SPP Southwest Power Pool

System Impact Study SPP-2004-123-1 For Network Service Requested By Grand River Dam Authority

From GRDA To WFEC

For a Reserved Amount Of 16 MW From 11/1/2004 To 11/1/2013

SPP Engineering, Tariff Studies

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1. Executive Summary

Grand River Dam Authority has requested a system impact study for Network Integration Transmission Service from GRDA to WFEC for 16 MW. The period of the service requested is from 11/1/2004 to 11/1/2013. The OASIS reservation number is 735259.

The principal objective of this study is to identify system constraints and potential system modifications necessary to grant the requested Network Service while maintaining system reliability. The GRDA to WFEC 16 MW transfer was studied using three System Scenarios. The three scenarios were studied to capture worst case system limitations dependent on the bias of the transmission system. The requested service was modeled as a transfer from marginally dispatched Network Resources in the GRDA control area to the Network Load in the WFEC control area. Positive impacts removed by the expiration of an existing bundled grandfathered agreement from WFEC to the Network Load for a maximum of 10 MW were given as credits to the requested Network Service based upon the existing agreement for 10 MW being replaced by the requested Network Service for 16 MW.

The ATC and upgrades required may vary from these results due to the status of several higher priority requests. The higher priority requests include a SECI to SPS 150 MW request, a WR to EDE 150 MW request, a SPA to SPA 275 MW request, an ERCOTN to AEPW 29 MW request, a AEPW to AEPW 107 MW request, a SECI to EDE 100 MW request, a WR to AEPW 300 MW request, a KCPL to EDE 200 MW request, and a WR to KACY 50 MW request. The study was performed with the higher priority requests included in the models in addition to any determined upgrades assigned to higher priority requests. The higher priority requests have a minimum impact on the 2005 seasonal limitations identified.

The study results of the 16 MW show that limiting constraints exist. Tables 1.1, 1.2, and 1.3 list the SPP facility overloads caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 2.1, 2.2, and 2.3 list the SPP voltage violations caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 3.1, 3.2, and 3.3 list the Non-SPP facility overloads caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 4.1, 4.2, and 4.3 list the Non-SPP voltage violations caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively.

The ATC for the GRDA to WFEC 16 MW request is limited to zero. Due to the inability to upgrade the limiting constraints identified in time to provide service, curtailment of existing service and redispatch were evaluated as an option to obtain the requested service for the first year. The amounts and time periods of curtailment for several different curtailment options to relieve the impact on the limiting constraints identified in 2005 are documented in Table 5. Generation shift factors and applicable redispatch relief pairs to relieve the impact on the limiting constraints are documented in Tables 6.1 through 6.5 and Tables 7.1 through 7.5, respectively. The curtailment and redispatch requirements would be called upon prior to implementing NERC TLR Level 5a. SPP will work with the customer and the applicable party to reach an agreement concerning the curtailment of confirmed service and the redispatch of units. Price negotiation will be between the customer and the applicable party. Before SPP can proceed further, the customer must notify SPP of its intent to obtain curtailment or redispatch. Once the customer shows proof of a curtailment or redispatch agreement to relieve the impact on the limiting

constraints identified in 2005, the request will be accepted for the first year with no renewal rights. If the customer elects not to pursue curtailment or redispatch to relieve the impact on the limiting constraints identified in 2005 and thereafter, service cannot be granted until AEPW Planned Upgrades for Northwest Arkansas are completed with a Scheduled Completion Date 6/1/2007 and transmission upgrades will need to be evaluated to mitigate the remaining limiting constraints identified over the reservation period.

2. Introduction

Grand River Dam Authority has requested a system impact study for Network Integration Transmission Service from GRDA to WFEC for 16 MW. The principal objective of this study is to identify the restraints on the SPP Regional Tariff System that may limit the requested service and determine the least cost solutions required to alleviate the limiting facilities.

This study includes steady-state contingency analyses (PSS/E function ACCC) and Available Transfer Capability (ATC) analyses. The steady-state analyses consider the impact of the request on transmission line and transformer loadings, and bus voltages for outages of single transmission lines, transformers, and generating units, and selected multiple transmission lines and transformers on the SPP system and first tier Non - SPP systems.

The GRDA to WFEC 16 MW transfer was studied using three System Scenarios. The three scenarios were studied to capture worst case system limitations dependent on the bias of the transmission system. The requested service was modeled as a transfer from marginally dispatched Network Resources in the GRDA control area to the Network Load in the WFEC control area. Positive impacts removed by the expiration of an existing bundled grandfathered agreement from WFEC to the Network Load for a maximum of 10 MW were given as credits to the requested Network Service based upon the existing agreement for 10 MW being replaced by the requested Network Service for 16 MW.

3. Study Methodology

A. Description

The system impact analysis was conducted to determine the steady-state impact of the requested service on the SPP and first tier Non - SPP control area systems. The steady-state analysis was done to ensure current SPP Criteria and NERC Planning Standards requirements are fulfilled. The Southwest Power Pool conforms to the NERC Planning Standards, which provide the strictest requirements, related to voltage violations and thermal overloads during normal conditions and during a contingency. It requires that all facilities be within normal operating ratings for normal system conditions and within emergency ratings after a contingency. Normal operating ratings and emergency operating ratings monitored are Rate A and B in the SPP MDWG models, respectively. The upper bound and lower bound of the normal voltage range monitored is 105% and 95%. The upper bound and lower bound of the emergency voltage range monitored is 110% and 90%. The SPS Tuco 230 kV bus voltage is monitored at 92.5% due to pre-determined system stability limitations.

The contingency set includes all SPP control area branches and ties 69kV and above, first tier Non - SPP control area branches and ties 115 kV and above, any defined contingencies for these control areas, and generation unit outages for the SPP control areas, AECI, and ENTR with SPP reserve share program redispatch. The monitor elements include all SPP control area branches, ties, and buses 69 kV and above, and all first tier Non – SPP control area branches and ties 69 kV and above. Voltage monitoring was performed for SPP control area buses 69 kV and above.

A 3 % transfer distribution factor (TDF) cutoff was applied to all SPP control area facilities. For first tier Non – SPP control area facilities, a 3 % TDF cutoff was applied to AECI, AMRN, and ENTR and a 2 % TDF cutoff was applied to MEC, NPPD, and OPPD. For voltage monitoring, a 0.02 per unit change in voltage must occur due to the transfer to be considered a valid limit to the transfer.

B. Model Updates

SPP used eleven seasonal models to study the GRDA to WFEC 16 MW transfer for the requested service period. The SPP MDWG 2004 Series Cases Update 5 2004/05 Winter Peak (04WP), 2005 April Minimum (05AP), 2005 Spring Peak (05G), 2005 Summer Peak (05SP), 2005 Summer Shoulder (05SH), 2005 Fall Peak (05FA), 2005/06 Winter Peak (05WP), 2007 Summer Peak (07SP), 2007/08 Winter Peak (07WP), 2010 Summer Peak (10SP), and 2010/11 Winter Peak (10WP) were used to study the impact of the 16 MW transfer on the system during the requested service period of 11/1/2004 to 11/1/2013.

The chosen base case models were modified to reflect the most current modeling information. From the eleven seasonal models, three system scenarios were developed. Scenario 1 includes SWPP OASIS transmission requests not already included in the SPP 2004 Series Cases flowing in a West to East direction with ERCOT exporting and the Southwestern Public Service (SPS) Control Area exporting to outside control areas and exporting to the planned Lamar HVDC Tie. Scenario 2 includes transmission requests not already included in the SPP 2004 Series Cases flowing in an East to West direction with ERCOT importing and SPS importing from an outside control area and importing from the planned Lamar HVDC Tie. The third scenario includes SWPP OASIS transmission requests not already included in the SPP 2004 Series Cases flowing

in a West to East direction with ERCOT importing and SPS importing from an outside control area and importing from the planned Lamar HVDC Tie. The system scenarios were developed to minimize counter flows to the transfer studied.

C. Transfer Analysis

Using the selected cases both with and without the requested transfer modeled, the PSS/E Activity ACCC was run on the cases and compared to determine the facility overloads caused or impacted by the transfer. The PSS/E options chosen to conduct the analysis can be found in Appendix A.

4. Study Results

A. Study Analysis Results

The attached Tables contain the steady-state analysis results of the System Impact Study. The Tables are in the attached workbook *SPP-2004-123-1 Tables*. The tables identify the seasonal case in which the event occurred, the facility control area location, applicable ratings of the overloaded facility, the loading percentage or voltage with and without the 16 MW transfer, the percent transfer distribution factor (TDF) if applicable, and the estimated ATC value using interpolation if calculated. Comments are provided in the tables to document any SPP or Non - SPP identification or assignment of the event, existing mitigations plans or criteria to disregard the event as a limiting constraint, upgrades and costs to mitigate a limiting constraint, or any specific study procedures associated with modeling an event.

Tables 1.1, 1.2, and 1.3 list the SPP Facility Overloads caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 2.1, 2.2, and 2.3 list the SPP facility voltage violations caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 3.1, 3.2, and 3.3 list the Non-SPP Facility Overloads caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 4.1, 4.2, and 4.3 list the Non-SPP facility voltage violations caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Solutions with engineering and construction costs are provided in the tables.

Table 5 lists several different curtailment options with curtailment amounts and time periods for limiting constraints identified in 2005 using all three Scenarios.

Table 6.1 through 6.5 list Generation Shift Factors for the limiting constraints identified in 2005 using all three Scenarios. These factors are provided for redispatch to relieve the facility loadings by an amount equal to the impact of the 16 MW transfer minus any credit given for the positive impacts removed by the 10 MW grandfathered agreement.

Table 7.1 through 7.5 list applicable relief pairs with redispatch amounts required to relieve the limiting constraints identified in 2005.

Tables 1.1a, 1.2a, and 1.3a document the modeling representation of the events identified in Tables 1.1, 1.2, and 1.3 to include bus numbers and bus names.

5. Conclusion

The study results of the 16 MW show that limiting constraints exist. Tables 1.1, 1.2, and 1.3 list the SPP facility overloads caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 2.1, 2.2, and 2.3 list the SPP voltage violations caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 3.1, 3.2, and 3.3 list the Non-SPP facility overloads caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively. Tables 4.1, 4.2, and 4.3 list the Non-SPP voltage violations caused or impacted by the transfer modeled, using Scenarios 1, 2, and 3, respectively.

The ATC for the GRDA to WFEC 16 MW request is limited to zero. Due to the inability to upgrade the limiting constraints identified in time to provide service, curtailment of existing service and redispatch were evaluated as an option to obtain the requested service for the first year. The amounts and time periods of curtailment for several different curtailment options to relieve the impact on the limiting constraints identified in 2005 are documented in Table 5. Generation shift factors and applicable redispatch relief pairs to relieve the impact on the limiting constraints are documented in Tables 6.1 through 6.5 and Tables 7.1 through 7.5, respectively. The curtailment and redispatch requirements would be called upon prior to implementing NERC TLR Level 5a. SPP will work with the customer and the applicable party to reach an agreement concerning the curtailment of confirmed service and the redispatch of units. Price negotiation will be between the customer and the applicable party. Before SPP can proceed further, the customer must notify SPP of its intent to obtain curtailment or redispatch. Once the customer shows proof of a curtailment or redispatch agreement to relieve the impact on the limiting constraints identified in 2005, the request will be accepted for the first year with no renewal rights. If the customer elects not to pursue curtailment or redispatch to relieve the impact on the limiting constraints identified in 2005 and thereafter, service cannot be granted until AEPW Planned Upgrades for Northwest Arkansas are completed with a Scheduled Completion Date 6/1/2007 and transmission upgrades will need to be evaluated to mitigate the remaining limiting constraints identified over the reservation period.

