

System Impact Study SPP-2004-025-1 For The Designation of a Network Resource Requested By Midwest Energy

For a Reserved Amount of 25 MW From 5/1/2004 To 8/1/2005

SPP Engineering, Tariff Studies

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ATTACHMENT: SPP-2004-025-1 Tables

<u>1. Executive Summary</u>

Midwest Energy has requested a system impact study to designate a Network Resource in the Sunflower Control Area for 25 MW to serve network load. The period of the service requested is from 5/1/2004 to 8/1/2005. The request is for OASIS reservation number 671642.

The principal objective of this study is to identify system problems and potential system modifications necessary to facilitate the additional 25 MW request while maintaining system reliability.

The service was modeled from the source in SECI to the designated load. The new source location causes new facility overloads on the SPP and Non-SPP transmission system, as well as increasing the loading on previously overloaded facilities. Tables 1.1, 2.1 and 3.1 summarize the results of the system impact analyses for the new source location for Scenario 1. Table 1.1 lists SPP facility overloads identified. Table 2.1 lists SPP voltage violations identified. Table 3.1 lists Non-SPP facility overloads identified. Tables 1.2, 2.2 and 3.2 summarize the results of the system impact analyses for the new source location for Scenario 2. Table 1.2 lists SPP facility overloads identified. Tables 2.2 lists SPP voltage violations identified. Table 3.2 lists Non-SPP facility overloads identified.

The study results of the SECI to WR request show that limiting constraints exist. Due to the limiting constraints identified, the Transmission Service Requests cannot be granted. Any solutions, upgrades, and costs provided in the System Impact Study are planning estimates only. The final ATC and upgrades required may vary from these results due to unknown facility upgrades and proposed transmission plans that will be identified during the facility study process.

One facility was identified that limits the right to renew the requested service beginning in the 2010 Summer. The Northview - Summit 115KV line was identified as being impacted by the renewal of the requested service in the 2010 Summer Peak case.

Facilities were identified that limit the ATC to 0 MW for the requested period of service. For some facilities, implementing the upgrade is not possible to accommodate the requested term for the service. Redispatch was evaluated as an option to relieve the impacted facilities. Table 4 lists the facilities limiting the ATC to 0 MW and the maximum amount of relief needed for each facility. Generation shift factors and applicable relief pairs are documented in Tables 5 and 6, respectively. 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. The curtailment or redispatch requirements would be called upon prior to implementing NERC TLR Level 5a. If no redispatch or curtailment of service option is identified for the facilities with an ATC of 0 MW, transmission upgrades will be needed to mitigate the limiting constraints. The start date of the requested service may be delayed until the upgrades of the limiting facilities are completed. The final ATC, upgrade solutions, cost assignments, complete evaluation of renewal rights, and available redispatch and curtailment options will be determined upon the completion of the facility study.

The customer has the option to retain the queue position of the requested service and proceed with the facility study or to withdraw the request for service and reenter the queue as part of the first aggregate study. If the customer wishes to retain the current queue position, the request will

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be studied independently and all facilities identified will be assigned to this request. If the customer chooses to participate in the first aggregate study beginning 6/1/2005, the customer must withdraw this request for service and reenter the aggregate queue prior to the 6/1/2005 deadline.

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2. Introduction

Midwest Energy has requested a system impact study to designate a Network Resource in the SECI Control Area for 25 MW to serve network load. The principal objective of this study is to identify the restraints on the SPP Regional Tariff System that may limit the requested service.

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 25 MW requests on transmission line loading and transmission bus voltages for system intact and system outages of single and selected multiple transmission lines and transformers on the SPP systems and first tier Non - SPP systems.

3. Study Methodology

A. Description

The system impact analysis was conducted to determine the steady-state impact of the 25 MW transfer on the SPP and first tier Non - SPP 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.

The contingency set includes all SPP facilities 69kV and above, SPP First Tier facilities 115 kV and above, and any defined contingencies for these areas. The monitor elements include all SPP and first tier Non-SPP facilities 69 kV and above.

B. Model Updates

SPP used eleven seasonal models to study the SECI to WR 25 MW transfer for the requested service period. The SPP 2004 Series Cases 2004/05 Winter Peak (04WP), 2005 April Minimum (05AP), 2005 Spring Peak (05G), 2005 Summer Peak (05SP), and 2005 Summer Shoulder (05SH) were used to study the impact of 25 MW transfer on the system during the requested service period of 5/1/2004 to 8/1/2005. The 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) modes were used to evaluate renewal rights of the requested service.

The chosen base case models were modified to reflect the most current modeling information. The cases were modified to reflect firm transfers during the requested service period that were not already included in the SPP 2004 Series Cases. From the eleven seasonal models, two system scenarios were developed. Scenario 1 includes confirmed West to East transfers not already included in the January 2004 base case series models, SPS exporting, and the Lamar HVDC Tie flowing from Lamar to SPS, and ERCOT exporting. Scenario 2 includes confirmed East to West transfers not already included in the January 2004 base case series models, SPS importing, and the Lamar HVDC Tie flowing from Lamar to SPS, and ERCOT exporting. Scenario 2 includes confirmed East to West transfers not already included in the January 2004 base case series models, SPS importing, and the Lamar HVDC Tie flowing from SPS to Lamar, and ERCOT importing.

C. Transfer Analysis

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

D. Upgrade Analysis

This system impact study does not include analysis with the assigned upgrades modeled. To determine the final cost and possible start date of the requested service, additional analysis will be performed to determine the impact of modeling the assigned upgrades for the request.

4. Study Results

A. Study Analysis Results

Tables 1.1, 2.1, 3.1, 1.2, 2.2, and 3.2 contain the steady-state analysis results of the System Impact Study. The Tables are in the attached workbook *SPP-2004-025-1 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 with and without the 25 MW transfer, and the estimated ATC value 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.

Table 1.1 lists the SPP Facility Overloads caused or impacted by the 25 MW transfer for Scenario 1. Solutions with engineering and construction costs are provided in the tables.

Table 2.1 lists voltage violations on fist tier Non - SPP Regional Tariff participants' transmission systems caused or impacted by the 25 MW transfer for Scenario 1.

Table 3.1 lists overloads on fist tier Non - SPP Regional Tariff participants' transmission systems caused or impacted by the 25 MW transfer for Scenario 1.

Table 1.2 lists the SPP Facility Overloads caused or impacted by the 25 MW transfer for Scenario 2. Solutions with engineering and construction costs are provided in the tables.

Table 2.2 lists voltage violations on fist tier Non - SPP Regional Tariff participants' transmission systems caused or impacted by the 25 MW transfer for Scenario 2.

Table 3.2 lists overloads on fist tier Non - SPP Regional Tariff participants' transmission systems caused or impacted by the 25 MW transfer for Scenario 2.

Table 4 lists the facilities limiting the ATC to 0 MW.

Table 5 lists the generation shift factors for each facility limiting the ATC to 0 MW.

Table 6 lists applicable relief pairs with the redispatch amount required to relieve the impact of the transfer on each facility.

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

5. Conclusion

The study results of the SECI to WR request show that limiting constraints exist. Due to the limiting constraints identified, the Transmission Service Requests cannot be granted. Any solutions, upgrades, and costs provided in the System Impact Study are planning estimates only. The final ATC and upgrades required may vary from these results due to unknown facility upgrades and proposed transmission plans that will be identified during the facility study process.

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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 \underline{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 -1 mw
- 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 \underline{X} Phase shift adjustment
 - _ Flat start
 - _Lock DC taps
 - _Lock switched shunts

SPP-2004-025-1 Table 1.1 - SPP Facility Overloads Caused or Impacted by the Transfer Using Scenario 1

Study	From	То		Rate	BC %	TC %		ATC		Estimated
Case	Area	Area	Monitored Branch Over 100% Rate B	<mva></mva>	Loading	Loading	Outaged Branch Causing Overload	(MW)	Solution	Cost
04WP	WERE	WERE	EL PASO - GILL ENERGY CENTER SOUTH 138KV	210	102.4	102.8	EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
	WERE	WERE		68	112.1	113.7	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
05AP			NONE IDENTIFIED					25		
05G	WERE	WERE	EL PASO - GILL ENERGY CENTER SOUTH 138KV	210	121.2	121.6	EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
05G	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	140.3	142	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1			
05G	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	107	108.3	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
05SH	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	152.1	154	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1			
05SH	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	115.8	117.2	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
05SP		WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	121.1	122.8	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
05FA	WERE	WERE	EL PASO - GILL ENERGY CENTER SOUTH 138KV	210	112.1	112.5	EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
05FA	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	134.2	136.2	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1			
05FA	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	102.3	103.8	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
05WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	123.6	125.5	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
									Relieved due to Westar Operating Procedure 400 - Outage of	
07SP	WERE	WERE	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV	565	110.2	110.5	HOYT - JEFFREY ENERGY CENTER 345KV	25	the Jeffrey Energy Center to Hoyt 345kV Line	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
		WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	124.6	126.2	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
07WP	WERE	WERE	EL PASO - GILL ENERGY CENTER SOUTH 138KV	210	106.1	106.4	EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
07WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	131.3	133.2	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
				1			WERE Double Contingency	1		
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	1		
07WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	100.1	101.5	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	1		
10SP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	119.7	121.3	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
1 1							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	1		
10WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	140.5	142.5	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
I T							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	1		
10WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	107.1	108.6	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
									Total Estimated Engineering and Construction Cost	\$0

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Table 2.1 - SPP Voltage Violations

Southwest Power Pool System Impact Study

Caused or Impacted by the Transfer Using Scenario 1

Study		• •	BC Voltage	TC Voltage		ATC		Estimated
Case	Area	Monitored Bus with Violation	(PU)	(PU)	Outaged Branch Causing Voltage Violation	(MW)	Solution	Cost
04WP		NONE IDENTIFIED				25		
05AP		NONE IDENTIFIED				25		
05G		NONE IDENTIFIED				25		
05SP		NONE IDENTIFIED				25		
05SH		NONE IDENTIFIED				25		
05FA		NONE IDENTIFIED				25		
05WP		NONE IDENTIFIED				25		
07SP		NONE IDENTIFIED				25		
07WP		NONE IDENTIFIED				25		
10SP		NONE IDENTIFIED				25		
10WP		NONE IDENTIFIED				25		
							Total Estimated Engineering and Construction Cost	\$0

