

Generation Interconnection Feasibility Study Report Queue Position AE1-240

The Interconnection Customer (IC), has proposed a 49.7 MW Maximum Facility Output (29.0 MW Capacity) solar generating facility to be located at Latitude: 39.4341 Longitude: -75.1208 in Cumberland County, New Jersey. At the IC's request, PJM studied the AE1-240 project at both a Primary and Secondary Point of Interconnection. The project was studied at a commercial probability of 53% with the results provided below. The planned in-service date, as requested by the IC during the project kick-off call, is September 30, 2021. This date may not be attainable due to required PJM studies (System Impact and Facilities) and the Transmission Owner's construction schedule.

Point(s) of Interconnection

The Interconnection Customer requested a Primary and Secondary Point of Interconnection (POI) be evaluated for the AE1-240 project.

Primary Point of Interconnection

PJM studied the AE1-240 project as an injection into the Atlantic City Electric Company (ACE) transmission system as a tap of the Carlls Corner (PSSE bus #228252) to Sherman Avenue (PSSE bus #228226) 69 kV Circuit and evaluated it for compliance with reliability criteria for summer peak conditions in 2022. The AE1-240 project will connect with the ACE transmission system at a new 69 kV substation to be constructed adjacent to the Carlls Corner-Sherman Avenue 69 kV circuit.

Transmission Owner Scope of Attachment Facilities Work

Substation Interconnection Estimate

Scope: Build a new 69 kV substation with a 3-position ring bus. Two of the positions on the ring bus will be transmission line terminals for the tie-in of existing ACE Line 0739. The other position will be a terminal configured for the interconnection of the AE1-240 generation.

Estimate: \$4,700,000

Construction Time: 32-48 months

Major Equipment Included in Estimate:

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|--|---------|
| • Control Enclosure, 47' x 16' | Qty. 1 |
| • Power Circuit Breaker, 69 kV, 2000A, 40kA, 3 cycle | Qty. 3 |
| • Line Switch, 69 kV, 2000A, Manual, Arcing horns | Qty. 9 |
| • Disconnect Switch, 69 kV, 2000A, Manual Wormgear, Arcing Horns | Qty. 18 |
| • CT/VT Combination Units, 69 kV | Qty. 3 |
| • CVT, 69 kV | Qty. 9 |
| • Disconnect Switch Stand, High, 69 kV, Steel | Qty. 8 |
| • CT/VT Stand, Single Phase, High, 69 kV, Steel | Qty. 3 |

• CVT Stand, Single Phase, High, 69 kV, Steel	Qty. 9
• SSVT, 69 kV/240-120 V	Qty. 1
• Relay Panel, Transmission Line, FL/BU (20")	Qty. 2
• Relayed Bus Differential Panel	Qty. 1
• Control Panel, 69 kV Circuit Breaker (10")	Qty. 3
• Take-off structure, 69 kV	Qty. 3
• Bus Support Structure, 3 phase, 69 kV, Steel	Qty. 8
• 69 kV Al tub bus	Lot

Estimate Assumptions:

- The required land is available for use.
- Developer responsible for land purchase for the substation, price is not included.
- Site clearing and grading performed by Developer.
- Cost to accelerate existing System Protection projects not included.

Required Relaying and Communications

New protection relays are required for the new terminals.

Front line and back-up line protection will be required. One 20" relay panel for each generator terminal will be required for front line and back-up protection.

New protection relays are required for the new line terminals. Frontline and Backup line protection will be required. A 20" relay panel will be required for each transmission line (2 total).

A breaker control relay on a 20" breaker control panel will be required for the control and operation of each new 69 kV circuit breaker (3 total).

The project will require re-wiring and adjustment of existing relay schemes to accommodate the new 69 kV substation.

Metering

Three phase 69 kV revenue metering points will need to be established. ACE will purchase and install all metering instrument transformers as well as construct a metering structure. The secondary wiring connections at the instrument transformers will be completed by ACE's metering technicians. The metering control cable and meter cabinets will be supplied and installed by ACE. ACE will install conduit for the control cable between the instrument transformers and the metering enclosure. The location of the metering enclosure will be determined in the construction phase. ACE will provide both the Primary and the Backup meters. ACE's meter technicians will program and install the Primary & Backup solid state multi-function meters for each new metering position. Each meter will be equipped with load profile, telemetry, and DNP outputs. The IC will be provided with one meter DNP output for each meter. ACE will own the metering equipment for the interconnection point, unless the IC asserts its right to install, own, and operate the metering system.

The IC will be required to make provisions for a voice quality phone line within approximately 3 feet of each Company metering position to facilitate remote interrogation and data collection.

It is the IC's responsibility to send the data that PJM and ACE requires directly to PJM. The IC will grant permission for PJM to send ACE the following telemetry that the IC sends to PJM: real time MW, MVAR, volts, amperes, generator status, and interval MWH and MVARH.

The estimate for ACE to design, purchase, and install metering as specified in the aforementioned scope for metering is included in the Substation Interconnection Estimate.

Interconnection Customer Scope of Direct Connection Work

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

ACE Interconnection Customer Scope of Direct Connection Work Requirements:

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

Special Operating Requirements

1. ACE will require the capability to remotely disconnect the generator from the grid by communication from its System Operations facility. Such disconnection may be facilitated by a generator breaker, or other method depending upon the specific circumstances and the evaluation by ACE.
2. ACE reserves the right to charge the Interconnection Customer operation and maintenance expenses to maintain the Interconnection Customer attachment facilities, including metering and telecommunications facilities, owned by ACE.

Summer Peak Analysis - 2022

Transmission Network Impacts

Potential transmission network impacts are as follows:

Generator Deliverability

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

ID	FROM	FROM	FROM	TO	TO BUS	TO	CKT	CONT	Type	Rating	PRE	POST	AC DC	MW
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	BUS#	BUS	BUS AREA	BUS#		BUS AREA	ID	NAME		MVA	PROJECT LOADING %	PROJECT LOADING %		IMPACT
901410	227903	MILL #1	AE	227902	LEWIS #1	AE	1	AE_P1-2 BLE-ML-LEW2	single	306.0	102.57	103.87	DC	3.98
901355	227905	SCULL#1	AE	227903	MILL #1	AE	1	AE_P1-2 BLE-SC-ML2	single	306.0	117.14	118.58	DC	4.39
901358	227905	SCULL#1	AE	227903	MILL #1	AE	1	AE_P1-2 BLE-ML-LEW2	single	306.0	102.6	103.9	DC	3.98
901348	227906	SCULL#2	AE	227904	MILL #2	AE	1	AE_P1-2 BLE-SC-ML1	single	307.0	118.04	119.47	DC	4.39
901349	227906	SCULL#2	AE	227904	MILL #2	AE	1	AE_P1-2 BLE-ML-LEW1	single	307.0	113.35	114.71	DC	4.18
901325	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P1-2 BLE-SC-ML2	single	307.0	124.09	125.52	DC	4.39
901328	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P1-2 BLE-ML-LEW2	single	307.0	109.63	110.92	DC	3.98
901329	228110	BLE	AE	227905	SCULL#1	AE	1	Base Case	single	219.0	101.32	102.47	DC	2.52
901333	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P1-2 BLE-SC-ML1	single	307.0	123.32	124.75	DC	4.39
901334	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P1-2 BLE-ML-LEW1	single	307.0	118.62	119.98	DC	4.18
901337	228110	BLE	AE	227906	SCULL#2	AE	1	Base Case	single	219.0	99.33	100.48	DC	2.52

Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
900737	227904	MILL #2	AE	227945	LEWIS #2	AE	1	AE_P4-2 AE33	breaker	282.0	134.33	135.27	DC	5.9
900491	227905	SCULL#1	AE	227903	MILL #1	AE	1	AE_P4-2 AE29	breaker	306.0	192.77	193.72	DC	6.45
900520	227906	SCULL#2	AE	227904	MILL #2	AE	1	AE_P4-2 AE28	breaker	307.0	180.33	181.43	DC	7.53
900510	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P4-2 AE28	breaker	307.0	185.6	186.71	DC	7.53
902346	228130	TUCKAHOE	AE	227946	MILL#2	AE	1	AE_P7-1 AE7TOWER	tower	146.0	112.54	113.5	DC	3.11
902294	228217	DENNIS	AE	228130	TUCKAHOE	AE	1	AE_P7-1 AE7TOWER	tower	146.0	117.26	118.22	DC	3.11
900967	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE45	breaker	552.0	113.41	114.67	DC	15.45
900968	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE47	breaker	552.0	113.9	114.47	DC	7.74
901112	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	AE_P4-2 AE45	breaker	805.0	102.67	103.47	DC	15.39
902379	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	AE_P7-1 W2275_O2241	tower	804.0	103.68	104.16	DC	10.71

Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
900486	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P4-2 AE29	breaker	307.0	199.51	200.45	DC	6.45
902378	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	804.0	109.05	109.39	DC	10.68

Summer Peak Load Flow Analysis Reinforcements

System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)

