



**Generation Interconnection
Feasibility Study Report
for
Queue Project AG1-472
SEYMOUR-CAVE CITY 69 KV
48 MW Capacity / 80 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 EKPC.

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 generating facility located in Hart County, Kentucky. The installed facilities will have a total capability of 80 MW with 48 MW of this output being recognized by PJM as Capacity.

The proposed in-service date for this project is October 09, 2023. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-472
Project Name	SEYMOUR-CAVE CITY 69 KV
State	Kentucky
County	Hart
Transmission Owner	EKPC
MFO	80
MWE	80
MWC	48
Fuel	Solar
Basecase Study Year	2024

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

4 Point of Interconnection

AG1-472 will interconnect with the EKPC transmission system along one of the following Points of Interconnection:

Primary POI: Seymore to Cave City Junction 69 kV line.

Secondary POI: Seymore to Horsecave Tap 69 kV line.

5 Cost Summary

The AG1-472 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$7,445,000
Total System Network Upgrade Costs	\$16,320,000
Total Costs	\$23,765,000

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.

6 Transmission Owner Scope of Work

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

6.1 Attachment Facilities

The total preliminary cost estimate for the Attachment work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Total Cost
Install necessary equipment (a 69 kV isolation switch structure and associated switch, plus interconnection metering, fiber-optic connection and telecommunications equipment, circuit breaker and associated switches, and relay panel) at the new South Hart switching station, to accept the IC generator lead line/bus (Estimated time to implement is 21 months)	\$1,170,000
Total Attachment Facility Costs	\$1,170,000

6.2 Direct Connection Cost Estimate

The total preliminary cost estimate for the Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Total Cost
Construct a new 69 kV switching station (South Hart) to facilitate connection of the IC solar generation project to the existing Seymour Tap-Seymour 69 kV radial tap line (Estimated time to implement is 21 months)	\$3,510,000
Total Direct Connection Facility Costs	\$3,510,000

6.3 Non-Direct Connection Cost Estimate

The total preliminary cost estimate for the Non-Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Total Cost
Construct approximately 2.2 miles of new 69 kV line to loop the existing Barren County-Cave City Junction-Cave City 69 kV line into the new South Hart switching station (Estimated time to implement is 24 months).	\$2,000,000
Construct facilities to loop the existing Seymour Tap-Seymour 69 kV radial tap line into the new South Hart switching station (Estimated time to implement is 21 months)	\$185,000
Modify relays and/or settings at the Barren County substation for the line to the South Hart switching station (Estimated time to implement is 9 months)	\$85,000
Modify relays and/or settings at the Fox Hollow substation for the line to the South Hart switching station (Estimated time to implement is 9 months)	\$85,000
Install OPGW on the Barren County-Cave City Junction 69 kV line (1.4 miles) (Estimated time to implement is 18 months)	\$410,000
Total Non-Direct Connection Facility Costs	\$2,765,000

7 Interconnection Customer Requirements

It is understood that the Interconnection Customer (IC) is responsible for all costs associated with this interconnection. The costs above are reimbursable to the Transmission Owner. The cost of the IC's generating plant and the costs for the line connecting the generating plant to the Point of Interconnection are not included in this report; these are assumed to be the IC's responsibility.

The Generation Interconnection Agreement does not in or by itself establish a requirement for the Transmission Owner to provide power for consumption at the developer's facilities. A separate agreement may be reached with the local utility that provides service in the area to ensure that infrastructure is in place to meet this demand and proper metering equipment is installed. It is the responsibility of the developer to contact the local service provider to determine if a local service agreement is required.

1. An Interconnection Customer entering the New Services Queue on or after October 1, 2012 with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.
2. The Interconnection Customer may be required to install and/or pay for metering as necessary to properly track real time output of the facility as well as installing metering which shall be used for billing purposes. See Section 8 of Appendix 2 to the Interconnection Service Agreement as well as Section 4 of PJM Manual 14D for additional information.

8 Revenue Metering and SCADA Requirements

8.1 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.

8.2 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)

8.3 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/>

9 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AG1-472 was evaluated as a 80.0 MW (Capacity 48.0 MW) injection tapping the Seymore to Cave City Junction 69 kV line in the EKPC area. Project AG1-472 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-472 was studied with a commercial probability of 53.0 %. Potential network impacts were as follows:

9.1 Generation Deliverability

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

None

9.2 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 PROJE T LOADIN G %	POST PROJE T LOADIN G %	AC/D C	MW IMPAC T
166832221	341491	2FOX HOLLOW	69.0	EKPC	342049	2PATTON RD J	69.0	EKP C	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	89.2	102.62	DC	13.15
166832224	341914	2MUNFVILK U T	69.0	EKPC	341908	2MUNFVIL EK	69.0	EKP C	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	76.46	101.76	DC	24.79
166832213	342322	2SUMM SHADE	69.0	EKPC	341431	2EDM-JBGAL J	69.0	EKP C	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	46.0	98.99	103.82	DC	4.93
166832191	960740	AF2-365 TAP	69.0	EKPC	341914	2MUNFVILK U T	69.0	EKP C	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	82.17	107.47	DC	24.79

9.3 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 PROJE T LOADIN G %	POST PROJE T LOADIN G %	AC/D C	MW IMPAC T
166832115	341059	2BARREN CO	69.0	EKPC	341651	2HORSECA VE J	69.0	EKP C	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	90.0	109.01	136.56	DC	24.79
166832344	342286	2SOMERS ET	69.0	EKPC	342287	2SOMERSE T KU	69.0	EKP C	1	EKPC_P7-1_COOP 161 DBL 2	towe r	115.0	132.99	134.77	DC	4.53
165422213	342287	2SOMERS ET KU	69.0	EKPC	324531	2FERGUSO N SO	69.0	LGE E	1	EKPC_P7-1_COOP 161 DBL 2	towe r	105.0	151.78	154.22	DC	5.66
166832129	342319	2SUMM SHAD J	69.0	EKPC	342322	2SUMM SHADE	69.0	EKP C	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	117.54	130.96	DC	13.15
165421962	342718	5COOPER 2	161.0	EKPC	324141	5ELIHU	161.0	LGE E	1	EKPC_P2-2_LAUREL CO 161	bus	277.0	133.56	136.49	DC	8.12
165422228	342718	5COOPER 2	161.0	EKPC	324141	5ELIHU	161.0	LGE E	1	EKPC_P7-1_LAURL 161 DBL	towe r	277.0	133.79	136.71	DC	8.1
169477524	342718	5COOPER 2	161.0	EKPC	324141	5ELIHU	161.0	LGE E	1	EKPC_P2-1_SLAUREL CO 161.00 TO SLAUREL DAM 161.00	singl e	277.0	111.37	113.13	DC	4.88
169477638	342757	5LAUREL DAM	161.0	EKPC	342754	5LAUREL CO	161.0	EKP C	1	EXT_B-69-25	singl e	200.0	106.82	108.12	DC	2.59
169477639	342757	5LAUREL DAM	161.0	EKPC	342754	5LAUREL CO	161.0	EKP C	1	EXT_324130 SALCALDE 161 324141 SELIHU 161 1	singl e	200.0	102.97	104.26	DC	2.58

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
1694773 91	34277 5	5MARION IP T	161. 0	EKPC	34276 9	5MARION CO	161. 0	EKP C	1	Base Case	single	84.0	102.18	105.78	DC	3.02
1668321 24	94083 0	AE2-071 TAP	69.0	EKPC	34231 9	2SUMM SHAD J	69.0	EKP C	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	63.0	125.83	131.06	DC	7.31
1668321 43	95969 0	AF2-260 TAP	69.0	EKPC	96017 0	AF2-308 TAP	69.0	EKP C	1	EKPC_P2-2_KU HODG 69	bus	98.0	123.19	125.31	DC	4.62
1668320 96	96017 0	AF2-308 TAP	69.0	EKPC	34128 7	2CENT HARDIN	69.0	EKP C	1	EKPC_P2-2_KU HODG 69	bus	98.0	187.92	190.05	DC	4.62
1668320 97	96017 0	AF2-308 TAP	69.0	EKPC	34128 7	2CENT HARDIN	69.0	EKP C	1	EKPC_P2-2_BONNIE 138/69	bus	98.0	156.11	159.2	DC	6.72

9.4 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 PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
1647054 08	3240 10	7TRIMBL REAC	345. 0	LGE E	2480 00	06CLIFTY	345. 0	OVE C	1	Base Case	operati on	1134 .0	101.36	102.4	DC	11.77
1694775 93	3410 59	2BARREN CO	69.0	EKP C	3416 51	2HORSECA VE J	69.0	EKP C	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operati on	90.0	100.55	127.12	DC	23.91
1694776 35	3410 59	2BARREN CO	69.0	EKP C	3415 42	2GOODNI GHT	69.0	EKP C	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operati on	90.0	73.95	115.1	DC	37.03
1694776 81	3410 80	2BECKTO N	69.0	EKP C	3424 45	2W GLASGOW T	69.0	EKP C	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operati on	90.0	86.05	107.23	DC	19.06
1694776 98	3411 49	2BON AYR	69.0	EKP C	3410 80	2BECKTON	69.0	EKP C	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operati on	98.0	86.17	105.62	DC	19.06
1694775 87	3412 75	2CAVE CITY J	69.0	EKP C	3410 59	2BARREN CO	69.0	EKP C	1	Base Case	operati on	77.0	40.93	128.14	DC	67.15
1694775 88	3412 75	2CAVE CITY J	69.0	EKP C	3410 59	2BARREN CO	69.0	EKP C	1	EXT_360334 5SUMMER SHAD 161 360607 5S GLASGOW 161 1	operati on	90.0	38.46	113.6	DC	67.63
1694776 83	3412 75	2CAVE CITY J	69.0	EKP C	3412 72	2CAVE CITY	69.0	EKP C	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operati on	46.0	64.87	106.3	DC	19.06
1694776 64	3422 87	2SOMER SET KU	69.0	EKP C	3245 31	2FERGUSO N SO	69.0	LGE E	1	EKPC_P2-1_5ELIHU 161.00 TO 5COOPER2 161.00	operati on	105. 0	106.57	108.55	DC	4.61

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC/DC	MW IMPACT
1694776 57	3423 19	2SUMM SHAD J	69.0	EKP C	3423 22	2SUMM SHADE	69.0	EKP C	1	EKPC_P2-1_5FOX HOLLOW 161.00 TO 5E GLASGOW T161.00	operation	98.0	86.97	111.89	DC	24.42
1694776 59	3423 19	2SUMM SHAD J	69.0	EKP C	3423 22	2SUMM SHADE	69.0	EKP C	1	Base Case	operation	89.0	89.79	103.11	DC	11.86
1694775 21	3427 18	5SCOOPER2	161.0	EKP C	3241 41	5ELIHU	161.0	LGE E	1	EKPC_P2-1_SLAUREL CO 161.00 TO SLAUREL DAM 161.00	operation	277.0	133.54	136.47	DC	8.13
1694775 23	3427 18	5SCOOPER2	161.0	EKP C	3241 41	5ELIHU	161.0	LGE E	1	Base Case	operation	219.0	110.81	112.23	DC	6.89
1694776 36	3427 57	5LAUREL DAM	161.0	EKP C	3427 54	5LAUREL CO	161.0	EKP C	1	EXT_B-69-25	operation	200.0	112.44	113.42	DC	4.32
1694775 34	3427 69	5MARIO N CO	161.0	EKP C	3427 70	4MARION CO	138.0	EKP C	1	EKPC_P2-1_5CASEY CO 161.00 TO 5MARION CO 161.00	operation	220.0	119.53	120.35	DC	4.0
1694775 38	3427 70	4MARIO N CO	138.0	EKP C	3242 71	4LEBANON	138.0	LGE E	1	EKPC_P2-1_5CASEY CO 161.00 TO 5MARION CO 161.00	operation	220.0	119.53	120.35	DC	4.0
1694773 89	3427 75	5MARIO N I P T	161.0	EKP C	3427 69	5MARION CO	161.0	EKP C	1	Base Case	operation	84.0	153.22	155.92	DC	5.03
1694773 90	3427 75	5MARIO N I P T	161.0	EKP C	3427 69	5MARION CO	161.0	EKP C	1	EKPC_P2-1_5TAYLOR CO 161.00 TO 5TAYLOR CO J161.00	operation	131.0	118.44	120.21	DC	5.16
1694775 53	3428 14	5SUMM SHADE	161.0	EKP C	3603 34	5SUMMER SHAD	161.0	TVA	1	EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUM SHAD TP161.00	operation	289.0	118.98	129.33	DC	29.89
1694776 60	3428 14	5SUMM SHADE	161.0	EKP C	3617 88	5SUM SHAD TP	161.0	TVA	1	EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUMMER SHAD161.00	operation	350.0	98.04	106.57	DC	29.84
1697727 37	9408 30	AE2-071 TAP	69.0	EKP C	3423 19	2SUMM SHAD J	69.0	EKP C	1	EXT_360334 5SUMMER SHAD 161 360607 5S GLASGOW 161 1	operation	63.0	110.95	116.52	DC	7.78
1697727 38	9408 30	AE2-071 TAP	69.0	EKP C	3423 19	2SUMM SHAD J	69.0	EKP C	1	Base Case	operation	57.0	110.75	115.95	DC	6.59
1700526 97	9596 90	AF2-260 TAP	69.0	EKP C	9601 70	AF2-308 TAP	69.0	EKP C	1	EXT_P12:345:BREC:WILSON EHV-DAVIESS [TIE] [NO SPS]:7WILSON:7DAVIESS:1:::	operation	98.0	103.42	105.27	DC	4.02
1694774 56	9601 70	AF2-308 TAP	69.0	EKP C	3412 87	2CENT HARDIN	69.0	EKP C	1	EXT_P12:345:BREC:WILSON EHV-DAVIESS [TIE] [NO SPS]:7WILSON:7DAVIESS:1:::	operation	98.0	157.29	159.14	DC	4.02

9.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
166832344	6	2SOMERSET 69.0 kV - 2SOMERSET KU 69.0 kV Ckt 1	<u>EKPC</u> r0080 (1881) : Replace the 500 MCM copper jumpers at the Somerset substation using 750 MCM copper or equivalent Project Type : FAC Cost : \$10,000 Time Estimate : 6.0 Months EKPC-r0123a (1981) : Replace the 1200A interconnection metering CTs with 2000A equipment. Project Type : FAC Cost : \$70,000 Time Estimate : 9.0 Months	\$80,000
165422213	7	2SOMERSET KU 69.0 kV - 2FERGUSON SO 69.0 kV Ckt 1	<u>EKPC</u> r0078 (1879) : Replace the 1200A current transformer at Somerset with a 2000A current transformer. Project Type : FAC Cost : \$35,000 Time Estimate : 6.0 Months <u>LGEE</u> NonPJMArea (1886) : The external (i.e. Non-PJM) Transmission Owner, LGEE, will not evaluate this violation until the impact study phase. Project Type : FAC Cost : \$0 Time Estimate : 0.0 Months	\$35,000
169477524,165 422228,165421 962	9	5COOPER2 161.0 kV - 5ELIHU 161.0 kV Ckt 1	<u>EKPC</u> r0076 (1877) : Increase the maximum operating temperature of the 795 MCM ACSR conductor in the Cooper-Elihu 161 kV line section to 275 degrees F (6.7 miles) Project Type : FAC Cost : \$660,000 Time Estimate : 9.0 Months EKPC-r0117a (1974) : Rebuild the Cooper-Elihu 161 kV line section using 954 MCM ACSS conductor (6.7 miles) Project Type : FAC Cost : \$8,275,000 Time Estimate : 30.0 Months EKPC-r0117b (1975) : Change the Zone 3 relay setting at Elihu substation associated with the line protection to at least 392 MVA LTE rating. Project Type : FAC Cost : \$0 Time Estimate : 6.0 Months <u>LGEE</u> NonPJMArea (1886) : The external (i.e. Non-PJM) Transmission Owner, LGEE, will not evaluate this violation until the impact study phase. Project Type : FAC Cost : \$0 Time Estimate : 0.0 Months	\$8,935,000

