECO_P7- 1_220-9091 \$ DCT DISCONNECT BUS 213620 /* FORDBCT2 18.00 \$ BUCKS \$ PECO_P7- 1_220-9091 \$ DCT DISCONNECT BUS 213621 /* FORDBST1 18.00 \$ BUCKS \$ PECO_P7- 1_220-9091 \$ DCT DISCONNECT BUS 213622 /* FORDML90 230.00 \$ BUCKS \$ PECO_P7- 1_220-9091 \$ DCT DISCONNECT BUS 213623 /* FORDML91 230.00 \$ BUCKS \$ PECO_P7- 1_220-9091 \$ DCT END
PL:02:P42:001063	CONTINGENCY 'PL:02:P42:001063' / 458 OPEN BRANCH FROM BUS 208010 TO BUS 208014 CKT 1 / 208010 LACK_EBUS_B4 230 208014 LAEN_B4 230 1 OPEN BRANCH FROM BUS 208011 TO BUS 208013 CKT 1 / 208011 LACK_WBUS_B4 230 208013 SUMT2_B4 230 1 OPEN BRANCH FROM BUS 208013 TO BUS 208090 CKT 2 / 208013 SUMT2_B4 230 208090 SUMT 230 2 OPEN BRANCH FROM BUS 208014 TO BUS 208054 CKT 1 / 208014 LAEN_B4 230 208054 LAEN 230 1 OPEN BRANCH FROM BUS 208013 TO BUS 208014 CKT 1 / 208013 SUMT2_B4 230 208014 LAEN_B4 230 1 END
PN-P1-2-PN-230-006	CONTINGENCY 'PN-P1-2-PN-230-006' /* GLADE - FOREST 230KV DISCONNECT BRANCH FROM BUS 200593 TO BUS 200581 CKT 1 /* 26GLADE 230 26FOREST 230 END
PN-P1-2-PN-345-104T	CONTINGENCY 'PN-P1-2-PN-345-104T' /* MAINESBURG - WATERCURE ROAD (NYSEG) 345KV LINE DISCONNECT BRANCH FROM BUS 200930 TO BUS 130757 CKT 1 /* 26MAINESBURG345 WATRC345 345 END

Contingency Name	Contingency Definition
200908 26CHAPMAN+ 230 921641 AA1-111 TAP 230 1	CONTINGENCY '200908 26CHAPMAN+ 230 921641 AA1-111 TAP 230 1' / 586 OPEN BRANCH FROM BUS 200908 TO BUS 921641 CKT 1 / 200908 26CHAPMAN+ 230 921641 AA1-111 TAP 230 1 END
PN-P2-2-PN-230-007T	CONTINGENCY 'PN-P2-2-PN-230-007T' /* LEWISTOWN #2 230KV BUS DISCONNECT BRANCH FROM BUS 200513 TO BUS 200531 CKT 2 /* 26LEWISTWN 230 26YEAGRTWN 230 DISCONNECT BRANCH FROM BUS 200513 TO BUS 966040 CKT 1 /* 26LEWISTWN 230 AG1-473 TAP 230 DISCONNECT BRANCH FROM BUS 200513 TO BUS 200517 CKT 1 /* 26LEWISTWN 230 26RAYSTOWN 230 END
AP-P2-3-WP-230-450T	CONTINGENCY 'AP-P2-3-WP-230-450T' / 642 OPEN BRANCH FROM BUS 235220 TO BUS 944320 CKT 1 / 235220 01MOSHAN 230 944320 AF1-100 TAP 230 1 OPEN BRANCH FROM BUS 200908 TO BUS 235220 CKT 1 / 200908 26CHAPMAN+ 230 235220 01MOSHAN 230 1 OPEN BRANCH FROM BUS 235220 TO BUS 942490 CKT 1 / 235220 01MOSHAN 230 942490 AE2-262 TAP 230 1 OPEN BRANCH FROM BUS 235220 TO BUS 235236 CKT 1 / 235220 01MOSHAN 230 235236 01QUEHAN 230 1 OPEN BRANCH FROM BUS 235175 TO BUS 235236 CKT 1 / 235175 01ELKO 230 235236 01QUEHAN 230 1 OPEN BRANCH FROM BUS 235236 TO BUS 236732 CKT 81 / 235236 01QUEHAN 230 236732 01QUEHANNA 46.0 81 END
PN-P2-3-PN-230-6G	CONTINGENCY 'PN-P2-3-PN-230-6G' /* ERIE SOUTH 230KV SB 35 OPEN BUS 200819 /*ERIE SOUTH 1 230KV BUS OPEN BUS 200918 /*ERIE SOUTH 230 KV BUS TIE END
Base Case	
PL:48:P71:102649	CONTINGENCY 'PL:48:P71:102649' /* SUSQ-GEN1 230KV & BETA-SUSQ 230KV DISCONNECT BRANCH FROM BUS 207915 TO BUS 208113 CKT 1 /* BETA-SUSQ DISCONNECT BUS 208114 /* SUSQ G1 END
PN-P1-2-PN-230-013A	CONTINGENCY 'PN-P1-2-PN-230-013A' / 541 OPEN BRANCH FROM BUS 200675 TO BUS 200924 CKT 1 / 200675 26E.TWANDA 230 200924 26CANYON 230 1 OPEN BRANCH FROM BUS 200706 TO BUS 200924 CKT 1 / 200706 26N.MESHPN 230 200924 26CANYON 230 1 END

Contingency Name	Contingency Definition
PN-P1-2-PN-345-107T	CONTINGENCY 'PN-P1-2-PN-345-107T' / 866 OPEN BRANCH FROM BUS 200599 TO BUS 238547 CKT 1 / 200599 26ERIE W 345 238547 02AT 345 1 OPEN BRANCH FROM BUS 238547 TO BUS 239082 CKT 1 / 238547 02AT 345 239082 02S8-ATT 345 1 OPEN BRANCH FROM BUS 238547 TO BUS 239036 CKT 1 / 238547 02AT 345 239036 02PERRY 345 1 END
PN-P2-2-PN-345-001T	CONTINGENCY 'PN-P2-2-PN-345-001T' /* HOMER CITY NORTH 345KV BUS DISCONNECT BRANCH FROM BUS 200769 TO BUS 200767 TO BUS 202640 CKT N/* 26HOMER CY 345 26HOMER CT 230 26HOMERCITYN 23.00 END

14 Affected Systems

14.1 NYISO

NYISO Impacts to be determined during later study phases (as applicable).

14.2 MISO

MISO Impacts to be determined during later study phases (as applicable).

15 Attachment 1: One Line Diagram