Appendix A

PSS/E CHOICES IN RUNNING LOAD FLOW PROGRAM AND ACCC

BASE CASES:
Solutions - Fixed slope decoupled Newton-Raphson solution (FDNS)
1. Tap adjustment – Stepping
2. Area interchange control – Tie lines only
3. Var limits – Apply immediately
4. Solution options - X Phase shift adjustment
   _ Flat start
   _ Lock DC taps
   _ Lock switched shunts

ACCC CASES:
Solutions – AC contingency checking (ACCC)
1. MW mismatch tolerance – 0.5
2. Contingency case rating – Rate B
3. Percent of rating – 100
4. Output code – Summary
5. Min flow change in overload report – 1mw
6. Excld cases w/ no overloads form report – YES
7. Exclude interfaces from report – NO
8. Perform voltage limit check – YES
9. Elements in available capacity table – 60000
10. Cutoff threshold for available capacity table – 99999.0
11. Min. contng. case Vltg chng for report – 0.02
12. Sorted output – None

Newton Solution:
1. Tap adjustment – Stepping
2. Area interchange control – Tie lines only
3. Var limits - Apply automatically
4. Solution options - X Phase shift adjustment
   _ Flat start
   _ Lock DC taps
   _ Lock switched shunts

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
04WP			NONE IDENTIFIED								16		
05AP			NONE IDENTIFIED								16		
05G			NONE IDENTIFIED								16		
05SP	AEPW	AEPW	EAST CENTERTON - GENTRY REC 161KV	353	106.3	106.4	3.7	106.3	0.4	FLINT CREEK - TONTITOWN 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - GENTRY REC 161KV	353	108.8	109.0	3.7	108.8	0.4	FLINT CREEK - TONTITOWN 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - TONTITOWN 161KV	353	115.6	115.8	5.0	115.6	0.4	FLINT CREEK - GENTRY REC 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - TONTITOWN 161KV	353	114.4	114.6	5.0	114.4	0.4	EAST CENTERTON - GENTRY REC 161KV	0	"	
05SP	AEPW	AEPW	FLINT CREEK - TONTITOWN 161KV	353	100.7	100.8	3.1	100.7	0.3	CHAMBER SPRINGS - TONTITOWN 161KV	0	"	
05SH			NONE IDENTIFIED								16		
05FA			NONE IDENTIFIED								16		
05WP			NONE IDENTIFIED								16		
07SP			NONE IDENTIFIED								16		
07WP			NONE IDENTIFIED								16		
10SP	AEPW	AEPW	FLINT CREEK - GENTRY REC 161KV	353	102.6	102.7	3.3	102.6	0.3	FLINT CREEK - TONTITOWN 161KV	0	Rebuild 1.09 miles of 2-397.5 ACSR with 2156 ACSR. Replace Flint Creek wavetrap & jumpers	$450,000
10SP	AEPW	AEPW	PATTERSON - SOUTH NASHVILLE 138KV	118	120.6	121.0	3.0	120.9	3.6	3BISMRK - HOT SPRINGS WEST BUS 115KV	0	Rebuild 17.72 miles of 4/0 CU with 795 ACSR.	$6,000,000
10WP			NONE IDENTIFIED								16		
												Total Estimated Engineering and Construction Cost	$6,450,000

Study Case	AREA	Monitored Bus with Violation	BC Voltage (PU)	TC Voltage (PU)	Outaged Branch Causing Voltage Violation	ATC (MW)	Solution	Estimated Cost
04WP		NONE IDENTIFIED				16		
05AP		NONE IDENTIFIED				16		
05G		NONE IDENTIFIED				16		
05SP		NONE IDENTIFIED				16		
05SH		NONE IDENTIFIED				16		
05FA		NONE IDENTIFIED				16		
05WP		NONE IDENTIFIED				16		
07SP		NONE IDENTIFIED				16		
07WP		NONE IDENTIFIED				16		
10SP		NONE IDENTIFIED				16		
10WP		NONE IDENTIFIED				16		
							Total Estimated Engineering and Construction Cost	$0

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	Comments
04WP			NONE IDENTIFIED								
05AP			NONE IDENTIFIED								
05G			NONE IDENTIFIED								
05SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	108.9	108.9	4.5	108.9	3.5	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
05SH			NONE IDENTIFIED								
05FA	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	107.9	107.9	4.6	107.9	3.4	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
05WP			NONE IDENTIFIED								
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	111.3	111.3	4.5	111.3	3.3	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	101.0	101.0	6.3	101.0	4.7	99148 8STERL 500 to 99203 8PERYVIL 500 CKT 1	"
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	100.3	100.3	6.2	100.3	4.5	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	"
07SP	ENTR	ENTR	WEBRERICHARD	1250	118.7	118.8	7.8	118.8	12.5	BASE CASE	Entergy will Re-dispatch units
07WP			NONE IDENTIFIED								
10SP			NONE IDENTIFIED								
10WP			NONE IDENTIFIED								

Study Case	AREA	Monitored Bus with Violation	BC Voltage (PU)	TC Voltage (PU)	Outaged Branch Causing Voltage Violation	Comments
04WP		NONE IDENTIFIED				
05AP		NONE IDENTIFIED				
05G		NONE IDENTIFIED				
05SP		NONE IDENTIFIED				
05SH		NONE IDENTIFIED				
05FA		NONE IDENTIFIED				
05WP		NONE IDENTIFIED				
07SP		NONE IDENTIFIED				
07WP		NONE IDENTIFIED				
10SP		NONE IDENTIFIED				
10WP		NONE IDENTIFIED				

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
04WP	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	104.3	105.3	9.6	104.3	-0.4	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
04WP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	104.1	105.1	9.5	104.0	-0.4	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	"	
04WP	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	104.6	105.6	9.6	104.6	-0.4	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
04WP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	104.4	105.4	9.5	104.4	-0.4	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	"	
04WP			NONE IDENTIFIED								16		
05AP			NONE IDENTIFIED								16		
05G	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	236	102.8	103.0	3.1	102.9	2.2	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	16	Relieved by Dolet Hills Operating Guide	
05SP	AEPW	AEPW	EAST CENTERTON - GENTRY REC 161KV	353	101.1	101.3	3.6	101.1	0.3	FLINT CREEK - TONTITOWN 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - GENTRY REC 161KV	353	103.7	103.9	3.6	103.7	0.3	FLINT CREEK - TONTITOWN 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - TONTITOWN 161KV	353	113.5	113.7	4.9	113.5	0.3	FLINT CREEK - GENTRY REC 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - TONTITOWN 161KV	353	112.3	112.5	4.9	112.3	0.3	EAST CENTERTON - GENTRY REC 161KV	0	"	
05SP	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	209	115.5	115.7	3.0	115.6	2.3	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	16	Relieved by Dolet Hills Operating Guide	
05SP	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	116.7	117.7	9.7	116.6	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05SP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	116.7	117.7	9.6	116.6	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	"	
05SP	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	117.1	118.1	9.7	117.0	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05SP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	117.0	118.1	9.7	117.0	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	"	
05SH	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	209	113.8	114.0	3.2	113.9	2.5	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	16	Relieved by Dolet Hills Operating Guide	
05SH	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	102.3	103.3	9.6	102.3	-0.5	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05SH	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	102.3	103.3	9.6	102.2	-0.5	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	"	
05SH	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	102.6	103.7	9.6	102.6	-0.5	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05SH	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	102.6	103.6	9.6	102.5	-0.5	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	"	
05FA	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	236	103.7	103.9	3.1	103.8	2.2	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	16	Relieved by Dolet Hills Operating Guide	
05WP	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	102.1	103.1	9.6	102.1	-0.7	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05WP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	102.0	103.0	9.5	102.0	-0.7	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	"	
05WP	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	102.5	103.5	9.6	102.4	-0.7	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05WP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	102.4	103.4	9.6	102.3	-0.7	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	"	
05WP			NONE IDENTIFIED								16		
07SP	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	209	118.4	118.6	3.2	118.5	2.2	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	0	May be relieved by Dolet Hills Operating Guide	
07SP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	112.0	113.0	9.4	112.0	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
07SP	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	111.9	112.9	9.4	111.9	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	"	
07SP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	112.4	113.4	9.4	112.3	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
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07WP	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	236	104.3	104.5	3.1	104.4	2.5	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	0	May be relieved by Dolet Hills Operating Guide	
10SP	AEPW	AEPW	FULTON - HOPE 115KV	150	115.9	116.6	6.6	116.3	6.0	BASE CASE	0	Replace conductor in Hope Substation	$100,000
10SP	AEPW	AEPW	FULTON - HOPE 115KV	174	112.6	113.2	7.0	112.9	5.8	ELDORADO EHV - LONGWOOD 345KV	0	See Previous Upgrade Specified For Facility	
10SP	AEPW	AEPW	FULTON - HOPE 115KV	174	112.6	113.2	7.0	112.9	5.8	ELDORADO EHV 500/345KV TRANSFORMER	0	See Previous Upgrade Specified For Facility	
10SP	AEPW	AEPW	FULTON - HOPE 115KV	174	112.1	112.7	6.3	112.4	5.3	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	0	See Previous Upgrade Specified For Facility	
10SP	AEPW	AEPW	FULTON - HOPE 115KV	174	111.3	111.9	6.5	111.6	5.2	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	0	See Previous Upgrade Specified For Facility	
10SP	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	209	127.4	127.7	3.2	127.5	2.3	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	0	May be relieved by Dolet Hills Operating Guide	
10SP	ENTR	AEPW	MURFREESBORO - SOUTH NASHVILLE 138KV	118	100.8	101.3	3.3	101.1	3.2	3BISMRK - HOT SPRINGS WEST BUS 115KV	0	Replace South Nashville Wavetrap.	$30,000
10SP	AEPW	AEPW	PATTERSON - SOUTH NASHVILLE 138KV	118	121.1	121.6	3.4	121.4	3.3	3BISMRK - HOT SPRINGS WEST BUS 115KV	0	See Previous Upgrade Specified For Facility in Scenario 1	
10SP	AEPW	AEPW	OKAY 115/69/13.8KV TRANSFORMER	66	99.6	100.7	4.4	100.2	3.9	ASHDOWN REC (MILLWOOD) - OKAY 115KV	6	Replace with 84MVA transformer.	$1,340,000
10SP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	150	99.1	100.1	9.3	99.0	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
10SP	GRDA	AEPW	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	99.4	100.4	9.4	99.4	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
10SP	AEPW	GRDA	CATOOSA 161/138/13.8KV TRANSFORMER CKT 2	150	99.3	100.3	9.4	99.2	-0.6	CATOOSA 161/138/13.8KV TRANSFORMER CKT 1	16	"	
10WP	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	236	119.0	119.2	3.1	119.1	2.3	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	0	May be relieved by Dolet Hills Operating Guide	
												Total Estimated Engineering and Construction Cost	$1,470,000

Study Case	AREA	Monitored Bus with Violation	BC Voltage (PU)	TC Voltage (PU)	Outaged Branch Causing Voltage Violation	ATC (MW)	Solution	Estimated Cost
04WP		NONE IDENTIFIED				16		
05AP		NONE IDENTIFIED				16		
05G		NONE IDENTIFIED				16		
05SP		NONE IDENTIFIED				16		
05SH		NONE IDENTIFIED				16		
05FA		NONE IDENTIFIED				16		
05WP		NONE IDENTIFIED				16		
07SP		NONE IDENTIFIED				16		
07WP		NONE IDENTIFIED				16		
10SP		NONE IDENTIFIED				16		
10WP		NONE IDENTIFIED				16		
							Total Estimated Engineering and Construction Cost	$0