Chudur	Fram	Та		Rate	BC %	TC %		
Study Case	From Area	To Area	Monitored Branch Over 100% Rate B	<mva></mva>	Loading	Loading	Outaged Branch Causing Overload	Comment
ouse	7400	7400		-101 07 0-	Louding	Louding	Outaged Dianon Outbing Overload	Facility not a Limitation Due to Mode
04WP	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	98.8	100.2	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Correction
05AP	00.10	00.10	NONE IDENTIFIED		00.0	100.2		
							Multiple Contingency Outage	
							56391 PIONEER3115 56400 PK_GOAB3115 CKT 1	
							56400 PK_GOAB3115 56375 PUCKET 3115 CKT 1	Facility not a Limitation Due to Mode
05G	SUNC	SUNC	56392 PIONTAP3 115 56393*PLYMELL3 115 1	143	99.1	100.2	56400 PK_GOAB3115 56420 FLETCHR3115 CKT 1	Correction
								Facility not a Limitation Due to Mode
05G	SUNC	SUNC	56392 PIONTAP3 115 to 56393 PLYMELL3 115 CKT 1	143	100.8	102.3	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Correction
05G	SUNC	SUNC	56392 PIONTAP3 115 to 56393 PLYMELL3 115 CKT 1	143	99.5	100.7	56400 PK_GOAB3 115 to 56420 FLETCHR3 115 CKT 1	Invalid Contingency
05G	SUNC	SUNC	56392 PIONTAP3 115 to 56393 PLYMELL3 115 CKT 1	143	99.1	100.2	56391 PIONEER3 115 to 56400 PK_GOAB3 115 CKT 1	Invalid Contingency
							Multiple Contingency Outage 56391 PIONEER3115 56400 PK GOAB3115 CKT 1	
							56391 PIONEER3115 56400 PK_GOAB3115 CKT 1 56400 PK_GOAB3115 56375 PUCKET 3115 CKT 1	Facility not a Limitation Due to Mode
05G	SUNC	SUNC	56393 PLYMELL3 115 56448*HOLCOMB3 115 1	143	104.3	105.5	56400 PK_GOAB3115 56420 FLETCHR3115 CKT 1	Correction
030	30110	SUNC	30393 FETMELES 113 30448 HOLCOMBS 113 1	143	104.5	105.5		Facility not a Limitation Due to Mode
05G	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	106.0	107.5	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Correction
05G	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	104.8	105.9	56400 PK GOAB3 115 to 56420 FLETCHR3 115 CKT 1	Invalid Contingency
05G	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	104.3	105.5	56391 PIONEER3 115 to 56400 PK GOAB3 115 CKT 1	Invalid Contingency
							Multiple Contingency Outage	
							56391 PIONEER3115 56400 PK_GOAB3115 CKT 1	
							56400 PK_GOAB3115 56375 PUCKET 3115 CKT 1	Facility not a Limitation Due to Mode
05SH	SUNC	SUNC	56392 PIONTAP3 115 56393*PLYMELL3 115 1	143	99.1	100.2	56400 PK_GOAB3115 56420 FLETCHR3115 CKT 1	Correction
								Facility not a Limitation Due to Mode
05SH	SUNC	SUNC	56392 PIONTAP3 115 to 56393 PLYMELL3 115 CKT 1	143	103.9	105.1	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Correction
05SH	SUNC	SUNC	56392 PIONTAP3 115 to 56393 PLYMELL3 115 CKT 1	143	100.1	101.2	56400 PK_GOAB3 115 to 56420 FLETCHR3 115 CKT 1	Invalid Contingency
05SH	SUNC	SUNC	56392 PIONTAP3 115 to 56393 PLYMELL3 115 CKT 1	143	99.1	100.2	56391 PIONEER3 115 to 56400 PK_GOAB3 115 CKT 1	Invalid Contingency
							Multiple Contingency Outage	
							56391 PIONEER3115 56400 PK_GOAB3115 CKT 1 56400 PK_GOAB3115 56375 PUCKET 3115 CKT 1	Facility not a Limitation Due to Mode
05SH	SUNC	SUNC	56393 PLYMELL3 115 56448*HOLCOMB3 115 1	143	103.1	104.3	56400 PK_GOAB3115 56420 FLETCHR3115 CKT 1	Correction
05SH	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	108.0	109.1	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Relieved due to SUNC Mitigation Pla
05SH	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	104.1	105.3	56400 PK GOAB3 115 to 56420 FLETCHR3 115 CKT 1	Invalid Contingency
05SH	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	103.2	104.3	56391 PIONEER3 115 to 56400 PK GOAB3 115 CKT 1	Invalid Contingency
								Facility not a Limitation Due to Mode
05SP	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	100.9	102.3	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Correction
05FA			NONE IDENTIFIED					
							Multiple Contingency Outage	
							56391 PIONEER3115 56400 PK_GOAB3115 CKT 1	
							56400 PK_GOAB3115 56375 PUCKET 3115 CKT 1	Facility not a Limitation Due to Mode
05WP	SUNC	SUNC	56393 PLYMELL3 115 56448*HOLCOMB3 115 1	143	101.6	102.8	56400 PK_GOAB3115 56420 FLETCHR3115 CKT 1	Correction
0514/5	01110			4.40	400 -	105.4		Facility not a Limitation Due to Mode
05WP 05WP	SUNC	SUNC SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143 143	103.7	105.1	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Correction
05WP	SUNC SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1 56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	102.0 101.6	103.2 102.8	56400 PK_GOAB3 115 to 56420 FLETCHR3 115 CKT 1 56391 PIONEER3 115 to 56400 PK GOAB3 115 CKT 1	Invalid Contingency Invalid Contingency
USVVP	SUNC	SUNC	30393 PLTMELLS 115 10 50448 HULCUMB3 115 CKT 1	143	101.6	102.8	00391 PIONEERS 115 10 50400 PK_GUAB3 115 CKT 1	Facility not a Limitation Due to Mode
07SP	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	100.4	101.8	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Correction
0101	50110	00110		175	100.4	101.0	Multiple Contingency Outage	Concount
							56391 PIONEER3115 56400 PK GOAB3115 CKT 1	
							56400 PK GOAB3115 56375 PUCKET 3115 CKT 1	Facility not a Limitation Due to Mode
07WP	SUNC	SUNC	56393 PLYMELL3 115 56448*HOLCOMB3 115 1	143	102.6	103.5	56400 PK_GOAB3115 56420 FLETCHR3115 CKT 1	Correction
07WP	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	103.1	104.1	56400 PK_GOAB3 115 to 56420 FLETCHR3 115 CKT 1	Invalid Contingency
07WP	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	102.6	103.5	56391 PIONEER3 115 to 56400 PK_GOAB3 115 CKT 1	Invalid Contingency
10SP			NONE IDENTIFIED					
10WP			NONE IDENTIFIED					

SPP-2004-025-1 Table 1.2 - SPP Facility Overloads Caused or Impacted by the Transfer Using Scenario 2