ID	Idx	Facility	Upgrade Description	Cost
166832096,166832097	14	AF2-308 TAP 69.0 kV - 2CENT HARDIN 69.0 kV Ckt 1	<u>EKPC</u> EKPC-r0087b (1911) : Replace the 556 MCM ACSR jumpers at the Central Hardin substation using bundled 500 MCM copper or equivalent Project Type : FAC Cost : \$25,000 Time Estimate : 6.0 Months EKPC-r0087c (1912) : Rebuild the AF2-308 Tap-Central Hardin 69 kV line section using 954 MCM ACSS conductor at 392 degrees F (4.15 miles) Project Type : FAC Cost : \$3,210,000 Time Estimate : 16.0 Months EKPC-r0087d (1913) : Change the Zone 3 relay setting at Central Hardin associated with the line protection to at least 187 MVA LTE rating. Project Type : FAC Cost : \$0 Time Estimate : 6.0 Months EKPC-r0087e (1914) : Replace the 750 MCM copper jumpers at the Central Hardin substation using bundled 500 MCM copper or equivalent Project Type : FAC Cost : \$25,000 Time Estimate : 6.0 Months EKPC-r0087f (1915) : Replace the 1200A disconnect switches W124-633 and W124-635 at Central Hardin substation. Project Type : FAC Cost : \$145,000 Time Estimate : 9.0 Months	\$3,405,000
166832221	1	2FOX HOLLOW 69.0 kV - 2PATTON RD J 69.0 kV Ckt 1	<u>EKPC</u> EKPC-r0116a (1973) : Increase the maximum operating temperature of the 556 MCM ACSR conductor in the Fox Hollow-Patton Road Junction 69 kV line section to 302 degrees F (3.34 miles) Project Type : FAC Cost : \$235,000 Time Estimate : 12.0 Months	\$235,000
166832213	3	2SUMM SHADE 69.0 kV - 2EDM- JBGAL J 69.0 kV Ckt 1	<u>EKPC</u> r0004 (1894) : Increase MOT of Summershade-Edm. JB Galloway Jct 69kV line section 266 MCM conductor to 212F (~7.9 miles) Project Type : FAC Cost : \$525,000 Time Estimate : 12.0 Months	\$525,000

ID	Idx	Facility	Upgrade Description	Cost
166832115	5	2BARREN CO 69.0 kV - 2HORSECAVE J 69.0 kV Ckt 1	<u>EKPC</u> n6197.1 (1887) : Uprate CT associated with Barren Co-Horsecave Jct 69kV line section to minimum 166 MVA Summer LTE Project Type : FAC Cost : \$0 Time Estimate : 6.0 Months n6197.2 (1888) : Upgrade jumpers associated with Barren Co 69kV bus to 2-500 MCM 37 CU conductor Project Type : FAC Cost : \$10,000 Time Estimate : 6.0 Months	\$10,000
166832129	8	2SUMM SHAD J 69.0 kV - 2SUMM SHADE 69.0 kV Ckt 1	<u>EKPC</u> r0065 (1866) : Increase the maximum operating temperature of the 556 MCM ACSR conductor in the Summer Shade-Summer Shade Junction 69 kV line section to 302 degrees F (0.2 mile) Project Type : FAC Cost : \$10,000 Time Estimate : 6.0 Months r0066 (1867) : Change the current transformer setting at Summer Shade associated with circuit breaker S11-634 from 600A to 800A. Project Type : FAC Cost : \$10,000 Time Estimate : 6.0 Months r0067 (1868) : Replace the 500 MCM copper bus and jumpers at the Summer Shade substation using 750 MCM copper or equivalent Project Type : FAC Cost : \$120,000 Time Estimate : 6.0 Months r0068 (1869) : Change the Zone 3 relay setting at Summer Shade associated with the line protection to at least 132 MVA LTE rating. Project Type : FAC Cost : \$0 Time Estimate : 6.0 Months	\$140,000
166832124	12	AE2-071 TAP 69.0 kV - 2SUMM SHAD J 69.0 kV Ckt 1	<u>EKPC</u> r0071 (1872) : Rebuild the AE2-071-Summer Shade 69 kV line section using 795 MCM ACSR conductor at 212 degrees F (1.7 miles) Project Type : FAC Cost : \$2,110,000 Time Estimate : 16.0 Months	\$2,110,000

ID	Idx	Facility	Upgrade Description	Cost
169477638,169477639	10	5LAUREL DAM 161.0 kV - 5LAUREL CO 161.0 kV Ckt 1	<u>EKPC</u> r0013a (1813) : Increase the maximum operating temperature of the Laurel County-Laurel Dam 161 kV line section 795 MCM conductor to 167 degrees F (~0.2 miles) Project Type : FAC Cost : \$35,000 Time Estimate : 6.0 Months r0013b (1814) : Increase the maximum operating temperature of the Laurel County-Laurel Dam 161 kV line section 795 MCM conductor to 212 degrees F (~0.2 miles) Project Type : FAC Cost : \$40,000 Time Estimate : 6.0 Months	\$75,000
166832224	2	2MUNFVILKU T 69.0 kV - 2MUNFVIL EK 69.0 kV Ckt 1	<u>EKPC</u> r0051 (1852) : Increase the maximum operating temperature of the 556 MCM ACSR conductor in the Munfordville KU Tap-Munfordville EK 69 kV line section to 302 degrees F (2.0 miles) Project Type : FAC Cost : \$140,000 Time Estimate : 7.0 Months	\$140,000
166832191	4	AF2-365 TAP 69.0 kV - 2MUNFVILKU T 69.0 kV Ckt 1	<u>EKPC</u> EKPC-r0110a (1967) : Increase the maximum operating temperature of the 556 MCM ACSR conductor in the AF2-365 Tap-Munfordville KU Tap 69 kV line section to 302 degrees F (2.4 miles) Project Type : FAC Cost : \$170,000 Time Estimate : 10.0 Months	\$170,000
166832143	13	AF2-260 TAP 69.0 kV - AF2- 308 TAP 69.0 kV Ckt 1	<u>EKPC</u> EKPC-r0108a (1965) : Increase the maximum operating temperature of the 556 MCM ACSR conductor in the AF2-260 Tap-AF2-308 Tap 69 kV line section to 302 degrees F (1.0 miles) Project Type : FAC Cost : \$70,000 Time Estimate : 9.0 Months	\$70,000
169477391	11	5MARION IP T 161.0 kV - 5MARION CO 161.0 kV Ckt 1	<u>EKPC</u> r0036 (1837) : Increase the maximum operating temperature of the Marion County-Marion County Industrial 161 kV line section 795 MCM conductor to 176 degrees F (4.0 miles) Project Type : FAC Cost : \$390,000 Time Estimate : 7.0 Months	\$390,000
			TOTAL COST	\$16,320,000

9.6 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".

9.6.1 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
166832221	341491	2FOX HOLLOW	EKPC	342049	2PATTON RD J	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	98.0	89.2	102.62	DC	13.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0316	50/50	0.0316
940045	AE1-246 C	13.1406	50/50	13.1406
940046	AE1-246 E	6.3270	50/50	6.3270
960741	AF2-365 C O1	3.3753	50/50	3.3753
960742	AF2-365 E O1	2.2502	50/50	2.2502
962241	AG1-070 C O1	7.0729	50/50	7.0729
962242	AG1-070 E O1	1.4146	50/50	1.4146
962251	AG1-071 C O1	8.4875	50/50	8.4875
962252	AG1-071 E O1	1.8861	50/50	1.8861
966031	AG1-472 C	7.8926	50/50	7.8926
966032	AG1-472 E	5.2618	50/50	5.2618
WEC	WEC	0.0309	Confirmed LTF	0.0309
CPLE	CPLE	0.0403	Confirmed LTF	0.0403
CBM-W2	CBM-W2	2.2400	Confirmed LTF	2.2400
NY	NY	0.0022	Confirmed LTF	0.0022
TVA	TVA	0.5166	Confirmed LTF	0.5166
O-066	O-066	0.0202	Confirmed LTF	0.0202
SIGE	SIGE	0.0173	Confirmed LTF	0.0173
CBM-S2	CBM-S2	0.8770	Confirmed LTF	0.8770
CBM-S1	CBM-S1	0.1083	Confirmed LTF	0.1083
G-007	G-007	0.0031	Confirmed LTF	0.0031
MEC	MEC	0.2654	Confirmed LTF	0.2654
TRIMBLE	TRIMBLE	0.0061	Confirmed LTF	0.0061
LAGN	LAGN	0.5390	Confirmed LTF	0.5390
CBM-W1	CBM-W1	1.2618	Confirmed LTF	1.2618

9.6.2 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
166832224	341914	2MUNFVILKUT	EKPC	341908	2MUNFVILEK	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	98.0	76.46	101.76	DC	24.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0272	50/50	0.0272
940045	AE1-246 C	25.7823	50/50	25.7823
940046	AE1-246 E	12.4137	50/50	12.4137
940831	AE2-071 C	1.7425	Adder	2.05
940832	AE2-071 E	1.1617	Adder	1.37
945381	AF1-203 C	0.9957	Adder	1.17
945382	AF1-203 E	0.6638	Adder	0.78
960741	AF2-365 C O1	15.2523	50/50	15.2523
960742	AF2-365 E O1	10.1682	50/50	10.1682
962221	AG1-067 C O1	3.0457	50/50	3.0457
962222	AG1-067 E O1	1.6211	50/50	1.6211
962241	AG1-070 C O1	8.1548	50/50	8.1548
962242	AG1-070 E O1	1.6310	50/50	1.6310
962251	AG1-071 C O1	9.7857	50/50	9.7857
962252	AG1-071 E O1	2.1746	50/50	2.1746
966031	AG1-472 C	14.8747	50/50	14.8747
966032	AG1-472 E	9.9165	50/50	9.9165
CPLE	CPLE	0.0887	Confirmed LTF	0.0887
G-007A	G-007A	0.0360	Confirmed LTF	0.0360
VFT	VFT	0.0968	Confirmed LTF	0.0968
CBM-W2	CBM-W2	1.2275	Confirmed LTF	1.2275
TVA	TVA	0.5460	Confirmed LTF	0.5460
CBM-S2	CBM-S2	1.7748	Confirmed LTF	1.7748
CBM-S1	CBM-S1	0.1037	Confirmed LTF	0.1037
CBM-N	CBM-N	0.0180	Confirmed LTF	0.0180
MEC	MEC	0.0969	Confirmed LTF	0.0969
GIBSON	GIBSON	0.1190	Confirmed LTF	0.1190
BLUEG	BLUEG	0.3906	Confirmed LTF	0.3906
TRIMBLE	TRIMBLE	0.1174	Confirmed LTF	0.1174
LAGN	LAGN	0.4935	Confirmed LTF	0.4935

9.6.3 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
166832213	342322	2SUMM SHADE	EKPC	341431	2EDM-JBGAL J	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	46.0	98.99	103.82	DC	4.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939131	AE1-143 C	-2.9768	Adder	-3.5
940045	AE1-246 C	4.1723	Adder	4.91
940046	AE1-246 E	2.0089	Adder	2.36
940831	AE2-071 C	3.7991	50/50	3.7991
940832	AE2-071 E	2.5327	50/50	2.5327
945381	AF1-203 C	2.1709	50/50	2.1709
945382	AF1-203 E	1.4473	50/50	1.4473
962221	AG1-067 C O1	3.2629	50/50	3.2629
962222	AG1-067 E O1	1.7367	50/50	1.7367
962241	AG1-070 C O1	1.2324	Adder	2.74
962242	AG1-070 E O1	0.2465	Adder	0.55
962251	AG1-071 C O1	1.4789	Adder	3.28
962252	AG1-071 E O1	0.3286	Adder	0.73
966031	AG1-472 C	1.3327	Adder	2.96
966032	AG1-472 E	0.8885	Adder	1.97
WEC	WEC	0.0082	Confirmed LTF	0.0082
CPLE	CPLE	0.0648	Confirmed LTF	0.0648
G-007A	G-007A	0.0192	Confirmed LTF	0.0192
VFT	VFT	0.0516	Confirmed LTF	0.0516
CBM-W2	CBM-W2	1.3619	Confirmed LTF	1.3619
TVA	TVA	0.4424	Confirmed LTF	0.4424
CBM-S2	CBM-S2	1.3154	Confirmed LTF	1.3154
CBM-S1	CBM-S1	0.0840	Confirmed LTF	0.0840
CBM-N	CBM-N	0.0084	Confirmed LTF	0.0084
MEC	MEC	0.1287	Confirmed LTF	0.1287
GIBSON	GIBSON	0.0278	Confirmed LTF	0.0278
BLUEG	BLUEG	0.2396	Confirmed LTF	0.2396
TRIMBLE	TRIMBLE	0.0762	Confirmed LTF	0.0762
LAGN	LAGN	0.4183	Confirmed LTF	0.4183
CBM-W1	CBM-W1	0.3505	Confirmed LTF	0.3505

9.6.4 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
166832191	960740	AF2-365 TAP	EKPC	341914	2MUNFVILKUT	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	98.0	82.17	107.47	DC	24.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0272	50/50	0.0272
940045	AE1-246 C	25.7823	50/50	25.7823
940046	AE1-246 E	12.4137	50/50	12.4137
940831	AE2-071 C	1.7425	Adder	2.05
940832	AE2-071 E	1.1617	Adder	1.37
945381	AF1-203 C	0.9957	Adder	1.17
945382	AF1-203 E	0.6638	Adder	0.78
960741	AF2-365 C O1	15.2523	50/50	15.2523
960742	AF2-365 E O1	10.1682	50/50	10.1682
962221	AG1-067 C O1	3.0457	50/50	3.0457
962222	AG1-067 E O1	1.6211	50/50	1.6211
962241	AG1-070 C O1	8.1548	50/50	8.1548
962242	AG1-070 E O1	1.6310	50/50	1.6310
962251	AG1-071 C O1	9.7857	50/50	9.7857
962252	AG1-071 E O1	2.1746	50/50	2.1746
966031	AG1-472 C	14.8747	50/50	14.8747
966032	AG1-472 E	9.9165	50/50	9.9165
CPLE	CPLE	0.0887	Confirmed LTF	0.0887
G-007A	G-007A	0.0360	Confirmed LTF	0.0360
VFT	VFT	0.0968	Confirmed LTF	0.0968
CBM-W2	CBM-W2	1.2275	Confirmed LTF	1.2275
TVA	TVA	0.5460	Confirmed LTF	0.5460
CBM-S2	CBM-S2	1.7748	Confirmed LTF	1.7748
CBM-S1	CBM-S1	0.1037	Confirmed LTF	0.1037
CBM-N	CBM-N	0.0180	Confirmed LTF	0.0180
MEC	MEC	0.0969	Confirmed LTF	0.0969
GIBSON	GIBSON	0.1190	Confirmed LTF	0.1190
BLUEG	BLUEG	0.3906	Confirmed LTF	0.3906
TRIMBLE	TRIMBLE	0.1174	Confirmed LTF	0.1174
LAGN	LAGN	0.4935	Confirmed LTF	0.4935

9.6.5 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
166832115	341059	2BARREN CO	EKPC	341651	2HORSECAVE J	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	90.0	109.01	136.56	DC	24.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0272	50/50	0.0272
940045	AE1-246 C	25.7823	50/50	25.7823
940046	AE1-246 E	12.4137	50/50	12.4137
940831	AE2-071 C	1.7425	Adder	2.05
940832	AE2-071 E	1.1617	Adder	1.37
945381	AF1-203 C	0.9957	Adder	1.17
945382	AF1-203 E	0.6638	Adder	0.78
962221	AG1-067 C O1	3.0457	50/50	3.0457
962222	AG1-067 E O1	1.6211	50/50	1.6211
962241	AG1-070 C O1	8.1548	50/50	8.1548
962242	AG1-070 E O1	1.6310	50/50	1.6310
962251	AG1-071 C O1	9.7857	50/50	9.7857
962252	AG1-071 E O1	2.1746	50/50	2.1746
966031	AG1-472 C	14.8747	50/50	14.8747
966032	AG1-472 E	9.9165	50/50	9.9165
CPLE	CPLE	0.0887	Confirmed LTF	0.0887
G-007A	G-007A	0.0360	Confirmed LTF	0.0360
VFT	VFT	0.0968	Confirmed LTF	0.0968
CBM-W2	CBM-W2	1.2275	Confirmed LTF	1.2275
TVA	TVA	0.5460	Confirmed LTF	0.5460
CBM-S2	CBM-S2	1.7748	Confirmed LTF	1.7748
CBM-S1	CBM-S1	0.1037	Confirmed LTF	0.1037
CBM-N	CBM-N	0.0180	Confirmed LTF	0.0180
MEC	MEC	0.0969	Confirmed LTF	0.0969
GIBSON	GIBSON	0.1190	Confirmed LTF	0.1190
BLUEG	BLUEG	0.3906	Confirmed LTF	0.3906
TRIMBLE	TRIMBLE	0.1174	Confirmed LTF	0.1174
LAGN	LAGN	0.4935	Confirmed LTF	0.4935