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	Comments
04WP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	104.4	104.6	3.4	104.5	2.5	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
04WP	ENTR	ENTR	99230 3COUCH 115 to 99310 3MCNEIL 115 CKT 1	167	108.0	108.5	5.5	108.3	4.9	99403 3HSEHVW 115 to 99407 3FRIEND 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
05AP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	103.2	103.9	4.4	103.6	3.5	53424 LONGWD 7 345 to 99294 7ELDEHV 345 CKT 1	Not a problem in Entergy's detailed model. Still under review.
05AP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	103.2	103.9	4.4	103.5	3.5	99294 7ELDEHV 345 to 99295 8ELDEHV 500 CKT 1	"
05AP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	104.8	105.5	4.4	105.2	3.5	53424 LONGWD 7 345 to 99294 7ELDEHV 345 CKT 1	Not a problem in Entergy's detailed model. Still under review.
05AP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	104.8	105.5	4.4	105.1	3.5	99294 7ELDEHV 345 to 99295 8ELDEHV 500 CKT 1	"
05AP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.7	109.4	4.4	109.1	3.5	53424 LONGWD 7 345 to 99294 7ELDEHV 345 CKT 1	Not a problem in Entergy's detailed model. Still under review.
05AP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.7	109.4	4.4	109.0	3.5	99294 7ELDEHV 345 to 99295 8ELDEHV 500 CKT 1	"
05G	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	115.1	115.3	3.1	115.2	2.1	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
05G	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	102.8	103.0	3.1	102.9	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
05SP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	114.3	114.5	3.0	114.4	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
05SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	115.5	115.7	3.0	115.6	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
05SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	122.2	122.3	4.9	122.2	4.0	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
05SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	110.2	110.3	6.7	110.2	5.4	99148 8STERL 500 to 99203 8PERYVIL 500 CKT 1	"
05SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	110.0	110.1	6.7	110.0	5.4	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	"
05SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	100.2	100.3	10.8	100.3	17.3	REMOVE UNIT 1 FROM BUS 97574 [G4SABIN 24.000] DISPATCH	"
05SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	100.8	101.5	4.3	101.2	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	Not a problem in Entergy's detailed model. Still under review.
05SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	99.7	100.4	4.3	100.1	3.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
05SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	99.7	100.4	4.3	100.1	3.9	REMOVE UNIT 1 FROM BUS 53711 [WELSH2-118.000] DISPATCH	"
05SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	99.7	100.4	4.3	100.1	3.9	REMOVE UNIT 1 FROM BUS 53712 [WELSH3-118.000] DISPATCH	"
05SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	111.7	112.5	4.9	112.1	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	Not a problem in Entergy's detailed model. Still under review.
05SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	110.6	111.3	4.3	111.0	3.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
05SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	110.6	111.3	4.3	111.0	3.9	REMOVE UNIT 1 FROM BUS 53711 [WELSH2-118.000] DISPATCH	"
05SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	110.6	111.3	4.3	111.0	3.9	REMOVE UNIT 1 FROM BUS 53712 [WELSH3-118.000] DISPATCH	"
05SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.9	109.7	4.9	109.3	3.9	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	"
05SP	ENTR	ENTR	WEBRERICHARD	1250	125.1	125.2	7.8	125.1	0.0	BASE CASE	Entergy will Re-dispatch units
05SH	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	112.7	112.9	3.2	112.8	2.5	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
05SH	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	113.8	114.0	3.2	113.9	2.5	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
05FA	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	115.9	116.2	3.1	116.0	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
05FA	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	103.7	103.9	3.1	103.8	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
05FA	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	111.4	111.4	6.7	111.4	5.0	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	Entergy will Re-dispatch units
05FA	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	111.1	111.1	6.7	111.1	5.1	99148 8STERL 500 to 99203 8PERYVIL 500 CKT 1	"
05FA	ENTR	ENTR	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	1732	107.1	107.2	5.4	107.2	4.2	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	Entergy will Re-dispatch units
05FA	ENTR	ENTR	WEBRERICHARD	1250	123.1	123.2	7.8	123.1	0.0	BASE CASE	Entergy will Re-dispatch units
05WP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	104.9	105.1	3.1	105.0	2.5	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Relieved by Dolet Hills Operating Guide
07SP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	117.0	117.2	3.2	117.1	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
07SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	118.4	118.6	3.2	118.5	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	Comments
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	124.5	124.5	4.9	124.5	3.7	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	114.7	114.8	6.7	114.7	5.1	99148 8STERL 500 to 99203 8PERYVIL 500 CKT 1	"
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	113.9	114.0	6.8	113.9	5.1	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	"
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	102.6	102.7	6.4	102.7	4.8	99148 8STERL 500 to 99295 8ELDEHV 500 CKT 1	"
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	102.1	102.2	5.6	102.2	4.1	98937 8B.WLSN 500 to 98952 8G.GULF 500 CKT 1	"
07SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	107.1	107.8	4.3	107.4	2.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	Not a problem in Entergy's detailed model. Still under review.
07SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	105.5	106.2	4.3	105.9	3.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
07SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	105.5	106.2	4.3	105.9	3.9	REMOVE UNIT 1 FROM BUS 53711 [WELSH2-118.000] DISPATCH	"
07SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	105.5	106.2	4.3	105.9	3.9	REMOVE UNIT 1 FROM BUS 53712 [WELSH3-118.000] DISPATCH	"
07SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	103.7	104.4	4.3	104.0	2.9	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	"
07SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	111.1	111.9	4.9	111.5	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	Not a problem in Entergy's detailed model. Still under review.
07SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	109.6	110.3	4.3	109.9	2.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
07SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	109.6	110.3	4.3	109.9	2.9	REMOVE UNIT 1 FROM BUS 53711 [WELSH2-118.000] DISPATCH	"
07SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	109.6	110.3	4.3	109.9	2.9	REMOVE UNIT 1 FROM BUS 53712 [WELSH3-118.000] DISPATCH	"
07SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	107.7	108.5	4.9	108.1	3.9	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	"
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	122.9	123.7	4.9	123.3	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	Not a problem in Entergy's detailed model. Still under review.
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	121.3	122.1	4.9	121.7	3.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	121.3	122.1	4.9	121.7	3.9	REMOVE UNIT 1 FROM BUS 53711 [WELSH2-118.000] DISPATCH	"
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	121.3	122.1	4.9	121.7	3.9	REMOVE UNIT 1 FROM BUS 53712 [WELSH3-118.000] DISPATCH	"
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	119.5	120.3	4.9	119.9	3.9	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	"
07SP	ENTR	ENTR	WEBRERICHARD	1250	129.9	130.0	7.8	130.0	12.5	BASE CASE	Entergy will Re-dispatch units
07WP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	116.6	116.8	3.2	116.7	2.6	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
07WP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	104.3	104.5	3.1	104.4	2.5	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
07WP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	103.1	103.8	4.3	103.5	3.8	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	Not a problem in Entergy's detailed model. Still under review.
07WP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	101.2	101.9	4.3	101.5	2.9	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	"
10SP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	125.2	125.5	3.3	125.3	2.4	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
10SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	127.4	127.7	3.2	127.5	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
10SP	ENTR	AEPW	53321 SNASHVL4 138 to 99389 4MURFRE 138 CKT 1	118	100.8	101.3	3.3	101.1	3.2	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	97476 4JACINTO 138 to 97478 6JACINTO 230 CKT 1	750	101.7	101.9	9.3	101.7	1.0	97632 4ADAYTON 138 to 97724 4NATIONL 138 CKT 1	Projects identified, planned and budgeted
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	112.1	112.2	3.7	112.1	1.8	97690 4CYPRESS 138 to 97697 4HONEY 138 CKT 1	Projects identified, planned and budgeted
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	111.6	111.7	3.6	111.7	2.6	97697 4HONEY 138 to 97758 4BRAGG 138 CKT 1	"
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	110.8	110.9	4.0	110.9	2.5	97490 4GULFLIV 138 to 97493 4MENARD 138 CKT 1	"
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	110.7	110.8	3.8	110.8	3.0	97626 4RAYWOOD 138 to 97724 4NATIONL 138 CKT 1	"
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	109.8	110.0	8.0	109.8	1.6	97632 4ADAYTON 138 to 97724 4NATIONL 138 CKT 1	"
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	114.8	114.9	3.3	114.9	2.3	97715 6HARTBRG 230 to 97717 8HARTBRG 500 CKT 1	Entergy will Re-dispatch units
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	114.8	114.9	3.3	114.9	2.4	97715 6HARTBRG 230 to 97718 6INLAND 230 CKT 1	"
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	113.0	113.1	3.3	113.0	2.4	97718 6INLAND 230 to 97769 6MCLEWIS 230 CKT 1	"
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	112.3	112.4	3.3	112.3	2.4	97696 6HELBIG 230 to 97769 6MCLEWIS 230 CKT 1	"
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	104.2	104.3	4.7	104.2	0.0	REMOVE UNIT 1 FROM BUS 97574 [G4SABIN 24.000] DISPATCH	"
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	112.5	112.6	3.6	112.5	1.8	97690 4CYPRESS 138 to 97697 4HONEY 138 CKT 1	Projects identified, planned and budgeted
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	112.0	112.1	3.6	112.0	2.6	97697 4HONEY 138 to 97758 4BRAGG 138 CKT 1	"
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	111.2	111.3	3.9	111.3	2.5	97490 4GULFLIV 138 to 97493 4MENARD 138 CKT 1	"
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	111.0	111.1	3.7	111.0	2.9	97626 4RAYWOOD 138 to 97724 4NATIONL 138 CKT 1	"

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	Comments
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	110.2	110.2	3.4	110.2	2.4	97490 4GULFLIV 138 to 97494 4POCO 1 138 CKT 1	"
10SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	104.5	104.6	6.8	104.5	5.0	99148 8STERL 500 to 99203 8PERYVIL 500 CKT 1	Entergy will Re-dispatch units
10SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	101.9	101.9	6.5	101.9	4.7	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	"
10SP	ENTR	ENTR	99347 3AMITY * 115 to 99388 3MURF-E# 115 CKT 1	98	111.2	111.7	3.0	111.5	3.0	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	110.2	111.0	4.8	110.7	4.2	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	"
10SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	109.1	109.8	4.3	109.4	2.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	"
10SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	108.4	109.2	5.0	108.8	4.1	53424 LONGWD 7 345 to 99294 7ELDEHV 345 CKT 1	"
10SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	108.4	109.2	5.0	108.8	4.1	99294 7ELDEHV 345 to 99295 8ELDEHV 500 CKT 1	"
10SP	ENTR	ENTR	99347 3AMITY * 115 to 99396 3ALPINE# 115 CKT 1	98	107.8	108.5	4.3	108.1	2.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
10SP	ENTR	ENTR	99387 3MURF-S 115 to 99388 3MURF-E# 115 CKT 1	98	118.3	118.8	3.2	118.6	3.1	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	114.9	115.7	4.8	115.3	4.2	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	113.6	114.4	4.9	114.0	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	"
10SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	113.0	113.8	5.1	113.4	4.1	53424 LONGWD 7 345 to 99294 7ELDEHV 345 CKT 1	"
10SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	112.9	113.8	5.1	113.4	4.1	99294 7ELDEHV 345 to 99295 8ELDEHV 500 CKT 1	"
10SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	112.3	113.0	4.3	112.7	3.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	130.1	131.0	5.1	130.6	4.5	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	128.6	129.4	4.9	129.0	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	"
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	128.0	128.8	5.3	128.4	4.3	53424 LONGWD 7 345 to 99294 7ELDEHV 345 CKT 1	"
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	128.0	128.8	5.3	128.4	4.3	99294 7ELDEHV 345 to 99295 8ELDEHV 500 CKT 1	"
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	127.3	128.1	4.9	127.7	3.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
10SP	ENTR	ENTR	WEBRERICHARD	1250	114.7	114.8	7.8	114.7	0.0	BASE CASE	Entergy will Re-dispatch units
10WP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	131.8	132.0	3.2	131.9	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
10WP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	119.0	119.2	3.1	119.1	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
10WP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	103.1	103.1	4.5	103.1	3.3	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
10WP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	109.1	109.9	4.8	109.5	4.0	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10WP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.7	109.5	5.0	109.1	4.0	53424 LONGWD 7 345 to 99294 7ELDEHV 345 CKT 1	"
10WP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.8	109.5	4.4	109.1	3.6	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	"
10WP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.7	109.5	4.9	109.1	4.0	99294 7ELDEHV 345 to 99295 8ELDEHV 500 CKT 1	"
10WP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	107.4	108.2	4.9	107.8	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	"
10WP	ENTR	ENTR	WEBRERICHARD	1250	102.7	102.8	7.8	102.7	0.0	BASE CASE	Entergy will Re-dispatch units

Study Case	AREA	Monitored Bus with Violation	BC Voltage (PU)	TC Voltage (PU)	Outaged Branch Causing Voltage Violation	Comments
04WP		NONE IDENTIFIED				
05AP		NONE IDENTIFIED				
05G		NONE IDENTIFIED				
05SP		NONE IDENTIFIED				
05SH		NONE IDENTIFIED				
05FA		NONE IDENTIFIED				
05WP		NONE IDENTIFIED				
07SP		NONE IDENTIFIED				
07WP		NONE IDENTIFIED				
10SP		NONE IDENTIFIED				
10WP		NONE IDENTIFIED				

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
04WP			NONE IDENTIFIED								16		
05AP			NONE IDENTIFIED								16		
05G	AEPW	AEPW	EAST CENTRAL HENRYETTA - OKMULGEE 138KV	105	110.9	111.8	6.1	111.0	1.4	KELCO - OKMULGEE 138KV	0	Replace Okmulgee Wavetrap	$40,000
05G	AEPW	AEPW	EAST CENTRAL HENRYETTA - OKMULGEE 138KV	105	106.3	107.2	6.1	106.4	1.4	HENRYET4 - KELCO 138KV	0	See Previous Upgrade Specified For Facility	
05G	AEPW	AEPW	EAST CENTRAL HENRYETTA - WELEETKA 138KV	105	108.0	108.9	6.1	108.1	1.4	KELCO - OKMULGEE 138KV	0	Replace Weleetka Wavetrap	$40,000
05G	AEPW	AEPW	EAST CENTRAL HENRYETTA - WELEETKA 138KV	105	103.4	104.3	6.1	103.5	1.4	HENRYET4 - KELCO 138KV	0	See Previous Upgrade Specified For Facility	
05SP	AEPW	AEPW	EAST CENTERTON - GENTRY REC 161KV	353	104.4	104.5	3.9	104.4	0.3	FLINT CREEK - TONTITOWN 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - GENTRY REC 161KV	353	106.9	107.1	3.9	106.9	0.3	FLINT CREEK - TONTITOWN 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - TONTITOWN 161KV	353	114.7	114.9	4.9	114.7	0.3	FLINT CREEK - GENTRY REC 161KV	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	FLINT CREEK - TONTITOWN 161KV	353	113.5	113.7	4.9	113.5	0.3	EAST CENTERTON - GENTRY REC 161KV	0	"	
05SH	AEPW	AEPW	EAST CENTRAL HENRYETTA - OKMULGEE 138KV	105	111.2	112.2	6.2	111.5	2.8	KELCO - OKMULGEE 138KV	0	See Previous Upgrade Specified For Facility	
05SH	AEPW	AEPW	EAST CENTRAL HENRYETTA - OKMULGEE 138KV	105	105.8	106.8	6.2	106.1	3.0	HENRYET4 - KELCO 138KV	0	"	
05SH	AEPW	AEPW	EAST CENTRAL HENRYETTA - WELEETKA 138KV	105	107.5	108.4	6.2	107.8	2.8	KELCO - OKMULGEE 138KV	0	See Previous Upgrade Specified For Facility	
05SH	AEPW	AEPW	EAST CENTRAL HENRYETTA - WELEETKA 138KV	105	102.1	103.1	6.2	102.4	3.0	HENRYET4 - KELCO 138KV	0	"	
05FA			NONE IDENTIFIED								16		
05WP			NONE IDENTIFIED								16		
07SP	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	209	100.7	101.0	3.0	100.8	2.2	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	0	May be relieved by Dolet Hills Operating Guide	
07SP	WFEC	WFEC	PAOLI 138/69KV TRANSFORMER	42	99.5	100.8	3.4	100.7	5.1	LITTLE AXE - NOBLE 69KV	7	Upgrade from 42 MVA to 62 MVA, planned for 2007 by WFEC.	
07WP			NONE IDENTIFIED								16		
10SP	AEPW	AEPW	FLINT CREEK - GENTRY REC 161KV	353	101.0	101.2	3.2	101.0	0.2	FLINT CREEK - TONTITOWN 161KV	0	See Previous Upgrade Specified For Facility in Scenario 1	
10SP	AEPW	AEPW	FULTON - HOPE 115KV	150	102.9	103.5	5.6	103.2	4.5	BASE CASE	0	See Previous Upgrade Specified For Facility in Scenario 2	
10SP	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	209	109.4	109.7	3.1	109.5	2.2	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	0	May be relieved by Dolet Hills Operating Guide	
10SP	ENTR	AEPW	MURFREESBORO - SOUTH NASHVILLE 138KV	118	100.3	100.8	3.9	100.6	3.5	3BISMRK - HOT SPRINGS WEST BUS 115KV	0	See Previous Upgrade Specified For Facility in Scenario 2	
10SP	AEPW	AEPW	PATTERSON - SOUTH NASHVILLE 138KV	118	120.6	121.2	3.9	120.9	3.6	3BISMRK - HOT SPRINGS WEST BUS 115KV	0	See Previous Upgrade Specified For Facility in Scenario 1	
10SP	AEPW	AEPW	FULTON - HOPE 115KV	174	99.9	100.5	6.5	100.2	5.2	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	3	See Previous Upgrade Specified For Facility in Scenario 2	
10SP	AEPW	AEPW	FULTON - HOPE 115KV	174	99.8	100.3	5.4	100.1	5.2	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	6	"	
10WP	CELE	AEPW	INTERNATIONAL PAPER - WALLACE LAKE 138KV	236	102.0	102.2	3.1	102.1	1.9	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV	0	May be relieved by Dolet Hills Operating Guide	
												Total Estimated Engineering and Construction Cost	$80,000