DBP Detail Detail Control Detail Detail <thdetail< th=""> <thdetail< th=""></thdetail<></thdetail<>	Study	From	To		Rate	BC %	TC %		ATC		
Image: Section of the sectio				Monitored Branch Over 100% Rate B				Outaged Branch Causing Overload		Solution	Estimated Cost
appen State product State	U4WP	WERE	WERE	EL PASO - GILL ENERGY CENTER SOUTH 138KV	210	111.4	111.8		25	invalid Contingency	
Image: Image:<								FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
Jong Ser, Ser, Ser, Ser, Ser, Ser, Ser, Ser,	04WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	145.0	146.6	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
Imp File											
Image Series Spect Addition Spect Addition Spect Addition The maximum of the spect and spect Addition (Spect Additi	0.040	WEDE				110.0			05	handling of the second	
Open Detail	04WP	WERE	WERE	FT JUNCTION SWISTA - MCDOWELL CREEK SWISTA 115KV CKT2	92	110.6	111.9	FT JCT SWISTA - MCDOWELL CREEK SWISTA 115KV CKT 3	25		
Inst. Inst. Control Non-Amazonia	04WP	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 1	68	103.1	107.2	EAST MCPHERSON - SUMMIT 230KV	0		\$ 7,800,000
ON Mail PRI/LITION STATE, WELL TOTY STATE AND TOTY STA	05AP								25		+ .,,
Inc. NUML NUMBER / NECONSTRUCTORY - VERY ALLOCOPY LODGER / NUMBER / NECONSTRUCTORY - VERY ALLOCOPY LODGER / NUMBER /	05G				210	129.0	129.4		25		
Inc. State F1 APPTITUDE MST A- MODELING DEFENSION LINE MST A. State Intel Configure Intel Configure Intel Configure ID MST APPTITUDE MST A- MODELING DEFENSION LINE MODELIN	05G	WERE	WERE	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1	68	104.1	105.7	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 2	25	Invalid Contingency	
Loc VEX. PT CT PT PT< PT< PT< <	05G	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	159.4	161.1	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
Image: Image:<	05G	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	121.6	122.9	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	25	Invalid Contingency	
(a) (b)											
Model Model <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>18</td><td></td><td>\$ 417,200</td></th<>									18		\$ 417,200
Info Netry	05G	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 1	68	105.2	109.1	EAST MCPHERSON - SUMMIT 230KV	0		
Model MEST MEST MEST MEST MEST MEST AUXIO DEF MEST	050	WEDE	WEDE			100.0	100.0		05		
mode mode mode mode mode mode mode	05G	WERE	WERE	WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV	141	100.9	102.2	JEFFREY ENERGY CENTER - SUMMIT 345KV	25	Center to Summit 345 KV Line Relieved due to Wester Operating Procedure 617 - Outage of the Summit	
Case WHE AUX0-FORT AUXCON STITCHING STATION (150/) 2 112.4 HEE AUXCON VIET AUXCON VIET AUXCON VIET AUXCON VIET AUX OF 100 (1100) Relevad at the Weat Creating Products (117) Creating Products (117) Relevad at the Weat Creating Products (117) <th< td=""><td>05G</td><td>WERF</td><td>WERF</td><td>WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (FAST) 115KV</td><td>141</td><td>100.7</td><td>102.0</td><td>SUMMIT 345/230/14.4KV TRANSFORMER</td><td>25</td><td>345/230kV Transformer</td><td></td></th<>	05G	WERF	WERF	WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (FAST) 115KV	141	100.7	102.0	SUMMIT 345/230/14.4KV TRANSFORMER	25	345/230kV Transformer	
(ab) (web (web					1				1	Relieved due to Westar Operating Procedure 1217 - Outage of the Fort Junction to	
Best WRE AND-FORT JUNCTON SMITCHING STATION 119N Provide 1213 Floor 1123 Provide 1213 Provide 12133 Provid 1313 Provi	05SH	WERE	WERE	ANZIO - FORT JUNCTION SWITCHING STATION 115KV	92	112.8	114.5	WEST JUNCTION CITY - WEST JUNCTION CITY JCT (EAST) 115KV	25		
GREH WERE AAK20-FORT_ARCTORL SWITCHING STATION (1962) 20 Were and the set of the set	I T							Multiple Contingency Outage			
Maje Maje <th< td=""><td>05011</td><td>WEDE</td><td>WEDE</td><td></td><td></td><td>440.0</td><td></td><td></td><td>05</td><td></td><td></td></th<>	05011	WEDE	WEDE			440.0			05		
Bit West Mark Autoo Contract Status Feature Status Feature Status Relevade to West Relevade to West <td>055H</td> <td>WERE</td> <td>WERE</td> <td>ANZIO - FORT JUNCTION SWITCHING STATION 115KV</td> <td>92</td> <td>112.8</td> <td>114.5</td> <td>FURT JCT SWISTA - WEST JCT CITY JCT (EAST) 115KV CKT 2 Multiple Contingency Outage</td> <td>25</td> <td>West Junction City 115KV Line</td> <td></td>	055H	WERE	WERE	ANZIO - FORT JUNCTION SWITCHING STATION 115KV	92	112.8	114.5	FURT JCT SWISTA - WEST JCT CITY JCT (EAST) 115KV CKT 2 Multiple Contingency Outage	25	West Junction City 115KV Line	
Home Home Home FFORT 2F WITE FFORT 2F WITE Releaded use Weat Operating Procedure 127 - Outgo of the foll and the compacts 1140 / 148 1281 WITE EXADD - FORT JANCTON SWTCANICS STATION 1180V 210 198 WITE WITE Medial and econolator 13 mice 25 0581 WITE EXADD - FORT JANCTON SWTCANICS STATION 1180V 16 0.6 August 1180 / 140 25 Medial and econolator 13 mice with 1182 / 24 26 Medial and econolator 13 mice with 1182 / 24 26 Medial and econolator 14 mice with 1182 / 24 5 Medial and econolator 14 mice with 1182 / 24 5 Medial and econolator 14 mice with 1182 / 24 6 Medial and econolator 14 mice with 1182 / 24 6 Medial and econolator 14 mice with 1182 / 24 6 Medial and econolator 14 mice with 1182 / 24 7 Medial and econolator 14 mice with 1182 / 24 6 Medial and econolator 14 mice with 1182 / 24 7 Medial and econolator 14 mice with 1182 / 24 8 Medial and econolator 14 mice with 1182 / 24 8 Medial and econolator 14 mice with 1182 / 24 8 Medial and econolator 14 mice with 1182 / 24 8 Medial and econolator 14 mice with 1182 / 24 8 Medial and econolator 140 / 24 Medial and econolator 14								FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1			
C6SH WERE MARED FORT JUST LINE LINE Part TAILS TAILS <thtails< th=""> <thtails< th=""> <thtails< t<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Relieved due to Westar Operating Procedure 1217 - Outage of the Fort Junction to</td><td></td></thtails<></thtails<></thtails<>										Relieved due to Westar Operating Procedure 1217 - Outage of the Fort Junction to	
Best MURE EXDE AURCION - NORTH AMERICAN PALIPS 1159/ 110 EAST MOMERSON - SUMMIT 220// PRoduit and reconduct 3 x miss with 112 ACSR: Estimated lead time 5 miss. 0584 WERE EXDE JUNCTION - SUMMIT 1169// 196 102 103.4 EAST MOMERSON - SUMMIT 1200// 0 Network with 112 ACSR: Estimated lead time 5 motion. motion. motion. Name 0584 WERE PORT JCT SW 51A - WEST JCT CITY JCT EAST 1158// XCT 1 66 116.0 100.0 MoRend due to the conduct 4 as monol. See Previous Upgoets leaded to the Conduct and monol. Name N				ANZIO - FORT JUNCTION SWITCHING STATION 115KV				WEST JUNCTION CITY - WEST JUNCTION CITY JCT (EAST) 115KV		West Junction City 115kV Line	
OBSH VERE	05SH	WERE	WERE	EL PASO - GILL ENERGY CENTER SOUTH 138KV	210	136.2	136.6	EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV	25		
Image Direct Direct <thdirect< th=""> <thdirect< th=""> <thdirect< th=""></thdirect<></thdirect<></thdirect<>	05011	WEDE	WEDE		100	00.0	100.4				
OBSI WRE VERE EXCELLATION - SUMMIT 196V 190 102.4 16.5 Less TMCPHERGON - SUMMIT 236V 0 months 5 1 2851 WRE FORT JCT BW TA-WEST JCT COT JCT (EAST) 159V CKT 1 68 19.2 JCT BW TA-WEST JCT COT JCT BW TA-WEST JCT COT JCT (EAST) 159V CKT 1 68 19.2 JSUMMIT 384V LIRE 28 Releved due to Westor Operating Processes BV - Output of the Summit 34V LIRE 058H WREW WREE FFT JUNCTON SW TA-WEST JCT COT JCT (EAST) 159V CKT 1 68 19.0 JSUMMIT 384V COT LIRE SUMMIT 348V LIRE 28 Releved due to Westor Operating Processes BV - Output of the Summit 34V LIRE FT JCT SW TA-WEST JCT COT JCT (EAST) 159V CKT 1 68 19.0 FT JCT SW TA-WEST JW COT LIRE SUMMIT 34W LIRE SW CKT 1 68 19.0 FT JCT SW TA-WEST JW COT LIRE SUMMIT 34W LIRE SW CKT 1 68 19.0 FT JCT SW TA-WEST JW COT LIRE SUMMIT 34W LIRE SW CKT 1 68 19.0 FT JUNCTON SW STA-WEST JW COT LIRE SUMMIT 34W LIRE SW CKT 1	05SH	WERE	WERE	EXIDE JUNCTION - NORTH AMERICAN PHILIPS 115KV	196	96.8	100.4	EAST MCPHERSON - SUMMIT 230KV	23		\$ 95,200
OSH VERE VERE DECE JUNCTION SUBMIT SUBMIT<	05SH	WERE	WERE	EXIDE JUNCTION - SUMMIT 115KV	196	102.4	105.4	EAST MCPHERSON - SUMMIT 230KV	0		\$ 1,100,000
OBSH WERE FORT LCT SW ISAWEST LCT CITY LCT (483T) 118V CKT 1 681 1186 1028 FORT LCT SW ISAWEST LCT CITY LCT (483T) 118V CKT 1 681 107.5 100.2 JEFREY ENERGY CENTER - SUMMT 346V 25 Releved due to Wester Operating Noncoult 462 - Outage of the Jeffery Energy 658+ WERE FORT JCT SW ISAWEST JCT CITY JCT (453T) 118V CKT 1 681 107.5 100.2 JEFREY ENERGY CENTER - SUMMT 346V 25 Releved due to Wester Operating Noncoult 462 - Outage of the Jeffery Energy 684+ WERE FFT JUNCTION SW ISTAMCDOWELL CEREES SW ISTA 118V CKT 1 68 100.1 105.5 JEFREY ENERGY CENTER - SUMMT 346V 28 Releved due to Wester Operating Noncoult 462 - Outage of the Jeffery Energy 0584+ WERE FFT JUNCTION SW ISTAMCDOWELL CEREES SW ISTA 118V CKT 1 68 100.1 102.5 FJL CT SW ISTAMCDOWELL CEREES SW ISTA 118V CKT 3 20 See Privaciou User SW ISTA 118V CKT 3 28 Invalid Contingency 104.0 FJL CT SW ISTAMCDOWELL CEREES SW ISTA 118V CKT 3 26 Invalid Contingency 104.0 FJL CT SW ISTAMCDOWELL CEREES SW ISTA 118V CKT 3 26 See Privaciou User 300 - 20 See Privaciou User 300 - 20 See Privaciou User 300 - 20 See Priv	05SH	WERE	WERE				103.4		0	See Previous Upgrade Identifed for Facility	.,,
BSH WERE FORT JCT SW ISTA-WEST JCT CITY JCT (EAST) 115V CKT 1 68 107.5 109.2 JEPFRY ENERGY CENTER. SUMMT 345V PRefered due to Warts' Opening Procesum 422 - Obage of the Jaffrey Energy 058H WERE FORT JCT SW ISTA-WEST JCT CITY JCT (EAST) 115V CKT 1 68 107.5 109.0 SUMMIT 35220144V TENASFOREER 25 Releved due to Warts' Opening Procesum 422 - Obage of the Summit 058H WERE FT JUNCTION SW ISTA-MEDOWELL CREEK SW ISTA 115V CKT 1 68 104.0 105.3 JEFFREY ENERGY CENTER. SUMMT 34V/V 25 Neleved due to Warts' Opening Procesum 422 - Obage of the Summit 058H WERE FT JUNCTION SW ISTA-MEDOWELL CREEK SW ISTA 115V CKT 1 68 104.0 105.3 JEFFREY ENERGY CENTER. SUMMT 34V/V 25 Neleved due to Warts' Opening Center to Summit 34 V Line 058H WERE WERE FT JUNCTION SW ISTA-MEDOWELL CREEK SW ISTA 115V CKT 1 68 103.2 JESP TWEED DATE Compress/ 25 Neleved due to Warts' Opening Center to Summit 34 V Line 058H WERE WERE WERE WIRE NORTHAL MERICON THE STA 115V CKT 1 68 103 JESP TWICE SW ISTA 115V CKT 1 25 Neleved due to Warts' Opening P					68	118.6		FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 2	25	Invalid Contingency	
Ges WERE FORT_LOT SW STA - WEST_LOT CITY_LOT (EAST) 115KV CKT 1 66 107.5 106.0 SUMMIT 34/23014 4KV TRANSFORMER 22 Relived due to Wester Operating Procedure 817 - Obdage of the Summit 34/230X Transformer 055H WERE FT_JUNCTION SWISTA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 106.3 JEFFREY EVERNO VCENTER - SUMMIT 34/220X 2 Relived due to Wester Operating Procedure 827 - Obdage of the Summit 34/220X Transformer 055H WERE FT_JUNCTION SWISTA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 100.1 105.2 JEFFREY EVERNO VCENTER - SUMMIT 34/220X 1 7 Invalid Contingency 100.4 FT_LOTS WISTA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 100.4 FT_LOTS WISTA - MCDOWELL CREEK SWI STA 115KV CKT 1 100.4 FT_LOTS WISTA - MCDOWELL CREEK SWI STA 115KV CKT 1 100.4 FT_LOTS WISTA - MCDOWELL CREEK SWI STA 115KV CKT 1 100.4 100.4 EST MCHEW SWI STA 115KV CKT 1 25 Invalid Contingency Invalid Contingency 100.4 EST MCHEW SWI STA 115KV CKT 1 100.4 100.2 EST MCHEW SWI STA 115KV CKT 1 25 Invalid Contingency 100.4 100.4 100.4 100.4 100.4 100.4 100.4 100.4 100.4										Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	
OSEN VERE VERE FORT JCT SW STA. WEST JCT CITY JCT (AST) 1190V CKT 1 68 105.3 SUMMIT 3552014 AVV TRANSFORMER 25 336230V Transformer SSN WERE VERE FT JUNCTION SWI STA. MCDOWELL CREEK SWI STA 1190V CKT 1 68 106.3 JEFFREY VEREOR OF DETRES - SUMMIT 345V VCT 2 25 Meteor 40 be Well Object 107 Mode of the Jaffrey Energy SSN WERE PT JUNCTION SWI STA. MCDOWELL CREEK SWI STA 1190V CKT 1 68 101.1 110.2 FT JCT SWI STA. MCDOWELL CREEK SWI STA 1190V CKT 2 25 Invalid Contingency SSN WERE VERE VERE NORTH AMERICAN PHILIPS JUNCTION SOUTH 1196V 68 100.3 EAST MCHERSON - SUMMIT 230V 20 See Previous Ugradue Identified Facility SSN WERE WERE VERE NORTH AMERICAN PHILIPS JUNCTION SOUTH 1196V 114 113.1 114.0 JEFREY SINESCO MCHER SOUTH 31.50V CKT 3 25 Releved due to Westar Operating Procedure 17.0 General VERE VERE NORTH AMERICAN PHILIPS JUNCTION SOUTH 1196V 114 113.2 114.7 SUMMIT 345V 25 Releved due to Westar Operating Procedure 17.0 General VERE VERE VERE VERE VERE VERE VERE VER	05SH	WERE	WERE	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1	68	107.5	109.2	JEFFREY ENERGY CENTER - SUMMIT 345KV	25		
OSSH WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 104 1033 JEFFREY VERROY CENTER - SUMMIT 346V 25 Center to Summit 34 5V Line SSH WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 1011 1024 FT JUC SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 25 Invalid Centingency SSH WERE WERE FT JUC SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 20 32 See Privata Upgrate Identified for Facility CSSH WERE WERE MORTH AMERICAN PHLIPS JUNCTION (SOUTH) 115KV 100 80 1023 FT JUC SWI STA 115KV CKT 3 20 See Privata Upgrate Identified for Facility 100 CSSH WERE WERE WERE WERT NORTH AMERICAN PHLIPS JUNCTION (SOUTH) - WEST JUNCTION (SOUTH) 115KV 141 113.1 114.9 JEFFREY ENRCY CENTER - SUMMIT 345KV 28 See Privata Upgrate Identified for Facility 100 OSSH WERE WERE WERE WEST JUNCTION (CITY - WEST JUNCTION (EAST) 115KV 141 113.2 114.7 SUMMIT 345K2 CKT 1 78 Releved due to Westat Operating Procedure 167 10.166 <td>05SH</td> <td>WERE</td> <td>WERE</td> <td>FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1</td> <td>68</td> <td>107.5</td> <td>109.0</td> <td>SUMMIT 345/230/14.4KV TRANSFORMER</td> <td>25</td> <td>345/230kV Transformer</td> <td></td>	05SH	WERE	WERE	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1	68	107.5	109.0	SUMMIT 345/230/14.4KV TRANSFORMER	25	345/230kV Transformer	
GSB1 WERE WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 116KV CKT 1 68 101.1 102.4 FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 116KV CKT 2 20 Invalid Contingency GSB1 WERE WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 116KV CKT 2 20 103.0 FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 116KV CKT 3 Invalid Contingency GSB1 WERE WERE NORTH AMERICAN PHILIPS JUNCTION (SUTT) 116KV 100.9 100.9 7 CT SWI STA - MCDOWELL CREEK SWI STA 116KV CKT 3 Invalid Contingency GSB1 WERE NORTH AMERICAN PHILIPS JUNCTION (SUTT) 116KV 100.9 <td>05SH</td> <td>WERE</td> <td>WERE</td> <td>FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1</td> <td>68</td> <td>104.0</td> <td>105.3</td> <td>JEFFREY ENERGY CENTER - SUMMIT 345KV</td> <td>25</td> <td></td> <td></td>	05SH	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	104.0	105.3	JEFFREY ENERGY CENTER - SUMMIT 345KV	25		
OSS WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 PF JUST SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 Invalid Contingency 05SH WERE WERE WERE WERE SWI MERE SWI MERE SWI MERE SWI MERE SWI MERE SWI MISTA 20 See Previous Upgrade Identified for Facility 05SH WERE WERE WERE WERE SWI MERE SWI MISTA - MCDOWELL CREEK SWI STA 115KV 141 113.1 114.9 JUSTA - MCDOWELCREEK SWI STA - MCDOWELCREEK SWI STA 115KV 25 Releved due to Westar MERCARA SWI MISTA - MCDOWELCREEK SWI STA 115KV 26 Releved due to Westar MERCARA SWI MISTA - MCDOWELCREEK SWI STA 115KV 26 Releved due to Westar MERCARA SWI MISTA - MCDOWELCREEK SWI STA 115KV 27 Releved due to Westar MERCARA SWI MISTA - MCDOWELCREEK SWI STA 115KV SWI MISTA - MCDOWELCREEK SWI STA 115KV SWI MIST	05SH	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	101.1	102.4	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	25		
OSSH WERE WERE NORTH AMERICAN PHILIPS JUNCTION (SOUTH) JUST (MOSOUTH) JUST (MOSOUT	0500	WEDE	WEDE		02	120.2	140.0	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	25	lavelid Centingenov	
OSSH WERE WERE WERE NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MOPHERSON 115KV OKT 1 6.8 106.2 EAST MOPHERSON - SUMMIT 33KV 0 See Previous Upgrade lotenting for Facility 05SH WERE WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV 141 113.1 114.9 JEFREY ENERGY CENTER - SUMMIT 345KV 25 Center to Summit 345 KV Line 05SP WERE WERE WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV 141 113.2 114.7 SUMMIT 34523014.4KV TRANSFORMER 25 Relieved due 10 Westar Operating Procedure 612 - Outage of the Circle to Hutchinnon Energy Centre R 115KV 25 Relieved due 10 Westar Operating Procedure 1213 - Outage of the Circle to Hutchinnon Energy Centre R 115KV 26 Relieved due 10 Westar Operating Procedure 6123 - Outage of the Circle to Hutchinnon Energy Centre R 115KV 26 Relieved due 10 Westar Operating Procedure 622 - Outage of the Circle to Hutchinnon Energy Centre R 115KV 26 Relieved due 10 Westar Operating Procedure 622 - Outage of the Morris OUNTY - WEST EMPORIAL 115KV 26 Relieved due 10 Westar Operating Procedure 622 - Outage of the Morris OUNTY - WEST EMPORIAL 115KV 27 046.8 116.5 117.8 GREAL WERE 28 Relieved due 10 Westar Operating Procedure 622 - Outage of the Morris OUNTY - WEST TREET -									20		
OSH WERE WERE WERE WEST JUNCTION CITY - WEST JUNCTION (CITY - W										See Previous Upgrade Identifed for Facility	