9.6.6 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
166832344	342286	2SOMERSET	EKPC	342287	2SOMERSET KU	EKPC	1	EKPC_P7-1_COOP 161 DBL 2	tower	115.0	132.99	134.77	DC	4.53

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342900	1COOPER1 G	5.0281	50/50	5.0281
342903	1COOPER2 G	9.7520	50/50	9.7520
939131	AE1-143 C	5.2595	Adder	6.19
939132	AE1-143 E	2.6052	Adder	3.06
940045	AE1-246 C	4.3059	Adder	5.07
940046	AE1-246 E	2.0732	Adder	2.44
940831	AE2-071 C	1.2797	Adder	1.51
940832	AE2-071 E	0.8531	Adder	1.0
943701	AF1-038 C	6.1070	50/50	6.1070
943702	AF1-038 E	4.0714	50/50	4.0714
943821	AF1-050 C	2.2112	Adder	2.6
943822	AF1-050 E	1.4741	Adder	1.73
944151	AF1-083 C O1	2.3430	Adder	2.76
944152	AF1-083 E O1	1.5620	Adder	1.84
944511	AF1-116 C	5.8985	Adder	6.94
944512	AF1-116 E	3.9323	Adder	4.63
945381	AF1-203 C	0.7312	Adder	0.86
945382	AF1-203 E	0.4875	Adder	0.57
962221	AG1-067 C O1	0.7327	Adder	1.63
962222	AG1-067 E O1	0.3900	Adder	0.87
962241	AG1-070 C O1	0.9836	Adder	2.18
962242	AG1-070 E O1	0.1967	Adder	0.44
962251	AG1-071 C O1	1.1803	Adder	2.62
962252	AG1-071 E O1	0.2623	Adder	0.58
964781	AG1-341 C O1	1.7956	Adder	3.99
964782	AG1-341 E O1	1.1971	Adder	2.66
964891	AG1-353 C	2.1186	Adder	4.7
964892	AG1-353 E	1.4124	Adder	3.14
964901	AG1-354 C	2.7048	Adder	6.0
964902	AG1-354 E	1.8032	Adder	4.0
965401	AG1-405 C	11.8058	50/50	11.8058
965402	AG1-405 E	7.8706	50/50	7.8706
965411	AG1-406	7.5944	50/50	7.5944
966021	AG1-471 C O1	4.5385	50/50	4.5385
966022	AG1-471 E O1	3.0257	50/50	3.0257
966031	AG1-472 C	1.2254	Adder	2.72
966032	AG1-472 E	0.8170	Adder	1.81
966191	AG1-488 C O1	1.7621	Adder	3.91
966192	AG1-488 E O1	1.1747	Adder	2.61
WEC	WEC	0.0507	Confirmed LTF	0.0507
LGEE	LGEE	0.0145	Confirmed LTF	0.0145

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CPL	CPL	0.0293	Confirmed LTF	0.0293
LGE-0012019	LGE-0012019	4.9049	LTF	4.9049
CBM-W2	CBM-W2	4.0051	Confirmed LTF	4.0051
NY	NY	0.0415	Confirmed LTF	0.0415
TVA	TVA	1.0206	Confirmed LTF	1.0206
O-066	O-066	0.5048	Confirmed LTF	0.5048
SIG	SIG	0.0423	Confirmed LTF	0.0423
CBM-S2	CBM-S2	1.0753	Confirmed LTF	1.0753
CBM-S1	CBM-S1	0.2284	Confirmed LTF	0.2284
G-007	G-007	0.0788	Confirmed LTF	0.0788
MEC	MEC	0.4529	Confirmed LTF	0.4529
LAGN	LAGN	0.9660	Confirmed LTF	0.9660
CBM-W1	CBM-W1	1.9908	Confirmed LTF	1.9908

9.6.7 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
165422213	342287	2SOMERSET KU	EKPC	324531	2FERGUSON SO	LGEE	1	EKPC_P7-1_COOP 161 DBL 2	tower	105.0	151.78	154.22	DC	5.66

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342900	1COOPER1 G	4.9218	50/50	4.9218
342903	1COOPER2 G	9.5458	50/50	9.5458
939131	AE1-143 C	5.4221	Adder	6.38
939132	AE1-143 E	2.6857	Adder	3.16
940045	AE1-246 C	5.4632	Adder	6.43
940046	AE1-246 E	2.6305	Adder	3.09
940831	AE2-071 C	1.6233	Adder	1.91
940832	AE2-071 E	1.0822	Adder	1.27
943701	AF1-038 C	8.3977	50/50	8.3977
943702	AF1-038 E	5.5985	50/50	5.5985
943821	AF1-050 C	2.5575	Adder	3.01
943822	AF1-050 E	1.7050	Adder	2.01
944151	AF1-083 C O1	2.5256	Adder	2.97
944152	AF1-083 E O1	1.6837	Adder	1.98
944511	AF1-116 C	6.0808	Adder	7.15
944512	AF1-116 E	4.0539	Adder	4.77
945381	AF1-203 C	0.9276	Adder	1.09
945382	AF1-203 E	0.6184	Adder	0.73
960741	AF2-365 C O1	1.5231	Adder	1.79
960742	AF2-365 E O1	1.0154	Adder	1.19
962221	AG1-067 C O1	0.9274	Adder	2.06
962222	AG1-067 E O1	0.4936	Adder	1.1
962241	AG1-070 C O1	1.2361	Adder	2.74
962242	AG1-070 E O1	0.2472	Adder	0.55
962251	AG1-071 C O1	1.4833	Adder	3.29
962252	AG1-071 E O1	0.3296	Adder	0.73
964781	AG1-341 C O1	2.2790	Adder	5.06
964782	AG1-341 E O1	1.5193	Adder	3.37
964891	AG1-353 C	2.3239	Adder	5.16
964892	AG1-353 E	1.5493	Adder	3.44
964901	AG1-354 C	3.2939	Adder	7.31
964902	AG1-354 E	2.1959	Adder	4.87
965401	AG1-405 C	10.6088	50/50	10.6088
965402	AG1-405 E	7.0726	50/50	7.0726
965411	AG1-406	6.8244	50/50	6.8244
966021	AG1-471 C O1	5.1635	50/50	5.1635
966022	AG1-471 E O1	3.4423	50/50	3.4423
966031	AG1-472 C	1.5310	Adder	3.4
966032	AG1-472 E	1.0207	Adder	2.27
966191	AG1-488 C O1	1.8353	Adder	4.07
966192	AG1-488 E O1	1.2236	Adder	2.72

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
WEC	WEC	0.0652	Confirmed LTF	0.0652
CPL	CPL	0.0628	Confirmed LTF	0.0628
LGE-0012019	LGE-0012019	5.0017	LTF	5.0017
CBM-W2	CBM-W2	5.1878	Confirmed LTF	5.1878
NY	NY	0.0426	Confirmed LTF	0.0426
TVA	TVA	1.3454	Confirmed LTF	1.3454
O-066	O-066	0.5048	Confirmed LTF	0.5048
SIG	SIG	0.0489	Confirmed LTF	0.0489
CBM-S2	CBM-S2	1.7957	Confirmed LTF	1.7957
CBM-S1	CBM-S1	0.2983	Confirmed LTF	0.2983
G-007	G-007	0.0788	Confirmed LTF	0.0788
MEC	MEC	0.5848	Confirmed LTF	0.5848
LAGN	LAGN	1.2705	Confirmed LTF	1.2705
CBM-W1	CBM-W1	2.5797	Confirmed LTF	2.5797

9.6.8 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
166832129	342319	2SUMM SHAD J	EKPC	342322	2SUMM SHADE	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	98.0	117.54	130.96	DC	13.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0316	50/50	0.0316
940045	AE1-246 C	13.1406	50/50	13.1406
940046	AE1-246 E	6.3270	50/50	6.3270
940831	AE2-071 C	9.9061	50/50	9.9061
940832	AE2-071 E	6.6041	50/50	6.6041
945381	AF1-203 C	5.6606	50/50	5.6606
945382	AF1-203 E	3.7738	50/50	3.7738
960741	AF2-365 C O1	3.3753	50/50	3.3753
960742	AF2-365 E O1	2.2502	50/50	2.2502
962221	AG1-067 C O1	8.4392	50/50	8.4392
962222	AG1-067 E O1	4.4918	50/50	4.4918
962241	AG1-070 C O1	7.0729	50/50	7.0729
962242	AG1-070 E O1	1.4146	50/50	1.4146
962251	AG1-071 C O1	8.4875	50/50	8.4875
962252	AG1-071 E O1	1.8861	50/50	1.8861
966031	AG1-472 C	7.8926	50/50	7.8926
966032	AG1-472 E	5.2618	50/50	5.2618
WEC	WEC	0.0309	Confirmed LTF	0.0309
CPLE	CPLE	0.0403	Confirmed LTF	0.0403
CBM-W2	CBM-W2	2.2400	Confirmed LTF	2.2400
NY	NY	0.0022	Confirmed LTF	0.0022
TVA	TVA	0.5166	Confirmed LTF	0.5166
O-066	O-066	0.0202	Confirmed LTF	0.0202
SIGE	SIGE	0.0173	Confirmed LTF	0.0173
CBM-S2	CBM-S2	0.8770	Confirmed LTF	0.8770
CBM-S1	CBM-S1	0.1083	Confirmed LTF	0.1083
G-007	G-007	0.0031	Confirmed LTF	0.0031
MEC	MEC	0.2654	Confirmed LTF	0.2654
TRIMBLE	TRIMBLE	0.0061	Confirmed LTF	0.0061
LAGN	LAGN	0.5390	Confirmed LTF	0.5390
CBM-W1	CBM-W1	1.2618	Confirmed LTF	1.2618

9.6.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
165422228	342718	SCOOPER2	EKPC	324141	SELIHU	LGEE	1	EKPC_P7-1_LAURL 161 DBL	tower	277.0	133.79	136.71	DC	8.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0165	50/50	0.0165
342900	1COOPER1 G	10.1486	50/50	10.1486
342903	1COOPER2 G	19.7433	50/50	19.7433
342945	1LAUREL 1G	6.1423	50/50	6.1423
939131	AE1-143 C	9.9773	50/50	9.9773
939132	AE1-143 E	4.9420	50/50	4.9420
940045	AE1-246 C	9.3685	50/50	9.3685
940046	AE1-246 E	4.5107	50/50	4.5107
940831	AE2-071 C	2.5509	50/50	2.5509
940832	AE2-071 E	1.7006	50/50	1.7006
942411	AE2-254 C O1	1.3451	Adder	1.58
942412	AE2-254 E O1	0.8967	Adder	1.05
943701	AF1-038 C	6.6586	50/50	6.6586
943702	AF1-038 E	4.4390	50/50	4.4390
943821	AF1-050 C	4.5025	50/50	4.5025
943822	AF1-050 E	3.0017	50/50	3.0017
944151	AF1-083 C O1	4.5583	50/50	4.5583
944152	AF1-083 E O1	3.0389	50/50	3.0389
944511	AF1-116 C	11.1895	50/50	11.1895
944512	AF1-116 E	7.4597	50/50	7.4597
945381	AF1-203 C	1.4576	50/50	1.4576
945382	AF1-203 E	0.9718	50/50	0.9718
960741	AF2-365 C O1	2.2040	Adder	2.59
960742	AF2-365 E O1	1.4693	Adder	1.73
962221	AG1-067 C O1	2.8138	50/50	2.8138
962222	AG1-067 E O1	1.4977	50/50	1.4977
962241	AG1-070 C O1	3.8850	50/50	3.8850
962242	AG1-070 E O1	0.7770	50/50	0.7770
962251	AG1-071 C O1	4.6620	50/50	4.6620
962252	AG1-071 E O1	1.0360	50/50	1.0360
964781	AG1-341 C O1	7.3763	50/50	7.3763
964782	AG1-341 E O1	4.9176	50/50	4.9176
964891	AG1-353 C	7.8586	50/50	7.8586
964892	AG1-353 E	5.2391	50/50	5.2391
964901	AG1-354 C	10.7820	50/50	10.7820
964902	AG1-354 E	7.1880	50/50	7.1880
965401	AG1-405 C	3.9234	50/50	3.9234
965402	AG1-405 E	2.6156	50/50	2.6156
965411	AG1-406	2.5238	50/50	2.5238
966021	AG1-471 C O1	7.2990	50/50	7.2990
966022	AG1-471 E O1	4.8660	50/50	4.8660

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966031	AG1-472 C	4.8624	50/50	4.8624
966032	AG1-472 E	3.2416	50/50	3.2416
966191	AG1-488 C O1	6.3433	50/50	6.3433
966192	AG1-488 E O1	4.2288	50/50	4.2288
WEC	WEC	0.0787	Confirmed LTF	0.0787
CPL	CPL	0.0874	Confirmed LTF	0.0874
LGE-0012019	LGE-0012019	7.7561	LTF	7.7561
CBM-W2	CBM-W2	7.4368	Confirmed LTF	7.4368
NY	NY	0.0868	Confirmed LTF	0.0868
TVA	TVA	2.0090	Confirmed LTF	2.0090
O-066	O-066	1.0364	Confirmed LTF	1.0364
SIG	SIG	0.0700	Confirmed LTF	0.0700
CBM-S2	CBM-S2	2.6726	Confirmed LTF	2.6726
CBM-S1	CBM-S1	0.4378	Confirmed LTF	0.4378
G-007	G-007	0.1617	Confirmed LTF	0.1617
MEC	MEC	0.7945	Confirmed LTF	0.7945
LAGN	LAGN	1.8725	Confirmed LTF	1.8725
CBM-W1	CBM-W1	3.0283	Confirmed LTF	3.0283

9.6.10 Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
169477638	342757	SLAUREL DAM	EKPC	342754	SLAUREL CO	EKPC	1	EXT_B-69-25	single	200.0	106.82	108.12	DC	2.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0089	80/20	0.0089
342900	1COOPER1 G	4.6906	80/20	4.6906
342903	1COOPER2 G	9.1166	80/20	9.1166
342945	1LAUREL 1G	5.5642	80/20	5.5642
939131	AE1-143 C	5.0204	80/20	5.0204
940045	AE1-246 C	4.9451	80/20	4.9451
940831	AE2-071 C	1.3906	80/20	1.3906
943701	AF1-038 C	4.5860	80/20	4.5860
943821	AF1-050 C	2.3328	80/20	2.3328
944151	AF1-083 C O1	2.3222	80/20	2.3222
944511	AF1-116 C	5.6304	80/20	5.6304
945381	AF1-203 C	0.7946	80/20	0.7946
962221	AG1-067 C O1	1.5225	80/20	1.5225
962241	AG1-070 C O1	2.0779	80/20	2.0779
962251	AG1-071 C O1	2.4935	80/20	2.4935
964781	AG1-341 C O1	3.8923	80/20	3.8923
964891	AG1-353 C	4.0225	80/20	4.0225
964901	AG1-354 C	5.6448	80/20	5.6448
965401	AG1-405 C	3.9224	80/20	3.9224
965411	AG1-406	2.5232	80/20	2.5232
966021	AG1-471 C O1	3.8786	80/20	3.8786
966031	AG1-472 C	2.5915	80/20	2.5915
966191	AG1-488 C O1	3.2012	80/20	3.2012
WEC	WEC	0.0551	Confirmed LTF	0.0551
LGEE	LGEE	0.0603	Confirmed LTF	0.0603
CPL	CPL	0.0723	Confirmed LTF	0.0723
LGE-0012019	LGE-0012019	3.6993	LTF	3.6993
CBM-W2	CBM-W2	4.6771	Confirmed LTF	4.6771
NY	NY	0.0465	Confirmed LTF	0.0465
TVA	TVA	1.2012	Confirmed LTF	1.2012
SIGE	SIGE	0.0506	Confirmed LTF	0.0506
CBM-S2	CBM-S2	1.9627	Confirmed LTF	1.9627
CBM-S1	CBM-S1	0.2732	Confirmed LTF	0.2732
MEC	MEC	0.5101	Confirmed LTF	0.5101
LAGN	LAGN	1.1410	Confirmed LTF	1.1410
CBM-W1	CBM-W1	2.1170	Confirmed LTF	2.1170