Study Case	AREA	Monitored Bus with Violation	BC Voltage (PU)	TC Voltage (PU)	Outaged Branch Causing Voltage Violation	ATC (MW)	Solution	Estimated Cost
04WP		NONE IDENTIFIED				16		
05AP		NONE IDENTIFIED				16		
05G		NONE IDENTIFIED				16		
05SP		NONE IDENTIFIED				16		
05SH		NONE IDENTIFIED				16		
05FA		NONE IDENTIFIED				16		
05WP		NONE IDENTIFIED				16		
07SP		NONE IDENTIFIED				16		
07WP		NONE IDENTIFIED				16		
10SP		NONE IDENTIFIED				16		
10WP		NONE IDENTIFIED				16		
							Total Estimated Engineering and Construction Cost	$0

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	Comments
04WP			NONE IDENTIFIED								
05AP			NONE IDENTIFIED								
05G			NONE IDENTIFIED								
05SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	114.1	114.2	4.7	114.2	4.1	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
05SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	102.6	102.7	6.7	102.6	5.5	99148 8STERL 500 to 99203 8PERYVIL 500 CKT 1	"
05SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	102.4	102.5	6.5	102.5	5.2	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	"
05SP	ENTR	ENTR	WEBRERICHARD	1250	118.3	118.4	7.8	118.4	12.5	BASE CASE	Entergy will Re-dispatch units
05SH			NONE IDENTIFIED								
05FA	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	113.9	113.9	4.9	113.9	3.9	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
05FA	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	102.8	102.9	6.5	102.8	4.9	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	"
05FA	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	102.6	102.6	6.5	102.6	4.6	99148 8STERL 500 to 99203 8PERYVIL 500 CKT 1	"
05FA	ENTR	ENTR	WEBRERICHARD	1250	115.7	115.8	7.8	115.7	0.0	BASE CASE	Entergy will Re-dispatch units
05WP			NONE IDENTIFIED								
07SP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	100.9	101.1	3.1	101.0	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
07SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	100.7	101.0	3.0	100.8	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
07SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	103.4	103.5	3.1	103.4	2.2	97715 6HARTBRG 230 to 97718 6INLAND 230 CKT 1	Entergy will Re-dispatch units
07SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	103.4	103.5	3.1	103.4	2.2	97715 6HARTBRG 230 to 97717 8HARTBRG 500 CKT 1	"
07SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	101.6	101.7	3.1	101.6	2.2	97718 6INLAND 230 to 97769 6MCLEWIS 230 CKT 1	"
07SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	101.1	101.1	3.1	101.1	2.2	97696 6HELBIG 230 to 97769 6MCLEWIS 230 CKT 1	"
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	116.6	116.6	4.7	116.6	3.5	98235 8MCKNT 500 to 99027 8FRKLIN 500 CKT 1	Entergy will Re-dispatch units
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	107.1	107.1	6.0	107.1	4.1	99148 8STERL 500 to 99203 8PERYVIL 500 CKT 1	"
07SP	ENTR	ENTR	98107 8RICHARD 500 to 98430 8WEBRE 500 CKT 1	1732	106.3	106.4	6.6	106.4	5.0	98937 8B.WLSN 500 to 99203 8PERYVIL 500 CKT 1	"
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	109.5	110.2	4.3	109.8	2.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	Not a problem in Entergy's detailed model. Still under review.
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.0	108.7	4.3	108.4	3.9	REMOVE UNIT 1 FROM BUS 53712 [WELSH3-118.000] DISPATCH	"
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.0	108.7	4.3	108.4	3.9	REMOVE UNIT 1 FROM BUS 53711 [WELSH2-118.000] DISPATCH	"
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	108.0	108.7	4.3	108.4	3.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
07SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	106.0	106.8	4.9	106.4	3.9	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	"
07SP	ENTR	ENTR	WEBRERICHARD	1250	123.3	123.4	7.8	123.3	0.0	BASE CASE	Entergy will Re-dispatch units
07WP			NONE IDENTIFIED								
10SP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	108.8	109.0	3.1	108.9	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
10SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	109.4	109.7	3.1	109.5	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
10SP	ENTR	AEPW	53321 SNASHVL4 138 to 99389 4MURFRE 138 CKT 1	118	100.3	100.8	3.9	100.6	3.5	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	107.3	107.4	3.7	107.4	2.3	97690 4CYPRESS 138 to 97697 4HONEY 138 CKT 1	Projects identified, planned and budgeted
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	106.6	106.6	3.2	106.6	2.2	97697 4HONEY 138 to 97758 4BRAGG 138 CKT 1	"
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	106.4	106.5	3.2	106.4	2.3	97490 4GULFLIV 138 to 97493 4MENARD 138 CKT 1	"
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	106.4	106.4	3.1	106.4	2.2	97493 4MENARD 138 to 97758 4BRAGG 138 CKT 1	"
10SP	ENTR	ENTR	97478 6JACINTO 230 to 97721 CHJC_SER 230 CKT 1	750	105.3	105.3	3.1	105.3	2.2	97490 4GULFLIV 138 to 97494 4POCO 1 138 CKT 1	"
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	115.5	115.6	3.2	115.6	2.2	97715 6HARTBRG 230 to 97717 8HARTBRG 500 CKT 1	Entergy will Re-dispatch units
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	115.5	115.6	3.1	115.5	2.2	97715 6HARTBRG 230 to 97718 6INLAND 230 CKT 1	"
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	113.8	113.8	3.1	113.8	2.2	97718 6INLAND 230 to 97769 6MCLEWIS 230 CKT 1	"
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	113.1	113.1	3.1	113.1	2.2	97696 6HELBIG 230 to 97769 6MCLEWIS 230 CKT 1	"
10SP	ENTR	ENTR	97690 4CYPRESS 138 to 97691 8CYPRESS 500 CKT 1	750	104.5	104.6	4.7	104.6	7.5	REMOVE UNIT 1 FROM BUS 97574 [G4SABIN 24.000] DISPATCH	"
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	107.7	107.8	3.6	107.8	2.3	97690 4CYPRESS 138 to 97697 4HONEY 138 CKT 1	Projects identified, planned and budgeted
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	107.0	107.0	3.1	107.0	2.2	97697 4HONEY 138 to 97758 4BRAGG 138 CKT 1	"
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	106.8	106.9	3.1	106.8	2.2	97490 4GULFLIV 138 to 97493 4MENARD 138 CKT 1	"
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	106.8	106.8	3.1	106.8	2.2	97493 4MENARD 138 to 97758 4BRAGG 138 CKT 1	"
10SP	ENTR	ENTR	97714 6CHINA 230 to 97721 CHJC_SER 230 CKT 1	750	105.7	105.7	3.1	105.7	2.2	97490 4GULFLIV 138 to 97494 4POCO 1 138 CKT 1	"

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	Comments
10SP	ENTR	ENTR	99347 3AMITY * 115 to 99388 3MURF-E# 115 CKT 1	98	110.5	111.1	4.0	110.8	3.3	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	99387 3MURF-S 115 to 99388 3MURF-E# 115 CKT 1	98	117.6	118.3	4.1	118.0	3.4	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	100.1	100.9	4.9	100.5	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	99396 3ALPINE# 115 to 99397 3BISMRK 115 CKT 1	98	99.7	100.6	5.3	100.2	4.5	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	"
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	115.0	115.7	4.3	115.4	3.9	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	Not a problem in Entergy's detailed model. Still under review.
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	114.8	115.7	5.5	115.2	4.7	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	"
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	113.7	114.5	4.9	114.1	3.9	REMOVE UNIT 1 FROM BUS 53712 [WELSH3-118.000] DISPATCH	"
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	113.7	114.5	4.9	114.1	3.9	REMOVE UNIT 1 FROM BUS 53711 [WELSH2-118.000] DISPATCH	"
10SP	ENTR	ENTR	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	98	113.7	114.4	4.3	114.1	3.9	REMOVE UNIT 1 FROM BUS 53710 [WELSH1-118.000] DISPATCH	"
10SP	ENTR	ENTR	WEBRERICHARD	1250	109.1	109.2	7.8	109.1	0.0	BASE CASE	Entergy will Re-dispatch units
10WP	CELE	CELE	50090 IPAPER 4 138 to 50113 MANSFLD4 138 CKT 1	232	114.3	114.5	3.2	114.4	1.9	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide
10WP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	102.0	102.2	3.1	102.1	1.9	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	May be relieved by Dolet Hills Operating Guide

Study Case	AREA	Monitored Bus with Violation	BC Voltage (PU)	TC Voltage (PU)	Outaged Branch Causing Voltage Violation	Comments
04WP		NONE IDENTIFIED				
05AP		NONE IDENTIFIED				
05G		NONE IDENTIFIED				
05SP		NONE IDENTIFIED				
05SH		NONE IDENTIFIED				
05FA		NONE IDENTIFIED				
05WP		NONE IDENTIFIED				
07SP		NONE IDENTIFIED				
07WP		NONE IDENTIFIED				
10SP		NONE IDENTIFIED				
10WP		NONE IDENTIFIED				

Curtailment Amount of Oasis Reservation 730036, AEPW-AMRN, 265 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	AEPW to AMRN %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	0.879	63
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	0.571	82
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	2.966	28
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	2.962	24

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / AEPW to AMRN %Response

Curtailment Amount of Oasis Reservation 619796, AEPW-EES, 400 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	AEPW to EES %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	1.003	55
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	0.765	61
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	3.724	22
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	3.714	19

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / AEPW to EES %Response

Curtailment Amount of Oasis Reservations 260858-260860, 260862, 260873, 260874, 260693, 547034, 547037, 547092, 650220, ERCOTE-EES, 600 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	ERCOTE to EES %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	0.600	92
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	0.476	99
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	N/A	N/A
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	N/A	N/A

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / ERCOTE to EES %Response

Curtailment Amount of Oasis Reservation 125190, OKGE-EES, 200 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	OKGE to EES %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	0.978	56
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	0.578	132
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	0.792	59
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	N/A	N/A
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	N/A	N/A

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / OKGE to EES %Response

Curtailment Amount of Oasis Reservations 785143, 785144, SPS-AMRN(NSP), 100 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	SPS to NSP %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	N/A	N/A
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	N/A	N/A
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	N/A	N/A

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / SPS to NSP %Response

Curtailment Amount of Oasis Reservations 571175, 571178-571180, SPS-MPS, 200 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	SPS to MPS %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	0.365	151
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	N/A	N/A
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	N/A	N/A
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	N/A	N/A

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / SPS to MPS %Response

Curtailment Amount of Oasis Reservations 374668, 675208, WR-EES, 100 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	WR to EES %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	0.604	91
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	0.858	89
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	0.598	79
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	0.873	96
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	0.857	83

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / WR to EES %Response

Curtailment Amount of Oasis Reservations 775638, 775639, WR-AMRN(TVA), 100 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	WR to TVA %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	0.612	90
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	0.561	84
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	N/A	N/A
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	N/A	N/A

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / WR to TVA %Response

Curtailment Amount of Oasis Reservations, 696705, 696708, 696710, 696712, 696725, AEPW-ERCOTE, 250 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	AEPW to ERCOTE %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	0.415	133
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	0.302	156
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	4.837	17
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	4.830	15

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / AEPW to ERCOTE %Response

Curtailment Amount of Oasis Reservations, 381168-381171, AMRN-SPS, 200 MW

Overloaded Facility	Contingency Causing Overload	Date Curtailment Needed	*Relief Amount (MW)	AMRN to SPS %Response	**Amount of Transfer Needed for Curtailment (MW)
FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1	FLINT CREEK - TONTITOWN 161KV	6/1/05-10/1/05	0.6	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV	6/1/05-10/1/05	0.8	N/A	N/A
FLINT CREEK - TONTITOWN 161KV from Table 1.1	CHAMBER SPRINGS - TONTITOWN 161KV	6/1/05-10/1/05	0.5	N/A	N/A
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	4/1/05-6/1/05	0.8	1.653	51
EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3	KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV	6/1/05-10/1/05	0.7	1.748	41

* Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)
** Amount (MW) Needed for Curtailment = 100 * Relief Amount / AMRN to SPS %Response

Limiting Facility: FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1
Line Outage: FLINT CREEK - TONTITOWN 161KV
Date Redispatch Needed: 6/1/05-10/1/05
Relief Amount: 0.6 MW