ID	Index	Facility	Upgrade Description	Cost
900968,900967	9	PEDRKTWN 230.0 kV - BRIDGPRT 230.0 kV Ckt 1	Description : No Violation. Incorrect rating in case. The current emergency rating is 804 MVA.	\$0
900520,901348,901349	3	SCULL#2 138.0 kV - MILL #2 138.0 kV Ckt 1	Description : To mitigate the (ACE) Mill#2– Scull#2 138 kV line (from bus 228904 to bus 227906 ckt 1) overload, it will require increasing the emergency rating of the Mill#2 to Scull#2 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at both Mill#2 to Scull#2. Time Estimate : 36-60 Months Cost : \$12,800,000	\$12,800,000
902294	8	DENNIS 69.0 kV - TUCKAHOE 69.0 kV Ckt 1	Description : To mitigate the (ACE) Dennis – Tuckahoe 69 kV line (from bus 228217 to bus 228130 ckt 1) overload, it will require increasing the emergency rating of the Dennis to Tuckahoe 69 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at Tuckahoe. Time Estimate : 36-60 Months Cost : \$7,000,000	\$7,000,000
902378,902379	11	MONROE 230.0 kV - NEWFRDM 230.0 kV Ckt 1	Description : To mitigate the (ACE) Monroe – New Freedom 230 kV line (from bus 228402 to bus 219100 ckt 1) overload, it will require increasing the emergency rating of the Monroe to New Freedom 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. Time Estimate : 36-60 Months Cost : \$13,400,000	\$13,400,000

ID	Index	Facility	Upgrade Description	Cost
900737	6	MILL #2 138.0 kV - LEWIS #2 138.0 kV Ckt 1	Description : To mitigate the (ACE) Mill#2– Lewis#2 138 kV line (from bus 228904 to bus 227945 ckt 1) overload, it will require increasing the emergency rating of the Mill#2 to Lewis#2 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at Lewis#2. Time Estimate : 36-60 Months Cost : \$12,500,000	\$12,500,000
900491,901358,901355	2	SCULL#1 138.0 kV - MILL #1 138.0 kV Ckt 1	Description : To mitigate the (ACE) Scull#1-Mill#1 - 138 kV line (from bus 227905 to bus 227903 ckt 1) overload, it will require increasing the emergency rating of the Scull#1 to Mill#1 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements at Mill#1. Time Estimate : 36-60 Months Cost : \$12,800,000	\$12,800,000
901410	1	MILL #1 138.0 kV - LEWIS #1 138.0 kV Ckt 1	Description : To mitigate the (ACE) Mill#1– Lewis#1 138 kV line (from bus 228903 to bus 227902 ckt 1) overload, it will require increasing the emergency rating of the Mill#1 to Lewis#1 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. Time Estimate : 36-60 Months Cost : \$11,300,000	\$11,300,000
902346	7	TUCKAHOE 69.0 kV - MILL#2 69.0 kV Ckt 1	Description : To mitigate the (ACE) Tuckahoe – Mill#2 69 kV line (from bus 228130 to bus 227946 ckt 1) overload, it will require increasing the emergency rating of the Tuckahoe to Mill#2 69 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. Time Estimate : 36-60 Months Cost : \$20,000,000	\$20,000,000
901334,901337,901333,900510	5	BLE 138.0 kV - SCULL#2 138.0 kV Ckt 1	Description : To mitigate the (ACE) B.L. England – Scull#2 138 kV line (from bus 228110 to bus 227906 ckt 1) overload, it will require increasing the emergency rating of the B.L. England to Scull#2 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at both B.L. England and Scull#2. Time Estimate : 36-60 Months Cost : \$6,000,000	\$6,000,000

ID	Index	Facility	Upgrade Description	Cost
901328,901329,901325,900486	4	BLE 138.0 kV - SCULL#1 138.0 kV Ckt 1	Description : To mitigate the (ACE) B.L. England – Scull#1 138 kV line (from bus 228110 to bus 227905 ckt 1) overload, it will require increasing the emergency rating of the B.L. England to Scull#1 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at both B.L. England and Scull#1. Time Estimate : 36-60 Months Cost : \$5,900,000	\$5,900,000
901112	10	BRIDGPRT 230.0 kV - MCKLTON 230.0 kV Ckt 1	Description : To mitigate the (ACE) Bridgeport – Mickleton 230 kV line (from bus 228313 to bus 228401 ckt 1) overload, it will require increasing the emergency rating of the Bridgeport to Mickleton 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at Bridgeport. Time Estimate : 36-60 Months Cost : \$18,400,000	\$18,400,000
			TOTAL COST	\$120,100,000

Steady-State Voltage Requirements

To be performed during later study phases as required.

Short Circuit

No issues identified.

Stability and Reactive Power Requirement

To be performed during later study phases as required.

Light Load Analysis - 2022

To be performed during later study phases (as required by PJM Manual 14B).

Delivery of Energy Portion of Interconnection Request

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request. Only the most severely overloaded conditions are listed. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed, which will study all overload conditions associated with the overloaded element(s) identified.

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
901407	227903	MILL #1	AE	227902	LEWIS #1	AE	1	AE_P1-2 BLE-ML-LEW2	operation	306.0	157.11	158.11	DC	6.81
901409	227903	MILL #1	AE	227902	LEWIS #1	AE	1	Base Case	operation	218.0	105.07	105.85	DC	3.77
901608	227904	MILL #2	AE	227945	LEWIS #2	AE	1	AE_P1-2 BLE-ML-LEW1	operation	282.0	127.55	128.47	DC	5.75
901609	227904	MILL #2	AE	227945	LEWIS #2	AE	1	Base Case	operation	219.0	104.33	105.11	DC	3.76
901352	227905	SCULL#1	AE	227903	MILL #1	AE	1	AE_P1-2 BLE-SC-ML2	operation	306.0	178.06	179.17	DC	7.53
901354	227905	SCULL#1	AE	227903	MILL #1	AE	1	Base Case	operation	218.0	140.4	141.29	DC	4.32
901345	227906	SCULL#2	AE	227904	MILL #2	AE	1	AE_P1-2 BLE-SC-ML1	operation	307.0	178.76	179.87	DC	7.53
901347	227906	SCULL#2	AE	227904	MILL #2	AE	1	Base Case	operation	219.0	140.71	141.6	DC	4.32
901322	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P1-2 BLE-SC-ML2	operation	307.0	184.81	185.91	DC	7.53
901324	228110	BLE	AE	227905	SCULL#1	AE	1	Base Case	operation	219.0	150.08	150.96	DC	4.32
901330	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P1-2 BLE-SC-ML1	operation	307.0	184.04	185.15	DC	7.53
901332	228110	BLE	AE	227906	SCULL#2	AE	1	Base Case	operation	219.0	148.11	149.0	DC	4.32
901830	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P1-2 CHUR-ORCH	operation	552.0	111.54	111.99	DC	6.28
901910	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	Base Case	operation	650.0	108.21	108.72	DC	7.31

Atlantic City Electric Costs

Cost estimates will further be refined as a part of the Impact Study and Facilities Study for this project. The Interconnection Customer will be responsible for all costs incurred by ACE in connection with the AE1-240 project. Such costs may include, but are not limited to, any transmission system assets currently in ACE's rate base that are prematurely retired due to the AE1-240 project. PJM shall work with ACE to identify these retirement costs and any additional expenses. ACE reserves the right to reassess issues presented in this document and, upon appropriate justification, submit additional costs related to the AE1-240 project.

Secondary Point of Interconnection

PJM studied the AE1-240 project into the Atlantic City Electric Company (ACE) system at the Sherman Avenue 69 kV Substation (PSSE bus #228226) and evaluated it for compliance with reliability criteria for summer peak conditions in 2022.

Summer Peak Analysis - 2022

Transmission Network Impacts

Potential transmission network impacts are as follows:

Generator Deliverability

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

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
873684	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P1-2 BLE-SC-ML2	single	307.0	100.09	101.67	DC	4.87
873692	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P1-2 BLE-SC-ML1	single	307.0	99.31	100.9	DC	4.87
873086	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	AE_P1-2 MICK-BRIDG	single	74.0	115.05	118.39	DC	2.48
873087	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	AE_P1-2 PED-BRIDGE	single	74.0	105.82	109.17	DC	2.48

Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
873909	206297	28MANITOU	JCP&L	206319	28WHITINGS	JCP&L	1	JC-P7-1-JCC-230-11A	tower	817.0	99.92	100.1	DC	3.25
872887	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P4-2 AE28	breaker	307.0	99.92	102.64	DC	8.34
872748	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE47	breaker	552.0	111.7	112.15	DC	6.2
874029	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	AE_P7-1 W2275_02241	tower	804.0	103.08	103.53	DC	10.11

Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
872830	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P4-2 AE29	breaker	307.0	103.19	105.53	DC	7.14
874028	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	804.0	108.45	108.76	DC	10.08

Delivery of Energy Portion of Interconnection Request

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request. Only the most severely overloaded conditions are listed. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed, which will study all overload conditions associated with the overloaded element(s) identified.

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
873683	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P1-2 BLE-SC-ML2	operation	307.0	99.13	101.86	DC	8.34
873691	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P1-2 BLE-SC-ML1	operation	307.0	98.36	101.08	DC	8.34
873618	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	Base Case	operation	650.0	106.29	106.76	DC	6.78
873080	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	AE_P1-2 CHU-WOOD 2-A	operation	74.0	178.81	185.61	DC	5.04
873085	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	Base Case	operation	74.0	135.33	137.76	DC	3.99

Primary POI Flow Gate Details

The following appendices contain additional information about each flowgate presented in the body of the report. For each appendix, a description of the flowgate and its contingency was included for convenience. However, the intent of the appendix section is to provide more information on which projects/generators have contributions to the flowgate in question. Although this information is not used "as is" for cost allocation purposes, it can be used to gage other generators impact. It should be noted the generator contributions presented in the appendices sections are full contributions, whereas in the body of the report, those contributions take into consideration the commercial probability of each project.