9.6.11 Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
169477391	342775	SMARION IP T	EKPC	342769	SMARION CO	EKPC	1	Base Case	single	84.0	102.18	105.78	DC	3.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0116	80/20	0.0116
939131	AE1-143 C	-14.9293	Adder	-17.56
940045	AE1-246 C	7.3864	80/20	7.3864
940831	AE2-071 C	1.9102	80/20	1.9102
943821	AF1-050 C	10.1628	80/20	10.1628
944151	AF1-083 C O1	16.0588	80/20	16.0588
945381	AF1-203 C	1.0915	80/20	1.0915
962221	AG1-067 C O1	2.0609	80/20	2.0609
962241	AG1-070 C O1	2.6216	80/20	2.6216
962251	AG1-071 C O1	3.1459	80/20	3.1459
964781	AG1-341 C O1	5.8398	80/20	5.8398
964891	AG1-353 C	24.9500	80/20	24.9500
964901	AG1-354 C	15.4773	80/20	15.4773
966031	AG1-472 C	3.0206	80/20	3.0206
966191	AG1-488 C O1	27.9611	80/20	27.9611
WEC	WEC	0.0476	Confirmed LTF	0.0476
CPLE	CPLE	0.1454	Confirmed LTF	0.1454
G-007A	G-007A	0.0264	Confirmed LTF	0.0264
VFT	VFT	0.0710	Confirmed LTF	0.0710
CBM-W2	CBM-W2	4.3994	Confirmed LTF	4.3994
TVA	TVA	1.2110	Confirmed LTF	1.2110
SIGE	SIGE	0.0113	Confirmed LTF	0.0113
CBM-S2	CBM-S2	3.0172	Confirmed LTF	3.0172
CBM-S1	CBM-S1	0.2451	Confirmed LTF	0.2451
CBM-N	CBM-N	0.0120	Confirmed LTF	0.0120
MEC	MEC	0.4767	Confirmed LTF	0.4767
BLUEG	BLUEG	0.0122	Confirmed LTF	0.0122
TRIMBLE	TRIMBLE	0.0345	Confirmed LTF	0.0345
LAGN	LAGN	1.1847	Confirmed LTF	1.1847
CBM-W1	CBM-W1	1.9488	Confirmed LTF	1.9488

9.6.12 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
166832124	940830	AE2-071 TAP	EKPC	342319	2SUMM SHAD J	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	63.0	125.83	131.06	DC	7.31

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0176	50/50	0.0176
940045	AE1-246 C	6.2055	Adder	7.3
940046	AE1-246 E	2.9878	Adder	3.52
940831	AE2-071 C	13.9033	50/50	13.9033
940832	AE2-071 E	9.2688	50/50	9.2688
945381	AF1-203 C	7.9447	50/50	7.9447
945382	AF1-203 E	5.2965	50/50	5.2965
960741	AF2-365 C O1	1.5940	Adder	1.88
960742	AF2-365 E O1	1.0627	Adder	1.25
962221	AG1-067 C O1	0.9445	Adder	2.1
962222	AG1-067 E O1	0.5027	Adder	1.12
962241	AG1-070 C O1	3.9296	50/50	3.9296
962242	AG1-070 E O1	0.7859	50/50	0.7859
962251	AG1-071 C O1	4.7156	50/50	4.7156
962252	AG1-071 E O1	1.0479	50/50	1.0479
966031	AG1-472 C	1.9756	Adder	4.39
966032	AG1-472 E	1.3170	Adder	2.92
WEC	WEC	0.0170	Confirmed LTF	0.0170
CPLE	CPLE	0.0218	Confirmed LTF	0.0218
CBM-W2	CBM-W2	1.2365	Confirmed LTF	1.2365
NY	NY	0.0017	Confirmed LTF	0.0017
TVA	TVA	0.2870	Confirmed LTF	0.2870
O-066	O-066	0.0135	Confirmed LTF	0.0135
SIGE	SIGE	0.0096	Confirmed LTF	0.0096
CBM-S2	CBM-S2	0.4802	Confirmed LTF	0.4802
CBM-S1	CBM-S1	0.0600	Confirmed LTF	0.0600
G-007	G-007	0.0021	Confirmed LTF	0.0021
MEC	MEC	0.1478	Confirmed LTF	0.1478
TRIMBLE	TRIMBLE	0.0039	Confirmed LTF	0.0039
LAGN	LAGN	0.2992	Confirmed LTF	0.2992
CBM-W1	CBM-W1	0.6870	Confirmed LTF	0.6870

9.6.13 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
166832143	959690	AF2-260 TAP	EKPC	960170	AF2-308 TAP	EKPC	1	EKPC_P2-2_KU HODG 69	bus	98.0	123.19	125.31	DC	4.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959691	AF2-260 C	41.8212	50/50	41.8212
959692	AF2-260 E	20.9106	50/50	20.9106
960172	AF2-308 BAT	7.6580	50/50	7.6580
960741	AF2-365 C O1	3.4533	50/50	3.4533
960742	AF2-365 E O1	2.3022	50/50	2.3022
961003	AF2-391 BAT	14.9160	50/50	14.9160
962473	AG1-096 BAT	0.7580	Merchant Transmission	0.7580
964571	AG1-320 C O1	34.1968	50/50	34.1968
964572	AG1-320 E O1	16.9736	50/50	16.9736
966031	AG1-472 C	1.2488	Adder	2.77
966032	AG1-472 E	0.8325	Adder	1.85
WEC	WEC	0.0110	Confirmed LTF	0.0110
CPLE	CPLE	0.0908	Confirmed LTF	0.0908
G-007A	G-007A	0.0240	Confirmed LTF	0.0240
VFT	VFT	0.0645	Confirmed LTF	0.0645
CBM-W2	CBM-W2	2.1683	Confirmed LTF	2.1683
TVA	TVA	0.6412	Confirmed LTF	0.6412
CBM-S2	CBM-S2	1.8374	Confirmed LTF	1.8374
CBM-S1	CBM-S1	0.1102	Confirmed LTF	0.1102
CBM-N	CBM-N	0.0108	Confirmed LTF	0.0108
MEC	MEC	0.2050	Confirmed LTF	0.2050
GIBSON	GIBSON	0.0426	Confirmed LTF	0.0426
BLUEG	BLUEG	0.9496	Confirmed LTF	0.9496
TRIMBLE	TRIMBLE	0.2660	Confirmed LTF	0.2660
LAGN	LAGN	0.6247	Confirmed LTF	0.6247
CBM-W1	CBM-W1	0.4907	Confirmed LTF	0.4907

9.6.14 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
166832096	960170	AF2-308 TAP	EKPC	341287	2CENT HARDIN	EKPC	1	EKPC_P2-2_KU HODG 69	bus	98.0	187.92	190.05	DC	4.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959691	AF2-260 C	41.8212	50/50	41.8212
959692	AF2-260 E	20.9106	50/50	20.9106
960171	AF2-308	20.3420	50/50	20.3420
960181	AF2-309 C	30.5130	50/50	30.5130
960182	AF2-309 E	20.3420	50/50	20.3420
960741	AF2-365 C O1	3.4533	50/50	3.4533
960742	AF2-365 E O1	2.3022	50/50	2.3022
961003	AF2-391 BAT	14.9160	50/50	14.9160
962473	AG1-096 BAT	0.7580	Merchant Transmission	0.7580
964571	AG1-320 C O1	34.1968	50/50	34.1968
964572	AG1-320 E O1	16.9736	50/50	16.9736
966031	AG1-472 C	1.2488	Adder	2.77
966032	AG1-472 E	0.8325	Adder	1.85
WEC	WEC	0.0110	Confirmed LTF	0.0110
CPLE	CPLE	0.0908	Confirmed LTF	0.0908
G-007A	G-007A	0.0240	Confirmed LTF	0.0240
VFT	VFT	0.0645	Confirmed LTF	0.0645
CBM-W2	CBM-W2	2.1683	Confirmed LTF	2.1683
TVA	TVA	0.6412	Confirmed LTF	0.6412
CBM-S2	CBM-S2	1.8374	Confirmed LTF	1.8374
CBM-S1	CBM-S1	0.1102	Confirmed LTF	0.1102
CBM-N	CBM-N	0.0108	Confirmed LTF	0.0108
MEC	MEC	0.2050	Confirmed LTF	0.2050
GIBSON	GIBSON	0.0426	Confirmed LTF	0.0426
BLUEG	BLUEG	0.9496	Confirmed LTF	0.9496
TRIMBLE	TRIMBLE	0.2660	Confirmed LTF	0.2660
LAGN	LAGN	0.6247	Confirmed LTF	0.6247
CBM-W1	CBM-W1	0.4907	Confirmed LTF	0.4907

9.7 Queue Dependencies – Primary POI

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
AE1-143	Marion County 161 kV	Engineering and Procurement
AE1-246	Barren County-Summer Shade 161 kV	Active
AE2-071	Patton Rd-Summer Shade 69 kV	Active
AE2-254	Garrard County-Tommy-Gooch 69 kV	Active
AF1-038	Sewellton Jct-Webbs Crossroads 69 kV	Active
AF1-050	Summer Shade - Green County 161 kV	Active
AF1-083	Green County-Saloma 161 kV	Active
AF1-116	Marion County 161 kV	Active
AF1-203	Patton Rd-Summer Shade 69 kV	Active
AF2-260	Stephensburg 69 kV	Active
AF2-308	Central Hardin-Stephensburg 69 kV	Active
AF2-309	Central Hardin-Stephensburg 69 kV	Active
AF2-365	Munfordville KU Tap-Horse Cave Jct. 69 kV	Active
AF2-391	Central Hardin 69 kV	Active
AG1-067	Temple Hill 69 kV	Active
AG1-070	Bon Ayr 69 kV	Active
AG1-071	Bon Ayr 69 kV	Active
AG1-096	Rineyville 69 kV	Active
AG1-320	Glendale-Stephensburg 69 kV	Active
AG1-341	Summer Shade 161 kV	Active
AG1-353	Greene County-Marion County 161 kV	Active
AG1-354	Summershade-Green County 161 kV	Active
AG1-405	Walnut Grove-Asahi 69 kV	Active
AG1-406	Walnut Grove-Asahi 69 kV	Active
AG1-471	Up Church-Wayne County 69 kV	Active
AG1-472	Seymour-Cave City 69 kV	Active
AG1-488	Marion IP 161 kV	Active

9.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUM SHAD TP161.00	CONTINGENCY 'EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUM SHAD TP161.00' OPEN BRANCH FROM BUS 342814 TO BUS 361788 CKT 1 /*5SUMM SHADE 161.005SUM SHAD TP161.00 END
EXT_360334 5SUMMER SHAD 161 360607 5S GLASGOW 161 1	CONTINGENCY 'EXT_360334 5SUMMER SHAD 161 360607 5S GLASGOW 161 1' OPEN BRANCH FROM BUS 360334 TO BUS 360607 CKT 1 END
EKPC_P2-2_LAUREL CO 161	CONTINGENCY 'EKPC_P2-2_LAUREL CO 161' /* LAUREL 161 BUS OPEN BUS 342754 /* 5LAUREL CO END
EXT_B-69-25	CONTINGENCY 'EXT_B-69-25' / 2360 OPEN BRANCH FROM BUS 324130 TO BUS 324141 CKT 1 / 324130 5ALCALDE 161 324141 5ELIHU 161 1 OPEN BRANCH FROM BUS 324141 TO BUS 342718 CKT 1 / 324141 5ELIHU 161 342718 5COOPER2 161 1 OPEN BRANCH FROM BUS 324141 TO BUS 324514 CKT 1 / 324141 5ELIHU 161 324514 2ELIHU 69.0 1 OPEN BRANCH FROM BUS 324141 TO BUS 324514 CKT 2 / 324141 5ELIHU 161 324514 2ELIHU 69.0 2 END
EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	CONTINGENCY 'EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00' OPEN BRANCH FROM BUS 342814 TO BUS 940040 CKT 1 /*5SUMM SHADE 161.00AE1-246 TAP 161.00 END
EKPC_P2-1_5ELIHU 161.00 TO 5COOPER2 161.00	CONTINGENCY 'EKPC_P2-1_5ELIHU 161.00 TO 5COOPER2 161.00' OPEN BRANCH FROM BUS 324141 TO BUS 342718 CKT 1 /*5ELIHU 161.005COOPER2 161.00 END
EKPC_P2-2_BONNIE 138/69	CONTINGENCY 'EKPC_P2-2_BONNIE 138/69' /* KU BONNIEVILLE 138/69 TIE OPEN BUS 324213 /* 4BONNIE END

Contingency Name	Contingency Definition
EKPC_P7-1_COOP 161 DBL 2	CONTINGENCY 'EKPC_P7-1_COOP 161 DBL 2' /* COOPER - ELIHU 161 & COOPER - LAUREL DAM 161 OPEN BRANCH FROM BUS 324141 TO BUS 342718 CKT 1 /* 324141 5ELIHU 161.00 342718 5COOPER2 161.00 OPEN BRANCH FROM BUS 342718 TO BUS 342757 CKT 1 /* 342718 5COOPER2 161.00 342757 5LAUREL DAM 161.00 END
Base Case	
EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUMMER SHAD161.00	CONTINGENCY 'EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUMMER SHAD161.00' OPEN BRANCH FROM BUS 342814 TO BUS 360334 CKT 1 /* 5SUMM SHADE 161.00 5SUMMER SHAD161.00 END
EXT_P12:345:BREC:WILSON EHV-DAVIESS EHV [TIE] [NO SPS]:7WILSON:7DAVIESS:1:::	CONTINGENCY 'EXT_P12:345:BREC:WILSON EHV-DAVIESS EHV [TIE] [NO SPS]:7WILSON:7DAVIESS:1:::/ 9162 OPEN BRANCH FROM BUS 324104 TO BUS 340561 CKT 1 / 324104 7DAVIESS 345 340561 7WILSON 345 1 END
EKPC_P7-1_LAURL 161 DBL	CONTINGENCY 'EKPC_P7-1_LAURL 161 DBL' /* LAUREL CO - LAUREL DAM 161 & LAUREL CO - TYNER 161 OPEN BRANCH FROM BUS 342754 TO BUS 342757 CKT 1 /* 342754 5LAUREL CO 161.00 342757 5LAUREL DAM 161.00 OPEN BRANCH FROM BUS 342754 TO BUS 342781 CKT 1 /* 342754 5LAUREL CO 161.00 342781 5PITTSBURG 161.00 OPEN BRANCH FROM BUS 342781 TO BUS 342820 CKT 1 /* 342781 5PITTSBURG 161.00 342820 5TYNER 161.00 END
EXT_324130 5ALCALDE 161 324141 5ELIHU 161 1	CONTINGENCY 'EXT_324130 5ALCALDE 161 324141 5ELIHU 161 1' OPEN BRANCH FROM BUS 324130 TO BUS 324141 CKT 1 END
EKPC_P2-2_SUMMSHADE 161 #2	CONTINGENCY 'EKPC_P2-2_SUMMSHADE 161 #2' /* SUMMER SHADE 161 BUS OPEN BRANCH FROM BUS 964900 TO BUS 342814 CKT 1 /* 964900 AG1-354 TAP 161.00 342814 5SUMM SHADE 161.00 OPEN BRANCH FROM BUS 940040 TO BUS 342814 CKT 1 OPEN BUS 342814 END
EKPC_P2-1_5CASEY CO 161.00 TO 5MARION CO 161.00	CONTINGENCY 'EKPC_P2-1_5CASEY CO 161.00 TO 5MARION CO 161.00' OPEN BRANCH FROM BUS 342703 TO BUS 342769 CKT 1 /* 5CASEY CO 161.00 5MARION CO 161.00 END

Contingency Name	Contingency Definition
EKPC_P2-1_5LAUREL CO 161.00 TO 5LAUREL DAM 161.00	CONTINGENCY 'EKPC_P2-1_5LAUREL CO 161.00 TO 5LAUREL DAM 161.00' OPEN BRANCH FROM BUS 342754 TO BUS 342757 CKT 1 /*5LAUREL CO 161.005LAUREL DAM 161.00 END
EKPC_P2-1_5FOX HOLLOW 161.00 TO 5E GLASGOW T161.00	CONTINGENCY 'EKPC_P2-1_5FOX HOLLOW 161.00 TO 5E GLASGOW T161.00' OPEN BRANCH FROM BUS 342732 TO BUS 361603 CKT 1 /*5FOX HOLLOW 161.005E GLASGOW T161.00 END
EKPC_P2-1_5TAYLOR CO 161.00 TO 5TAYLOR CO J161.00	CONTINGENCY 'EKPC_P2-1_5TAYLOR CO 161.00 TO 5TAYLOR CO J161.00' OPEN BRANCH FROM BUS 325921 TO BUS 342817 CKT 1 /*5TAYLOR CO 161.005TAYLOR CO J161.00 END
EKPC_P2-2_KU HODG 69	CONTINGENCY 'EKPC_P2-2_KU HODG 69' /* KU HODGENVILLE 69 TIE OPEN BUS 341632 /* 2HODGENVILLE END

10 Short Circuit Analysis - Primary POI

The following Breakers are overdutied:

None.