Source	Sink	GSF
SWPA_BVR #1 113.8	System Swing	-0.17433
SWPA_BVR #2 113.8	System Swing	-0.17433
SWPA_TBR1&2 113.8	System Swing	-0.04201
SWPA_TBR3&4 113.8	System Swing	-0.04201
SWPA_BSH #1 113.8	System Swing	-0.02568
SWPA_BSH #2 113.8	System Swing	-0.02568
SWPA_BSH3&4 113.8	System Swing	-0.02568
SWPA_BSH5&6 113.8	System Swing	-0.02568
SWPA_BSH7&8 113.8	System Swing	-0.02568
SWPA_NFK #1 113.8	System Swing	-0.01799
SWPA_NFK #2 113.8	System Swing	-0.01799
AECI_1WPLCTG113.8	System Swing	-0.00955
AECI_1WPLCTG213.8	System Swing	-0.00955
SWPA_GF #1 113.8	System Swing	-0.00866
SWPA_GF #2 213.8	System Swing	-0.00866
SWPA_DAR1&2 113.8	System Swing	-0.00249
SWPA_DAR3&4 113.8	System Swing	-0.00249
SWPA_STK #1 113.8	System Swing	-0.00214
AECI_1ESSEXG 13.8	System Swing	-0.00045
AECI_1ESSEXG213.8	System Swing	-0.00045
AECI_1CHM G1 13.8	System Swing	0.00208
AECI_1CHM G2 13.8	System Swing	0.00208
SWPA_TRU123 113.8	System Swing	0.00259
SWPA_TRU456 113.8	System Swing	0.00259
SWPA_OZK1&2 113.8	System Swing	0.00267
SWPA_OZK345 113.8	System Swing	0.00267
AECI_1THLG3 24.0	System Swing	0.00269
AECI_1THLG1 20.0	System Swing	0.00279
AECI_1THLG2 22.0	System Swing	0.00279
AECI_1HOLDEN113.8	System Swing	0.00347
AECI_1HOLDEN213.8	System Swing	0.00347
AECI_1NDWYG1 13.8	System Swing	0.00408
SWPA_BBOW#1 113.8	System Swing	0.00619
SWPA_BBOW#2 113.8	System Swing	0.00619
SWPA_RSK1&2 113.8	System Swing	0.00661
SWPA_RSK3&4 113.8	System Swing	0.00661
SWPA_DEN #1 113.8	System Swing	0.00886
SWPA_DEN #2 113.8	System Swing	0.00886
AEPW_COGEN 1 18.0	System Swing	0.01022
AEPW_COGEN 1 18.0	System Swing	0.01022
AEPW_COGEN 2 18.0	System Swing	0.01022
AEPW_COGEN 2 18.0	System Swing	0.01022
AEPW_COGEN 3 18.0	System Swing	0.01022
OKGE_HSL 6G17.1	System Swing	0.01025
OKGE_HSL 7S20.9	System Swing	0.01025
OKGE_HSL 8G22.8	System Swing	0.01025
OKGE_HSL 9G13.8	System Swing	0.01025
OKGE_HSL 10G13.8	System Swing	0.01025
OKGE_SOONER2G20.0	System Swing	0.01032
OKGE_HSL 7G13.2	System Swing	0.01038
SWPA_EUF #1 113.8	System Swing	0.01101
SWPA_EUF #2 113.8	System Swing	0.01101
SWPA_EUF #3 113.8	System Swing	0.01101
OKGE_SOONER1G22.0	System Swing	0.01119
OKGE_CONTEMPG13.2	System Swing	0.01158
AEPW_WEL 4-1 13.8	System Swing	0.01205
AEPW_WEL 5-1 13.8	System Swing	0.01205
AEPW_WEL 6-1 13.8	System Swing	0.01205
SWPA_TEN1&2 113.8	System Swing	0.01303
SWPA_WEB123 113.8	System Swing	0.01303
AEPW_RSS1-1 24.0	System Swing	0.01448
AEPW_RSS2-1 22.0	System Swing	0.01448
GRDA_BOOMER 269.0	System Swing	0.01471
AEPW_TPS2-1 13.8	System Swing	0.01548
AEPW_TPS4-1 13.8	System Swing	0.01548
OKGE_MUSKOG3G17.1	System Swing	0.01583
AEPW_NES3-1 22.0	System Swing	0.01652

Source	Sink	GSF
AEPW_NES4-1 22.0	System Swing	0.01652
SWPA_KEY1&2 113.8	System Swing	0.01905
SWPA_FTG1&2 113.8	System Swing	0.02006
SWPA_FTG3&4 113.8	System Swing	0.02006
AEPW_NES1-1 14.4	System Swing	0.02185
AEPW_NES1-1A 18.0	System Swing	0.02185
AEPW_NES1-1B 18.0	System Swing	0.02185
AEPW_NES2-1 22.0	System Swing	0.02185
GRDA_PENSA 269.0	System Swing	0.02461
GRDA_PENSA 5 161	System Swing	0.02525
AECI_1CHOTCT113.8	System Swing	0.03589
AECI_1CHOTCT213.8	System Swing	0.03589
AECI_1CHOTST313.8	System Swing	0.03589
GRDA_GRDA15-122.8	System Swing	0.03626
GRDA_KERR GR3 115	System Swing	0.03641
GRDA_KERR GR5 161	System Swing	0.03833
GRDA_SALINA 5 161	System Swing	0.03833
GRDA_GRDA17-122.8	System Swing	0.04327
AEPW_FLINTCR121.0	System Swing	0.09556

Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)

Limiting Facility: FLINT CREEK - GENTRY REC 161KV and EAST CENTERTON - GENTRY REC 161KV from Table 1.1
Line Outage: FLINT CREEK - TONTITOWN 161KV
Date Redispatch Needed: 6/1/05-10/1/05
Relief Amount: 0.6 MW

Source	Sink	Factor	Redispatch Amount (MW)
SWPA_BVR #1 113.8	AEPW_FLINTCR121.0	-0.26989	2
SWPA_BVR #2 113.8	AEPW_FLINTCR121.0	-0.26989	2
SWPA_BVR #1 113.8	GRDA_GRDA17-122.8	-0.2176	3
SWPA_BVR #2 113.8	GRDA_GRDA17-122.8	-0.2176	3
SWPA_BVR #1 113.8	GRDA_SALINA 5 161	-0.21266	3
SWPA_BVR #2 113.8	GRDA_SALINA 5 161	-0.21266	3
SWPA_BVR #1 113.8	GRDA_KERR GR5 161	-0.21266	3
SWPA_BVR #2 113.8	GRDA_KERR GR5 161	-0.21266	3
SWPA_BVR #1 113.8	GRDA_KERR GR3 115	-0.21074	3
SWPA_BVR #2 113.8	GRDA_KERR GR3 115	-0.21074	3
SWPA_BVR #1 113.8	GRDA_GRDA15-122.8	-0.21059	3
SWPA_BVR #2 113.8	GRDA_GRDA15-122.8	-0.21059	3
SWPA_BVR #1 113.8	AECI_1CHOTST313.8	-0.21022	3
SWPA_BVR #2 113.8	AECI_1CHOTST313.8	-0.21022	3
SWPA_BVR #1 113.8	GRDA_PENSA 5 161	-0.19958	3
SWPA_BVR #2 113.8	GRDA_PENSA 5 161	-0.19958	3
SWPA_BVR #1 113.8	AEPW_NES1-1A 18.0	-0.19618	3
SWPA_BVR #2 113.8	AEPW_NES1-1A 18.0	-0.19618	3
SWPA_BVR #1 113.8	SWPA_FTG1&2 113.8	-0.19439	3
SWPA_BVR #2 113.8	SWPA_FTG1&2 113.8	-0.19439	3

Factor = Source GSF Referenced to System Swing - Sink GSF Referenced to System Swing
Transaction = Relief Amount / Factor

Limiting Facility: FLINT CREEK - TONTITOWN 161KV from Table 1.1
Line Outage: FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV
Date Redispatch Needed: 6/1/05-10/1/05
Relief Amount: 0.8 MW

Source	Sink	GSF
SPA_BVR #1 113.8	System Swing	-0.15213
SPA_BVR #2 113.8	System Swing	-0.15213
SPA_TBR1&2 113.8	System Swing	-0.03074
SPA_TBR3&4 113.8	System Swing	-0.03074
SPA_BSH #1 113.8	System Swing	-0.01942
SPA_BSH #2 113.8	System Swing	-0.01942
SPA_BSH3&4 113.8	System Swing	-0.01942
SPA_BSH5&6 113.8	System Swing	-0.01942
SPA_BSH7&8 113.8	System Swing	-0.01942
AREC_L&D13U114.16	System Swing	-0.0135
AREC_L&D13U214.16	System Swing	-0.0135
AREC_L&D13U314.16	System Swing	-0.0135
SPA_NFK #1 113.8	System Swing	-0.01343
SPA_NFK #2 113.8	System Swing	-0.01343
SPA_GF #1_113.8	System Swing	-0.00859
SPA_GF #2_213.8	System Swing	-0.00859
AECI_1WPLCTG113.8	System Swing	-0.00569
AECI_1WPLCTG213.8	System Swing	-0.00569
SPA_DAR1&2 113.8	System Swing	-0.00514
SPA_DAR3&4 113.8	System Swing	-0.00514
SPA_OZK1&2 113.8	System Swing	-0.00282
SPA_OZK345 113.8	System Swing	-0.00282
AECI_1NM G1_22.0	System Swing	0.00017
SPA_RSK1&2 113.8	System Swing	0.00037
SPA_RSK3&4 113.8	System Swing	0.00037
AECI_1NM G2_22.0	System Swing	0.00044
SPA_SIKGEN 113.8	System Swing	0.00054
AECI_1ESSEXG 13.8	System Swing	0.00072
AECI_1STFRG2 16.0	System Swing	0.00127
SPA_BBOW#1 113.8	System Swing	0.00129
SPA_BBOW#2 113.8	System Swing	0.00129
SPA_DEN #1 113.8	System Swing	0.00313
SPA_DEN #2 113.8	System Swing	0.00313
SPA_STK #1 113.8	System Swing	0.00494
AECI_1CHM G1 13.8	System Swing	0.00495
AECI_1CHM G2 13.8	System Swing	0.00495
AECI_1THLG3_24.0	System Swing	0.00517
AECI_1THLG1_20.0	System Swing	0.00527
AECI_1THLG2_22.0	System Swing	0.00527
SPA_EUF #1 113.8	System Swing	0.00571
SPA_EUF #2 113.8	System Swing	0.00571
SPA_EUF #3 113.8	System Swing	0.00571
AECI_1NDWYG1 13.8	System Swing	0.00606
SPA_TRU123 113.8	System Swing	0.00647
SPA_TRU456 113.8	System Swing	0.00647
AECI_1HOLDEN113.8	System Swing	0.00657
AECI_1HOLDEN213.8	System Swing	0.00657
SPA_TEN1&2 113.8	System Swing	0.00824
SPA_WEB123 113.8	System Swing	0.00824
OKGE_MUSKOG3G17.1	System Swing	0.01093
WR_NEC U3_12.0	System Swing	0.01199
AEPW_NES3-1_22.0	System Swing	0.01299
AEPW_NES4-1_22.0	System Swing	0.01299
SPA_KEY1&2 113.8	System Swing	0.01593
SPA_FTG1&2 113.8	System Swing	0.01796
SPA_FTG3&4 113.8	System Swing	0.01796
AEPW_NES1-1_14.4	System Swing	0.02211
AEPW_NES1-1A 18.0	System Swing	0.02211
AEPW_NES1-1B 18.0	System Swing	0.02211
AEPW_NES2-1_22.0	System Swing	0.02211
GRDA_PENSA_269.0	System Swing	0.03268
GRDA_PENSA_5 161	System Swing	0.03294
AECI_1CHOTCT113.8	System Swing	0.04265
AECI_1CHOTCT213.8	System Swing	0.04265
AECI_1CHOTST313.8	System Swing	0.04265
GRDA_GRDA15-122.8	System Swing	0.04314
GRDA_KERR GR3 115	System Swing	0.04421

Source	Sink	GSF
GRDA_KERR GR5 161	System Swing	0.04625
GRDA_SALINA 5 161	System Swing	0.04625
GRDA_GRDA17-122.8	System Swing	0.05299
AEPW_FLINTCR121.0	System Swing	0.12695

Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)

Limiting Facility: FLINT CREEK - TONTITOWN 161KV from Table 1.1
Line Outage: FLINT CREEK - GENTRY REC 161KV or EAST CENTERTON - GENTRY REC 161KV
Date Redispatch Needed: 6/1/05-10/1/05
Relief Amount: 0.8 MW

Source	Sink	Factor	Redispatch Amount (MW)
SPA_BVR #1 113.8	AEPW_FLINTCR121.0	-0.27908	3
SPA_BVR #2 113.8	AEPW_FLINTCR121.0	-0.27908	3
SPA_BVR #1 113.8	GRDA_GRDA17-122.8	-0.20512	4
SPA_BVR #2 113.8	GRDA_GRDA17-122.8	-0.20512	4
SPA_BVR #1 113.8	GRDA_KERR GR5 161	-0.19838	4
SPA_BVR #1 113.8	GRDA_SALINA 5 161	-0.19838	4
SPA_BVR #2 113.8	GRDA_KERR GR5 161	-0.19838	4
SPA_BVR #2 113.8	GRDA_SALINA 5 161	-0.19838	4
SPA_BVR #1 113.8	GRDA_KERR GR3 115	-0.19634	4
SPA_BVR #2 113.8	GRDA_KERR GR3 115	-0.19634	4
SPA_BVR #1 113.8	GRDA_GRDA15-122.8	-0.19527	4
SPA_BVR #2 113.8	GRDA_GRDA15-122.8	-0.19527	4
SPA_BVR #1 113.8	AECI_1CHOTST313.8	-0.19478	4
SPA_BVR #2 113.8	AECI_1CHOTST313.8	-0.19478	4
SPA_BVR #1 113.8	GRDA_PENSA_5 161	-0.18507	4
SPA_BVR #2 113.8	GRDA_PENSA_5 161	-0.18507	4
SPA_BVR #1 113.8	AEPW_NES1-1A 18.0	-0.17424	4
SPA_BVR #2 113.8	AEPW_NES1-1A 18.0	-0.17424	4
SPA_BVR #1 113.8	SPA_FTG1&2 113.8	-0.17009	4
SPA_BVR #2 113.8	SPA_FTG1&2 113.8	-0.17009	4