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
901410	227903	MILL #1	AE	227902	LEWIS #1	AE	1	AE_P1-2 BLE-ML-LEW2	single	306.0	102.57	103.87	DC	3.98

Bus #	Bus	MW Impact
228200	CARL#1CT	0.44
228201	CARL#2CT	0.46
228202	CUMB CT	1.79
228203	P06	1.75
228206	SHRMN CT	1.6
228251	CARLLS#4	0.05
228260	V4-054C	0.13
228343	QUINTN#1	0.02
228702	WEST CT	0.54
228711	V2-041C	0.04
228717	S121	0.85
228727	W2-039G	1.4
292062	V1-021 C	0.1
913341	Y1-077	32.54
924531	AB2-102 C	38.94
936411	AD2-052 C	0.36
938421	AE1-061 C	0.3
938781	AE1-104 C O1	66.17
939501	AE1-179 C O1	4.78
940001	AE1-240 C O1	3.98
BAYOU	BAYOU	0.17
BIG_CAJUN1	BIG_CAJUN1	0.26
BIG_CAJUN2	BIG_CAJUN2	0.51
BLUEG	BLUEG	0.8
CALDERWOOD	CALDERWOOD	0.09
CANNELTON	CANNELTON	0.05
CARR	CARR	0.12
CATAWBA	CATAWBA	0.05
CHEOAH	CHEOAH	0.08

Bus #	Bus	MW Impact
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.17
COFFEEN	COFFEEN	0.08
COTTONWOOD	COTTONWOOD	0.66
DEARBORN	DEARBORN	0.14
DUCKCREEK	DUCKCREEK	0.18
EDWARDS	EDWARDS	0.08
ELMERSMITH	ELMERSMITH	0.08
FARMERCITY	FARMERCITY	0.06
GIBSON	GIBSON	0.03
HAMLET	HAMLET	0.18
NEWTON	NEWTON	0.22
PRAIRIE	PRAIRIE	0.41
RENSSELAER	RENSSELAER	0.09
SANTEETLA	SANTEETLA	0.02
SMITHLAND	SMITHLAND	0.03
TATANKA	TATANKA	0.1
TILTON	TILTON	0.1
TRIMBLE	TRIMBLE	0.09
TVA	TVA	0.28
UNIONPOWER	UNIONPOWER	0.12

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
900491	227905	SCULL#1	AE	227903	MILL #1	AE	1	AE_P4-2 AE29	breaker	306.0	192.77	193.72	DC	6.45

Bus #	Bus	MW Impact
228202	CUMB CT	1.7
228203	P06	1.66
228206	SHRMN CT	1.51
228261	V4-054E	0.63
228711	V2-041C	0.04
228712	V2-041E	0.44
292062	V1-021 C	0.09
292063	V1-021 E	0.09
913341	Y1-077	40.88
924531	AB2-102 C	36.78
924532	AB2-102 E	0.82
936411	AD2-052 C	0.34
936412	AD2-052 E	0.17
938421	AE1-061 C	0.14
938422	AE1-061 E	0.14
938781	AE1-104 C O1	83.14
938782	AE1-104 E O1	212.68
939501	AE1-179 C O1	4.52
939502	AE1-179 E O1	3.19
940001	AE1-240 C O1	3.76
940002	AE1-240 E O1	2.69

Bus #	Bus	MW Impact
BAYOU	BAYOU	0.19
BIG_CAJUN1	BIG_CAJUN1	0.3
BIG_CAJUN2	BIG_CAJUN2	0.6
BLUEG	BLUEG	0.94
CALDERWOOD	CALDERWOOD	0.1
CANNELTON	CANNELTON	0.06
CARR	CARR	0.13
CATAWBA	CATAWBA	0.06
CHEOAH	CHEOAH	0.09
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.2
COFFEEN	COFFEEN	0.1
COTTONWOOD	COTTONWOOD	0.77
DEARBORN	DEARBORN	0.17
DUCKCREEK	DUCKCREEK	0.22
EDWARDS	EDWARDS	0.1
ELMERSMITH	ELMERSMITH	0.1
FARMERCITY	FARMERCITY	0.07
G-007	G-007	0.7
GIBSON	GIBSON	0.04
HAMLET	HAMLET	0.21
NEWTON	NEWTON	0.26
O-066	O-066	1.46
PRAIRIE	PRAIRIE	0.48
RENSSELAER	RENSSELAER	0.1
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.04
TATANKA	TATANKA	0.12
TILTON	TILTON	0.12
TRIMBLE	TRIMBLE	0.1
TVA	TVA	0.32
UNIONPOWER	UNIONPOWER	0.14

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
900520	227906	SCULL#2	AE	227904	MILL #2	AE	1	AE_P4-2 AE28	breaker	307.0	180.33	181.43	DC	7.53

Bus #	Bus	MW Impact
228202	CUMB CT	1.98
228203	P06	1.93
228206	SHRMN CT	1.76
228261	V4-054E	0.74
228711	V2-041C	0.05
228712	V2-041E	0.51
292062	V1-021 C	0.1
292063	V1-021 E	0.1
913341	Y1-077	36.37

Bus #	Bus	MW Impact
924531	AB2-102 C	42.91
924532	AB2-102 E	0.95
936411	AD2-052 C	0.4
936412	AD2-052 E	0.2
938421	AE1-061 C	0.16
938422	AE1-061 E	0.16
938781	AE1-104 C O1	73.98
938782	AE1-104 E O1	189.24
939501	AE1-179 C O1	5.28
939502	AE1-179 E O1	3.73
940001	AE1-240 C O1	4.39
940002	AE1-240 E O1	3.14
BAYOU	BAYOU	0.18
BIG_CAJUN1	BIG_CAJUN1	0.28
BIG_CAJUN2	BIG_CAJUN2	0.57
BLUEG	BLUEG	0.89
CALDERWOOD	CALDERWOOD	0.1
CANNELTON	CANNELTON	0.05
CARR	CARR	0.13
CATAWBA	CATAWBA	0.06
CHEOAH	CHEOAH	0.09
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.19
COFFEEN	COFFEEN	0.09
COTTONWOOD	COTTONWOOD	0.73
DEARBORN	DEARBORN	0.16
DUCKCREEK	DUCKCREEK	0.2
EDWARDS	EDWARDS	0.09
ELMERSMITH	ELMERSMITH	0.09
FARMERCITY	FARMERCITY	0.06
G-007	G-007	0.78
GIBSON	GIBSON	0.04
HAMLET	HAMLET	0.2
NEWTON	NEWTON	0.25
O-066	O-066	1.57
PRAIRIE	PRAIRIE	0.46
RENSSELAER	RENSSELAER	0.1
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.04
TATANKA	TATANKA	0.11
TILTON	TILTON	0.11
TRIMBLE	TRIMBLE	0.1
TVA	TVA	0.31
UNIONPOWER	UNIONPOWER	0.14

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
900486	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P4-2 AE29	breaker	307.0	199.51	200.45	DC	6.45

Bus #	Bus	MW Impact
228202	CUMB CT	1.7
228203	P06	1.66
228206	SHRMN CT	1.51
228261	V4-054E	0.63
228711	V2-041C	0.04
228712	V2-041E	0.44
292062	V1-021 C	0.09
292063	V1-021 E	0.09
913341	Y1-077	40.88
924531	AB2-102 C	36.78
924532	AB2-102 E	0.82
936411	AD2-052 C	0.34
936412	AD2-052 E	0.17
938421	AE1-061 C	0.14
938422	AE1-061 E	0.14
938781	AE1-104 C O1	83.14
938782	AE1-104 E O1	212.68
939501	AE1-179 C O1	4.52
939502	AE1-179 E O1	3.19
940001	AE1-240 C O1	3.76
940002	AE1-240 E O1	2.69
BAYOU	BAYOU	0.19
BIG_CAJUN1	BIG_CAJUN1	0.3
BIG_CAJUN2	BIG_CAJUN2	0.6
BLUEG	BLUEG	0.94
CALDERWOOD	CALDERWOOD	0.1
CANNELTON	CANNELTON	0.06
CARR	CARR	0.13
CATAWBA	CATAWBA	0.06
CHEOAH	CHEOAH	0.09
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.2
COFFEEN	COFFEEN	0.1
COTTONWOOD	COTTONWOOD	0.77
DEARBORN	DEARBORN	0.17
DUCKCREEK	DUCKCREEK	0.22
EDWARDS	EDWARDS	0.1
ELMERSMITH	ELMERSMITH	0.1
FARMERCITY	FARMERCITY	0.07
G-007	G-007	0.7
GIBSON	GIBSON	0.04
HAMLET	HAMLET	0.21
NEWTON	NEWTON	0.26
O-066	O-066	1.46
PRAIRIE	PRAIRIE	0.48
RENSSELAER	RENSSELAER	0.1
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.04
TATANKA	TATANKA	0.12
TILTON	TILTON	0.12
TRIMBLE	TRIMBLE	0.1

Bus #	Bus	MW Impact
TVA	TVA	0.32
UNIONPOWER	UNIONPOWER	0.14

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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
900510	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P4-2 AE28	breaker	307.0	185.6	186.71	DC	7.53