11 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AG1-472 was evaluated as a 80.0 MW (Capacity 48.0 MW) injection tapping the Seymore to Horsecave Tap 69 kV line in the EKPC area. Project AG1-472 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-472 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 LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
166832262	341158	2BONNIV DIST	69.0	EKPC	341161	2BONNIV EK	69.0	EKPC	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	72.18	105.71	DC	32.85
174107910	341158	2BONNIV DIST	69.0	EKPC	341161	2BONNIV EK	69.0	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	74.74	108.43	DC	33.02
166832221	341491	2FOX HOLLOW	69.0	EKPC	342049	2PATTON RD J	69.0	EKPC	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	88.97	100.24	DC	11.05
173918040	341491	2FOX HOLLOW	69.0	EKPC	342049	2PATTON RD J	69.0	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	90.0	101.41	DC	11.18
166832255	341908	2MUNFVIL EK	69.0	EKPC	341158	2BONNIV DIST	69.0	EKPC	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	74.83	108.36	DC	32.85
174107897	341908	2MUNFVIL EK	69.0	EKPC	341158	2BONNIV DIST	69.0	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	77.39	111.08	DC	33.02
166832224	341914	2MUNFVIL KU T	69.0	EKPC	341908	2MUNFVIL EK	69.0	EKPC	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	81.87	115.4	DC	32.85
173917935	341914	2MUNFVIL KU T	69.0	EKPC	341908	2MUNFVIL EK	69.0	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	84.43	118.12	DC	33.02
166832191	960740	AF2-365 TAP	69.0	EKPC	341914	2MUNFVIL KU T	69.0	EKPC	1	EKPC_P2-2_SUMMSHA DE 161 #2	bus	98.0	87.59	121.11	DC	32.85
173917908	960740	AF2-365 TAP	69.0	EKPC	341914	2MUNFVIL KU T	69.0	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	90.14	123.84	DC	33.02

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 LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
173917730	341713	2KARGL E	69.0	EKPC	324519	2ETOWN KU	69.0	LGE E	1	EKPC_P2-4_CHARD W124-91T	breaker	86.0	319.51	322.2	DC	5.14
166832344	342286	2SOMER SET	69.0	EKPC	342287	2SOMER SET KU	69.0	EKPC	1	EKPC_P7-1_COOP 161 DBL 2	tower	115.0	133.5	135.16	DC	4.24
165422033	342287	2SOMER SET KU	69.0	EKPC	324531	2FERGU SON SO	69.0	LGE E	1	EKPC_P2-2_COOPER 2 161	bus	105.0	105.2	107.46	DC	5.27
165422213	342287	2SOMER SET KU	69.0	EKPC	324531	2FERGU SON SO	69.0	LGE E	1	EKPC_P7-1_COOP 161 DBL 2	tower	105.0	152.46	154.71	DC	5.22
173917957	342287	2SOMER SET KU	69.0	EKPC	324531	2FERGU SON SO	69.0	LGE E	1	EKPC_P2-3_COOP S42-210G	breaker	105.0	105.2	107.46	DC	5.27

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	ACDC	MW IMPACT
166832129	342319	2SUMM SHAD J	69.0	EKPC	342322	2SUMM SHADE	69.0	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	98.0	117.38	128.65	DC	11.05
173917875	342319	2SUMM SHAD J	69.0	EKPC	342322	2SUMM SHADE	69.0	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	118.71	130.12	DC	11.18
165421962	342718	5COOPE R2	161.0	EKPC	324141	5ELIHU	161.0	LGE	1	EKPC_P2-2_LAUREL CO 161	bus	277.0	133.89	135.11	DC	7.53
165422228	342718	5COOPE R2	161.0	EKPC	324141	5ELIHU	161.0	LGE	1	EKPC_P7-1_LAURL 161 DBL	tower	277.0	134.12	135.34	DC	7.52
169477524	342718	5COOPE R2	161.0	EKPC	324141	5ELIHU	161.0	LGE	1	EKPC_P2-1_5LAUREL CO 161.00 TO 5LAUREL DAM 161.00	single	277.0	111.56	113.19	DC	4.52
174107776	342718	5COOPE R2	161.0	EKPC	324141	5ELIHU	161.0	LGE	1	EKPC_P4-5_LAURL S50-1024	breaker	277.0	134.12	135.34	DC	7.52
169477638	342757	5LAUREL DAM	161.0	EKPC	342754	5LAUREL CO	161.0	EKPC	1	EXT_B-69-25	single	200.0	107.03	108.23	DC	2.4
166832124	940830	AE2-071 TAP	69.0	EKPC	342319	2SUMM SHAD J	69.0	EKPC	1	EKPC_P2-2_SUMMSHADE 161 #2	bus	63.0	125.52	129.91	DC	6.14
173917878	940830	AE2-071 TAP	69.0	EKPC	342319	2SUMM SHAD J	69.0	EKPC	1	EKPC_P4-2_SSHAD S11-1004	breaker	63.0	125.52	129.91	DC	6.14
166832143	959690	AF2-260 TAP	69.0	EKPC	960170	AF2-308 TAP	69.0	EKPC	1	EKPC_P2-2_KU HODG 69	bus	98.0	123.19	126.36	DC	6.9
172375856	960170	AF2-308 TAP	69.0	EKPC	966220	AG1-491 TAP	69.0	EKPC	1	EKPC_P2-2_KU HODG 69	bus	98.0	187.92	191.09	DC	6.9
172375857	960170	AF2-308 TAP	69.0	EKPC	966220	AG1-491 TAP	69.0	EKPC	1	EKPC_P2-2_BONNIE 138/69	bus	98.0	149.77	160.18	DC	10.2
172376092	960170	AF2-308 TAP	69.0	EKPC	966220	AG1-491 TAP	69.0	EKPC	1	DEOK_P7_4512EBTANNERS4516 TERMINALEB	tower	98.0	139.14	141.81	DC	5.81
172376093	960170	AF2-308 TAP	69.0	EKPC	966220	AG1-491 TAP	69.0	EKPC	1	AEP_P7-1_#11028	tower	98.0	139.03	141.7	DC	5.81
173917832	960170	AF2-308 TAP	69.0	EKPC	966220	AG1-491 TAP	69.0	EKPC	1	AEP_P5_#11280_05ROCK_05ROCK	breaker	98.0	141.04	143.71	DC	5.81
172375852	966220	AG1-491 TAP	69.0	EKPC	341287	2CENT HARDIN	69.0	EKPC	1	EKPC_P2-2_KU HODG 69	bus	98.0	187.05	190.22	DC	6.9
172375853	966220	AG1-491 TAP	69.0	EKPC	341287	2CENT HARDIN	69.0	EKPC	1	DEOK_P2-2_1448_ZIMMER	bus	98.0	139.44	142.11	DC	5.81
172376049	966220	AG1-491 TAP	69.0	EKPC	341287	2CENT HARDIN	69.0	EKPC	1	DEOK_P7_4512EBTANNERS4516 TERMINALEB	tower	98.0	138.94	141.61	DC	5.81
172376050	966220	AG1-491 TAP	69.0	EKPC	341287	2CENT HARDIN	69.0	EKPC	1	AEP_P7-1_#11028	tower	98.0	138.83	141.5	DC	5.81
173917760	966220	AG1-491 TAP	69.0	EKPC	341287	2CENT HARDIN	69.0	EKPC	1	AEP_P5_#11280_05ROCK_05ROCK	breaker	98.0	140.84	143.51	DC	5.81

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 IMPACT
164705408	324010	7TRIMBL REAC	345.0	LGEE	248000	06CLIFTY	345.0	OVEC	1	Base Case	operation	1134.0	101.34	102.41	DC	12.11
169477635	341059	2BARRENCO	69.0	EKPC	341542	2GOODNIGHT	69.0	EKPC	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operation	90.0	77.29	115.06	DC	34.0
169477555	341287	2CENT HARDIN	69.0	EKPC	342568	4CENT HARDIN	138.0	EKPC	1	EKPC_P1-2_C HAR-KU ETN69	operation	175.0	102.17	103.51	DC	5.2
169477751	341914	2MUNFVIL KUT	69.0	EKPC	341908	2MUNFVIL EK	69.0	EKPC	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operation	98.0	71.96	104.75	DC	32.14
169477664	342287	2SOMERSET KU	69.0	EKPC	324531	2FERGUSON SO	69.0	LGE E	1	EKPC_P2-1_5ELIHU 161.00 TO 5COOPER 2 161.00	operation	105.0	107.17	109.0	DC	4.25
169477659	342319	2SUMM SHAD J	69.0	EKPC	342322	2SUMM SHADE	69.0	EKPC	1	Base Case	operation	89.0	89.2	100.17	DC	9.77
174932081	342319	2SUMM SHAD J	69.0	EKPC	342322	2SUMM SHADE	69.0	EKPC	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operation	98.0	111.71	128.63	DC	16.58
169477531	342568	4CENT HARDIN	138.0	EKPC	324261	4HARDIN CO	138.0	LGE E	1	EKPC_P1-2_C HAR-KU ETN69	operation	265.0	120.61	121.33	DC	4.23
169477521	342718	5COOPER2	161.0	EKPC	324141	5ELIHU	161.0	LGE E	1	EKPC_P2-1_5LAUREL CO 161.00 TO 5LAUREL DAM 161.00	operation	277.0	133.87	135.1	DC	7.54
169477523	342718	5COOPER2	161.0	EKPC	324141	5ELIHU	161.0	LGE E	1	Base Case	operation	219.0	113.75	115.06	DC	6.39
169477636	342757	5LAUREL DAM	161.0	EKPC	342754	5LAUREL CO	161.0	EKPC	1	EXT_B-69-25	operation	200.0	112.62	113.53	DC	4.0
169477553	342814	5SUMM SHADE	161.0	EKPC	360334	5SUMMER SHAD	161.0	TVA	1	EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUM SHAD TP161.00	operation	289.0	110.52	119.95	DC	27.26
169772737	940830	AE2-071 TAP	69.0	EKPC	342319	2SUMM SHAD J	69.0	EKPC	1	EXT_360334 5SUMMER SHAD 161 360607 5S GLASGOW 161 1	operation	63.0	109.97	114.51	DC	6.36
169772738	940830	AE2-071 TAP	69.0	EKPC	342319	2SUMM SHAD J	69.0	EKPC	1	Base Case	operation	57.0	109.89	114.18	DC	5.43
170052698	959690	AF2-260 TAP	69.0	EKPC	960170	AF2-308 TAP	69.0	EKPC	1	EXT_B-69-19	operation	98.0	93.44	103.85	DC	10.2
174732400	960170	AF2-308 TAP	69.0	EKPC	966220	AG1-491 TAP	69.0	EKPC	1	Base Case	operation	89.0	152.58	155.52	DC	5.81

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
170052740	960740	AF2-365 TAP	69.0	EKPC	341914	2MUNFVILK U T	69.0	EKPC	1	EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	operation	98.0	77.67	110.47	DC	32.14
174732556	966030	AG1-472 TAP	69.0	EKPC	341650	2HORSECA VE T	69.0	EKPC	1	Base Case	operation	77.0	0.0	103.9	DC	80.0
174732281	966220	AG1-491 TAP	69.0	EKPC	341287	2CENT HARDIN	69.0	EKPC	1	Base Case	operation	89.0	152.47	155.41	DC	5.81

11.5 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".

11.5.1 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
174107910	341158	2BONNIV DIST	EKPC	341161	2BONNIV EK	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	74.74	108.43	DC	33.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0277	50/50	0.0277
940045	AE1-246 C	25.9783	50/50	25.9783
940046	AE1-246 E	12.5081	50/50	12.5081
940831	AE2-071 C	2.1015	50/50	2.1015
940832	AE2-071 E	1.4010	50/50	1.4010
945381	AF1-203 C	1.2008	50/50	1.2008
945382	AF1-203 E	0.8006	50/50	0.8006
960741	AF2-365 C O1	15.3033	50/50	15.3033
960742	AF2-365 E O1	10.2022	50/50	10.2022
962221	AG1-067 C O2	3.1057	50/50	3.1057
962222	AG1-067 E O2	1.6530	50/50	1.6530
962241	AG1-070 C O2	8.5838	50/50	8.5838
962242	AG1-070 E O2	1.7168	50/50	1.7168
962251	AG1-071 C O2	10.3005	50/50	10.3005
962252	AG1-071 E O2	2.2890	50/50	2.2890
964781	AG1-341 C O2	2.7405	Adder	6.08
964782	AG1-341 E O2	1.8270	Adder	4.06
966031	AG1-472 C O2	19.8120	50/50	19.8120
966032	AG1-472 E O2	13.2080	50/50	13.2080
CPLE	CPLE	0.1024	Confirmed LTF	0.1024
G-007A	G-007A	0.0408	Confirmed LTF	0.0408
VFT	VFT	0.1096	Confirmed LTF	0.1096
CBM-W2	CBM-W2	1.4426	Confirmed LTF	1.4426
TVA	TVA	0.6272	Confirmed LTF	0.6272
CBM-S2	CBM-S2	2.0358	Confirmed LTF	2.0358
CBM-S1	CBM-S1	0.1174	Confirmed LTF	0.1174
CBM-N	CBM-N	0.0204	Confirmed LTF	0.0204
MEC	MEC	0.1144	Confirmed LTF	0.1144
GIBSON	GIBSON	0.1299	Confirmed LTF	0.1299
BLUEG	BLUEG	0.5243	Confirmed LTF	0.5243
TRIMBLE	TRIMBLE	0.1542	Confirmed LTF	0.1542
LAGN	LAGN	0.5688	Confirmed LTF	0.5688
CBM-W1	CBM-W1	0.0140	Confirmed LTF	0.0140

11.5.2 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
173918040	341491	2FOX HOLLOW	EKPC	342049	2PATTON RD J	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	90.0	101.41	DC	11.18

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0320	50/50	0.0320
940045	AE1-246 C	13.3018	50/50	13.3018
940046	AE1-246 E	6.4046	50/50	6.4046
960741	AF2-365 C O1	3.4173	50/50	3.4173
960742	AF2-365 E O1	2.2782	50/50	2.2782
962241	AG1-070 C O2	7.0729	50/50	7.0729
962242	AG1-070 E O2	1.4146	50/50	1.4146
962251	AG1-071 C O2	8.4875	50/50	8.4875
962252	AG1-071 E O2	1.8861	50/50	1.8861
966031	AG1-472 C O2	6.7090	50/50	6.7090
966032	AG1-472 E O2	4.4726	50/50	4.4726
WEC	WEC	0.0309	Confirmed LTF	0.0309
CPLE	CPLE	0.0505	Confirmed LTF	0.0505
CBM-W2	CBM-W2	2.4192	Confirmed LTF	2.4192
NY	NY	0.0017	Confirmed LTF	0.0017
TVA	TVA	0.5838	Confirmed LTF	0.5838
O-066	O-066	0.0135	Confirmed LTF	0.0135
SIGE	SIGE	0.0154	Confirmed LTF	0.0154
CBM-S2	CBM-S2	1.0858	Confirmed LTF	1.0858
CBM-S1	CBM-S1	0.1197	Confirmed LTF	0.1197
G-007	G-007	0.0021	Confirmed LTF	0.0021
MEC	MEC	0.2797	Confirmed LTF	0.2797
BLUEG	BLUEG	0.1007	Confirmed LTF	0.1007
TRIMBLE	TRIMBLE	0.0367	Confirmed LTF	0.0367
LAGN	LAGN	0.6003	Confirmed LTF	0.6003
CBM-W1	CBM-W1	1.2618	Confirmed LTF	1.2618