Factor = Source GSF Referenced to System Swing - Sink GSF Referenced to System Swing
Transaction = Relief Amount / Factor

Limiting Facility: FLINT CREEK - TONTITOWN 161KV from Table 1.1
Line Outage: CHAMBER SPRINGS - TONTITOWN 161KV
Date Redispatch Needed: 6/1/05-10/1/05
Relief Amount: 0.5 MW

Source	Sink	GSF
SWPA_BVR #1 113.8	System Swing	-0.13143
SWPA_BVR #2 113.8	System Swing	-0.13143
SWPA_TBR1&2 113.8	System Swing	-0.03017
SWPA_TBR3&4 113.8	System Swing	-0.03017
SWPA_BSH #1 113.8	System Swing	-0.0187
SWPA_BSH #2 113.8	System Swing	-0.0187
SWPA_BSH3&4 113.8	System Swing	-0.0187
SWPA_BSH5&6 113.8	System Swing	-0.0187
SWPA_BSH7&8 113.8	System Swing	-0.0187
SWPA_NFK #1 113.8	System Swing	-0.01307
SWPA_NFK #2 113.8	System Swing	-0.01307
AEPW_L&D13U114.16	System Swing	-0.01235
AEPW_L&D13U214.16	System Swing	-0.01235
AEPW_L&D13U314.16	System Swing	-0.01235
SWPA_GF #1 113.8	System Swing	-0.00702
SWPA_GF #2 213.8	System Swing	-0.00702
AECI_1WPLCTG113.8	System Swing	-0.00655
AECI_1WPLCTG213.8	System Swing	-0.00655
SWPA_DAR1&2 113.8	System Swing	-0.00337
SWPA_DAR3&4 113.8	System Swing	-0.00337
SWPA_OZK1&2 113.8	System Swing	-0.00106
SWPA_OZK345 113.8	System Swing	-0.00106
AECI_1ESSEXG 13.8	System Swing	-0.00004
AECI_1ESSEXG213.8	System Swing	-0.00004
AECI_1STFRG2 16.0	System Swing	0.00024
SWPA_STK #1 113.8	System Swing	0.00031
SWPA_RSK1&2 113.8	System Swing	0.0021
SWPA_RSK3&4 113.8	System Swing	0.0021
AECI_1CHM G1 13.8	System Swing	0.00255
AECI_1CHM G2 13.8	System Swing	0.00255
AECI_1THLG3 24.0	System Swing	0.00298
AECI_1THLG1 20.0	System Swing	0.00307
AECI_1THLG2 22.0	System Swing	0.00307
SWPA_TRU123 113.8	System Swing	0.0033
SWPA_TRU456 113.8	System Swing	0.0033
AECI_1HOLDEN113.8	System Swing	0.00388
AECI_1HOLDEN213.8	System Swing	0.00388
AECI_1NDWYG1 13.8	System Swing	0.00409
SWPA_BBOW#1 113.8	System Swing	0.00433
SWPA_BBOW#2 113.8	System Swing	0.00433
SWPA_DEN #1 113.8	System Swing	0.00658
SWPA_DEN #2 113.8	System Swing	0.00658
SWPA_EUF #1 113.8	System Swing	0.00687
SWPA_EUF #2 113.8	System Swing	0.00687
SWPA_EUF #3 113.8	System Swing	0.00687
SWPA_TEN1&2 113.8	System Swing	0.00865
SWPA_WEB123 113.8	System Swing	0.00865
AEPW_RSS1-1 24.0	System Swing	0.01127
AEPW_RSS2-1 22.0	System Swing	0.01127
OKGE_MUSKOG3G17.1	System Swing	0.01162
GRDA_BOOMER 269.0	System Swing	0.01176
AEPW_TPS2-1 13.8	System Swing	0.01218
AEPW_TPS4-1 13.8	System Swing	0.01218
AEPW_NES3-1 22.0	System Swing	0.0135
AEPW_NES4-1 22.0	System Swing	0.0135
SWPA_FTG1&2 113.8	System Swing	0.0154
SWPA_FTG3&4 113.8	System Swing	0.0154
SWPA_KEY1&2 113.8	System Swing	0.01544
AEPW_NES1-1 14.4	System Swing	0.01815
AEPW_NES1-1A 18.0	System Swing	0.01815
AEPW_NES1-1B 18.0	System Swing	0.01815
AEPW_NES2-1 22.0	System Swing	0.01815
GRDA_PENSA 269.0	System Swing	0.02138
GRDA_PENSA 5 161	System Swing	0.02184
AECI_1CHOTCT113.8	System Swing	0.02996
AECI_1CHOTCT213.8	System Swing	0.02996
AECI_1CHOTST313.8	System Swing	0.02996

Source	Sink	GSF
GRDA_GRDA15-122.8	System Swing	0.0303
GRDA_KERR GR3 115	System Swing	0.03044
GRDA_KERR GR5 161	System Swing	0.03192
GRDA_SALINA 5 161	System Swing	0.03192
GRDA_GRDA17-122.8	System Swing	0.03658
AEPW_FLINTCR121.0	System Swing	0.08211

Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * E

Limiting Facility: FLINT CREEK - TONTITOWN 161KV from Table 1.1
Line Outage: CHAMBER SPRINGS - TONTITOWN 161KV
Date Redispatch Needed: 6/1/05-10/1/05
Relief Amount: 0.5 MW

Source	Sink	Factor	Redispatch Amount (MW)
SWPA_BVR #1 113.8	AEPW_FLINTCR121.0	-0.21354	2
SWPA_BVR #2 113.8	AEPW_FLINTCR121.0	-0.21354	2
SWPA_BVR #1 113.8	GRDA_GRDA17-122.8	-0.16801	3
SWPA_BVR #2 113.8	GRDA_GRDA17-122.8	-0.16801	3
SWPA_BVR #1 113.8	GRDA_SALINA 5 161	-0.16335	3
SWPA_BVR #2 113.8	GRDA_SALINA 5 161	-0.16335	3
SWPA_BVR #1 113.8	GRDA_KERR GR5 161	-0.16335	3
SWPA_BVR #2 113.8	GRDA_KERR GR5 161	-0.16335	3
SWPA_BVR #1 113.8	GRDA_KERR GR3 115	-0.16187	3
SWPA_BVR #2 113.8	GRDA_KERR GR3 115	-0.16187	3
SWPA_BVR #1 113.8	GRDA_GRDA15-122.8	-0.16173	3
SWPA_BVR #2 113.8	GRDA_GRDA15-122.8	-0.16173	3
SWPA_BVR #1 113.8	AECI_1CHOTST313.8	-0.16139	3
SWPA_BVR #2 113.8	AECI_1CHOTST313.8	-0.16139	3
SWPA_BVR #1 113.8	GRDA_PENSA 5 161	-0.15327	3
SWPA_BVR #2 113.8	GRDA_PENSA 5 161	-0.15327	3
SWPA_BVR #1 113.8	AEPW_NES1-1A 18.0	-0.14958	3
SWPA_BVR #2 113.8	AEPW_NES1-1A 18.0	-0.14958	3
SWPA_BVR #1 113.8	SWPA_KEY1&2 113.8	-0.14687	3
SWPA_BVR #2 113.8	SWPA_KEY1&2 113.8	-0.14687	3

Factor = Source GSF Referenced to System Swing - Sink GSF Referenced to System Swing
Transaction = Relief Amount / Factor

Limiting Facility: EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3
Line Outage: KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV
Date Redispatch Needed: 4/1/05-6/1/05
Relief Amount: 0.8 MW

Source	Sink	GSF
AEPW_WEL 4-1 13.8	System Swing	-0.21241
AEPW_WEL 5-1 13.8	System Swing	-0.21241
AEPW_WEL 6-1 13.8	System Swing	-0.21241
SWPA_EUF #2 113.8	System Swing	-0.06271
SWPA_EUF #3 113.8	System Swing	-0.06271
SWPA_EUF #1 113.8	System Swing	-0.06259
SWPA_DEN #1 113.8	System Swing	-0.04656
SWPA_DEN #2 113.8	System Swing	-0.04656
SWPA_BBOW#1 113.8	System Swing	-0.04595
SWPA_BBOW#2 113.8	System Swing	-0.04595
WFEC_HUGO1 23.4	System Swing	-0.03899
SWPA_TEN1&2 113.8	System Swing	-0.03538
SWPA_WEB123 113.8	System Swing	-0.03538
OKGE_SEMINL1G20.9	System Swing	-0.02854
WFEC_ANADRK4 13.8	System Swing	-0.02591
WFEC_ANADRK5 13.8	System Swing	-0.02591
WFEC_ANADRK6 13.8	System Swing	-0.02591
WFEC_GENCO1 413.8	System Swing	-0.02591
WFEC_GENCO2 413.8	System Swing	-0.02591
WFEC_ANADRK1 13.8	System Swing	-0.02543
WFEC_ANADRK2 13.8	System Swing	-0.02543
WFEC_ANADRK3 13.8	System Swing	-0.02543
AEPW_SWS1-1 13.8	System Swing	-0.02503
AEPW_SWS2-1 13.8	System Swing	-0.02503
AEPW_SWS3-1 24.0	System Swing	-0.02503
SWPA_RSK1&2 113.8	System Swing	-0.0231
SWPA_RSK3&4 113.8	System Swing	-0.0231
AEPW_COM3-1 13.8	System Swing	-0.02305
AEPW_COM1-1 13.8	System Swing	-0.02156
AEPW_COM2-1 13.8	System Swing	-0.02156
OKGE_MCLN 118.0	System Swing	-0.02071
OKGE_MCLN 218.0	System Swing	-0.02071
OKGE_MCLN 318.0	System Swing	-0.02071
OKGE_TINKER5G13.8	System Swing	-0.02032
OKGE_SEMINL2G17.1	System Swing	-0.0201
OKGE_SEMINL3G20.9	System Swing	-0.0201
OKGE_HSL 6G17.1	System Swing	-0.01692
OKGE_HSL 7S20.9	System Swing	-0.01692
OKGE_HSL 8G22.8	System Swing	-0.01692
OKGE_HSL 9G13.8	System Swing	-0.01692
OKGE_HSL 10G13.8	System Swing	-0.01692
OKGE_HSL 7G13.2	System Swing	-0.01691
OKGE_MUSTNG1G14.0	System Swing	-0.01682
OKGE_MUSTNG2G13.8	System Swing	-0.01682
OKGE_MUSTNG3G20.9	System Swing	-0.01674
OKGE_MUSTNG4G20.9	System Swing	-0.01674
AEPW_WILKE1-120.0	System Swing	-0.01391
AEPW_WILKE2-121.0	System Swing	-0.01391
AEPW_WILKE3-122.0	System Swing	-0.01344
AEPW_KNOXL4-113.8	System Swing	-0.01308
AEPW_KNOXL5-121.0	System Swing	-0.01308
WFEC_MORLND1 13.8	System Swing	-0.01238
WFEC_MORLND2 18.0	System Swing	-0.01238
WFEC_MORLND3 18.0	System Swing	-0.01238
AEPW_LIEBR1-113.8	System Swing	-0.01215
AEPW_LIEBR2-113.8	System Swing	-0.01215
AEPW_LIEBR3-113.8	System Swing	-0.01215
AEPW_LIEBR4-113.8	System Swing	-0.01215
AEPW_ARSHILL114.8	System Swing	-0.01189
SWPA_OZK1&2 113.8	System Swing	-0.00743
SWPA_OZK345 113.8	System Swing	-0.00743
SWPA_DAR1&2 113.8	System Swing	-0.0029
SWPA_DAR3&4 113.8	System Swing	-0.0029
SWPA_FTG1&2 113.8	System Swing	-0.00246
SWPA_FTG3&4 113.8	System Swing	-0.00246
SWPA_GF #1 113.8	System Swing	0.00021
SWPA_GF #2 213.8	System Swing	0.00021