OSH WERE WERE WERE WERE JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV 141 113.2 114.7 SUMMIT 345/230/14.4KV TRANSFORMER 25 Relieved due to Westar Operating Procedure 121 - Outage of the Summit 345/230/KT Transformer 05SP WERE WERE 3RD & VAN BUREN - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 111.9 113.2 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Relieved due to Westar Operating Procedure 121 - Outage of the Circle to Hutchinson Energy Center 115KV Line 05SP WERE CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 116.5 117.8 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Relieved due to Westar Operating Procedure 120 - Outage of the Morris to West Energy Center 115KV Line 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 105.6 MORRIS COUNTY - WEST EMPORIA 115KV 25 Relieved due to Westar Operating Procedure 120 - Outage of the Morris Dustar 1200 - Outage of the Morris 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 104.2 105.6 MORRIS COUNTY - 2011/13 KW KT TANSFORMER 25 Relieved due to Westar Operating Procedure 120 - Outage of the Morris 05SP WERE EAST STREET - WEST EMPORIA 115KV KT										Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	
OSSH WERE WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV 141 113.2 114.7 SUMMIT 34/320/14.4KV TRANSPORMER 25 345/230/V Transformer 05SP WERE 3RD & VAN BUREN - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 111.9 113.2 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Hutchinson Energy Center 115KV Line 05SP WERE CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 116.5 117.8 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Hutchinson Energy Center 115KV Line 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 105.8 107.3 MORRIS COUNTY - WEST EMPORIA 115KV 25 Releved due to Westar Operating Procedure 120:0-Outage of the Moris to Westar Operating Procedure 150:0-OUTAGE 00:00:00:00:00:00:00:00:00:00:00:00:00:	05SH	WERE	WERE	WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV	141	113.1	114.9	JEFFREY ENERGY CENTER - SUMMIT 345KV	25	Center to Summit 345 kV Line	
OSSP WERE 3RD & VAN BUREN - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 111.9 113.2 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Relieved due to Westar Operating Procedure 123 - Outage of the Circle to Hutchinson Energy Center 115KV Line 05SP WERE CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 116.5 117.8 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Relieved due to Westar Operating Procedure 120 - Outage of the Circle to Hutchinson Energy Center 115KV Line 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 105.8 107.3 MORRIS COUNTY - WEST EMPORIA 115KV 25 Relieved due to Westar Operating Procedure 625 - Outage of the Morris 05SP WERE WERE EAST STREET - WEST EMPORIA 115KV 92 104.2 105.6 MORRIS COUNTY - WEST EMPORIA 115KV 25 Relieved due to Westar Operating Procedure 625 - Outage of the Morris 05SP WERE WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 Invalid Contingency 05SP FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JCT SWI STA	0551	WEDE	WEDE	WERT HINCTION CITY WERT HINCTION CITY HINCTION (FART) 445/01	141	112.2	1147		25		
OSSP WERE SRD & VAN BUREN - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 111.9 113.2 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Hutchinson Energy Center 115kV Line 05SP WERE CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 116.5 117.8 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Hutchinson Energy Center 115kV Line 05SP WERE EAST STREET - WEST EMPORIA 115kV 92 105.8 107.3 MORRIS COUNTY - WEST EMPORIA 115kV 25 Relieved due to Westar Operating Procedure 1205 - Outage of the Morris to Westar 05SP WERE EAST STREET - WEST EMPORIA 115kV 92 106.6 MORRIS COUNTY - 230/115/13.8kV TRANSFORMER 25 Relieved due to Westar Operating Procedure 625 - Outage of the Morris to Westar 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115kV CKT 1 68 150.9 152.8 FT JUST SWI STA - MCDOWELL CREEK SWI STA 115kV CKT 2 Invalid Contingency 230/115kV Tansformer 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115kV CKT 1 68 150.9 152.8 FT JUST SWI STA - MCDOWELL CREEK SWI STA 115kV CKT 2 1114.9 115.3 115.5 <t< td=""><td>UDSH</td><td>VVERE</td><td>VVERE</td><td>WEST JUNCTION OF T - WEST JUNCTION OF Y JUNCTION (EAST) 115KV</td><td>141</td><td>113.2</td><td>114./</td><td>SUMMIT 343/230/14.4KV TRANSFURMER</td><td>25</td><td></td><td></td></t<>	UDSH	VVERE	VVERE	WEST JUNCTION OF T - WEST JUNCTION OF Y JUNCTION (EAST) 115KV	141	113.2	114./	SUMMIT 343/230/14.4KV TRANSFURMER	25		
OSSP WERE CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 116.5 117.8 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Relieved due to Westar Operating Procedure 1209 - Outage of the Klore to Hutchinson Energy Center 115KV Line 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 105.8 107.3 MORRIS COUNTY - WEST EMPORIA 115KV 25 Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to Westar Operating Procedure 625 - Outage of the Morris to Westar Operating Procedure 625 20115kV Transformer 25 20115kV Transformer 25 20115kV Transformer 25 20115kV Transformer 25 107.3 MORRIS COUNTY - WEST EMPORIA 115KV 25 Invalid Contingency 20115kV Transformer 25 20115kV Transformer 25 20115kV Transformer 25 107.3 WERE Ouble Contingency 25 Invalid Contingency 25 Invalid Contingency 25 107.3 WERE Ouble Contingency 25 Invalid Contingency 25 <t< td=""><td>05SP</td><td>WERF</td><td>WERF</td><td>3RD & VAN BUREN - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV</td><td>68</td><td>111.9</td><td>113.2</td><td>CIRCLE - HUTCHINSON ENERGY CENTER 115KV</td><td>25</td><td></td><td></td></t<>	05SP	WERF	WERF	3RD & VAN BUREN - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV	68	111.9	113.2	CIRCLE - HUTCHINSON ENERGY CENTER 115KV	25		
OSSP WERE CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV 68 116.5 117.8 CIRCLE - HUTCHINSON ENERGY CENTER 115KV 25 Hutchinson Energy Center 115KV Line 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 105.8 107.3 MORRIS COUNTY - WEST EMPORIA 115KV 25 Relieved due bestar Operating Procedure 626 - Outage of the Morris to West 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 104.2 105.6 MORRIS COUNTY - WEST EMPORIA 115KV 25 Relieved due to Westar Operating Procedure 626 - Outage of the Morris 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 104.2 105.6 MORRIS COUNTY 23/U115/13/3KV TRANSFORMER 25 Relieved due to Westar Operating Procedure 626 - Outage of the Morris 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3 25 Invalid Contingency 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3 25 Invalid Contingency FT JCT SWI STA - MCDOWELL CR					1				1		
OSSP WERE EAST STREET - WEST EMPORIA 115KV 92 105.8 107.3 MORRIS COUNTY - WEST EMPORIA 115KV 25 Emporia 115kV Line 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 104.2 105.6 MORRIS COUNTY 230/115/13.8KV TRANSFORMER 25 230/115kV Transformer 05SP WERE EAST STREET - WEST EMPORIA 115KV 92 104.2 105.6 MORRIS COUNTY 230/115/13.8KV TRANSFORMER 25 230/115kV Transformer 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 1nvalid Contingency 05SP WERE WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 92 114.9 115.9 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 25 Invalid Contingency 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 92 114.9 115.8 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 25 Invalid Contingency 05FA WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 210 118.8 119.2 <td>05SP</td> <td>WERE</td> <td>WERE</td> <td>CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV</td> <td>68</td> <td>116.5</td> <td>117.8</td> <td>CIRCLE - HUTCHINSON ENERGY CENTER 115KV</td> <td>25</td> <td>Hutchinson Energy Center 115kV Line</td> <td></td>	05SP	WERE	WERE	CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV	68	116.5	117.8	CIRCLE - HUTCHINSON ENERGY CENTER 115KV	25	Hutchinson Energy Center 115kV Line	
OSSP WERE EAST STREET - WEST EMPORIA 115KV 92 104.2 105.6 MORRIS COUNTY 230/115/13.8KV TRANSFORMER 25 230/115kV Transformer 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 1nvalid Contingency 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 25 Invalid Contingency 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 92 114.9 116.3 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 25 Invalid Contingency 05SP WERE ET DANCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 92 114.9 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 25 Invalid Contingency 05FA WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 210 118.8 119.2 EVANS ENERGY CTR STH 135KV 25 Invalid Contingency 05FA WERE FORT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 102.3 104.1 </td <td>05SP</td> <td>WERE</td> <td>WERE</td> <td>EAST STREET - WEST EMPORIA 115KV</td> <td>92</td> <td>105.8</td> <td>107.3</td> <td>MORRIS COUNTY - WEST EMPORIA 115KV</td> <td>25</td> <td>Emporia 115kV Line</td> <td></td>	05SP	WERE	WERE	EAST STREET - WEST EMPORIA 115KV	92	105.8	107.3	MORRIS COUNTY - WEST EMPORIA 115KV	25	Emporia 115kV Line	
WERE WERE FT JOT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JOT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 Invalid Contingency 05SP WERE FT JOT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 150.9 152.8 FT JOT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 25 Invalid Contingency 05SP WERE FT JOT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 92 114.9 116.3 FT JOT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 25 Invalid Contingency 05FA WERE EL PASO - GULL ENERGY CENTER SOUTH 138KV 210 118.8 119.2 EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV 25 Invalid Contingency 05FA WERE WERE EL PASO - GULL ENERGY CENTER SOUTH 138KV 1196 101.9 104.1 EXAMPLE RESON - SUMMIT 230KV 0 See Previous Upgrade Identified for Facility 05FA WERE FORT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 102.3 103.4 EXEMPTION SUMIT 230KV 0 See Previous Upgrade Identified for Facility 05FA WERE FORT JCT SWI STA - MEST JCT CITY JCT (EAST) 115KV CKT 1 </td <td>0580</td> <td>WEDE</td> <td>WEDE</td> <td>EAST STREET WEST EMPORIA 115KV</td> <td>0.2</td> <td>104.2</td> <td>105.6</td> <td>MORDIS COUNTY 220/115/12 9K// TRANSFORMER</td> <td>25</td> <td></td> <td></td>	0580	WEDE	WEDE	EAST STREET WEST EMPORIA 115KV	0.2	104.2	105.6	MORDIS COUNTY 220/115/12 9K// TRANSFORMER	25		
DSSP WERE FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 Invalid Contingency 05SP WERE WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 152.8 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 Invalid Contingency 05SP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 92 114.9 116.3 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 Invalid Contingency 05FA WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 21 114.9 116.3 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 2 Invalid Contingency 05FA WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 21 118.8 119.2 EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV 25 Invalid Contingency 0 05FA WERE FORT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 102.3 104.1 FORT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 25 Invalid Contingency 0 05FA WERE FORT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 102.3 104.1 FORT JCT SWI STA -	0000	VERE	VERE	EAGT STREET - WEST EMPORIA TIONV	32	104.2	0.601	WERE Double Contingency	20	230/113KV Hansloffier	
OSSP WERE FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 05SP WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 22 Invalid Contingency 25 05FA WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 210 118.8 119.2 EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV 25 Invalid Contingency 05FA WERE WERE EXDE JUNCTION - SUMINT 136KV 101.9 101.9 101.4 EXAMPLES ON STA - MCST MARKY 25 Invalid Contingency 05FA WERE WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 104.1 FORT JCT SWI STA - MCST JCT CITY JCT (EAST) 0.2 Invalid Contingency Center Summit 345KV 25 Invalid Contingency Invalid Contingency </td <td>05SP</td> <td>WERE</td> <td>WERE</td> <td>FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1</td> <td>68</td> <td>150.9</td> <td>152.8</td> <td>FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3</td> <td>25</td> <td>Invalid Contingency</td> <td></td>	05SP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	150.9	152.8	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
OSSP WERE FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3 25 Invalid Contingency 0SFA WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 210 118.8 119.2 EVANS ENERGY CTR STH 15KV CKT 3 25 Invalid Contingency 0SFA WERE WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 210 118.8 119.2 EVANS ENERGY CTR STH 13KV CKT 3 25 Invalid Contingency 0SFA WERE WERE FORT JCT SW ISTA - MEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 104.1 EAST MCPHERSON - SUMMIT 23KV 0 See Previous Upgrade Identified for Facility 0SFA WERE WERE FORT JCT SW ISTA - MEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 104.1 FORT JCT SWI STA - MEST JCT CITY JCT (EAST) 115KV CKT 2 25 Invalid Contingency 0SFA WERE WERE FORT JCT SWI STA - MEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 103.9 JEFFREY ENERGY CENTER - SUMMIT 345KV 25 Center to Summit 345 KV Line 0SFA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.4 SUMMIT 345	1				1	1					
OpFA WERE EL PASO - GILL ENERGY CENTER SOUTH 138KV 210 118.8 119.2 EVANS ENERGY CTR NTH - EVANS ENERGY CTR STH 138KV 25 Invalid Contingency 05FA WERE EXDE JUNCTION - SUMMIT 136KV 196 101.9 104.1 EAST MCPHERSON - SUMMIT 23KV 0 See Previous Upgrade Identified for Facility 05FA WERE WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 66 102.3 104.1 FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 2 25 Invalid Contingency 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 66 102.3 103.9 JEFFREY ENERGY CENTER - SUMMIT 345KV 25 Center to Summit 345 KV Line 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 103.9 JEFFREY ENERGY CENTER - SUMMIT 345KV 25 Center to Summit 345 KV Line 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 Center to Summit 345/230/14.4KV TRANSFORMER 25 A5/230/KV Transformer 345/230/KV Transformer 345/230/KV Transfor	05SP	WERE	WERE	ET JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	114 9	116.3		25	Invalid Contingency	
OSFA WERE EXIDE JUNCTION - SUMMIT 115KV 196 101.9 104.1 EAST MCPHERSON - SUMMIT 230KV 0 See Previous Upgrade Identified for Facility 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 104.1 FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 2 25 Invalid Contingency 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 103.9 JEFFREY ENERGY CENTER - SUMMIT 345KV 25 Center to Summit 345 KV Line 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 Center to Summit 345 KV Line 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 Center to Summit 345/230/kV Transformer 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 Statize of the Summit 345/230/kV Transformer 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT									25		
OpFA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 104.1 FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 2 25 Invalid Contingency Center to Summit 345 KV Line 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 103.9 JEFFREY ENERGY CENTER - SUMMIT 345KV 25 Relieved due to Westar Operating Procedure 617 - Outage of the Jeffrey Energy Center to Summit 345 KV Line 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 103.9 JEFFREY ENERGY CENTER - SUMMIT 345/20/14.4KV TRANSFORMER 25 Relieved due to Westar Operating Procedure 617 - Outage of the Summit 045/20/20/20/20/20/20/20/20/20/20/20/20/20/	05FA	WERE	WERE	EXIDE JUNCTION - SUMMIT 115KV	196	101.9	104.1	EAST MCPHERSON - SUMMIT 230KV	0		
OpFA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 102.3 103.9 JEFFREY ENERGY CENTER - SUMMIT 345KV 25 Center to Summit 345 KV line 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 Releved due to Westar Operating Procedure 617 - Outage of the Summit WERE Double Contingency 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 345/230/kV Transformer 05FA WERE WERE FORT JCT SWI STA - MEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 345/230/kV Transformer	05FA	WERE	WERE	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1	68	102.3	104.1	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 2	25	Invalid Contingency	
OSFA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 Releved due to Westar Operating Procedure 617 - Outage of the Summit 05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/230/14.4KV TRANSFORMER 25 345/230/kV Transformer VERE Double Contingency FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2 5 345/230/kV Transformer 5										Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	
05FA WERE FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1 68 101.8 103.4 SUMMIT 345/23/01/4 4KV TRANSFORMER 25 345/23/0kV Transformer VERE VERE VERE WERE WERE WERE 345/23/0kV Transformer 101.8 103.4 SUMMIT 345/23/01/4 4KV TRANSFORMER 25 345/23/0kV Transformer	05FA	WERE	WERE	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1	68	102.3	103.9	JEFFREY ENERGY CENTER - SUMMIT 345KV	25		
WERE Double Contingency FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	0554	WERE	WERE	FORT ICT SWI STA - WEST ICT CITY ICT (EAST) 115KV CKT 1	68	101.8	103.4	SUMMIT 345/230/14 4KV/ TRANSFORMER	25	Relieved due to Westar Operating Procedure 617 - Outage of the Summit 345/230kV/ Transformer	
FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	UJFA	VENE	ALKE	. OKTOOL ONLOTA - WEDT OUT OUT JUT (EAST) HOKY OKT I	00	101.0	103.4	WERE Double Contingency	20		
					1	1		FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
05FA WERE KER FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1 68 153.2 155.3 FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3 25 Invalid Contingency	05FA	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	153.2	155.3	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	