11.5.3 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
174107897	341908	2MUNFVIL EK	EKPC	341158	2BONNIV DIST	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	77.39	111.08	DC	33.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0277	50/50	0.0277
940045	AE1-246 C	25.9783	50/50	25.9783
940046	AE1-246 E	12.5081	50/50	12.5081
940831	AE2-071 C	2.1015	50/50	2.1015
940832	AE2-071 E	1.4010	50/50	1.4010
945381	AF1-203 C	1.2008	50/50	1.2008
945382	AF1-203 E	0.8006	50/50	0.8006
960741	AF2-365 C O1	15.3033	50/50	15.3033
960742	AF2-365 E O1	10.2022	50/50	10.2022
962221	AG1-067 C O2	3.1057	50/50	3.1057
962222	AG1-067 E O2	1.6530	50/50	1.6530
962241	AG1-070 C O2	8.5838	50/50	8.5838
962242	AG1-070 E O2	1.7168	50/50	1.7168
962251	AG1-071 C O2	10.3005	50/50	10.3005
962252	AG1-071 E O2	2.2890	50/50	2.2890
964781	AG1-341 C O2	2.7405	Adder	6.08
964782	AG1-341 E O2	1.8270	Adder	4.06
966031	AG1-472 C O2	19.8120	50/50	19.8120
966032	AG1-472 E O2	13.2080	50/50	13.2080
CPLE	CPLE	0.1024	Confirmed LTF	0.1024
G-007A	G-007A	0.0408	Confirmed LTF	0.0408
VFT	VFT	0.1096	Confirmed LTF	0.1096
CBM-W2	CBM-W2	1.4426	Confirmed LTF	1.4426
TVA	TVA	0.6272	Confirmed LTF	0.6272
CBM-S2	CBM-S2	2.0358	Confirmed LTF	2.0358
CBM-S1	CBM-S1	0.1174	Confirmed LTF	0.1174
CBM-N	CBM-N	0.0204	Confirmed LTF	0.0204
MEC	MEC	0.1144	Confirmed LTF	0.1144
GIBSON	GIBSON	0.1299	Confirmed LTF	0.1299
BLUEG	BLUEG	0.5243	Confirmed LTF	0.5243
TRIMBLE	TRIMBLE	0.1542	Confirmed LTF	0.1542
LAGN	LAGN	0.5688	Confirmed LTF	0.5688
CBM-W1	CBM-W1	0.0140	Confirmed LTF	0.0140

11.5.4 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
173917935	341914	2MUNFVILKUT	EKPC	341908	2MUNFVILEK	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	84.43	118.12	DC	33.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0277	50/50	0.0277
940045	AE1-246 C	25.9783	50/50	25.9783
940046	AE1-246 E	12.5081	50/50	12.5081
940831	AE2-071 C	2.1015	50/50	2.1015
940832	AE2-071 E	1.4010	50/50	1.4010
945381	AF1-203 C	1.2008	50/50	1.2008
945382	AF1-203 E	0.8006	50/50	0.8006
960741	AF2-365 C O1	15.3033	50/50	15.3033
960742	AF2-365 E O1	10.2022	50/50	10.2022
962221	AG1-067 C O2	3.1057	50/50	3.1057
962222	AG1-067 E O2	1.6530	50/50	1.6530
962241	AG1-070 C O2	8.5838	50/50	8.5838
962242	AG1-070 E O2	1.7168	50/50	1.7168
962251	AG1-071 C O2	10.3005	50/50	10.3005
962252	AG1-071 E O2	2.2890	50/50	2.2890
964781	AG1-341 C O2	2.7405	Adder	6.08
964782	AG1-341 E O2	1.8270	Adder	4.06
966031	AG1-472 C O2	19.8120	50/50	19.8120
966032	AG1-472 E O2	13.2080	50/50	13.2080
CPLE	CPLE	0.1024	Confirmed LTF	0.1024
G-007A	G-007A	0.0408	Confirmed LTF	0.0408
VFT	VFT	0.1096	Confirmed LTF	0.1096
CBM-W2	CBM-W2	1.4426	Confirmed LTF	1.4426
TVA	TVA	0.6272	Confirmed LTF	0.6272
CBM-S2	CBM-S2	2.0358	Confirmed LTF	2.0358
CBM-S1	CBM-S1	0.1174	Confirmed LTF	0.1174
CBM-N	CBM-N	0.0204	Confirmed LTF	0.0204
MEC	MEC	0.1144	Confirmed LTF	0.1144
GIBSON	GIBSON	0.1299	Confirmed LTF	0.1299
BLUEG	BLUEG	0.5243	Confirmed LTF	0.5243
TRIMBLE	TRIMBLE	0.1542	Confirmed LTF	0.1542
LAGN	LAGN	0.5688	Confirmed LTF	0.5688
CBM-W1	CBM-W1	0.0140	Confirmed LTF	0.0140

11.5.5 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
173917908	960740	AF2-365 TAP	EKPC	341914	2MUNFVILKUT	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	90.14	123.84	DC	33.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0277	50/50	0.0277
940045	AE1-246 C	25.9783	50/50	25.9783
940046	AE1-246 E	12.5081	50/50	12.5081
940831	AE2-071 C	2.1015	50/50	2.1015
940832	AE2-071 E	1.4010	50/50	1.4010
945381	AF1-203 C	1.2008	50/50	1.2008
945382	AF1-203 E	0.8006	50/50	0.8006
960741	AF2-365 C O1	15.3033	50/50	15.3033
960742	AF2-365 E O1	10.2022	50/50	10.2022
962221	AG1-067 C O2	3.1057	50/50	3.1057
962222	AG1-067 E O2	1.6530	50/50	1.6530
962241	AG1-070 C O2	8.5838	50/50	8.5838
962242	AG1-070 E O2	1.7168	50/50	1.7168
962251	AG1-071 C O2	10.3005	50/50	10.3005
962252	AG1-071 E O2	2.2890	50/50	2.2890
964781	AG1-341 C O2	2.7405	Adder	6.08
964782	AG1-341 E O2	1.8270	Adder	4.06
966031	AG1-472 C O2	19.8120	50/50	19.8120
966032	AG1-472 E O2	13.2080	50/50	13.2080
CPLE	CPLE	0.1024	Confirmed LTF	0.1024
G-007A	G-007A	0.0408	Confirmed LTF	0.0408
VFT	VFT	0.1096	Confirmed LTF	0.1096
CBM-W2	CBM-W2	1.4426	Confirmed LTF	1.4426
TVA	TVA	0.6272	Confirmed LTF	0.6272
CBM-S2	CBM-S2	2.0358	Confirmed LTF	2.0358
CBM-S1	CBM-S1	0.1174	Confirmed LTF	0.1174
CBM-N	CBM-N	0.0204	Confirmed LTF	0.0204
MEC	MEC	0.1144	Confirmed LTF	0.1144
GIBSON	GIBSON	0.1299	Confirmed LTF	0.1299
BLUEG	BLUEG	0.5243	Confirmed LTF	0.5243
TRIMBLE	TRIMBLE	0.1542	Confirmed LTF	0.1542
LAGN	LAGN	0.5688	Confirmed LTF	0.5688
CBM-W1	CBM-W1	0.0140	Confirmed LTF	0.0140

11.5.6 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
173917730	341713	2KARGLE	EKPC	324519	2ETOWN KU	LGEE	1	EKPC_P2-4_CHARD W124-91T	breaker	86.0	319.51	322.2	DC	5.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957961	AF2-090 C	56.5506	50/50	56.5506
957962	AF2-090 E	27.9679	50/50	27.9679
959691	AF2-260 C	32.5698	50/50	32.5698
959692	AF2-260 E	16.2849	50/50	16.2849
960171	AF2-308	16.2411	50/50	16.2411
960181	AF2-309 C	24.3617	50/50	24.3617
960182	AF2-309 E	16.2411	50/50	16.2411
960741	AF2-365 C O1	2.1568	Adder	2.54
960742	AF2-365 E O1	1.4379	Adder	1.69
961001	AF2-391 C O1	55.3212	50/50	55.3212
961002	AF2-391 E O1	36.8808	50/50	36.8808
962473	AG1-096 BAT	0.9413	Merchant Transmission	0.9413
964571	AG1-320 C O2	14.8640	50/50	14.8640
964572	AG1-320 E O2	7.3777	50/50	7.3777
966031	AG1-472 C O2	1.3891	Adder	3.08
966032	AG1-472 E O2	0.9261	Adder	2.06
966221	AG1-491 C O2	28.0791	50/50	28.0791
966222	AG1-491 E O2	18.7194	50/50	18.7194
WEC	WEC	0.0085	Confirmed LTF	0.0085
CPLE	CPLE	0.0778	Confirmed LTF	0.0778
G-007A	G-007A	0.0216	Confirmed LTF	0.0216
VFT	VFT	0.0581	Confirmed LTF	0.0581
CBM-W2	CBM-W2	1.8099	Confirmed LTF	1.8099
TVA	TVA	0.5432	Confirmed LTF	0.5432
CBM-S2	CBM-S2	1.5660	Confirmed LTF	1.5660
CBM-S1	CBM-S1	0.0923	Confirmed LTF	0.0923
CBM-N	CBM-N	0.0096	Confirmed LTF	0.0096
MEC	MEC	0.1684	Confirmed LTF	0.1684
GIBSON	GIBSON	0.0388	Confirmed LTF	0.0388
BLUEG	BLUEG	0.8489	Confirmed LTF	0.8489
TRIMBLE	TRIMBLE	0.2365	Confirmed LTF	0.2365
LAGN	LAGN	0.5250	Confirmed LTF	0.5250
CBM-W1	CBM-W1	0.3785	Confirmed LTF	0.3785

11.5.7 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
166832344	342286	2SOMERSET	EKPC	342287	2SOMERSET KU	EKPC	1	EKPC_P7-1_COOP 161 DBL 2	tower	115.0	133.5	135.16	DC	4.24

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342900	1COOPER1 G	5.0281	50/50	5.0281
342903	1COOPER2 G	9.7520	50/50	9.7520
939131	AE1-143 C	5.2595	Adder	6.19
939132	AE1-143 E	2.6052	Adder	3.06
940045	AE1-246 C	4.3059	Adder	5.07
940046	AE1-246 E	2.0732	Adder	2.44
940831	AE2-071 C	1.2797	Adder	1.51
940832	AE2-071 E	0.8531	Adder	1.0
943701	AF1-038 C	6.1070	50/50	6.1070
943702	AF1-038 E	4.0714	50/50	4.0714
943821	AF1-050 C	2.2112	Adder	2.6
943822	AF1-050 E	1.4741	Adder	1.73
944151	AF1-083 C O1	2.3430	Adder	2.76
944152	AF1-083 E O1	1.5620	Adder	1.84
944511	AF1-116 C	5.8985	Adder	6.94
944512	AF1-116 E	3.9323	Adder	4.63
945381	AF1-203 C	0.7312	Adder	0.86
945382	AF1-203 E	0.4875	Adder	0.57
962221	AG1-067 C O2	0.7336	Adder	1.63
962222	AG1-067 E O2	0.3905	Adder	0.87
962241	AG1-070 C O2	0.9810	Adder	2.18
962242	AG1-070 E O2	0.1962	Adder	0.44
962251	AG1-071 C O2	1.1772	Adder	2.61
962252	AG1-071 E O2	0.2616	Adder	0.58
964781	AG1-341 C O2	2.0847	Adder	4.63
964782	AG1-341 E O2	1.3898	Adder	3.09
964891	AG1-353 C	2.1186	Adder	4.7
964892	AG1-353 E	1.4124	Adder	3.14
964901	AG1-354 C	2.7048	Adder	6.0
964902	AG1-354 E	1.8032	Adder	4.0
965401	AG1-405 C	11.8058	50/50	11.8058
965402	AG1-405 E	7.8706	50/50	7.8706
965411	AG1-406	7.5944	50/50	7.5944
966021	AG1-471 C O2	4.6062	50/50	4.6062
966022	AG1-471 E O2	3.0708	50/50	3.0708
966031	AG1-472 C O2	1.1461	Adder	2.54
966032	AG1-472 E O2	0.7640	Adder	1.7
966191	AG1-488 C O2	1.8236	Adder	4.05
966192	AG1-488 E O2	1.2157	Adder	2.7
WEC	WEC	0.0507	Confirmed LTF	0.0507
LGEE	LGEE	0.0145	Confirmed LTF	0.0145

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CPL	CPL	0.0293	Confirmed LTF	0.0293
LGE-0012019	LGE-0012019	4.9049	LTF	4.9049
CBM-W2	CBM-W2	4.0051	Confirmed LTF	4.0051
NY	NY	0.0415	Confirmed LTF	0.0415
TVA	TVA	1.0206	Confirmed LTF	1.0206
O-066	O-066	0.5048	Confirmed LTF	0.5048
SIG	SIG	0.0423	Confirmed LTF	0.0423
CBM-S2	CBM-S2	1.0753	Confirmed LTF	1.0753
CBM-S1	CBM-S1	0.2284	Confirmed LTF	0.2284
G-007	G-007	0.0788	Confirmed LTF	0.0788
MEC	MEC	0.4529	Confirmed LTF	0.4529
LAGN	LAGN	0.9660	Confirmed LTF	0.9660
CBM-W1	CBM-W1	1.9908	Confirmed LTF	1.9908

11.5.8 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
165422213	342287	2SOMERSET KU	EKPC	324531	2FERGUSON SO	LGEE	1	EKPC_P7-1_COOP 161 DBL 2	tower	105.0	152.46	154.71	DC	5.22

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342900	1COOPER1 G	4.9218	50/50	4.9218
342903	1COOPER2 G	9.5458	50/50	9.5458
939131	AE1-143 C	5.4221	Adder	6.38
939132	AE1-143 E	2.6857	Adder	3.16
940045	AE1-246 C	5.4632	Adder	6.43
940046	AE1-246 E	2.6305	Adder	3.09
940831	AE2-071 C	1.6233	Adder	1.91
940832	AE2-071 E	1.0822	Adder	1.27
943701	AF1-038 C	8.3977	50/50	8.3977
943702	AF1-038 E	5.5985	50/50	5.5985
943821	AF1-050 C	2.5575	Adder	3.01
943822	AF1-050 E	1.7050	Adder	2.01
944151	AF1-083 C O1	2.5256	Adder	2.97
944152	AF1-083 E O1	1.6837	Adder	1.98
944511	AF1-116 C	6.0808	Adder	7.15
944512	AF1-116 E	4.0539	Adder	4.77
945381	AF1-203 C	0.9276	Adder	1.09
945382	AF1-203 E	0.6184	Adder	0.73
960741	AF2-365 C O1	1.5231	Adder	1.79
960742	AF2-365 E O1	1.0154	Adder	1.19
962221	AG1-067 C O2	0.9285	Adder	2.06
962222	AG1-067 E O2	0.4942	Adder	1.1
962241	AG1-070 C O2	1.2324	Adder	2.74
962242	AG1-070 E O2	0.2465	Adder	0.55
962251	AG1-071 C O2	1.4789	Adder	3.28
962252	AG1-071 E O2	0.3286	Adder	0.73
964781	AG1-341 C O2	2.6451	Adder	5.87
964782	AG1-341 E O2	1.7634	Adder	3.91
964891	AG1-353 C	2.3239	Adder	5.16
964892	AG1-353 E	1.5493	Adder	3.44
964901	AG1-354 C	3.2939	Adder	7.31
964902	AG1-354 E	2.1959	Adder	4.87
965401	AG1-405 C	10.6088	50/50	10.6088
965402	AG1-405 E	7.0726	50/50	7.0726
965411	AG1-406	6.8244	50/50	6.8244
966021	AG1-471 C O2	5.2283	50/50	5.2283
966022	AG1-471 E O2	3.4855	50/50	3.4855
966031	AG1-472 C O2	1.4123	Adder	3.13
966032	AG1-472 E O2	0.9415	Adder	2.09
966191	AG1-488 C O2	1.8800	Adder	4.17
966192	AG1-488 E O2	1.2533	Adder	2.78

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
WEC	WEC	0.0652	Confirmed LTF	0.0652
CPL	CPL	0.0628	Confirmed LTF	0.0628
LGE-0012019	LGE-0012019	5.0017	LTF	5.0017
CBM-W2	CBM-W2	5.1878	Confirmed LTF	5.1878
NY	NY	0.0426	Confirmed LTF	0.0426
TVA	TVA	1.3454	Confirmed LTF	1.3454
O-066	O-066	0.5048	Confirmed LTF	0.5048
SIG	SIG	0.0489	Confirmed LTF	0.0489
CBM-S2	CBM-S2	1.7957	Confirmed LTF	1.7957
CBM-S1	CBM-S1	0.2983	Confirmed LTF	0.2983
G-007	G-007	0.0788	Confirmed LTF	0.0788
MEC	MEC	0.5848	Confirmed LTF	0.5848
LAGN	LAGN	1.2705	Confirmed LTF	1.2705
CBM-W1	CBM-W1	2.5797	Confirmed LTF	2.5797