Source	Sink	GSF
SWPA_SIKGEN 113.8	System Swing	0.00185
SWPA_NFK #1 113.8	System Swing	0.00491
SWPA_NFK #2 113.8	System Swing	0.00491
SWPA_BSH #1 113.8	System Swing	0.00651
SWPA_BSH #2 113.8	System Swing	0.00651
SWPA_BSH3&4 113.8	System Swing	0.00651
SWPA_BSH5&6 113.8	System Swing	0.00651
SWPA_BSH7&8 113.8	System Swing	0.00651
SWPA_TRU123 113.8	System Swing	0.00735
SWPA_TRU456 113.8	System Swing	0.00735
SWPA_STK #1 113.8	System Swing	0.01052
SWPA_TBR1&2 113.8	System Swing	0.01156
SWPA_TBR3&4 113.8	System Swing	0.01156
SWPA_BVR #1 113.8	System Swing	0.01548
SWPA_BVR #2 113.8	System Swing	0.01548
OKGE_MUSKOG4G18.0	System Swing	0.01825
OKGE_MUSKOG5G18.0	System Swing	0.01825
OKGE_MUSKOG6G24.0	System Swing	0.01825
GRDA_PENSA 5 161	System Swing	0.01985
GRDA_KERR GR5 161	System Swing	0.02081
GRDA_SALINA 5 161	System Swing	0.02081
GRDA_GRDA15-122.8	System Swing	0.02086
GRDA_GRDA17-122.8	System Swing	0.02235
AEPW_NES3-1 22.0	System Swing	0.02803
AEPW_NES4-1 22.0	System Swing	0.02803
AEPW_NES1-1 14.4	System Swing	0.02859
AEPW_NES1-1A 18.0	System Swing	0.02859
AEPW_NES1-1B 18.0	System Swing	0.02859
AEPW_NES2-1 22.0	System Swing	0.02859
AEPW_COGEN 1 18.0	System Swing	0.03337
AEPW_COGEN 1 18.0	System Swing	0.03337
AEPW_COGEN 2 18.0	System Swing	0.03337
AEPW_COGEN 2 18.0	System Swing	0.03337
AEPW_COGEN 3 18.0	System Swing	0.03337
AEPW_OECGT1-118.0	System Swing	0.03372
AEPW_OECGT1-218.0	System Swing	0.03372
AEPW_OECSTM 118.0	System Swing	0.03372
SWPA_KEY1&2 113.8	System Swing	0.03632
AEPW_RSS1-1 24.0	System Swing	0.07405
AEPW_RSS2-1 22.0	System Swing	0.07405

Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)

Limiting Facility: EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3
Line Outage: KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV
Date Redispatch Needed: 4/1/05-6/1/05
Relief Amount: 0.8 MW

Source	Sink	Factor	Redispatch Amount (MW)
AEPW_WEL 4-1 13.8	AEPW_RSS1-1 24.0	-0.28646	3
AEPW_WEL 4-1 13.8	SWPA_KEY1&2 113.8	-0.24873	3
AEPW_WEL 4-1 13.8	AEPW_OECSTM 118.0	-0.24613	3
AEPW_WEL 4-1 13.8	AEPW_COGEN 1 18.0	-0.24578	3
AEPW_WEL 4-1 13.8	AEPW_NES1-1A 18.0	-0.241	3
AEPW_WEL 4-1 13.8	AEPW_NES3-1 22.0	-0.24044	3
SWPA_EUF #2 113.8	AEPW_RSS1-1 24.0	-0.13676	6
SWPA_EUF #1 113.8	AEPW_RSS1-1 24.0	-0.13664	6
SWPA_DEN #1 113.8	AEPW_RSS1-1 24.0	-0.12061	7
SWPA_BBOW#1 113.8	AEPW_RSS1-1 24.0	-0.12	7
WFEC_HUGO1 23.4	AEPW_RSS1-1 24.0	-0.11304	7
SWPA_WEB123 113.8	AEPW_RSS1-1 24.0	-0.10943	8
SWPA_TEN1&2 113.8	AEPW_RSS1-1 24.0	-0.10943	8
OKGE_SEMINL1G20.9	AEPW_RSS1-1 24.0	-0.10259	8
WFEC_ANADRK4 13.8	AEPW_RSS1-1 24.0	-0.09996	8
WFEC_ANADRK1 13.8	AEPW_RSS1-1 24.0	-0.09948	8
AEPW_SWS1-1 13.8	AEPW_RSS1-1 24.0	-0.09908	8
SWPA_EUF #2 113.8	SWPA_KEY1&2 113.8	-0.09903	8
SWPA_EUF #1 113.8	SWPA_KEY1&2 113.8	-0.09891	8
SWPA_EUF #2 113.8	AEPW_OECSTM 118.0	-0.09643	9

Factor = Source GSF Referenced to System Swing - Sink GSF Referenced to System Swing
Transaction = Relief Amount / Factor

Limiting Facility: EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3
Line Outage: KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV
Date Redispatch Needed: 6/1/05-10/1/05
Relief Amount: 0.7 MW

Source	Sink	GSF
AEPW_WEL 4-1 13.8	System Swing	-0.21239
AEPW_WEL 5-1 13.8	System Swing	-0.21239
AEPW_WEL 6-1 13.8	System Swing	-0.21239
SWPA_EUF #2 113.8	System Swing	-0.06272
SWPA_EUF #3 113.8	System Swing	-0.06272
SWPA_EUF #1 113.8	System Swing	-0.06259
SWPA_DEN #1 113.8	System Swing	-0.04655
SWPA_DEN #2 113.8	System Swing	-0.04655
SWPA_BBOW#1 113.8	System Swing	-0.04601
SWPA_BBOW#2 113.8	System Swing	-0.04601
WFEC_HUGO1 23.4	System Swing	-0.03904
SWPA_TEN1&2 113.8	System Swing	-0.0354
SWPA_WEB123 113.8	System Swing	-0.0354
OKGE_SEMINL1G20.9	System Swing	-0.02866
WFEC_ANADRK4 13.8	System Swing	-0.02524
WFEC_GENCO1 413.8	System Swing	-0.02524
WFEC_GENCO2 413.8	System Swing	-0.02524
WFEC_ANADRK1 13.8	System Swing	-0.02483
WFEC_ANADRK2 13.8	System Swing	-0.02483
WFEC_ANADRK3 13.8	System Swing	-0.02483
AEPW_SWS1-1 13.8	System Swing	-0.02425
AEPW_SWS2-1 13.8	System Swing	-0.02425
AEPW_SWS3-1 24.0	System Swing	-0.02425
SWPA_RSK1&2 113.8	System Swing	-0.02314
SWPA_RSK3&4 113.8	System Swing	-0.02314
AEPW_COM3-1 13.8	System Swing	-0.02182
OKGE_MCLN 118.0	System Swing	-0.02051
OKGE_SEMINL2G17.1	System Swing	-0.0203
OKGE_SEMINL3G20.9	System Swing	-0.0203
AEPW_COM1-1 13.8	System Swing	-0.02018
AEPW_COM2-1 13.8	System Swing	-0.02018
OKGE_HSL 7G13.2	System Swing	-0.01681
OKGE_HSL 6G17.1	System Swing	-0.0168
OKGE_HSL 7S20.9	System Swing	-0.0168
OKGE_HSL 8G22.8	System Swing	-0.0168
OKGE_HSL 9G13.8	System Swing	-0.0168
OKGE_HSL 10G13.8	System Swing	-0.0168
OKGE_MUSTNG1G14.0	System Swing	-0.01672
OKGE_MUSTNG2G13.8	System Swing	-0.01672
OKGE_MUSTNG3G20.9	System Swing	-0.01666
OKGE_MUSTNG4G20.9	System Swing	-0.01666
AEPW_WILKE1-120.0	System Swing	-0.01397
AEPW_WILKE2-121.0	System Swing	-0.01397
AEPW_WILKE3-122.0	System Swing	-0.0135
AEPW_KNOXL4-113.8	System Swing	-0.01314
AEPW_KNOXL5-121.0	System Swing	-0.01314
WFEC_MORLND1 13.8	System Swing	-0.01232
WFEC_MORLND3 18.0	System Swing	-0.01232
AEPW_LIEBR1-113.8	System Swing	-0.01221
AEPW_LIEBR2-113.8	System Swing	-0.01221
AEPW_LIEBR3-113.8	System Swing	-0.01221
AEPW_LIEBR4-113.8	System Swing	-0.01221
AEPW_ARSHILL114.8	System Swing	-0.01195
SWPA_OZK1&2 113.8	System Swing	-0.00752
SWPA_OZK345 113.8	System Swing	-0.00752
SWPA_DAR1&2 113.8	System Swing	-0.00295
SWPA_DAR3&4 113.8	System Swing	-0.00295
SWPA_FTG1&2 113.8	System Swing	-0.00259
SWPA_FTG3&4 113.8	System Swing	-0.00259
SWPA_GF #1 113.8	System Swing	0.00017
SWPA_GF #2 213.8	System Swing	0.00017
AECI_1NM G1 22.0	System Swing	0.00161
AECI_1NM G2 22.0	System Swing	0.0017
AECI_1STFRG1 16.0	System Swing	0.00187
SWPA_SIKGEN 113.8	System Swing	0.00189
AECI_1STFRG2 16.0	System Swing	0.00249
SWPA_NFK #1 113.8	System Swing	0.00483

Source	Sink	GSF
SWPA_NFK #2 113.8	System Swing	0.00483
AECI_1THLG3 24.0	System Swing	0.00531
AECI_1CHM G1 13.8	System Swing	0.00534
AECI_1CHM G2 13.8	System Swing	0.00534
AECI_1THLG1 20.0	System Swing	0.00539
AECI_1THLG2 22.0	System Swing	0.00539
SWPA_BSH #1 113.8	System Swing	0.00639
SWPA_BSH #2 113.8	System Swing	0.00639
SWPA_BSH3&4 113.8	System Swing	0.00639
SWPA_BSH5&6 113.8	System Swing	0.00639
SWPA_BSH7&8 113.8	System Swing	0.00639
SWPA_TRU123 113.8	System Swing	0.00743
SWPA_TRU456 113.8	System Swing	0.00743
SWPA_STK #1 113.8	System Swing	0.0104
SWPA_TBR1&2 113.8	System Swing	0.01133
SWPA_TBR3&4 113.8	System Swing	0.01133
SWPA_BVR #1 113.8	System Swing	0.01532
SWPA_BVR #2 113.8	System Swing	0.01532
OKGE_MUSKOG4G18.0	System Swing	0.01812
OKGE_MUSKOG5G18.0	System Swing	0.01812
OKGE_MUSKOG6G24.0	System Swing	0.01812
GRDA_PENSA 5 161	System Swing	0.01971
GRDA_PENSA 269.0	System Swing	0.01996
GRDA_SALINA 5 161	System Swing	0.02066
GRDA_GRDA15-122.8	System Swing	0.0207
AECI_1CHOTCT113.8	System Swing	0.02075
AECI_1CHOTCT213.8	System Swing	0.02075
AECI_1CHOTST313.8	System Swing	0.02075
GRDA_KERR GR3 115	System Swing	0.02085
GRDA_GRDA17-122.8	System Swing	0.02217
AEPW_NES3-1 22.0	System Swing	0.02785
AEPW_NES4-1 22.0	System Swing	0.02785
AEPW_NES1-1 14.4	System Swing	0.02846
AEPW_NES1-1A 18.0	System Swing	0.02846
AEPW_NES1-1B 18.0	System Swing	0.02846
AEPW_NES2-1 22.0	System Swing	0.02846
AEPW_COGEN 1 18.0	System Swing	0.03324
AEPW_COGEN 1 18.0	System Swing	0.03324
AEPW_COGEN 2 18.0	System Swing	0.03324
AEPW_COGEN 2 18.0	System Swing	0.03324
AEPW_COGEN 3 18.0	System Swing	0.03324
AEPW_OECGT1-118.0	System Swing	0.03358
AEPW_OECSTM 118.0	System Swing	0.03358
SWPA_KEY1&2 113.8	System Swing	0.03622
AEPW_TPS2-1 13.8	System Swing	0.0615
AEPW_TPS4-1 13.8	System Swing	0.0615
AEPW_RSS1-1 24.0	System Swing	0.07394
AEPW_RSS2-1 22.0	System Swing	0.07394

Relief Amount = 16 MW * TDF - Credit for Positive Impact Removed (10 MW * Existing TDF)

Limiting Facility: EAST CENTRAL HENRYETTA - OKMULGEE 138KV and EAST CENTRAL HENRYETTA - WELEETKA 138KV from Table 1.3
Line Outage: KELCO - OKMULGEE 138KV or HENRYET4 - KELCO 138KV
Date Redispatch Needed: 6/1/05-10/1/05
Relief Amount: 0.7 MW

Source	Sink	Factor	Redispatch Amount (MW)
AEPW_WEL 4-1 13.8	AEPW_RSS1-1 24.0	-0.28633	2
AEPW_WEL 4-1 13.8	AEPW_TPS2-1 13.8	-0.27389	3
AEPW_WEL 4-1 13.8	SWPA_KEY1&2 113.8	-0.24861	3
AEPW_WEL 4-1 13.8	AEPW_OECSTM 118.0	-0.24597	3
AEPW_WEL 4-1 13.8	AEPW_COGEN 1 18.0	-0.24563	3
AEPW_WEL 4-1 13.8	AEPW_NES1-1A 18.0	-0.24085	3
SWPA_EUF #1 113.8	AEPW_RSS1-1 24.0	-0.13653	5
SWPA_EUF #1 113.8	AEPW_TPS2-1 13.8	-0.12409	6
SWPA_DEN #1 113.8	AEPW_RSS1-1 24.0	-0.12049	6
SWPA_BBOW#1 113.8	AEPW_RSS1-1 24.0	-0.11995	6
WFEC_HUGO1 23.4	AEPW_RSS1-1 24.0	-0.11298	6
SWPA_WEB123 113.8	AEPW_RSS1-1 24.0	-0.10934	6
SWPA_TEN1&2 113.8	AEPW_RSS1-1 24.0	-0.10934	6
SWPA_DEN #1 113.8	AEPW_TPS2-1 13.8	-0.10805	7
SWPA_BBOW#1 113.8	AEPW_TPS2-1 13.8	-0.10751	7
OKGE_SEMINL1G20.9	AEPW_RSS1-1 24.0	-0.1026	7
WFEC_ANADRK4 13.8	AEPW_RSS1-1 24.0	-0.09918	7
SWPA_EUF #1 113.8	SWPA_KEY1&2 113.8	-0.09881	7
WFEC_ANADRK1 13.8	AEPW_RSS1-1 24.0	-0.09877	7
AEPW_SWS1-1 13.8	AEPW_RSS1-1 24.0	-0.09819	7