Bus #	Bus	MW Impact
228202	CUMB CT	1.98
228203	P06	1.93
228206	SHRMN CT	1.76
228261	V4-054E	0.74
228711	V2-041C	0.05
228712	V2-041E	0.51
292062	V1-021 C	0.1
292063	V1-021 E	0.1
913341	Y1-077	36.37
924531	AB2-102 C	42.91
924532	AB2-102 E	0.95
936411	AD2-052 C	0.4
936412	AD2-052 E	0.2
938421	AE1-061 C	0.16
938422	AE1-061 E	0.16
938781	AE1-104 C O1	73.98
938782	AE1-104 E O1	189.24
939501	AE1-179 C O1	5.28
939502	AE1-179 E O1	3.73
940001	AE1-240 C O1	4.39
940002	AE1-240 E O1	3.14
BAYOU	BAYOU	0.18
BIG_CAJUN1	BIG_CAJUN1	0.28
BIG_CAJUN2	BIG_CAJUN2	0.57
BLUEG	BLUEG	0.89
CALDERWOOD	CALDERWOOD	0.1
CANNELTON	CANNELTON	0.05
CARR	CARR	0.13
CATAWBA	CATAWBA	0.06
CHEOAH	CHEOAH	0.09
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.19
COFFEEN	COFFEEN	0.09
COTTONWOOD	COTTONWOOD	0.73
DEARBORN	DEARBORN	0.16
DUCKCREEK	DUCKCREEK	0.2
EDWARDS	EDWARDS	0.09
ELMERSMITH	ELMERSMITH	0.09

Bus #	Bus	MW Impact
FARMERCITY	FARMERCITY	0.06
G-007	G-007	0.78
GIBSON	GIBSON	0.04
HAMLET	HAMLET	0.2
NEWTON	NEWTON	0.25
O-066	O-066	1.57
PRAIRIE	PRAIRIE	0.46
RENSSELAER	RENSSELAER	0.1
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.04
TATANKA	TATANKA	0.11
TILTON	TILTON	0.11
TRIMBLE	TRIMBLE	0.1
TVA	TVA	0.31
UNIONPOWER	UNIONPOWER	0.14

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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
900737	227904	MILL #2	AE	227945	LEWIS #2	AE	1	AE_P4-2 AE33	breaker	282.0	134.33	135.27	DC	5.9

Bus #	Bus	MW Impact
228202	CUMB CT	1.56
228203	P06	1.55
228206	SHRMN CT	1.39
228261	V4-054E	0.58
228711	V2-041C	0.04
228712	V2-041E	0.4
292062	V1-021 C	0.08
292063	V1-021 E	0.08
902432	W2-030 E	0.5
913341	Y1-077	26.87
924531	AB2-102 C	34.31
924532	AB2-102 E	0.76
938421	AE1-061 C	0.27
938422	AE1-061 E	0.27
938781	AE1-104 C O1	54.66
938782	AE1-104 E O1	139.82
939301	AE1-161 C	0.57
939302	AE1-161 E	0.85
939501	AE1-179 C O1	4.14
939502	AE1-179 E O1	2.92
940001	AE1-240 C O1	3.44
940002	AE1-240 E O1	2.46
BAYOU	BAYOU	0.14
BIG_CAJUN1	BIG_CAJUN1	0.21
BIG_CAJUN2	BIG_CAJUN2	0.43
BLUEG	BLUEG	0.67
CALDERWOOD	CALDERWOOD	0.07

Bus #	Bus	MW Impact
CANNELTON	CANNELTON	0.04
CARR	CARR	0.09
CATAWBA	CATAWBA	0.05
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02
CHOCTAW	CHOCTAW	0.14
COFFEEN	COFFEEN	0.07
COTTONWOOD	COTTONWOOD	0.55
DEARBORN	DEARBORN	0.12
DUCKCREEK	DUCKCREEK	0.15
EDWARDS	EDWARDS	0.07
ELMERSMITH	ELMERSMITH	0.07
FARMERCITY	FARMERCITY	0.05
G-007	G-007	0.53
GIBSON	GIBSON	0.03
HAMLET	HAMLET	0.15
NEWTON	NEWTON	0.18
O-066	O-066	1.12
PRAIRIE	PRAIRIE	0.34
RENSSELAER	RENSSELAER	0.07
SANTEETLA	SANTEETLA	0.02
SMITHLAND	SMITHLAND	0.03
TATANKA	TATANKA	0.08
TILTON	TILTON	0.08
TRIMBLE	TRIMBLE	0.07
TVA	TVA	0.23
UNIONPOWER	UNIONPOWER	0.1

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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
902346	228130	TUCKAHOE	AE	227946	MILL#2	AE	1	AE_P7-1 AE7TOWER	tower	146.0	112.54	113.5	DC	3.11

Bus #	Bus	MW Impact
228712	V2-041E	0.21
292062	V1-021 C	0.05
292063	V1-021 E	0.05
913341	Y1-077	9.35
924531	AB2-102 C	18.8
924532	AB2-102 E	0.42
938781	AE1-104 C O1	19.02
938782	AE1-104 E O1	48.65
939501	AE1-179 C O1	2.18
939502	AE1-179 E O1	1.54
940001	AE1-240 C O1	1.82
940002	AE1-240 E O1	1.3
BAYOU	BAYOU	0.06
BIG_CAJUN1	BIG_CAJUN1	0.09
BIG_CAJUN2	BIG_CAJUN2	0.17

Bus #	Bus	MW Impact
BLUEG	BLUEG	0.27
CALDERWOOD	CALDERWOOD	0.03
CANNELTON	CANNELTON	0.02
CARR	CARR	0.05
CATAWBA	CATAWBA	0.02
CHEOAH	CHEOAH	0.03
CHILHOWEE	CHILHOWEE	0.01
CHOCTAW	CHOCTAW	0.06
COFFEEN	COFFEEN	0.03
COTTONWOOD	COTTONWOOD	0.22
DEARBORN	DEARBORN	0.05
DUCKCREEK	DUCKCREEK	0.06
EDWARDS	EDWARDS	0.03
ELMERSMITH	ELMERSMITH	0.03
FARMERCITY	FARMERCITY	0.02
G-007	G-007	0.32
GIBSON	GIBSON	0.01
HAMLET	HAMLET	0.06
NEWTON	NEWTON	0.07
O-066	O-066	0.61
PRAIRIE	PRAIRIE	0.14
RENSSELAER	RENSSELAER	0.04
SANTEETLA	SANTEETLA	0.01
SMITHLAND	SMITHLAND	0.01
TATANKA	TATANKA	0.03
TILTON	TILTON	0.03
TRIMBLE	TRIMBLE	0.03
TVA	TVA	0.09
UNIONPOWER	UNIONPOWER	0.04

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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
902294	228217	DENNIS	AE	228130	TUCKAHOE	AE	1	AE_P7-1 AE7TOWER	tower	146.0	117.26	118.22	DC	3.11

Bus #	Bus	MW Impact
228712	V2-041E	0.21
292062	V1-021 C	0.05
292063	V1-021 E	0.05
913341	Y1-077	9.35
924531	AB2-102 C	18.8
924532	AB2-102 E	0.42
938781	AE1-104 C O1	19.02
938782	AE1-104 E O1	48.65
939501	AE1-179 C O1	2.18
939502	AE1-179 E O1	1.54
940001	AE1-240 C O1	1.82
940002	AE1-240 E O1	1.3
BAYOU	BAYOU	0.06

Bus #	Bus	MW Impact
BIG_CAJUN1	BIG_CAJUN1	0.09
BIG_CAJUN2	BIG_CAJUN2	0.17
BLUEG	BLUEG	0.27
CALDERWOOD	CALDERWOOD	0.03
CANNELTON	CANNELTON	0.02
CARR	CARR	0.05
CATAWBA	CATAWBA	0.02
CHEOAH	CHEOAH	0.03
CHILHOWEE	CHILHOWEE	0.01
CHOCTAW	CHOCTAW	0.06
COFFEEN	COFFEEN	0.03
COTTONWOOD	COTTONWOOD	0.22
DEARBORN	DEARBORN	0.05
DUCKCREEK	DUCKCREEK	0.06
EDWARDS	EDWARDS	0.03
ELMERSMITH	ELMERSMITH	0.03
FARMERCITY	FARMERCITY	0.02
G-007	G-007	0.32
GIBSON	GIBSON	0.01
HAMLET	HAMLET	0.06
NEWTON	NEWTON	0.07
O-066	O-066	0.61
PRAIRIE	PRAIRIE	0.14
RENSSELAER	RENSSELAER	0.04
SANTEETLA	SANTEETLA	0.01
SMITHLAND	SMITHLAND	0.01
TATANKA	TATANKA	0.03
TILTON	TILTON	0.03
TRIMBLE	TRIMBLE	0.03
TVA	TVA	0.09
UNIONPOWER	UNIONPOWER	0.04

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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
900968	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE47	breaker	552.0	113.9	114.47	DC	7.74

Bus #	Bus	MW Impact
228200	CARL#1CT	0.89
228201	CARL#2CT	0.95
228251	CARLLS#4	0.1
228260	V4-054C	0.25
228261	V4-054E	1.34
228306	PCLP STM	7.49
228307	PCLP GT	7.48
228309	CCLP NUG	26.0
228334	MANNMILG	0.49
228343	QUINTN#1	0.12
228351	V2-046C	0.36