11.5.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
173917875	342319	2SUMM SHAD J	EKPC	342322	2SUMM SHADE	EKPC	1	EKPC_P2-3_SSHAD S11-1044	breaker	98.0	118.71	130.12	DC	11.18

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0320	50/50	0.0320
940045	AE1-246 C	13.3018	50/50	13.3018
940046	AE1-246 E	6.4046	50/50	6.4046
940831	AE2-071 C	9.9485	50/50	9.9485
940832	AE2-071 E	6.6324	50/50	6.6324
945381	AF1-203 C	5.6849	50/50	5.6849
945382	AF1-203 E	3.7899	50/50	3.7899
960741	AF2-365 C O1	3.4173	50/50	3.4173
960742	AF2-365 E O1	2.2782	50/50	2.2782
962221	AG1-067 C O2	8.5379	50/50	8.5379
962222	AG1-067 E O2	4.5444	50/50	4.5444
962241	AG1-070 C O2	7.0729	50/50	7.0729
962242	AG1-070 E O2	1.4146	50/50	1.4146
962251	AG1-071 C O2	8.4875	50/50	8.4875
962252	AG1-071 E O2	1.8861	50/50	1.8861
966031	AG1-472 C O2	6.7090	50/50	6.7090
966032	AG1-472 E O2	4.4726	50/50	4.4726
WEC	WEC	0.0309	Confirmed LTF	0.0309
CPLE	CPLE	0.0505	Confirmed LTF	0.0505
CBM-W2	CBM-W2	2.4192	Confirmed LTF	2.4192
NY	NY	0.0017	Confirmed LTF	0.0017
TVA	TVA	0.5838	Confirmed LTF	0.5838
O-066	O-066	0.0135	Confirmed LTF	0.0135
SIGE	SIGE	0.0154	Confirmed LTF	0.0154
CBM-S2	CBM-S2	1.0858	Confirmed LTF	1.0858
CBM-S1	CBM-S1	0.1197	Confirmed LTF	0.1197
G-007	G-007	0.0021	Confirmed LTF	0.0021
MEC	MEC	0.2797	Confirmed LTF	0.2797
BLUEG	BLUEG	0.1007	Confirmed LTF	0.1007
TRIMBLE	TRIMBLE	0.0367	Confirmed LTF	0.0367
LAGN	LAGN	0.6003	Confirmed LTF	0.6003
CBM-W1	CBM-W1	1.2618	Confirmed LTF	1.2618

11.5.10 Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174107776	342718	SCOOPER2	EKPC	324141	5ELIHU	LGEE	1	EKPC_P4-5_LAURL S50-1024	breaker	277.0	134.12	135.34	DC	7.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0165	50/50	0.0165
342900	1COOPER1 G	10.1486	50/50	10.1486
342903	1COOPER2 G	19.7433	50/50	19.7433
342945	1LAUREL 1G	6.1423	50/50	6.1423
939131	AE1-143 C	9.9773	50/50	9.9773
939132	AE1-143 E	4.9420	50/50	4.9420
940045	AE1-246 C	9.3685	50/50	9.3685
940046	AE1-246 E	4.5107	50/50	4.5107
940831	AE2-071 C	2.5509	50/50	2.5509
940832	AE2-071 E	1.7006	50/50	1.7006
942411	AE2-254 C O1	1.3451	Adder	1.58
942412	AE2-254 E O1	0.8967	Adder	1.05
943701	AF1-038 C	6.6586	50/50	6.6586
943702	AF1-038 E	4.4390	50/50	4.4390
943821	AF1-050 C	4.5025	50/50	4.5025
943822	AF1-050 E	3.0017	50/50	3.0017
944151	AF1-083 C O1	4.5583	50/50	4.5583
944152	AF1-083 E O1	3.0389	50/50	3.0389
944511	AF1-116 C	11.1895	50/50	11.1895
944512	AF1-116 E	7.4597	50/50	7.4597
945381	AF1-203 C	1.4576	50/50	1.4576
945382	AF1-203 E	0.9718	50/50	0.9718
960741	AF2-365 C O1	2.2040	Adder	2.59
960742	AF2-365 E O1	1.4693	Adder	1.73
962221	AG1-067 C O2	2.8165	50/50	2.8165
962222	AG1-067 E O2	1.4991	50/50	1.4991
962241	AG1-070 C O2	3.8768	50/50	3.8768
962242	AG1-070 E O2	0.7754	50/50	0.7754
962251	AG1-071 C O2	4.6521	50/50	4.6521
962252	AG1-071 E O2	1.0338	50/50	1.0338
964781	AG1-341 C O2	7.8139	50/50	7.8139
964782	AG1-341 E O2	5.2093	50/50	5.2093
964891	AG1-353 C	7.8586	50/50	7.8586
964892	AG1-353 E	5.2391	50/50	5.2391
964901	AG1-354 C	10.7820	50/50	10.7820
964902	AG1-354 E	7.1880	50/50	7.1880
965401	AG1-405 C	3.9234	50/50	3.9234
965402	AG1-405 E	2.6156	50/50	2.6156
965411	AG1-406	2.5238	50/50	2.5238
966021	AG1-471 C O2	7.4002	50/50	7.4002
966022	AG1-471 E O2	4.9334	50/50	4.9334

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966031	AG1-472 C O2	2.0318	Adder	4.51
966032	AG1-472 E O2	1.3545	Adder	3.01
966191	AG1-488 C O2	6.5272	50/50	6.5272
966192	AG1-488 E O2	4.3515	50/50	4.3515
WEC	WEC	0.0787	Confirmed LTF	0.0787
CPL	CPL	0.0874	Confirmed LTF	0.0874
LGE-0012019	LGE-0012019	7.7561	LTF	7.7561
CBM-W2	CBM-W2	7.4368	Confirmed LTF	7.4368
NY	NY	0.0868	Confirmed LTF	0.0868
TVA	TVA	2.0090	Confirmed LTF	2.0090
O-066	O-066	1.0364	Confirmed LTF	1.0364
SIG	SIG	0.0700	Confirmed LTF	0.0700
CBM-S2	CBM-S2	2.6726	Confirmed LTF	2.6726
CBM-S1	CBM-S1	0.4378	Confirmed LTF	0.4378
G-007	G-007	0.1617	Confirmed LTF	0.1617
MEC	MEC	0.7945	Confirmed LTF	0.7945
LAGN	LAGN	1.8725	Confirmed LTF	1.8725
CBM-W1	CBM-W1	3.0283	Confirmed LTF	3.0283

11.5.11 Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
169477638	342757	SLAUREL DAM	EKPC	342754	SLAUREL CO	EKPC	1	EXT_B-69-25	single	200.0	107.03	108.23	DC	2.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0089	80/20	0.0089
342900	1COOPER1 G	4.6906	80/20	4.6906
342903	1COOPER2 G	9.1166	80/20	9.1166
342945	1LAUREL 1G	5.5642	80/20	5.5642
939131	AE1-143 C	5.0204	80/20	5.0204
940045	AE1-246 C	4.9451	80/20	4.9451
940831	AE2-071 C	1.3906	80/20	1.3906
943701	AF1-038 C	4.5860	80/20	4.5860
943821	AF1-050 C	2.3328	80/20	2.3328
944151	AF1-083 C O1	2.3222	80/20	2.3222
944511	AF1-116 C	5.6304	80/20	5.6304
945381	AF1-203 C	0.7946	80/20	0.7946
962221	AG1-067 C O2	1.5240	80/20	1.5240
962241	AG1-070 C O2	2.0730	80/20	2.0730
962251	AG1-071 C O2	2.4876	80/20	2.4876
964781	AG1-341 C O2	4.2650	80/20	4.2650
964891	AG1-353 C	4.0225	80/20	4.0225
964901	AG1-354 C	5.6448	80/20	5.6448
965401	AG1-405 C	3.9224	80/20	3.9224
965411	AG1-406	2.5232	80/20	2.5232
966021	AG1-471 C O2	3.9301	80/20	3.9301
966031	AG1-472 C O2	2.4029	80/20	2.4029
966191	AG1-488 C O2	3.2844	80/20	3.2844
WEC	WEC	0.0551	Confirmed LTF	0.0551
LGEE	LGEE	0.0603	Confirmed LTF	0.0603
CPL	CPL	0.0723	Confirmed LTF	0.0723
LGE-0012019	LGE-0012019	3.6993	LTF	3.6993
CBM-W2	CBM-W2	4.6771	Confirmed LTF	4.6771
NY	NY	0.0465	Confirmed LTF	0.0465
TVA	TVA	1.2012	Confirmed LTF	1.2012
SIGE	SIGE	0.0506	Confirmed LTF	0.0506
CBM-S2	CBM-S2	1.9627	Confirmed LTF	1.9627
CBM-S1	CBM-S1	0.2732	Confirmed LTF	0.2732
MEC	MEC	0.5101	Confirmed LTF	0.5101
LAGN	LAGN	1.1410	Confirmed LTF	1.1410
CBM-W1	CBM-W1	2.1170	Confirmed LTF	2.1170

11.5.12 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
173917878	940830	AE2-071 TAP	EKPC	342319	2SUMM SHAD J	EKPC	1	EKPC_P4-2_SSHAD S11-1004	breaker	63.0	125.52	129.91	DC	6.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
342442	2W GLASGOW	0.0176	50/50	0.0176
940045	AE1-246 C	6.2055	Adder	7.3
940046	AE1-246 E	2.9878	Adder	3.52
940831	AE2-071 C	13.9033	50/50	13.9033
940832	AE2-071 E	9.2688	50/50	9.2688
945381	AF1-203 C	7.9447	50/50	7.9447
945382	AF1-203 E	5.2965	50/50	5.2965
960741	AF2-365 C O1	1.5940	Adder	1.88
960742	AF2-365 E O1	1.0627	Adder	1.25
962221	AG1-067 C O2	0.8973	Adder	1.99
962222	AG1-067 E O2	0.4776	Adder	1.06
962241	AG1-070 C O2	3.8824	50/50	3.8824
962242	AG1-070 E O2	0.7765	50/50	0.7765
962251	AG1-071 C O2	4.6588	50/50	4.6588
962252	AG1-071 E O2	1.0353	50/50	1.0353
966031	AG1-472 C O2	1.6588	Adder	3.68
966032	AG1-472 E O2	1.1059	Adder	2.45
WEC	WEC	0.0170	Confirmed LTF	0.0170
CPL	CPL	0.0218	Confirmed LTF	0.0218
CBM-W2	CBM-W2	1.2365	Confirmed LTF	1.2365
NY	NY	0.0017	Confirmed LTF	0.0017
TVA	TVA	0.2870	Confirmed LTF	0.2870
O-066	O-066	0.0135	Confirmed LTF	0.0135
SIG	SIG	0.0096	Confirmed LTF	0.0096
CBM-S2	CBM-S2	0.4802	Confirmed LTF	0.4802
CBM-S1	CBM-S1	0.0600	Confirmed LTF	0.0600
G-007	G-007	0.0021	Confirmed LTF	0.0021
MEC	MEC	0.1478	Confirmed LTF	0.1478
TRIMBLE	TRIMBLE	0.0039	Confirmed LTF	0.0039
LAGN	LAGN	0.2992	Confirmed LTF	0.2992
CBM-W1	CBM-W1	0.6870	Confirmed LTF	0.6870

11.5.13 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
166832143	959690	AF2-260 TAP	EKPC	960170	AF2-308 TAP	EKPC	1	EKPC_P2-2_KU HODG 69	bus	98.0	123.19	126.36	DC	6.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959691	AF2-260 C	41.8206	50/50	41.8206
959692	AF2-260 E	20.9103	50/50	20.9103
960172	AF2-308 BAT	7.6580	50/50	7.6580
960741	AF2-365 C O1	3.4533	50/50	3.4533
960742	AF2-365 E O1	2.3022	50/50	2.3022
961003	AF2-391 BAT	14.9160	50/50	14.9160
962473	AG1-096 BAT	0.7557	Merchant Transmission	0.7557
964571	AG1-320 C O2	34.1968	50/50	34.1968
964572	AG1-320 E O2	16.9736	50/50	16.9736
966031	AG1-472 C O2	1.8657	Adder	4.14
966032	AG1-472 E O2	1.2438	Adder	2.76
WEC	WEC	0.0110	Confirmed LTF	0.0110
CPLE	CPLE	0.0908	Confirmed LTF	0.0908
G-007A	G-007A	0.0240	Confirmed LTF	0.0240
VFT	VFT	0.0645	Confirmed LTF	0.0645
CBM-W2	CBM-W2	2.1683	Confirmed LTF	2.1683
TVA	TVA	0.6412	Confirmed LTF	0.6412
CBM-S2	CBM-S2	1.8374	Confirmed LTF	1.8374
CBM-S1	CBM-S1	0.1102	Confirmed LTF	0.1102
CBM-N	CBM-N	0.0108	Confirmed LTF	0.0108
MEC	MEC	0.2050	Confirmed LTF	0.2050
GIBSON	GIBSON	0.0426	Confirmed LTF	0.0426
BLUEG	BLUEG	0.9496	Confirmed LTF	0.9496
TRIMBLE	TRIMBLE	0.2660	Confirmed LTF	0.2660
LAGN	LAGN	0.6247	Confirmed LTF	0.6247
CBM-W1	CBM-W1	0.4907	Confirmed LTF	0.4907

11.5.14 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
172375856	960170	AF2-308 TAP	EKPC	966220	AG1-491 TAP	EKPC	1	EKPC_P2-2_KU HODG 69	bus	98.0	187.92	191.09	DC	6.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959691	AF2-260 C	41.8206	50/50	41.8206
959692	AF2-260 E	20.9103	50/50	20.9103
960171	AF2-308	20.3420	50/50	20.3420
960181	AF2-309 C	30.5130	50/50	30.5130
960182	AF2-309 E	20.3420	50/50	20.3420
960741	AF2-365 C O1	3.4533	50/50	3.4533
960742	AF2-365 E O1	2.3022	50/50	2.3022
961003	AF2-391 BAT	14.9160	50/50	14.9160
962473	AG1-096 BAT	0.7557	Merchant Transmission	0.7557
964571	AG1-320 C O2	34.1968	50/50	34.1968
964572	AG1-320 E O2	16.9736	50/50	16.9736
966031	AG1-472 C O2	1.8657	Adder	4.14
966032	AG1-472 E O2	1.2438	Adder	2.76
WEC	WEC	0.0110	Confirmed LTF	0.0110
CPLE	CPLE	0.0908	Confirmed LTF	0.0908
G-007A	G-007A	0.0240	Confirmed LTF	0.0240
VFT	VFT	0.0645	Confirmed LTF	0.0645
CBM-W2	CBM-W2	2.1683	Confirmed LTF	2.1683
TVA	TVA	0.6412	Confirmed LTF	0.6412
CBM-S2	CBM-S2	1.8374	Confirmed LTF	1.8374
CBM-S1	CBM-S1	0.1102	Confirmed LTF	0.1102
CBM-N	CBM-N	0.0108	Confirmed LTF	0.0108
MEC	MEC	0.2050	Confirmed LTF	0.2050
GIBSON	GIBSON	0.0426	Confirmed LTF	0.0426
BLUEG	BLUEG	0.9496	Confirmed LTF	0.9496
TRIMBLE	TRIMBLE	0.2660	Confirmed LTF	0.2660
LAGN	LAGN	0.6247	Confirmed LTF	0.6247
CBM-W1	CBM-W1	0.4907	Confirmed LTF	0.4907