SPP-2004-025-1 Table 1.2 - SPP Facility Overloads Caused or Impacted by the Transfer Using Scenario 2

Study	From	То		Rate	BC %	TC %		ATC		
Case	Area	Area	Monitored Branch Over 100% Rate B	<mva></mva>	Loading	Loading	Outaged Branch Causing Overload	(MW)	Solution	Estimated Cost
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1			
05FA	WERE		FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	116.9	118.4	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
05FA	WERE		NORTH AMERICAN PHILIPS - NORTH AMERICAN PHILIPS JUNCTION (SOUTH) 115KV	160	104.3	108.9	EAST MCPHERSON - SUMMIT 230KV	0	See Previous Upgrade Identifed for Facility	
05FA	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 1	68	112.6	117.5	EAST MCPHERSON - SUMMIT 230KV	0	See Previous Upgrade Identifed for Facility	
05FA	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 2	92	98.2	102.5	EAST MCPHERSON - SUMMIT 230KV CKT 1	10	See Previous Upgrade Identifed for Facility	
									Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	
05FA	WERE	WERE	WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV	141	107.7	109.4	JEFFREY ENERGY CENTER - SUMMIT 345KV	25	Center to Summit 345 kV Line	
									Relieved due to Westar Operating Procedure 617 - Outage of the Summit	
05FA	WERE	WERE	WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV	141	107.1	108.8	SUMMIT 345/230/14.4KV TRANSFORMER	25	345/230kV Transformer	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
05WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	138.1	140.0	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1			
05WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	105.3	106.8	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
05WP	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 1	68	97.4	102.3	EAST MCPHERSON - SUMMIT 230KV	13	See Previous Upgrade Identifed for Facility	
									Relieved due to Westar Operating Procedure 625 - Outage of the Morris	
07SP	WERE	WERE	EAST STREET - WEST EMPORIA 115KV	92	107.2	108.4	MORRIS COUNTY 230/115/13.8KV TRANSFORMER	25	230/115kV Transformer	
				1		1		1	Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West	
07SP	WERE	WERE	EAST STREET - WEST EMPORIA 115KV	92	106.5	107.9	MORRIS COUNTY - WEST EMPORIA 115KV	25	Emporia 115kV Line	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
07SP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	153.2	155.0	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
							WERE Double Contingency			
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1			
07SP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	116.6	118.0	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
0101	TTETTE	THEIRE		02	110.0	110.0	WERE Double Contingency	20	invalid Contingency	
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
07M/D	WERE	WEDE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	145.7	147.6	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
UTWF	WERE	WERE	FT JONGTION SWI STA - WODOWELE CREEK SWI STA TISKY CRT T	00	145.7	147.0	WERE Double Contingency	20	invalid contingency	
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1			
0714/D	WERE	WEDE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	111.1	112.5	FT JCT SWI STA - MCDOWELL CREEK SWI STA HSKV CKT 1 FT JCT SWI STA - MCDOWELL CREEK SWI STA HSKV CKT 3	25	Invalid Contingency	
UTVP	WERE	WERE	FT JUNCTION SWI STA - NICDOWELL CREEK SWI STA TISKY CKT 2	92	111.1	112.5	FT JCT SWI STA - WODOWELL CREEK SWI STA TISKV CKT 3	25		
10SP	WERE	WEDE	EAST MANULATTAN 220// 45/48 OK/ / TRANSFORMER	308	100.9	101.3	CUMMUT 245/220/44 4K// TRANSFORMER	25	WERE conversion of Morris - McDowell 115kV line to 230kV line relieves overload	
105P	WERE	WERE	EAST MANHATTAN 230/115/18.0KV TRANSFORMER	306	100.9	101.5	SUMMIT 345/230/14.4KV TRANSFORMER	25	Estimated In-Service 2006. WERE conversion of Morris - McDowell 115kV line to 230kV line relieves overload	
10SP	WERE	WEDE		000	100.0	101.0		05		
105P	WERE	WERE	EAST MANHATTAN 230/115/18.0KV TRANSFORMER	308	100.8	101.2	JEFFREY ENERGY CENTER - SUMMIT 345KV	25	Estimated In-Service 2006.	
1000	WEDE	WEDE	FART OTREET WERT ENDORIN 44510/		100.4	101 7		05	Relieved due to Westar Operating Procedure 625 - Outage of the Morris	
10SP	WERE	WERE	EAST STREET - WEST EMPORIA 115KV	92	120.4	121.7	MORRIS COUNTY 230/115/13.8KV TRANSFORMER	25	230/115kV Transformer	
1000	WEDE	WEDE		00	445.5	110.0	MORDIS COUNTY WEST EMPORIA 415107	25	Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West	
10SP	WERE		EAST STREET - WEST EMPORIA 115KV	92 196	115.5	116.9 104.0	MORRIS COUNTY - WEST EMPORIA 115KV	25	Emporia 115kV Line	
IUSP	WERE	WERE	EXIDE JUNCTION - SUMMIT 115KV	196	102.7	104.0	NORTHVIEW - SUMMIT 115KV	0	See Previous Upgrade Identifed for Facility	
							WERE Double Contingency	1		
1005	WEDE	WEDE			1010	100 5	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	0.5	less fot O and a second	
10SP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	164.6	166.5	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
				1			WERE Double Contingency	1		
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	1		
	WERE		FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	125.3	126.8	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
10SP	WERE		NORTHVIEW - SUMMIT 115KV	181	101.2	102.3	EXIDE JUNCTION - SUMMIT 115KV	0	Limits rollover rights beginning 6/1/2010	
10WP	WERE	WERE	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 1	68	99.2	101.0	FORT JCT SWI STA - WEST JCT CITY JCT (EAST) 115KV CKT 2	25	Invalid Contingency	
							WERE Double Contingency	1		
							FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2			
10WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	68	157.7	159.7	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	l
							WERE Double Contingency	1		
				1			FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 1	1		
10WP	WERE	WERE	FT JUNCTION SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 2	92	120.2	121.7	FT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV CKT 3	25	Invalid Contingency	
	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 1	68	98.5	103.4	EAST MCPHERSON - SUMMIT 230KV	8	See Previous Upgrade Identifed for Facility	
10WP										
10WP	1								Relieved due to Westar Operating Procedure 617 - Outage of the Summit	
	WERE	WERE	WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV	141	102.0	103.9	SUMMIT 345/230/14.4KV TRANSFORMER	25	Relieved due to Westar Operating Procedure 617 - Outage of the Summit 345/230kV Transformer	