Bus #	Bus	MW Impact
228357	V2-046E	4.36
228712	V2-041E	0.26
228720	V2-035C	0.04
228721	V2-035E	0.4
902092	W1-130E	0.82
903963	W3-175	38.64
918891	AA1-108	16.46
924531	AB2-102 C	21.32
924532	AB2-102 E	0.47
931191	AB1-169A	72.23
936411	AD2-052 C	2.63
936412	AD2-052 E	1.29
938301	AE1-045 C	0.26
938302	AE1-045 E	0.13
938311	AE1-046 C	0.26
938312	AE1-046 E	0.13
938421	AE1-061 C	0.35
938422	AE1-061 E	0.35
938871	AE1-115 C	5.0
938872	AE1-115 E	5.0
939301	AE1-161 C	1.67
939302	AE1-161 E	2.51
939501	AE1-179 C O1	5.26
939502	AE1-179 E O1	3.71
939931	AE1-229 C O1	40.4
939932	AE1-229 E O1	27.37
940001	AE1-240 C O1	4.52
940002	AE1-240 E O1	3.22
BAYOU	BAYOU	0.39
BIG_CAJUN1	BIG_CAJUN1	0.6
BIG_CAJUN2	BIG_CAJUN2	1.22
BLUEG	BLUEG	1.87
CALDERWOOD	CALDERWOOD	0.2
CANNELTON	CANNELTON	0.11
CARR	CARR	0.12
CATAWBA	CATAWBA	0.13
CHEOAH	CHEOAH	0.19
CHILHOWEE	CHILHOWEE	0.07
CHOCTAW	CHOCTAW	0.4
COFFEEN	COFFEEN	0.2
COTTONWOOD	COTTONWOOD	1.56
DEARBORN	DEARBORN	0.33
DUCKCREEK	DUCKCREEK	0.43
EDWARDS	EDWARDS	0.2
ELMERSMITH	ELMERSMITH	0.2
FARMERCITY	FARMERCITY	0.13
G-007	G-007	0.12
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.43
NEWTON	NEWTON	0.52
O-066	O-066	1.01
PRAIRIE	PRAIRIE	0.97

Bus #	Bus	MW Impact
RENSSELAER	RENSSELAER	0.09
SANTEETLA	SANTEETLA	0.06
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.24
TILTON	TILTON	0.24
TRIMBLE	TRIMBLE	0.21
TVA	TVA	0.65
UNIONPOWER	UNIONPOWER	0.29

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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
901112	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	AE_P4-2 AE45	breaker	805.0	102.67	103.47	DC	15.39

Bus #	Bus	MW Impact
227801	ONTC&DCT	5.41
227843	MARINGEN E	0.56
227928	V4-067E	0.2
228203	P06	3.76
228261	V4-054E	1.99
228304	LOGAN	26.95
228306	PCLP STM	7.0
228307	PCLP GT	6.99
228309	CCLP NUG	23.14
228343	QUINTN#1	0.12
228357	V2-046E	4.22
228712	V2-041E	0.81
228721	V2-035E	0.36
292063	V1-021 E	0.08
292967	U2-045 E	2.44
293404	V3-036	0.77
902092	W1-130E	0.96
902432	W2-030 E	0.92
903963	W3-175	33.85
905532	W4-063 E	0.61
915022	Y3-012 E	1.05
918891	AA1-108	14.42
924531	AB2-102 C	83.6
924532	AB2-102 E	1.86
924701	AB2-122 C	0.09
924702	AB2-122 E	0.15
930002	AB1-001 E	0.2
931191	AB1-169A	84.66
933962	AD1-019 E	1.07
936411	AD2-052 C	2.67
936412	AD2-052 E	1.32
938301	AE1-045 C	0.31
938302	AE1-045 E	0.15
938311	AE1-046 C	0.31

Bus #	Bus	MW Impact
938312	AE1-046 E	0.15
938421	AE1-061 C	0.41
938422	AE1-061 E	0.41
938781	AE1-104 C O1	30.0
938782	AE1-104 E O1	76.73
938871	AE1-115 C	4.48
938872	AE1-115 E	4.48
939301	AE1-161 C	1.68
939302	AE1-161 E	2.51
939501	AE1-179 C O1	10.66
939502	AE1-179 E O1	7.52
939931	AE1-229 C O1	36.16
939932	AE1-229 E O1	24.5
940001	AE1-240 C O1	8.98
940002	AE1-240 E O1	6.41
BAYOU	BAYOU	0.57
BIG_CAJUN1	BIG_CAJUN1	0.88
BIG_CAJUN2	BIG_CAJUN2	1.77
BLUEG	BLUEG	2.72
CALDERWOOD	CALDERWOOD	0.3
CANNELTON	CANNELTON	0.17
CARR	CARR	0.13
CATAWBA	CATAWBA	0.19
CHEOAH	CHEOAH	0.27
CHILHOWEE	CHILHOWEE	0.1
CHOCTAW	CHOCTAW	0.59
COFFEEN	COFFEEN	0.29
COTTONWOOD	COTTONWOOD	2.26
DEARBORN	DEARBORN	0.47
DUCKCREEK	DUCKCREEK	0.62
EDWARDS	EDWARDS	0.28
ELMERSMITH	ELMERSMITH	0.28
FARMERCITY	FARMERCITY	0.19
G-007A	G-007A	0.39
GIBSON	GIBSON	0.11
HAMLET	HAMLET	0.63
NEWTON	NEWTON	0.75
O-066	O-066	0.93
PRAIRIE	PRAIRIE	1.4
RENSSELAER	RENSSELAER	0.11
SANTEETLA	SANTEETLA	0.08
SMITHLAND	SMITHLAND	0.11
TATANKA	TATANKA	0.34
TILTON	TILTON	0.34
TRIMBLE	TRIMBLE	0.3
TVA	TVA	0.95
UNIONPOWER	UNIONPOWER	0.42

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ID	FROM BUS#	FROM BUS	FROM BUS	TO BUS#	TO BUS	TO BUS	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT	POST PROJECT	AC DC	MW IMPACT
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			AREA			AREA					LOADING %	LOADING %		
902378	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	PS_P7- 1_V2274+P2242_LT	tower	804.0	109.05	109.39	DC	10.68

Bus #	Bus	MW Impact
219229	EAGLEPT_G3	3.84
219230	EAGLEPT_G1	5.68
219231	EAGLEPT_G2	5.68
227801	ONTC&DCT	4.46
227843	MARINGEN E	0.46
228261	V4-054E	1.48
228357	V2-046E	3.92
228400	MICK 1CT	2.61
228423	Q-090 2	49.81
228471	VALERO1	0.88
228472	VALERO2	0.61
228473	VALERO3	0.61
228484	VALERO4	0.52
228712	V2-041E	0.41
228720	V2-035C	0.05
228721	V2-035E	0.48
291995	U4-036 C	0.12
291996	U4-036 E	1.32
292063	V1-021 E	0.04
292104	V1-030 C6	0.04
292105	V1-030 E6	0.38
292967	U2-045 E	2.01
293404	V3-036	0.64
902091	W1-130C	0.21
902092	W1-130E	2.23
902432	W2-030 E	0.69
905143	W4-016	97.12
905532	W4-063 E	0.5
909032	X2-013 E	0.83
915022	Y3-012 E	0.87
917471	Z2-083	4.69
918852	AA1-104 E	8.27
924051	AB2-049 C	0.69
924052	AB2-049 E	1.13
924531	AB2-102 C	32.0
924532	AB2-102 E	0.71
930002	AB1-001 E	0.17
930722	AB1-116 E	0.21
930732	AB1-119 E	0.1
931191	AB1-169A	196.86
933962	AD1-019 E	0.88
936411	AD2-052 C	1.83
936412	AD2-052 E	0.9
936491	AD2-064 C	0.07
936492	AD2-064 E	0.1
938301	AE1-045 C	0.72
938302	AE1-045 E	0.36
938311	AE1-046 C	0.72

Bus #	Bus	MW Impact
938312	AE1-046 E	0.36
938421	AE1-061 C	0.96
938422	AE1-061 E	1.8
938781	AE1-104 C O1	17.79
938782	AE1-104 E O1	45.51
938871	AE1-115 C	1.54
938872	AE1-115 E	1.54
939301	AE1-161 C	8.82
939302	AE1-161 E	13.22
939501	AE1-179 C O1	7.57
939502	AE1-179 E O1	5.34
939821	AE1-218 C O1	0.3
939822	AE1-218 E O1	0.45
939831	AE1-219 C O1	0.68
939832	AE1-219 E O1	0.98
939931	AE1-229 C O1	30.48
939932	AE1-229 E O1	20.65
940001	AE1-240 C O1	6.23
940002	AE1-240 E O1	4.45
BAYOU	BAYOU	0.58
BIG_CAJUN1	BIG_CAJUN1	0.89
BIG_CAJUN2	BIG_CAJUN2	1.79
BLUEG	BLUEG	2.79
CALDERWOOD	CALDERWOOD	0.3
CANNELTON	CANNELTON	0.17
CARR	CARR	0.42
CATAWBA	CATAWBA	0.19
CHEOAH	CHEOAH	0.27
CHILHOWEE	CHILHOWEE	0.1
CHOCTAW	CHOCTAW	0.59
COFFEEN	COFFEEN	0.29
COTTONWOOD	COTTONWOOD	2.29
DEARBORN	DEARBORN	0.49
DUCKCREEK	DUCKCREEK	0.64
EDWARDS	EDWARDS	0.29
ELMERSMITH	ELMERSMITH	0.29
FARMERCITY	FARMERCITY	0.19
G-007	G-007	1.48
GIBSON	GIBSON	0.12
HAMLET	HAMLET	0.62
NEWTON	NEWTON	0.77
O-066	O-066	5.0
PRAIRIE	PRAIRIE	1.43
RENSSELAER	RENSSELAER	0.33
SANTEETLA	SANTEETLA	0.08
SMITHLAND	SMITHLAND	0.11
TATANKA	TATANKA	0.35
TILTON	TILTON	0.35
TRIMBLE	TRIMBLE	0.31
TVA	TVA	0.96
UNIONPOWER	UNIONPOWER	0.43