11.5.15 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
172375852	966220	AG1-491 TAP	EKPC	341287	2CENT HARDIN	EKPC	1	EKPC_P2-2_KU HODG 69	bus	98.0	187.05	190.22	DC	6.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959691	AF2-260 C	41.8206	50/50	41.8206
959692	AF2-260 E	20.9103	50/50	20.9103
960171	AF2-308	20.3420	50/50	20.3420
960181	AF2-309 C	30.5130	50/50	30.5130
960182	AF2-309 E	20.3420	50/50	20.3420
960741	AF2-365 C O1	3.4533	50/50	3.4533
960742	AF2-365 E O1	2.3022	50/50	2.3022
961003	AF2-391 BAT	14.9160	50/50	14.9160
964571	AG1-320 C O2	34.1968	50/50	34.1968
964572	AG1-320 E O2	16.9736	50/50	16.9736
966031	AG1-472 C O2	1.8657	Adder	4.14
966032	AG1-472 E O2	1.2438	Adder	2.76
966221	AG1-491 C O2	33.4580	50/50	33.4580
966222	AG1-491 E O2	22.3054	50/50	22.3054
WEC	WEC	0.0110	Confirmed LTF	0.0110
CPLE	CPLE	0.0908	Confirmed LTF	0.0908
G-007A	G-007A	0.0240	Confirmed LTF	0.0240
VFT	VFT	0.0645	Confirmed LTF	0.0645
CBM-W2	CBM-W2	2.1683	Confirmed LTF	2.1683
TVA	TVA	0.6412	Confirmed LTF	0.6412
CBM-S2	CBM-S2	1.8374	Confirmed LTF	1.8374
CBM-S1	CBM-S1	0.1102	Confirmed LTF	0.1102
CBM-N	CBM-N	0.0108	Confirmed LTF	0.0108
MEC	MEC	0.2050	Confirmed LTF	0.2050
GIBSON	GIBSON	0.0426	Confirmed LTF	0.0426
BLUEG	BLUEG	0.9496	Confirmed LTF	0.9496
TRIMBLE	TRIMBLE	0.2660	Confirmed LTF	0.2660
LAGN	LAGN	0.6247	Confirmed LTF	0.6247
CBM-W1	CBM-W1	0.4907	Confirmed LTF	0.4907

11.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
EKPC_P2-4_CHARD W124-91T	CONTINGENCY 'EKPC_P2-4_CHARD W124-91T' / 148 OPEN BRANCH FROM BUS 324047 TO BUS 342568 CKT 1 / 324047 4BLACKBRANCH 138 342568 4CENT HARDIN 138 1 OPEN BRANCH FROM BUS 324047 TO BUS 324260 CKT 1 / 324047 4BLACKBRANCH 138 324260 4HARDINSBURG 138 1 OPEN BRANCH FROM BUS 324261 TO BUS 342568 CKT 1 / 324261 4HARDIN CO 138 342568 4CENT HARDIN 138 1 END
EKPC_P4-2_SSHAD S11-1004	CONTINGENCY 'EKPC_P4-2_SSHAD S11-1004' / 71 OPEN BRANCH FROM BUS 342814 TO BUS 940040 CKT 1 / 342814 5SUMM SHADE 161 940040 AE1-246 TAP 161 1 OPEN BRANCH FROM BUS 342814 TO BUS 361788 CKT 1 / 342814 5SUMM SHADE 161 361788 5SUM SHAD TP 161 1 OPEN BRANCH FROM BUS 342814 TO BUS 964900 CKT 1 / 342814 5SUMM SHADE 161 964900 AG1-354 TAP 161 1 OPEN BRANCH FROM BUS 342814 TO BUS 360334 CKT 1 / 342814 5SUMM SHADE 161 360334 5SUMMER SHAD 161 1 OPEN BRANCH FROM BUS 342814 TO BUS 342322 CKT 1 / 342814 5SUMM SHADE 161 342322 2SUMM SHADE 69.0 1 END
EKPC_P2-1_SELIHU 161.00 TO 5COOPER2 161.00	CONTINGENCY 'EKPC_P2-1_SELIHU 161.00 TO 5COOPER2 161.00' / 803 OPEN BRANCH FROM BUS 324141 TO BUS 342718 CKT 1 / 324141 5SELIHU 161 342718 5COOPER2 161 1 END
EKPC_P2-2_SUMMSHADE 161 #2	CONTINGENCY 'EKPC_P2-2_SUMMSHADE 161 #2' /* SUMMERSHADE 161 BUS OPEN BRANCH FROM BUS 964900 TO BUS 342814 CKT 1 /* 964900 AG1-354 TAP 161.00 342814 5SUMM SHADE 161.00 OPEN BRANCH FROM BUS 940040 TO BUS 342814 CKT 1 OPEN BUS 342814 END
DEOK_P2-2_1448_ZIMMER	CONTINGENCY 'DEOK_P2-2_1448_ZIMMER' OPEN BUS 251969 OPEN BUS 251968 OPEN BUS 249580 END

Contingency Name	Contingency Definition
EKPC_P2-3_COOP S42-210G	CONTINGENCY 'EKPC_P2-3_COOP S42-210G' / 942 OPEN BRANCH FROM BUS 324141 TO BUS 342718 CKT 1 / 324141 5ELIHU 161 342718 5SCOOPER2 161 1 OPEN BRANCH FROM BUS 342715 TO BUS 342718 CKT 1 / 342715 5SCOOPER1 161 342718 5SCOOPER2 161 1 OPEN BRANCH FROM BUS 342718 TO BUS 342727 CKT 1 / 342718 5SCOOPER2 161 342727 5DENNY 161 1 OPEN BRANCH FROM BUS 342718 TO BUS 342757 CKT 1 / 342718 5SCOOPER2 161 342757 5LAUREL DAM 161 1 OPEN BRANCH FROM BUS 342718 TO BUS 342903 CKT 1 / 342718 5SCOOPER2 161 342903 1SCOOPER2 G 20.0 1 END
EKPC_P2-2_COOPER 2 161	CONTINGENCY 'EKPC_P2-2_COOPER 2 161' /* COOPER 161 BUS 2 OPEN BUS 342718 /* 5SCOOPER2 END
AEP_P5_#11280_05ROCK_05ROCK	CONTINGENCY 'AEP_P5_#11280_05ROCK_05ROCK' / 186 OPEN BRANCH FROM BUS 243208 TO BUS 243209 CKT 1 / 243208 05JEFRSO 765 243209 05ROCKPT 765 1 OPEN BRANCH FROM BUS 243209 TO BUS 247133 CKT Z7 / 243209 05ROCKPT 765 247133 05ROCKP WRK1 765 Z7 OPEN BRANCH FROM BUS 243209 TO BUS 247135 CKT Z8 / 243209 05ROCKPT 765 247135 05ROCKP WRK2 765 Z8 OPEN BRANCH FROM BUS 243209 TO BUS 966530 CKT 1 / 243209 05ROCKPT 765 966530 AG1-522 TAP 765 1 OPEN BRANCH FROM BUS 247133 TO BUS 243239 CKT 7 / 247133 05ROCKP WRK1 765 243239 05ROCKP WRK1 138 7 OPEN BRANCH FROM BUS 247135 TO BUS 243240 CKT 8 / 247135 05ROCKP WRK2 765 243240 05ROCKP WRK2 138 8 OPEN BRANCH FROM BUS 243209 TO BUS 243442 CKT 1 / 243209 05ROCKPT 765 243442 05RKG1 26.0 1 OPEN BRANCH FROM BUS 243209 TO BUS 243443 CKT 2 / 243209 05ROCKPT 765 243443 05RKG2 26.0 2 OPEN BRANCH FROM BUS 243239 TO BUS 243785 CKT 1 / 243239 05ROCKP WRK1 138 243785 05AKSTL 138 1 OPEN BRANCH FROM BUS 243240 TO BUS 243785 CKT 1 / 243240 05ROCKP WRK2 138 243785 05AKSTL 138 1 END
AEP_P7-1_#11028	CONTINGENCY 'AEP_P7-1_#11028' OPEN BRANCH FROM BUS 243215 TO BUS 270139 CKT 1 / 243215 05COOK 345 270139 AA2-116_TAP2 345 1 OPEN BRANCH FROM BUS 270139 TO BUS 243224 CKT 1 / 270139 AA2-116_TAP2 345 243224 05KENZIE 345 1 OPEN BRANCH FROM BUS 243215 TO BUS 270138 CKT 1 / 243215 05COOK 345 270138 AA2-116_TAP1 345 1 OPEN BRANCH FROM BUS 247006 TO BUS 270138 CKT 1 / 247006 05KENZIE_BP 345 270138 AA2-116_TAP1 345 1 OPEN BRANCH FROM BUS 243220 TO BUS 247006 CKT 1 / 243220 05E.ELKHART 345 247006 05KENZIE_BP 345 1 END

Contingency Name	Contingency Definition
EKPC_P2-2_LAUREL CO 161	CONTINGENCY 'EKPC_P2-2_LAUREL CO 161' / * LAUREL 161 BUS OPEN BUS 342754 / * 5LAUREL CO END
EXT_B-69-25	CONTINGENCY 'EXT_B-69-25' / 536 OPEN BRANCH FROM BUS 324130 TO BUS 324141 CKT 1 / 324130 5ALCALDE 161 324141 5ELIHU 161 1 OPEN BRANCH FROM BUS 324141 TO BUS 342718 CKT 1 / 324141 5ELIHU 161 342718 5COOPER2 161 1 OPEN BRANCH FROM BUS 324141 TO BUS 324514 CKT 1 / 324141 5ELIHU 161 324514 2ELIHU 69.0 1 OPEN BRANCH FROM BUS 324141 TO BUS 324514 CKT 2 / 324141 5ELIHU 161 324514 2ELIHU 69.0 2 END
EKPC_P7-1_COOP 161 DBL 2	CONTINGENCY 'EKPC_P7-1_COOP 161 DBL 2' / * COOPER - ELIHU 161 & COOPER - LAUREL DAM 161 OPEN BRANCH FROM BUS 324141 TO BUS 342718 CKT 1 / * 324141 5ELIHU 161.00 342718 5COOPER2 161.00 OPEN BRANCH FROM BUS 342718 TO BUS 342757 CKT 1 / * 342718 5COOPER2 161.00 342757 5LAUREL DAM 161.00 END
DEOK_P7_4512EBTANNERS4516TERMINALEB	CONTINGENCY 'DEOK_P7_4512EBTANNERS4516TERMINALEB' OPEN BUS 249565 END
EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00	CONTINGENCY 'EKPC_P2-1_5SUMM SHADE 161.00 TO AE1-246 TAP 161.00' / 68 OPEN BRANCH FROM BUS 342814 TO BUS 940040 CKT 1 / 342814 5SUMM SHADE 161 940040 AE1-246 TAP 161 1 END
EXT_360334 5SUMMER SHAD 161 360607 5S GLASGOW 161 1	CONTINGENCY 'EXT_360334 5SUMMER SHAD 161 360607 5S GLASGOW 161 1' / 155 OPEN BRANCH FROM BUS 360334 TO BUS 360607 CKT 1 / 360334 5SUMMER SHAD 161 360607 5S GLASGOW 161 1 END
Base Case	

Contingency Name	Contingency Definition
EKPC_P4-5_LAURL S50-1024	CONTINGENCY 'EKPC_P4-5_LAURL S50-1024' / 608 OPEN BRANCH FROM BUS 342754 TO BUS 342757 CKT 1 / 342754 5LAUREL CO 161 342757 5LAUREL DAM 161 1 OPEN BRANCH FROM BUS 342754 TO BUS 342781 CKT 1 / 342754 5LAUREL CO 161 342781 5PITTSBURG 161 1 OPEN BRANCH FROM BUS 342754 TO BUS 341740 CKT 1 / 342754 5LAUREL CO 161 341740 2LAUREL CO 69.0 1 OPEN BRANCH FROM BUS 342781 TO BUS 324688 CKT 1 / 342781 5PITTSBURG 161 324688 2PITTSBRG KU 69.0 1 OPEN BRANCH FROM BUS 342781 TO BUS 342820 CKT 1 / 342781 5PITTSBURG 161 342820 5TYNER 161 1 END
EKPC_P1-2_C HAR-KU ETN69	CONTINGENCY 'EKPC_P1-2_C HAR-KU ETN69' / 125 OPEN BRANCH FROM BUS 341287 TO BUS 341713 CKT 1 / 341287 2CENT HARDIN 69.0 341713 2KARGLE 69.0 1 OPEN BRANCH FROM BUS 324519 TO BUS 341713 CKT 1 / 324519 2ETOWN KU 69.0 341713 2KARGLE 69.0 1 END
EKPC_P2-2_KU HODG 69	CONTINGENCY 'EKPC_P2-2_KU HODG 69' /* KU HODGENVILLE 69 TIE OPEN BUS 341632 /* 2HODGENVILLE END
EXT_B-69-19	CONTINGENCY 'EXT_B-69-19' / 501 OPEN BRANCH FROM BUS 324213 TO BUS 324270 CKT 1 / 324213 4BONNIEVILLE 138 324270 4LEBANON WES 138 1 OPEN BRANCH FROM BUS 324213 TO BUS 324800 CKT 1 / 324213 4BONNIEVILLE 138 324800 4MERE TVA 138 1 OPEN BRANCH FROM BUS 324213 TO BUS 324447 CKT 1 / 324213 4BONNIEVILLE 138 324447 2BONNIE KU 69.0 1 OPEN BRANCH FROM BUS 324213 TO BUS 341161 CKT 1 / 324213 4BONNIEVILLE 138 341161 2BONNIV EK 69.0 1 END
EKPC_P2-2_BONNIE 138/69	CONTINGENCY 'EKPC_P2-2_BONNIE 138/69' /* KU BONNIEVILLE 138/69 TIE OPEN BUS 324213 /* 4BONNIE END
EKPC_P7-1_LAURL 161 DBL	CONTINGENCY 'EKPC_P7-1_LAURL 161 DBL' /* LAUREL CO - LAUREL DAM 161 & LAUREL CO - TYNER 161 OPEN BRANCH FROM BUS 342754 TO BUS 342757 CKT 1 /* 342754 5LAUREL CO 161.00 342757 5LAUREL DAM 161.00 OPEN BRANCH FROM BUS 342754 TO BUS 342781 CKT 1 /* 342754 5LAUREL CO 161.00 342781 5PITTSBURG 161.00 OPEN BRANCH FROM BUS 342781 TO BUS 342820 CKT 1 /* 342781 5PITTSBURG 161.00 342820 5TYNER 161.00 END

Contingency Name	Contingency Definition
EKPC_P2-3_SSHAD S11-1044	CONTINGENCY 'EKPC_P2-3_SSHAD S11-1044' / 89 OPEN BRANCH FROM BUS 342814 TO BUS 940040 CKT 1 / 342814 5SUMM SHADE 161 940040 AE1-246 TAP 161 1 OPEN BRANCH FROM BUS 342814 TO BUS 964900 CKT 1 / 342814 5SUMM SHADE 161 964900 AG1-354 TAP 161 1 OPEN BRANCH FROM BUS 326998 TO BUS 361788 CKT 1 / 326998 5BULLITT TAP 161 361788 5SUM SHAD TP 161 1 OPEN BRANCH FROM BUS 342814 TO BUS 361788 CKT 1 / 342814 5SUMM SHADE 161 361788 5SUM SHAD TP 161 1 OPEN BRANCH FROM BUS 360334 TO BUS 361788 CKT 1 / 360334 5SUMMER SHAD 161 361788 5SUM SHAD TP 161 1 OPEN BRANCH FROM BUS 342814 TO BUS 360334 CKT 1 / 342814 5SUMM SHADE 161 360334 5SUMMER SHAD 161 1 OPEN BRANCH FROM BUS 342814 TO BUS 342322 CKT 1 / 342814 5SUMM SHADE 161 342322 2SUMM SHADE 69.0 1 END
EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUM SHAD TP161.00	CONTINGENCY 'EKPC_P2-1_5SUMM SHADE 161.00 TO 5SUM SHAD TP161.00' / 845 OPEN BRANCH FROM BUS 342814 TO BUS 361788 CKT 1 / 342814 5SUMM SHADE 161 361788 5SUM SHAD TP 161 1 END
EKPC_P2-1_5LAUREL CO 161.00 TO 5LAUREL DAM 161.00	CONTINGENCY 'EKPC_P2-1_5LAUREL CO 161.00 TO 5LAUREL DAM 161.00' / 563 OPEN BRANCH FROM BUS 342754 TO BUS 342757 CKT 1 / 342754 5LAUREL CO 161 342757 5LAUREL DAM 161 1 END

12 Affected Systems

12.1 TVA

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

12.2 Duke Energy Progress

Duke Energy Progress Impacts to be determined during later study phases (as applicable).

12.3 MISO

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

12.4 LG&E

LG&E Impacts to be determined during later study phases (as applicable).