SPP-2004-025-1 Table 3.2 - Non-SPP Facility Overloads Caused or Impacted by the Transfer Using Scenario 2

Study	From	То		Rate	BC %	TC %		
Case	Area	Area	Monitored Branch Over 100% Rate B	<mva></mva>		Loading	Outaged Branch Causing Overload	Comments
04WP			NONE IDENTIFIED					
05AP			NONE IDENTIFIED					
05G	SUNC	SUNC	56393 PLYMELL3 115 56448*HOLCOMB3 115 1	143	99.2	100.4	Multiple Contingency Outage 56391 PIONEER3115 56400 PK_GOAB3115 CKT 1 56400 PK_GOAB3115 56375 PUCKET 3115 CKT 1 56400 PK_GOAB3115 56420 FLETCHR3115 CKT 1	Facility not a Limitation Due to Model Correction
05G		SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	99.7	100.8	56400 PK GOAB3 115 to 56420 FLETCHR3 115 CKT 1	Invalid Contingency
		SUNC SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1 56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143 143	99.3 99.2	100.6 100.4	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1 56391 PIONEER3 115 to 56400 PK GOAB3 115 CKT 1	Facility not a Limitation Due to Model Correction Invalid Contingency
		SUNC		143	100.9	102.3	56420 FLETCHR3 115 to 56448 HOLCOMB3 115 CKT 1	Facility not a Limitation Due to Model Correction
05SH	SUNC	SUNC	56393 PLYMELL3 115 to 56448 HOLCOMB3 115 CKT 1	143	99.2	100.4	56400 PK_GOAB3 115 to 56420 FLETCHR3 115 CKT 1	Invalid Contingency
05SP			NONE IDENTIFIED					
05FA			NONE IDENTIFIED					
05WP			NONE IDENTIFIED					
07SP			NONE IDENTIFIED					
07WP			NONE IDENTIFIED					
10SP			NONE IDENTIFIED					
10WP			NONE IDENTIFIED					

SPP-2004-025-1 Table 4 - Facilities Limiting the ATC to 0MW

	Monitored Brance for Facility	Outaged Brance for Facility	Maximum Relief Needed for Facility (MW)
Limiting Facility 1	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 1	EAST MCPHERSON - SUMMIT 230KV	3.4
Limiting Facility 2	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 2	EAST MCPHERSON - SUMMIT 230KV	2.4
Limiting Facility 3	NORTH AMERICAN PHILIPS - NORTH AMERICAN PHILIPS JUNCTION (SOUTH) 115KV	EAST MCPHERSON - SUMMIT 230KV	7.4
Limiting Facility 4	EXIDE JUNCTION - SUMMIT 115KV	EAST MCPHERSON - SUMMIT 230KV	5.9
Limiting Facility 5	EXIDE JUNCTION - NORTH AMERICAN PHILIPS 115KV	EAST MCPHERSON - SUMMIT 230KV	0.6

SPP-2004-025-1 Table 5 - Generation Shift Factors for Facilities Limiting the ATC to 0MW

		GSF -				
Courses	Cink	Limiting Facility 1	Limiting Facility 2	Limiting Facility 3	Limiting Facility 4	Limiting Facility 5
Source	Sink	,	, ,	· · · · ·	,	
WERE_MCPH PLT12.5	Swing	-0.24874	-0.28615	-0.5349	-0.30578	-0.30578
WERE_MCPHGT1 13.8	Swing	-0.24874	-0.28615	-0.5349	-0.30578	-0.30578
WERE_MCPHGT2 13.8	Swing	-0.24874	-0.28615	-0.5349	-0.30578	-0.30578
WERE_MCPHGT3 13.8	Swing	-0.24874	-0.28615	-0.5349	-0.30578	-0.30578
WERE_MCPHGT4 13.8	Swing	-0.24315	-0.27972	-0.52287	-0.29876	-0.29876
WERE_HEC U4 18.0	Swing	-0.19739	-0.22707	-0.42446	-0.24163	-0.24163
WERE_HEC GT3 13.8	Swing	-0.19738	-0.22707	-0.42445	-0.24163	-0.24163
WERE_HEC GT4 13.8	Swing	-0.19738	-0.22707	-0.42445	-0.24163	-0.24163
WERE_HEC GT2 13.8	Swing	-0.19723	-0.2269	-0.42413	-0.24144	-0.24144
WERE_HEC U1 14.4	Swing	-0.19707	-0.22671	-0.42378	-0.24123	-0.24123
WERE_HEC U2 14.4	Swing	-0.19707	-0.22671	-0.42378	-0.24123	-0.24123
WERE_HEC U3 14.4	Swing	-0.19707	-0.22671	-0.42378	-0.24123	-0.24123
WERE_HEC GT1 13.8	Swing	-0.19707	-0.22671	-0.42379	-0.24124	-0.24124
WERE_LEC U3 14.4	Swing	0.01008	0.0116	0.02169	0.00947	0.00947
WERE_LEC U4 14.4	Swing	0.01009	0.0116	0.02169	0.00946	0.00946
WERE_LEC U5 24.0	Swing	0.01055	0.01214	0.0227	0.00997	0.00997
WERE_TEC U7 14.4	Swing	0.01231	0.01416	0.02647	0.00854	0.00854
WERE_TEC U8 16.0	Swing	0.01231	0.01416	0.02647	0.00854	0.00854
WERE_TEC GT 13.8	Swing	0.01253	0.01442	0.02695	0.00833	0.00833
WERE_JEC U1 26.0	Swing	0.01641	0.01888	0.0353	0.01638	0.01638
WERE_JEC U2 26.0	Swing	0.01697	0.01953	0.0365	0.02338	0.02338
WERE_JEC U3 26.0	Swing	0.01697	0.01953	0.0365	0.02338	0.02338

SPP-2004-025-1 Table 6 - Applicable Relief Pairs and Redispatch Amount Required

Southwest Power Pool System Impact Study

		Limiti	ng Facility 1	Limiting	g Facility 2	Limitin	g Facility 3	Limitin	g Facility 4	Limitin	g Facility 5
			Redispatch		Redispatch		Redispatch		Redispatch		Redispatch
Source	Sink	Factor	Amount (MW)	Factor	Amount (MW)	Factor	Amount (MW)	Factor	Amount (MW)	Factor	Amount (MW)
WERE_MCPH PLT12.5	WERE_JEC U1 26.0	-0.26515	13	-0.30503	8	-0.5702	13	-0.32216	18	-0.32216	2
WERE_HEC U4 18.0	WERE_LEC U3 14.4	-0.20747	16	-0.23867	10	-0.44615	17	-0.2511	23	-0.2511	2
WERE_MCPHGT4 13.8	WERE_TEC U7 14.4	-0.25546	13	-0.29388	8	-0.54934	13	-0.3073	19	-0.3073	2
WERE_HEC U1 14.4	WERE_JEC U2 26.0	-0.21404	16	-0.24624	10	-0.46028	16	-0.26461	22	-0.26461	2

Factor = Source GSF Referenced to System Swing - Sink GSF Referenced to System Swing

Redispatch Amount = Relief Amount / Factor

SPP-2004-025-1 Table 1.1a - Modeling Representation for Table 1.1 Includes Bus Numbers and Bus Names