Contingency Name	Contingency Definition
AE_P1-2 CHUR-ORCH	CONTINGENCY 'AE_P1-2 CHUR-ORCH' / PJM FIXED OPEN LINE FROM BUS 228002 TO BUS 228310 CIRCUIT 1 / END
AE_P4-2 AE33	CONTINGENCY 'AE_P4-2 AE33' /*LEWIS TO CARDIFF BREAKER V DISCONNECT BRANCH FROM BUS 227902 TO BUS 227913 CKT 1 /*LEWIS CARDIFF 138 138 DISCONNECT BRANCH FROM BUS 227902 TO BUS 227903 CKT 1 /*LEWIS MILL #1 138 138 DISCONNECT BRANCH FROM BUS 227902 TO BUS 227918 CKT 1 /*LEWIS 138 69 T1 END
PS_P7-1_V2274+P2242_LT	CONTINGENCY 'PS_P7-1_V2274+P2242_LT' /* EAGLE POINT - GLOUCESTER & DEPTFORD - GLOUCESTER DISCONNECT BUS 219757 /* DEPTFORD SECTION 2 DISCONNECT BUS 219760 /* EAGLE POINT SECTION 4 TRIP LINE FROM BUS 219110 TO BUS 219128 CKT 1 /* DISCONNECT TRANSFORMER 26KV CKT 1 CLOSE LINE FROM BUS 219255 TO BUS 219256 CKT Z /* DEPTFORD CLOSE LINE FROM BUS 219180 TO BUS 219181 CKT Z /* DEPTFORD MOVE 8 MW LOAD FROM BUS 219180 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219181 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 MOVE 8 MW LOAD FROM BUS 219255 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219256 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 END
AE_P1-2 BLE-ML-LEW2	CONTINGENCY 'AE_P1-2 BLE-ML-LEW2' DISCONNECT BUS 227904 / DISCONNECT BUS 227906 / DISCONNECT BUS 227930 / 227930 CIRCUIT 1 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / END
AE_P1-2 BLE-ML-LEW1	CONTINGENCY 'AE_P1-2 BLE-ML-LEW1' DISCONNECT BUS 227903 / DISCONNECT BUS 227905 / DISCONNECT BUS 227929 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / END
AE_P4-2 AE28	CONTINGENCY 'AE_P4-2 AE28' /*ENGLAND TO OCEAN CITY BREAKER C DISCONNECT BRANCH FROM BUS 228110 TO BUS 228660 CKT 1 /*ENGLAND OCEAN CITY 138 138 DISCONNECT BRANCH FROM BUS 228110 TO BUS 227905 CKT 1 /*ENGLAND #1 SCULL 138 138 END
AE_P4-2 AE29	CONTINGENCY 'AE_P4-2 AE29' /*ENGLAND TO CORSON BREAKER D DISCONNECT BRANCH FROM BUS 228110 TO BUS 228111 CKT 1 /*ENGLAND MIDDLE TAP 138 138 DISCONNECT BRANCH FROM BUS 228110 TO BUS 227906 CKT 1 /*ENGLAND #2 SCULL 138 138 END

Contingency Name	Contingency Definition
AE_P4-2 AE47	CONTINGENCY 'AE_P4-2 AE47' /*ORCHARD 230 BUS BREAKER NEW2 DISCONNECT BRANCH FROM BUS 228002 TO BUS 228310 CKT 1 /* ORCHARD TO CHURCHTOWN 230 230 DISCONNECT BRANCH FROM BUS 228002 TO BUS 228207 CKT 1 /* ORCHARD TO CUMBERLAND 230 230 END
AE_P4-2 AE45	CONTINGENCY 'AE_P4-2 AE45' /*ORCHARD 230 BUS BREAKER E DISCONNECT BRANCH FROM BUS 228002 TO BUS 227900 CKT 1 /* ORCHARD TO CARDIFF 230 230 DISCONNECT BRANCH FROM BUS 200063 TO BUS 228002 CKT 1 /*ORCHARD ORCHARD 500 230 T1 END
AE_P1-2 BLE-SC-ML1	CONTINGENCY 'AE_P1-2 BLE-SC-ML1' DISCONNECT BUS 227905 / DISCONNECT BUS 227929 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / END
AE_P1-2 BLE-SC-ML2	CONTINGENCY 'AE_P1-2 BLE-SC-ML2' DISCONNECT BUS 227906 / DISCONNECT BUS 227930 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / END
Base Case	
AE_P7-1 AE7TOWER	CONTINGENCY 'AE_P7-1 AE7TOWER' DISCONNECT BUS 227905 /* #1 BLE TO SCULL TO MILL 138 KV DISCONNECT BUS 227929 /* #1 SCULL 12 KV DISCONNECT BUS 227906 /* #2 BLE TO SCULL TO MILL 138 KV DISCONNECT BUS 227930 /* #2 SCULL 12 KV DISCONNECT BUS 227903 /* #1 MILL TO LEWIS 138 KV DISCONNECT BUS 227904 /* #2 MILL TO LEWIS 138 KV END
AE_P7-1 W2275_O2241	CONTINGENCY 'AE_P7-1 W2275_O2241' /* DOUBLE CIRCUIT TOWER W-2275(MICKLETON - DEPTFORD) AND O-2241(MICKLETON - THOROFARE) TRIP BRANCH FROM BUS 219762 TO BUS 228401 CKT 1 /* TRIP O-2241(MICKLETON - THOROFARE) 230KV TRIP BRANCH FROM BUS 219121 TO BUS 228401 CKT 1 /* TRIP (MICKLETON - THOROFARE #2) 230KV END

Secondary POI Flow Gate Details

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ID	FROM BUS#	FROM BUS	FROM BUS	TO BUS#	TO BUS	TO BUS	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT	POST PROJECT	AC DC	MW IMPACT
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			AREA			AREA					LOADING %	LOADING %		
872830	228110	BLE	AE	227905	SCULL#1	AE	1	AE_P4- 2 AE29	breaker	307.0	103.19	105.53	DC	7.14

Bus #	Bus	MW Impact
228202	CUMB CT	1.7
228203	P06	1.66
228206	SHRMN CT	1.51
228261	V4-054E	0.63
228711	V2-041C	0.04
228712	V2-041E	0.44
292062	V1-021 C	0.09
292063	V1-021 E	0.09
913341	Y1-077	40.88
924531	AB2-102 C	36.78
924532	AB2-102 E	0.82
936411	AD2-052 C	0.34
936412	AD2-052 E	0.17
938421	AE1-061 C	0.14
938422	AE1-061 E	0.14
939501	AE1-179 C O2	4.77
939502	AE1-179 E O2	3.37
940001	AE1-240 C O2	4.17
940002	AE1-240 E O2	2.98
BAYOU	BAYOU	0.19
BIG_CAJUN1	BIG_CAJUN1	0.3
BIG_CAJUN2	BIG_CAJUN2	0.6
BLUEG	BLUEG	0.94
CALDERWOOD	CALDERWOOD	0.1
CANNELTON	CANNELTON	0.06
CARR	CARR	0.13
CATAWBA	CATAWBA	0.06
CHEOAH	CHEOAH	0.09
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.2
COFFEEN	COFFEEN	0.1
COTTONWOOD	COTTONWOOD	0.77
DEARBORN	DEARBORN	0.17
DUCKCREEK	DUCKCREEK	0.22
EDWARDS	EDWARDS	0.1
ELMERSMITH	ELMERSMITH	0.1
FARMERCITY	FARMERCITY	0.07
G-007	G-007	0.7
GIBSON	GIBSON	0.04
HAMLET	HAMLET	0.21
NEWTON	NEWTON	0.26
O-066	O-066	1.46
PRAIRIE	PRAIRIE	0.48
RENSSELAER	RENSSELAER	0.1
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.04
TATANKA	TATANKA	0.12
TILTON	TILTON	0.12

Bus #	Bus	MW Impact
TRIMBLE	TRIMBLE	0.1
TVA	TVA	0.32
UNIONPOWER	UNIONPOWER	0.14

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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
872887	228110	BLE	AE	227906	SCULL#2	AE	1	AE_P4-2 AE28	breaker	307.0	99.92	102.64	DC	8.34