Factor = Source GSF Referenced to System Swing - Sink GSF Referenced to System Swing
Transaction = Relief Amount / Factor

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
04WP			NONE IDENTIFIED								16		
05AP			NONE IDENTIFIED								16		
05G			NONE IDENTIFIED								16		
05SP	AEPW	AEPW	53133 ECNTRTN5 161 to 53187 GENTRYR5 161 CKT 1	353	106.3	106.4	3.7	106.3	0.4	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53187 GENTRYR5 161 CKT 1	353	108.8	109.0	3.7	108.8	0.4	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	353	115.6	115.8	5.0	115.6	0.4	53139 FLINTCR5 161 to 53187 GENTRYR5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	353	114.4	114.6	5.0	114.4	0.4	53133 ECNTRTN5 161 to 53187 GENTRYR5 161 CKT 1	0	"	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	353	100.7	100.8	3.1	100.7	0.3	53154 CHAMSPR5 161 to 53170 TONTITN5 161 CKT 1	0	"	
05SH			NONE IDENTIFIED								16		
05FA			NONE IDENTIFIED								16		
05WP			NONE IDENTIFIED								16		
07SP			NONE IDENTIFIED								16		
07WP			NONE IDENTIFIED								16		
10SP	AEPW	AEPW	53139 FLINTCR5 161 to 53187 GENTRYR5 161 CKT 1	353	102.6	102.7	3.3	102.6	0.3	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	0	Rebuild 1.09 miles of 2-397.5 ACSR with 2156 ACSR. Replace Flint Creek wavetrap & jumpers	$450,000
10SP	AEPW	AEPW	53306 PATTERS4 138 to 53321 SNASHVL4 138 CKT 1	118	120.6	121.0	3.0	120.9	3.6	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	0	Rebuild 17.72 miles of 4/0 CU with 795 ACSR.	$6,000,000
10WP			NONE IDENTIFIED								16		

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
04WP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO1 1	150	104.3	105.3	9.6	104.3	-0.4	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
04WP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO1 1	150	104.1	105.1	9.5	104.0	-0.4	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	"	
04WP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO2 2	150	104.6	105.6	9.6	104.6	-0.4	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
04WP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO2 2	150	104.4	105.4	9.5	104.4	-0.4	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	"	
04WP			NONE IDENTIFIED								16		
05AP			NONE IDENTIFIED								16		
05G	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	102.8	103.0	3.1	102.9	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	16	Relieved by Dolet Hills Operating Guide	
05SP	AEPW	AEPW	53133 ECNTRTN5 161 to 53187 GENTRYR5 161 CKT 1	353	101.1	101.3	3.6	101.1	0.3	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53187 GENTRYR5 161 CKT 1	353	103.7	103.9	3.6	103.7	0.3	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	353	113.5	113.7	4.9	113.5	0.3	53139 FLINTCR5 161 to 53187 GENTRYR5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	353	112.3	112.5	4.9	112.3	0.3	53133 ECNTRTN5 161 to 53187 GENTRYR5 161 CKT 1	0	"	
05SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	115.5	115.7	3.0	115.6	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	16	Relieved by Dolet Hills Operating Guide	
05SP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO1 1	150	116.7	117.7	9.7	116.6	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05SP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO1 1	150	116.7	117.7	9.6	116.6	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	"	
05SP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO2 2	150	117.1	118.1	9.7	117.0	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05SP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO2 2	150	117.0	118.1	9.7	117.0	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	"	
05SH	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	113.8	114.0	3.2	113.9	2.5	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	16	Relieved by Dolet Hills Operating Guide	
05SH	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO1 1	150	102.3	103.3	9.6	102.3	-0.5	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05SH	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO1 1	150	102.3	103.3	9.6	102.2	-0.5	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	"	
05SH	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO2 2	150	102.6	103.7	9.6	102.6	-0.5	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05SH	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO2 2	150	102.6	103.6	9.6	102.5	-0.5	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	"	
05FA	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	103.7	103.9	3.1	103.8	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	16	Relieved by Dolet Hills Operating Guide	
05WP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO1 1	150	102.1	103.1	9.6	102.1	-0.7	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05WP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO1 1	150	102.0	103.0	9.5	102.0	-0.7	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	"	
05WP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO2 2	150	102.5	103.5	9.6	102.4	-0.7	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
05WP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO2 2	150	102.4	103.4	9.6	102.3	-0.7	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	"	
05WP			NONE IDENTIFIED								16		
07SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	118.4	118.6	3.2	118.5	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	0	May be relieved by Dolet Hills Operating Guide	
07SP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO1 1	150	112.0	113.0	9.4	112.0	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
07SP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO1 1	150	111.9	112.9	9.4	111.9	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	"	
07SP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO2 2	150	112.4	113.4	9.4	112.3	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
07SP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO2 2	150	112.3	113.3	9.4	112.3	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	"	
07WP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	104.3	104.5	3.1	104.4	2.5	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	0	May be relieved by Dolet Hills Operating Guide	
10SP	AEPW	AEPW	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	150	115.9	116.6	6.6	116.3	6.0	BASE CASE	0	Replace conductor in Hope Substation	$100,000
10SP	AEPW	AEPW	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	174	112.6	113.2	7.0	112.9	5.8	53424 LONGWD 7 345 to 99294 7ELDEHV 345 CKT 1	0	See Previous Upgrade Specified For Facility	
10SP	AEPW	AEPW	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	174	112.6	113.2	7.0	112.9	5.8	99294 7ELDEHV 345 to 99295 8ELDEHV 500 CKT 1	0	See Previous Upgrade Specified For Facility	
10SP	AEPW	AEPW	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	174	112.1	112.7	6.3	112.4	5.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	0	See Previous Upgrade Specified For Facility	
10SP	AEPW	AEPW	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	174	111.3	111.9	6.5	111.6	5.2	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	0	See Previous Upgrade Specified For Facility	
10SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	127.4	127.7	3.2	127.5	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	0	May be relieved by Dolet Hills Operating Guide	
10SP	ENTR	AEPW	53321 SNASHVL4 138 to 99389 4MURFRE 138 CKT 1	118	100.8	101.3	3.3	101.1	3.2	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	0	Replace South Nashville Wavetrap.	$30,000
10SP	AEPW	AEPW	53306 PATTERS4 138 to 53321 SNASHVL4 138 CKT 1	118	121.1	121.6	3.4	121.4	3.3	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	0	See Previous Upgrade Specified For Facility in Scenario 1	
10SP	AEPW	AEPW	53303 OKAY 3 115 WND 2 1	66	99.6	100.7	4.4	100.2	3.9	53225 ASHDWNR3 115 to 53303 OKAY 3 115 CKT 1	6	Replace with 84MVA transformer.	$1,340,000
10SP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO1 1	150	99.1	100.1	9.3	99.0	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54634 CATTER2 13.8 CKT 2	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
10SP	GRDA	AEPW	54438 CATSAGR5 161 WND 2 CATAUTO2 2	150	99.4	100.4	9.4	99.4	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	GRDA has mitigation plan for outage of Catoosa 161/138kV Xfr Ckts 1 or 2	
10SP	AEPW	GRDA	53802 CATOOSA4 138 WND 1 CATAUTO2 2	150	99.3	100.3	9.4	99.2	-0.6	53802 CATOOSA4 138 to 54438 CATSAGR5 161 to 54633 CATTER1 13.8 CKT 1	16	"	
10WP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	119.0	119.2	3.1	119.1	2.3	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	0	May be relieved by Dolet Hills Operating Guide	

Study Case	From Area	To Area	Monitored Branch Overload	Rate <MVA>	BC % Loading	TC % Loading	%TDF	Existing TC % Loading	Existing %TDF	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
04WP			NONE IDENTIFIED								16		
05AP			NONE IDENTIFIED								16		
05G	AEPW	AEPW	54023 OKMULGE4 138 to 54049 EC.HEN-4 138 CKT 1	105	110.9	111.8	6.1	111.0	1.4	54023 OKMULGE4 138 to 54057 KELCO 4 138 CKT 1	0	Replace Okmulgee Wavetrap	$40,000
05G	AEPW	AEPW	54023 OKMULGE4 138 to 54049 EC.HEN-4 138 CKT 1	105	106.3	107.2	6.1	106.4	1.4	54017 HENRYET4 138 to 54057 KELCO 4 138 CKT 1	0	See Previous Upgrade Specified For Facility	
05G	AEPW	AEPW	54028 WELETK4 138 to 54049 EC.HEN-4 138 CKT 1	105	108.0	108.9	6.1	108.1	1.4	54023 OKMULGE4 138 to 54057 KELCO 4 138 CKT 1	0	Replace Weleetka Wavetrap	$40,000
05G	AEPW	AEPW	54028 WELETK4 138 to 54049 EC.HEN-4 138 CKT 1	105	103.4	104.3	6.1	103.5	1.4	54017 HENRYET4 138 to 54057 KELCO 4 138 CKT 1	0	See Previous Upgrade Specified For Facility	
05SP	AEPW	AEPW	53133 ECNTRTN5 161 to 53187 GENTRYR5 161 CKT 1	353	104.4	104.5	3.9	104.4	0.3	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53187 GENTRYR5 161 CKT 1	353	106.9	107.1	3.9	106.9	0.3	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	353	114.7	114.9	4.9	114.7	0.3	53139 FLINTCR5 161 to 53187 GENTRYR5 161 CKT 1	0	AEPW Planned Upgrade Scheduled Completion Date 6/1/2007	
05SP	AEPW	AEPW	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	353	113.5	113.7	4.9	113.5	0.3	53133 ECNTRTN5 161 to 53187 GENTRYR5 161 CKT 1	0	"	
05SH	AEPW	AEPW	54023 OKMULGE4 138 to 54049 EC.HEN-4 138 CKT 1	105	111.2	112.2	6.2	111.5	2.8	54023 OKMULGE4 138 to 54057 KELCO 4 138 CKT 1	0	See Previous Upgrade Specified For Facility	
05SH	AEPW	AEPW	54023 OKMULGE4 138 to 54049 EC.HEN-4 138 CKT 1	105	105.8	106.8	6.2	106.1	3.0	54017 HENRYET4 138 to 54057 KELCO 4 138 CKT 1	0	"	
05SH	AEPW	AEPW	54028 WELETK4 138 to 54049 EC.HEN-4 138 CKT 1	105	107.5	108.4	6.2	107.8	2.8	54023 OKMULGE4 138 to 54057 KELCO 4 138 CKT 1	0	See Previous Upgrade Specified For Facility	
05SH	AEPW	AEPW	54028 WELETK4 138 to 54049 EC.HEN-4 138 CKT 1	105	102.1	103.1	6.2	102.4	3.0	54017 HENRYET4 138 to 54057 KELCO 4 138 CKT 1	0	"	
05FA			NONE IDENTIFIED								16		
05WP			NONE IDENTIFIED								16		
07SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	100.7	101.0	3.0	100.8	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	0	May be relieved by Dolet Hills Operating Guide	
07SP	WFEC	WFEC	56022 PAOLI 2 69 to 56023 PAOLI 4 138 CKT 1	42	99.5	100.8	3.4	100.7	5.1	55976 LIL AXE2 69 to 56011 NOBLE 2 69 CKT 1	7	Upgrade from 42 MVA to 62 MVA, planned for 2007 by WFEC.	
07WP			NONE IDENTIFIED								16		
10SP	AEPW	AEPW	53139 FLINTCR5 161 to 53187 GENTRYR5 161 CKT 1	353	101.0	101.2	3.2	101.0	0.2	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1	0	See Previous Upgrade Specified For Facility in Scenario 1	
10SP	AEPW	AEPW	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	150	102.9	103.5	5.6	103.2	4.5	BASE CASE	0	See Previous Upgrade Specified For Facility in Scenario 2	
10SP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	209	109.4	109.7	3.1	109.5	2.2	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	0	May be relieved by Dolet Hills Operating Guide	
10SP	ENTR	AEPW	53321 SNASHVL4 138 to 99389 4MURFRE 138 CKT 1	118	100.3	100.8	3.9	100.6	3.5	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	0	See Previous Upgrade Specified For Facility in Scenario 2	
10SP	AEPW	AEPW	53306 PATTERS4 138 to 53321 SNASHVL4 138 CKT 1	118	120.6	121.2	3.9	120.9	3.6	99397 3BISMRK 115 to 99403 3HSEHVW 115 CKT 1	0	See Previous Upgrade Specified For Facility in Scenario 1	
10SP	AEPW	AEPW	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	174	99.9	100.5	6.5	100.2	5.2	REMOVE UNIT 1 FROM BUS 55947 [HUGO1 23.400] DISPATCH	3	See Previous Upgrade Specified For Facility in Scenario 2	
10SP	AEPW	AEPW	53374 FULTON 3 115 to 53383 HOPE 3 115 CKT 1	174	99.8	100.3	5.4	100.1	5.2	REMOVE UNIT 1 FROM BUS 53708 [PIRKEY 123.400] DISPATCH	6	"	
10WP	CELE	AEPW	50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	236	102.0	102.2	3.1	102.1	1.9	50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT 1	0	May be relieved by Dolet Hills Operating Guide	