Study	From			Rate	BC %	TC %		ATC		Estimated
Case		To Area		<mva></mva>	Loading	Loading	Outaged Branch Causing Overload	(MW)	Solution	Cost
04WP	WERE	WERE	57039 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1	210	102.4	102.8	57040 EVANS N4 138 to 57041 EVANS S4 138 CKT 1	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
04WP	WERE	WERE	57328 FT JCT 3 115 to 57335*MCDOWEL3 115 1	68	112.1	113.7	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
05AP			NONE IDENTIFIED					25		
05G	WERE	WERE	57039 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1	210	121.2	121.6	57040 EVANS N4 138 to 57041 EVANS S4 138 CKT 1	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
05G	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	140.3	142	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
05G	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 2	92	107	108.3	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
05SH	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	152.1	154	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
05SH	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 2	92	115.8	117.2	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
05SP		WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	121.1	122.8	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
05FA	WERE	WERE	57039 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1	210	112.1	112.5	57040 EVANS N4 138 to 57041 EVANS S4 138 CKT 1	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
05FA	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	134.2	136.2	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
05FA	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 2	92	102.3	103.8	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
05WP	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	123.6	125.5	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
									Relieved due to Westar Operating Procedure 400 - Outage of	
07SP	WERE	WERE	56851 AUBURN 6 230 to 56852 JEC 6 230 CKT 1	565	110.2	110.5	56765 HOYT 7 345 to 56766 JEC N 7 345 CKT 1	25	the Jeffrey Energy Center to Hoyt 345kV Line	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
07SP		WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	124.6	126.2	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
07WP	WERE	WERE	57039 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1	210	106.1	106.4	57040 EVANS N4 138 to 57041 EVANS S4 138 CKT 1	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
07WP	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	131.3	133.2	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			1
07WP	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 2	92	100.1	101.5	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
10SP	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	119.7	121.3	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
10WP	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 1	68	140.5	142.5	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			1
10WP	WERE	WERE	57328 FT JCT 3 115 57335*MCDOWEL3 115 2	92	107.1	108.6	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
									Total Estimated Engineering and Construction Cost	\$0