Bus #	Bus	MW Impact
228202	CUMB CT	1.98
228203	P06	1.93
228206	SHRMN CT	1.76
228261	V4-054E	0.74
228711	V2-041C	0.05
228712	V2-041E	0.51
292062	V1-021 C	0.1
292063	V1-021 E	0.1
913341	Y1-077	36.37
924531	AB2-102 C	42.91
924532	AB2-102 E	0.95
936411	AD2-052 C	0.4
936412	AD2-052 E	0.2
938421	AE1-061 C	0.16
938422	AE1-061 E	0.16
939501	AE1-179 C O2	5.57
939502	AE1-179 E O2	3.93
940001	AE1-240 C O2	4.87
940002	AE1-240 E O2	3.47
BAYOU	BAYOU	0.18
BIG_CAJUN1	BIG_CAJUN1	0.28
BIG_CAJUN2	BIG_CAJUN2	0.57
BLUEG	BLUEG	0.89
CALDERWOOD	CALDERWOOD	0.1
CANNELTON	CANNELTON	0.05
CARR	CARR	0.13
CATAWBA	CATAWBA	0.06
CHEOAH	CHEOAH	0.09
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.19
COFFEEN	COFFEEN	0.09
COTTONWOOD	COTTONWOOD	0.73
DEARBORN	DEARBORN	0.16
DUCKCREEK	DUCKCREEK	0.2
EDWARDS	EDWARDS	0.09
ELMERSMITH	ELMERSMITH	0.09

Bus #	Bus	MW Impact
FARMERCITY	FARMERCITY	0.06
G-007	G-007	0.78
GIBSON	GIBSON	0.04
HAMLET	HAMLET	0.2
NEWTON	NEWTON	0.25
O-066	O-066	1.57
PRAIRIE	PRAIRIE	0.46
RENSSELAER	RENSSELAER	0.1
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.04
TATANKA	TATANKA	0.11
TILTON	TILTON	0.11
TRIMBLE	TRIMBLE	0.1
TVA	TVA	0.31
UNIONPOWER	UNIONPOWER	0.14

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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
873086	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	AE_P1-2 MICK-BRIDG	single	74.0	115.05	118.39	DC	2.48

Bus #	Bus	MW Impact
228200	CARL#1CT	0.87
228201	CARL#2CT	0.92
228206	SHRMN CT	0.59
228251	CARLLS#4	0.1
228260	V4-054C	0.24
228334	MANNMILG	0.57
228343	QUINTN#1	0.04
228351	V2-046C	0.61
228702	WEST CT	0.3
228711	V2-041C	0.01
228717	S121	0.47
228727	W2-039G	0.86
936411	AD2-052 C	0.84
939501	AE1-179 C O2	3.42
939931	AE1-229 C O2	39.48
940001	AE1-240 C O2	2.48
BAYOU	BAYOU	0.05
BIG_CAJUN1	BIG_CAJUN1	0.07
BIG_CAJUN2	BIG_CAJUN2	0.15
BLUEG	BLUEG	0.23
CALDERWOOD	CALDERWOOD	0.03
CANNELTON	CANNELTON	0.01
CARR	CARR	0.02
CATAWBA	CATAWBA	0.02
CHEOAH	CHEOAH	0.02

Bus #	Bus	MW Impact
CHILHOWEE	CHILHOWEE	0.01
CHOCTAW	CHOCTAW	0.05
COFFEEN	COFFEEN	0.02
COTTONWOOD	COTTONWOOD	0.19
DEARBORN	DEARBORN	0.04
DUCKCREEK	DUCKCREEK	0.05
EDWARDS	EDWARDS	0.02
ELMERSMITH	ELMERSMITH	0.02
FARMERCITY	FARMERCITY	0.02
GIBSON	GIBSON	0.01
HAMLET	HAMLET	0.05
NEWTON	NEWTON	0.06
PRAIRIE	PRAIRIE	0.12
RENSSELAER	RENSSELAER	0.02
SANTEETLA	SANTEETLA	0.01
SMITHLAND	SMITHLAND	0.01
TATANKA	TATANKA	0.03
TILTON	TILTON	0.03
TRIMBLE	TRIMBLE	0.03
TVA	TVA	0.08
UNIONPOWER	UNIONPOWER	0.04

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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
873909	206297	28MANITOU	JCP&L	206319	28WHITINGS	JCP&L	1	JC-P7-1-JCC-230-11A	tower	817.0	99.92	100.1	DC	3.25

Bus #	Bus	MW Impact
206280	28LAKEHURS	0.3
206325	28O C GEN	313.1
206360	28O CRK C1	2.65
206361	28O CRK C2	1.71
227801	ONTC&DCT	5.31
227842	MARINGEN	0.08
227843	MARINGEN E	0.55
227927	V4-067C	0.02
227928	V4-067E	0.23
228014	PVILLEG	0.09
228712	V2-041E	0.18
292063	V1-021 E	0.03
292966	U2-045 C	0.05
292967	U2-045 E	2.39
293404	V3-036	0.76
902092	W1-130E	0.44
902432	W2-030 E	0.84
905531	W4-063 C	0.01
905532	W4-063 E	0.6

Bus #	Bus	MW Impact
915022	Y3-012 E	1.03
924531	AB2-102 C	16.76
924532	AB2-102 E	0.37
924701	AB2-122 C	0.1
924702	AB2-122 E	0.17
930001	AB1-001 C	0.02
930002	AB1-001 E	0.2
930891	AB1-138 C	0.5
930892	AB1-138 E	0.84
931191	AB1-169A	39.41
933962	AD1-019 E	1.05
938211	AE1-034 C O2	174.27
938212	AE1-034 E O2	445.9
938301	AE1-045 C	0.14
938302	AE1-045 E	0.07
938311	AE1-046 C	0.14
938312	AE1-046 E	0.07
938421	AE1-061 C	0.19
938422	AE1-061 E	0.19
938781	AE1-104 C O2	18.54
938782	AE1-104 E O2	47.42
939121	AE1-142 C O2	3.23
939122	AE1-142 E O2	4.64
939501	AE1-179 C O2	2.22
939502	AE1-179 E O2	1.57
940001	AE1-240 C O2	1.9
940002	AE1-240 E O2	1.36
BAYOU	BAYOU	0.05
BIG_CAJUN1	BIG_CAJUN1	0.07
BIG_CAJUN2	BIG_CAJUN2	0.15
BLUEG	BLUEG	0.26
CALDERWOOD	CALDERWOOD	0.02
CANNELTON	CANNELTON	0.02
CARR	CARR	0.31
CATAWBA	CATAWBA	0.01
CHEOAH	CHEOAH	0.02
CHILHOWEE	CHILHOWEE	0.01
CHOCTAW	CHOCTAW	0.05
COFFEEN	COFFEEN	0.03
COTTONWOOD	COTTONWOOD	0.19
DEARBORN	DEARBORN	0.05
DUCKCREEK	DUCKCREEK	0.06
EDWARDS	EDWARDS	0.03
ELMERSMITH	ELMERSMITH	0.03
FARMERCITY	FARMERCITY	0.02
G-007	G-007	2.94
GIBSON	GIBSON	0.01
HAMLET	HAMLET	0.03
NEWTON	NEWTON	0.07
O-066	O-066	4.4
PRAIRIE	PRAIRIE	0.13
RENSSELAER	RENSSELAER	0.25

Bus #	Bus	MW Impact
SANTEETLA	SANTEETLA	0.01
SMITHLAND	SMITHLAND	0.01
TATANKA	TATANKA	0.03
TILTON	TILTON	0.03
TRIMBLE	TRIMBLE	0.03
TVA	TVA	0.08
UNIONPOWER	UNIONPOWER	0.03

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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
872748	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE47	breaker	552.0	111.7	112.15	DC	6.2

Bus #	Bus	MW Impact
228200	CARL#1CT	0.89
228201	CARL#2CT	0.95
228251	CARLLS#4	0.1
228260	V4-054C	0.25
228261	V4-054E	1.34
228306	PCLP STM	7.49
228307	PCLP GT	7.48
228309	CCLP NUG	26.0
228334	MANNMILG	0.49
228343	QUINTN#1	0.12
228351	V2-046C	0.36
228357	V2-046E	4.36
228712	V2-041E	0.26
228720	V2-035C	0.04
228721	V2-035E	0.4
902092	W1-130E	0.82
903963	W3-175	38.64
918891	AA1-108	16.46
924531	AB2-102 C	21.32
924532	AB2-102 E	0.47
931191	AB1-169A	72.23
936411	AD2-052 C	2.63
936412	AD2-052 E	1.29
938301	AE1-045 C	0.26
938302	AE1-045 E	0.13
938311	AE1-046 C	0.26
938312	AE1-046 E	0.13
938421	AE1-061 C	0.35
938422	AE1-061 E	0.35
938871	AE1-115 C	5.0
938872	AE1-115 E	5.0
939301	AE1-161 C	1.67
939302	AE1-161 E	2.51
939501	AE1-179 C O2	4.67
939502	AE1-179 E O2	3.3

Bus #	Bus	MW Impact
939931	AE1-229 C O2	33.44
939932	AE1-229 E O2	22.66
940001	AE1-240 C O2	3.62
940002	AE1-240 E O2	2.58
BAYOU	BAYOU	0.39
BIG_CAJUN1	BIG_CAJUN1	0.6
BIG_CAJUN2	BIG_CAJUN2	1.22
BLUEG	BLUEG	1.87
CALDERWOOD	CALDERWOOD	0.2
CANNELTON	CANNELTON	0.11
CARR	CARR	0.12
CATAWBA	CATAWBA	0.13
CHEOAH	CHEOAH	0.19
CHILHOWEE	CHILHOWEE	0.07
CHOCTAW	CHOCTAW	0.4
COFFEEN	COFFEEN	0.2
COTTONWOOD	COTTONWOOD	1.56
DEARBORN	DEARBORN	0.33
DUCKCREEK	DUCKCREEK	0.43
EDWARDS	EDWARDS	0.2
ELMERSMITH	ELMERSMITH	0.2
FARMERCITY	FARMERCITY	0.13
G-007	G-007	0.12
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.43
NEWTON	NEWTON	0.52
O-066	O-066	1.01
PRAIRIE	PRAIRIE	0.97
RENSSELAER	RENSSELAER	0.09
SANTEETLA	SANTEETLA	0.06
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.24
TILTON	TILTON	0.24
TRIMBLE	TRIMBLE	0.21
TVA	TVA	0.65
UNIONPOWER	UNIONPOWER	0.29

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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
874028	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	804.0	108.45	108.76	DC	10.08

Bus #	Bus	MW Impact
219229	EAGLEPT_G3	3.84
219230	EAGLEPT_G1	5.68
219231	EAGLEPT_G2	5.68

Bus #	Bus	MW Impact
227801	ONTC&DCT	4.46
227843	MARINGEN E	0.46
228261	V4-054E	1.48
228357	V2-046E	3.92
228400	MICK 1CT	2.61
228423	Q-090 2	49.81
228471	VALERO1	0.88
228472	VALERO2	0.61
228473	VALERO3	0.61
228484	VALERO4	0.52
228712	V2-041E	0.41
228720	V2-035C	0.05
228721	V2-035E	0.48
291995	U4-036 C	0.12
291996	U4-036 E	1.32
292063	V1-021 E	0.04
292104	V1-030 C6	0.04
292105	V1-030 E6	0.38
292967	U2-045 E	2.01
293404	V3-036	0.64
902091	W1-130C	0.21
902092	W1-130E	2.23
902432	W2-030 E	0.69
905143	W4-016	97.12
905532	W4-063 E	0.5
909032	X2-013 E	0.83
915022	Y3-012 E	0.87
917471	Z2-083	4.69
918852	AA1-104 E	8.27
924051	AB2-049 C	0.69
924052	AB2-049 E	1.13
924531	AB2-102 C	32.0
924532	AB2-102 E	0.71
930002	AB1-001 E	0.17
930722	AB1-116 E	0.21
930732	AB1-119 E	0.1
931191	AB1-169A	196.86
933962	AD1-019 E	0.88
936411	AD2-052 C	1.83
936412	AD2-052 E	0.9
936491	AD2-064 C	0.07
936492	AD2-064 E	0.1
938301	AE1-045 C	0.72
938302	AE1-045 E	0.36
938311	AE1-046 C	0.72
938312	AE1-046 E	0.36
938421	AE1-061 C	0.96
938422	AE1-061 E	1.8
938781	AE1-104 C O2	16.64
938782	AE1-104 E O2	42.57
938871	AE1-115 C	1.54
938872	AE1-115 E	1.54

Bus #	Bus	MW Impact
939301	AE1-161 C	8.82
939302	AE1-161 E	13.22
939501	AE1-179 C O2	7.37
939502	AE1-179 E O2	5.2
939821	AE1-218 C O2	0.3
939822	AE1-218 E O2	0.45
939831	AE1-219 C O2	0.68
939832	AE1-219 E O2	0.98
939931	AE1-229 C O2	26.77
939932	AE1-229 E O2	18.14
940001	AE1-240 C O2	5.88
940002	AE1-240 E O2	4.2
BAYOU	BAYOU	0.58
BIG_CAJUN1	BIG_CAJUN1	0.89
BIG_CAJUN2	BIG_CAJUN2	1.79
BLUEG	BLUEG	2.79
CALDERWOOD	CALDERWOOD	0.3
CANNELTON	CANNELTON	0.17
CARR	CARR	0.42
CATAWBA	CATAWBA	0.19
CHEOAH	CHEOAH	0.27
CHILHOWEE	CHILHOWEE	0.1
CHOCTAW	CHOCTAW	0.59
COFFEEN	COFFEEN	0.29
COTTONWOOD	COTTONWOOD	2.29
DEARBORN	DEARBORN	0.49
DUCKCREEK	DUCKCREEK	0.64
EDWARDS	EDWARDS	0.29
ELMERSMITH	ELMERSMITH	0.29
FARMERCITY	FARMERCITY	0.19
G-007	G-007	1.48
GIBSON	GIBSON	0.12
HAMLET	HAMLET	0.62
NEWTON	NEWTON	0.77
O-066	O-066	5.0
PRAIRIE	PRAIRIE	1.43
RENSSELAER	RENSSELAER	0.33
SANTEETLA	SANTEETLA	0.08
SMITHLAND	SMITHLAND	0.11
TATANKA	TATANKA	0.35
TILTON	TILTON	0.35
TRIMBLE	TRIMBLE	0.31
TVA	TVA	0.96
UNIONPOWER	UNIONPOWER	0.43

Contingency Name	Contingency Definition
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Contingency Name	Contingency Definition
AE_P1-2 PED-BRIDGE	CONTINGENCY 'AE_P1-2 PED-BRIDGE' OPEN LINE FROM BUS 228312 TO BUS 228313 CIRCUIT 1 / END
AE_P1-2 MICK-BRIDG	CONTINGENCY 'AE_P1-2 MICK-BRIDG' OPEN LINE FROM BUS 228313 TO BUS 228401 CIRCUIT 1 / END
PS_P7-1_V2274+P2242_LT	CONTINGENCY 'PS_P7-1_V2274+P2242_LT' /* EAGLE POINT - GLOUCESTER & DEPTFORD - GLOUCESTER DISCONNECT BUS 219757 /* DEPTFORD SECTION 2 DISCONNECT BUS 219760 /* EAGLE POINT SECTION 4 TRIP LINE FROM BUS 219110 TO BUS 219128 CKT 1 /* DISCONNECT TRANSFORMER 26KV CKT 1 CLOSE LINE FROM BUS 219255 TO BUS 219256 CKT Z /* DEPTFORD CLOSE LINE FROM BUS 219180 TO BUS 219181 CKT Z /* DEPTFORD MOVE 8 MW LOAD FROM BUS 219180 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219181 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 MOVE 8 MW LOAD FROM BUS 219255 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219256 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 END
JC-P7-1-JCC-230-11A	CONTINGENCY 'JC-P7-1-JCC-230-11A' /* LAKEWOOD - LEISURE V 230 KV LINES DISCONNECT BRANCH FROM BUS 206323 TO BUS 206295 CKT 1 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206296 CKT 1 DISCONNECT BRANCH FROM BUS 206323 TO BUS 206282 CKT 6 DISCONNECT BRANCH FROM BUS 206282 TO BUS 206999 CKT 1 SET BUS 206295 LOAD TO 0 MW DISCONNECT BUS 206999 DISCONNECT BUS 207110 DISCONNECT BUS 207010 DISCONNECT BUS 207111 END
AE_P4-2 AE28	CONTINGENCY 'AE_P4-2 AE28' /* ENGLAND TO OCEAN CITY BREAKER C DISCONNECT BRANCH FROM BUS 228110 TO BUS 228660 CKT 1 /* ENGLAND OCEAN CITY 138 138 DISCONNECT BRANCH FROM BUS 228110 TO BUS 227905 CKT 1 /* ENGLAND #1 SCULL 138 138 END
AE_P4-2 AE29	CONTINGENCY 'AE_P4-2 AE29' /* ENGLAND TO CORSON BREAKER D DISCONNECT BRANCH FROM BUS 228110 TO BUS 228111 CKT 1 /* ENGLAND MIDDLE TAP 138 138 DISCONNECT BRANCH FROM BUS 228110 TO BUS 227906 CKT 1 /* ENGLAND #2 SCULL 138 138 END
AE_P4-2 AE47	CONTINGENCY 'AE_P4-2 AE47' /* ORCHARD 230 BUS BREAKER NEW2 DISCONNECT BRANCH FROM BUS 228002 TO BUS 228310 CKT 1 /* ORCHARD TO CHURCHTOWN 230 230 DISCONNECT BRANCH FROM BUS 228002 TO BUS 228207 CKT 1 /* ORCHARD TO CUMBERLAND 230 230 END

Contingency Name	Contingency Definition
AE_P1-2 CHU-WOOD 2-A	CONTINGENCY 'AE_P1-2 CHU-WOOD 2-A' OPEN LINE FROM BUS 228319 TO BUS 939930 CIRCUIT 1 / END
AE_P1-2 BLE-SC-ML1	CONTINGENCY 'AE_P1-2 BLE-SC-ML1' DISCONNECT BUS 227905 / DISCONNECT BUS 227929 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / END
AE_P1-2 BLE-SC-ML2	CONTINGENCY 'AE_P1-2 BLE-SC-ML2' DISCONNECT BUS 227906 / DISCONNECT BUS 227930 / CLOSE LINE FROM BUS 227929 TO BUS 227930 CIRCUIT 1 / END
Base Case	
AE_P7-1 W2275_O2241	CONTINGENCY 'AE_P7-1 W2275_O2241' /* DOUBLE CIRCUIT TOWER W- 2275(MICKLETON - DEPTFORD) AND O-2241(MICKLETON - THOROFARE) TRIP BRANCH FROM BUS 219762 TO BUS 228401 CKT 1 /* TRIP O-2241(MICKLETON - THOROFARE) 230KV TRIP BRANCH FROM BUS 219121 TO BUS 228401 CKT 1 /* TRIP (MICKLETON - THOROFARE #2) 230KV END