Study	From	То		Rate	BC %	TC %		ATC		
Case	Area	Area	Monitored Branch Over 100% Rate B	<mva></mva>	Loading	Loading	Outaged Branch Causing Overload	(MW)	Solution	Estimated Cost
04WP	WERE	WERE	57039 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1	210	111.4	111.8	57040 EVANS N4 138 to 57041 EVANS S4 138 CKT 1	25	Invalid Contingency	
04WP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	145.0	146.6	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
04WP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	92	110.6	111.9	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
									Tear down double circuit, build single circuit with 1192.5 ACSR. Estimated lead	
04WP	WERE	WERE	57374 SPHILPJ3 115 to 57438 WMCPHER3 115 CKT 1	68	103.1	107.2	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	0	time is 12 months.	\$ 7,800,000
05AP	WEDE	WEDE	None Identified	040	100.0	100.4		25	Involid Continennes	
05G 05G	WERE	WERE WERE	57039 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1	210 68	129.0 104.1	129.4 105.7	57040 EVANS N4 138 to 57041 EVANS S4 138 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 2	25 25	Invalid Contingency Invalid Contingency	
05G	WERE	WERE	5/328 FT JCT 3 T15 10 5/343 WJCCT FE3 T15 CKT T	00	104.1	105.7	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2	25	Invalid Contingency	
05G	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	159.4	161.1	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
05G	WFRF	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	92	121.6	122.9	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
030	WERE	WERE	57526 FT 3CT 3 FT3 10 57535 MCDOWELS FT3 CKT 2	52	121.0	122.5	3/32011 301 31/3 3/333 MODOWEE3/13 0K1 3	25	Rebuild 0.88 miles and reconductor with 1192.5 ACSR. Estimated lead time is 5	
05G	WERE	WERE	57372 PHILIPS3 115 to 57374 SPHILPJ3 115 CKT 1	160	97.4	101.1	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	18	months.	\$ 417,200
05G	WERE	WERE	57374 SPHILPJ3 115 to 57438 WMCPHER3 115 CKT 1	68	105.2	109.1	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	0	See Previous Upgrade Identifed for Facility	
050	WEDE	WEDE			100.0	400.0		05	Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	
05G	WERE	WERE	57342 WJCCTY 3 115 to 57343 WJCCTYE3 115 CKT 1	141	100.9	102.2	56766 JEC N 7 345 to 56773 SUMMIT 7 345 CKT 1	25	Center to Summit 345 kV Line Relieved due to Westar Operating Procedure 617 - Outage of the Summit	
05G	WERE	WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1	141	100.7	102.0	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1	25	345/230kV Transformer	
									Relieved due to Westar Operating Procedure 1217 - Outage of the Fort Junction to	
05SH	WERE	WERE	57321 ANZIO 3 115 to 57328 FT JCT 3 115 CKT 1	92	112.8	114.5	57342 WJCCTY 3 115 to 57343 WJCCTYE3 115 CKT 1	25	West Junction City 115kV Line	
05SH	WERE	WERE	57321 ANZIO 3 115 to 57328 FT JCT 3 115 CKT 1	92	112.8	114.5	57328 FT JCT 3115 57343 WJCCTYE3115 CKT 1 57328 FT JCT 3115 57343 WJCCTYE3115 CKT 2	25	Relieved due to Westar Operating Procedure 1217 - Outage of the Fort Junction to	1
055H	WERE	VERE	3732 FANZIO 3 113 10 37320 FT JOT 3 115 UKT 1	92	112.0	114.5	57328 FT JCT 3115 57343 WJCCTYE3115 CKT 2 57328 FT JCT 3115 57343 WJCCTYE3115 CKT 1	25	West Junction City 115kV Line	ł
							57328 FT JCT 3115 57343 WJCCTYE3115 CKT 2		Relieved due to Westar Operating Procedure 1217 - Outage of the Fort Junction to	
05SH	WERE	WERE	57321 ANZIO 3 115 to 57328 FT JCT 3 115 CKT 1	92	112.8	114.5	57343 WJCCTY3115 57342 WJCCTY3115 CKT 1	25	West Junction City 115kV Line	
05SH	WERE	WERE	57039 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1	210	136.2	136.6	57040 EVANS N4 138 to 57041 EVANS S4 138 CKT 1	25	Invalid Contingency	
									Rebuild and reconductor 0.34 miles with 1192 ACSR. Estimated lead time is 5	
05SH	WERE	WERE	57368 EXIDE J3 115 to 57372 PHILIPS3 115 CKT 1	196	96.8	100.4	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	23	months.	\$ 95,200
05SH	WFRF	WERE		196	102.4	105.4		~	Rebuild and reconductor 4.94 miles with 1192 ACSR. Estimated lead time is 7	a 4 400 000
05SH		WERE	57368 EXIDE J3 115 to 57381 SUMMIT 3 115 CKT 1 57368 EXIDE J3 115 to 57381 SUMMIT 3 115 CKT 1	196	102.4	105.4 103.4	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1 57371 NORTHVW3 115 to 57381 SUMMIT 3 115 CKT 1	0	months. See Previous Upgrade Identifed for Facility	\$ 1,100,000
05SH		WERE	57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1	68	118.6	120.8	57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 2	25	Invalid Contingency	
00011	THEIRE	WERE		00	110.0	120.0		20	Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	1
05SH	WERE	WERE	57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1	68	107.5	109.2	56766 JEC N 7 345 to 56773 SUMMIT 7 345 CKT 1	25	Center to Summit 345 kV Line	
									Relieved due to Westar Operating Procedure 617 - Outage of the Summit	
05SH	WERE	WERE	57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1	68	107.5	109.0	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1	25	345/230kV Transformer Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	
05SH	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	104.0	105.3	56766 JEC N 7 345 to 56773 SUMMIT 7 345 CKT 1	25	Center to Summit 345 kV Line	
05SH		WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	101.1	102.4	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	25	Invalid Contingency	1
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
05SH	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	92	139.2	140.9	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
05SH		WERE	57372 PHILIPS3 115 to 57374 SPHILPJ3 115 CKT 1	160	99.0	100.3	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	20	See Previous Upgrade Identifed for Facility	
05SH	WERE	WERE	57374 SPHILPJ3 115 to 57438 WMCPHER3 115 CKT 1	68	106.9	108.2	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	0	See Previous Upgrade Identifed for Facility	
05SH	WERE	WERE	57342 WJCCTY 3 115 to 57343 WJCCTYE3 115 CKT 1	141	440.4	114.9	56766 JEC N 7 345 to 56773 SUMMIT 7 345 CKT 1	25	Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy Center to Summit 345 kV Line	
00011	WERE	VVLINE							Relieved due to Westar Operating Procedure 617 - Outage of the Summit	
05SH				141	113.1					
	WERE	WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1	141	113.1	114.7	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1	25	345/230kV Transformer	
05SP			57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1	141	113.2	114.7	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1		345/230kV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to	
0001	WERE	WERE						25 25	345/230kV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line	
	WERE	WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1	141 68	113.2 111.9	114.7 113.2	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1	25	345/230kV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to	
05SP		WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1	141	113.2	114.7	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1		345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line	
	WERE	WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1	141 68	113.2 111.9	114.7 113.2	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1	25	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115KV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115KV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporie 115KV Line	
05SP 05SP	WERE WERE WERE	WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1	141 68 68 92	113.2 111.9 116.5 105.8	114.7 113.2 117.8 107.3	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1	25 25 25	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Lne Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV	
05SP	WERE	WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1	141 68 68	113.2 111.9 116.5	114.7 113.2 117.8	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1	25 25	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115KV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115KV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporie 115KV Line	
05SP 05SP	WERE WERE WERE	WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1	141 68 68 92	113.2 111.9 116.5 105.8	114.7 113.2 117.8 107.3	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56880 MORRIS 113.8 CKT 1 57328 FT JCT 3115 57335 MCDOWEL315 CKT 2 57328 FT JCT 3115 57335 MCDOWEL315 CKT 3	25 25 25	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Lne Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV	
05SP 05SP 05SP 05SP	WERE WERE WERE WERE	WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57309 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57328 FT JCT 3 115 to 57336 MCDOWEL3 115 CKT 1	141 68 68 92 92 92 68	113.2 111.9 116.5 105.8 104.2 150.9	114.7 113.2 117.8 107.3 105.6 152.8	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25 25 25 25 25 25	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency	
05SP 05SP 05SP 05SP	WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57309 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	141 68 68 92 92 68 92	113.2 111.9 116.5 105.8 104.2 150.9 114.9	114.7 113.2 117.8 107.3 105.6 152.8 116.3	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56800 MORRIS 113.8 CKT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 3 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 3 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 3 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 3	25 25 25 25 25 25 25 25	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115KV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115KV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115KV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115KV Transformer Invalid Contingency Invalid Contingency	
05SP 05SP 05SP 05SP 05SP 05SP	WERE WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57308 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57328 FT JCT 3 1115 to 57335 MCDOWEL3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2 57039 ELPASO 4 138 to 57345 MCDOWEL3 115 CKT 2	141 68 68 92 92 68 92 68 92 210	113.2 111.9 116.5 105.8 104.2 150.9 114.9 118.8	114.7 113.2 117.8 107.3 105.6 152.8 116.3 119.2	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57328 AT JCT 3115 57335 MCDOWEL3115 CKT 3 57304 EVANS VA 138 to 5704 EVANS S4 138 CKT 1	25 25 25 25 25 25 25 25 25 25	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporie 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency Invalid Contingency	
05SP 05SP 05SP 05SP 05SP 05SP 05FA	WERE WERE WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57309 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2 57338 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1 57339 ELPASO 4 138 to 57345 GILL S 4 138 CKT 1	141 68 68 92 92 68 92 210 196	113.2 111.9 116.5 105.8 104.2 150.9 114.9 118.8 101.9	114.7 113.2 117.8 107.3 105.6 152.8 116.3 119.2 104.1	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57340 EVANS NA 138 to 57041 EVANS SA 138 CKT 1 56872 EMCPHER 230 D 56873 SUMMIT 6 230 CKT 1	25 25 25 25 25 25 25 25 0	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency See Previous Upgrade Identified for Facility	
05SP 05SP 05SP 05SP 05SP 05SP	WERE WERE WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57308 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57328 FT JCT 3 1115 to 57335 MCDOWEL3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2 57039 ELPASO 4 138 to 57345 MCDOWEL3 115 CKT 2	141 68 68 92 92 68 92 68 92 210	113.2 111.9 116.5 105.8 104.2 150.9 114.9 118.8	114.7 113.2 117.8 107.3 105.6 152.8 116.3 119.2	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57328 AT JCT 3115 57335 MCDOWEL3115 CKT 3 57304 EVANS VA 138 to 5704 EVANS S4 138 CKT 1	25 25 25 25 25 25 25 25 25 25	345/230KV Transformer Relieved to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporie 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency See Previous Uggrade Identifed for Facility Invalid Contingency	
05SP 05SP 05SP 05SP 05SP 05SP 05FA	WERE WERE WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57309 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2 57338 ELPASO 4 138 to 57046 GILL S 4 138 CKT 1 57339 ELPASO 4 138 to 57345 GILL S 4 138 CKT 1	141 68 68 92 92 68 92 210 196	113.2 111.9 116.5 105.8 104.2 150.9 114.9 118.8 101.9	114.7 113.2 117.8 107.3 105.6 152.8 116.3 119.2 104.1	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57340 EVANS NA 138 to 57041 EVANS SA 138 CKT 1 56872 EMCPHER 230 D 56873 SUMMIT 6 230 CKT 1	25 25 25 25 25 25 25 25 0	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporie 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy Center to Summi 345 kV Line	
05SP 05SP 05SP 05SP 05FA 05FA 05FA 05FA	WERE WERE WERE WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57453 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57301 EAST ST3 115 to 57303 WEMPORI3 115 CKT 1 57309 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57309 WEMPORI3 115 to 57305 MCDOWEL3 115 CKT 1 57328 FT JCT 3 115 to 57345 MCDOWEL3 115 CKT 1 57328 FT JCT 3 115 to 57345 MCDOWEL3 115 CKT 1 57309 EXIDE J3 115 to 57345 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57345 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57345 WJCCTYE3 115 CKT 1	141 68 92 92 68 92 210 196 68 68 68	113.2 111.9 116.5 105.8 104.2 150.9 114.9 114.9 114.8 101.9 102.3	114.7 113.2 117.8 107.3 105.6 152.8 116.3 119.2 104.1 104.1 103.9	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3115 CKT 1 57413 CIRCLE 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1 57328 FT JCT 3115 5735 MCDOWEL3115 CKT 1 56872 EMCPHER8 230 to 56873 SUMMIT 6 230 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 2 56766 JEC N 7 345 to 56773 SUMMIT 7 345 CKT 1	25 25 25 25 25 25 25 25 25 0 25 25 25 25	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy Center to Summit 345 kV Line Relieved due to Westar Operating Procedure 617 - Outage of the Jeffrey Energy Center to Summit 345 kV Line	
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055P 055P 055P 055P 05FA 05FA 05FA 05FA 05FA 05FA 05FA 05FA	WERE WERE WERE WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57453 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57301 EAST ST3 115 to 57303 WEMPORI3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57302 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57308 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57308 WEMPORI3 115 to 57305 MCDOWEL3 115 CKT 1 57328 FT JCT 3 1115 to 57361 SUMMIT 3 115 CKT 1 57338 EXIDE J3 115 to 57348 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57348 WMCPHER3 115 CKT 1 57327 FNILIPS3 115 to 57348 WMCPHER3 115 CKT 1 57372 FNILP33 115 to 57348 WMC	141 68 68 92 92 68 92 68 92 68 68 68 68 68 68 68 92 160 68 92	113.2 111.9 116.5 105.8 104.2 150.9 114.9 118.8 101.9 102.3 101.8 153.2 116.9 102.6 98.2	114.7 113.2 117.8 107.3 105.6 152.8 119.2 104.1 104.1 104.1 103.9 103.4 155.3 118.4 108.9 117.5 102.5	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 2 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 1 57328 F1 JCT 3115 5735 MCDOWEL3115 CKT 1 57328 F1 JCT 3115 5735 MCDOWEL3115 CKT 1 56764 DEVANS NA 386 230 to 56873 SUMMIT 6 230 CKT 1 56773 SUMMIT 7 345 to 56873 SUMMIT 7 345 CKT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 2 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CXT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CXT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CXT 1 57328 F1 JCT 3	25 25 25 25 25 25 25 25 25 25 25 25 25 2	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 402 - Outage of the Morris 230/115kV Relieved due to Westar Operating Procedure 625 - Outage of the Jeffrey Energy Center to Summit 345 kV Line Relieved due to Westar Operating Procedure 617 - Outage of the Jeffrey Energy Center to Summit 345 kV Line Relieved due to Westar Operating Procedure 617 - Outage of the Summit 345/230kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency Invalid Contingency Invalid Contingency Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 617 - Coutage of the Summit 345/230kV Transformer Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 617 - Coutage of the Summit Relieved due to Westar Operating Procedure 402 - Outage of the Summit Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	
05SP 05SP 05SP 05SP 05FA 05FA 05FA 05FA 05FA 05FA 05FA	WERE WERE WERE WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57453 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57309 WEMPORI3 115 to 57309 WEMPORI3 115 CKT 1 57309 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1 57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2 57339 ELPASO 4 138 to 57046 GILL 3 4 138 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1	141 68 68 92 92 68 92 93 92 68 92 68 92 160	113.2 111.9 116.5 105.8 104.2 150.9 114.9 118.8 101.9 102.3 101.8 153.2 116.9 104.3	114.7 113.2 117.8 107.3 105.6 152.8 116.3 119.2 104.1 104.1 104.1 103.9 103.4 155.3 118.4 108.9 117.5	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 20 to 57305 MORRIS 3 115 to 5890 MORRIS 113.8 CKT 1 56863 MORRIS 6 20 to 57305 MORRIS 3 115 to 5890 MORRIS 113.8 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1 56766 JEC N 7 345 to 56773 SUMMIT 7 345 CKT 1 56773 SUMMIT 7 345 to 5673 SUMMIT 7 345 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 56763 JEC N 7 345 to 5673 SUMMIT 7 345 CKT 1 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3 5672 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1 56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1 56872 EMCPH	25 25 25 25 25 25 25 25 25 25 25 25 25 2	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy Center to Summit 345 kV Line Relieved due to Westar Operating Procedure 402 - Outage of the Summit 345/230kV Transformer Invalid Contingency Relieved due to Westar Operating Procedure 617 - Outage of the Summit 345/230kV Transformer Invalid Contingency Relieved due to Westar Operating Procedure 617 - Outage of the Summit 345/230kV Transformer Invalid Contingency Invalid Con	
055P 055P 055P 055P 05FA 05FA 05FA 05FA 05FA 05FA 05FA 05FA	WERE WERE WERE WERE WERE WERE WERE WERE	WERE WERE WERE WERE WERE WERE WERE WERE	57343 WJCCTYE3 115 to 57342 WJCCTY 3 115 CKT 1 57412 ARKVALJ3 115 to 57453 3 VANBU3 115 CKT 1 57412 ARKVALJ3 115 to 57435 3 VANBU3 115 CKT 1 57301 EAST ST3 115 to 57303 WEMPORI3 115 CKT 1 57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1 57302 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57308 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1 57308 WEMPORI3 115 to 57305 MCDOWEL3 115 CKT 1 57328 FT JCT 3 1115 to 57361 SUMMIT 3 115 CKT 1 57338 EXIDE J3 115 to 57348 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1 57328 FT JCT 3 115 to 57348 WMCPHER3 115 CKT 1 57327 FNILIPS3 115 to 57348 WMCPHER3 115 CKT 1 57372 FNILP33 115 to 57348 WMC	141 68 68 92 92 68 92 68 92 68 68 68 68 68 68 68 92 160 68 92	113.2 111.9 116.5 105.8 104.2 150.9 114.9 118.8 101.9 102.3 101.8 153.2 116.9 102.6 98.2	114.7 113.2 117.8 107.3 105.6 152.8 119.2 104.1 104.1 104.1 103.9 103.4 155.3 118.4 108.9 117.5 102.5	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 57413 CIRCLE 3 115 to 57309 WEMPORI3 115 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 2 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 1 57328 F1 JCT 3115 5735 MCDOWEL3115 CKT 1 57328 F1 JCT 3115 5735 MCDOWEL3115 CKT 1 56764 DEVANS NA 386 230 to 56873 SUMMIT 6 230 CKT 1 56773 SUMMIT 7 345 to 56873 SUMMIT 7 345 CKT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 2 57328 F1 JCT 3115 57335 MCDOWEL3115 CKT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CXT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CXT 1 57328 F1 JCT 3115 57335 MCDOWEL3115 CXT 1 57328 F1 JCT 3	25 25 25 25 25 25 25 25 25 25 25 25 25 2	345/230KV Transformer Relieved due to Westar Operating Procedure 1213 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Circle to Hutchinson Energy Center 115kV Line Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West Emporia 115kV Line Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 402 - Outage of the Morris 230/115kV Relieved due to Westar Operating Procedure 625 - Outage of the Jeffrey Energy Center to Summit 345 kV Line Relieved due to Westar Operating Procedure 617 - Outage of the Jeffrey Energy Center to Summit 345 kV Line Relieved due to Westar Operating Procedure 617 - Outage of the Summit 345/230kV Transformer Invalid Contingency Invalid Contingency Invalid Contingency Invalid Contingency Invalid Contingency Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 617 - Coutage of the Summit 345/230kV Transformer Invalid Contingency Invalid Contingency Relieved due to Westar Operating Procedure 617 - Coutage of the Summit Relieved due to Westar Operating Procedure 402 - Outage of the Summit Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy Relieved due to Westar Operating Procedure 402 - Outage of the Jeffrey Energy	

SPP-2004-025-1 Table 1.2a - Modeling Representation for Table 1.2 Includes Bus Numbers and Bus Names

	1						57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2	1		
5WP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	138.1	140.0	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
5WP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	92	105.3	106.8	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
	WERE		57374 SPHILPJ3 115 to 57438 WMCPHER3 115 CKT 1	68	97.4	102.3	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	13	See Previous Upgrade Identifed for Facility	
									Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115k	V
07SP	WERE	WERE	57309 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1	92	107.2	108.4	56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1	25	Transformer	
									Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West	
7SP	WERE	WERE	57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1	92	106.5	107.9	57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1	25	Emporia 115kV Line	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
7SP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	153.2	155.0	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
7SP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	92	116.6	118.0	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
7WP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	145.7	147.6	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
7WP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	92	111.1	112.5	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
									WERE conversion of Morris - McDowell 115kV line to 230kV line relieves overload	Ι.
0SP	WERE	WERE	56861 EMANHAT6 230 WND 1 EMANHT3X 1	308	100.9	101.3	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1	25	Estimated In-Service 2006.	
									WERE conversion of Morris - McDowell 115kV line to 230kV line relieves overload	1.
0SP	WERE	WERE	56861 EMANHAT6 230 WND 1 EMANHT3X 1	308	100.8	101.2	56766 JEC N 7 345 to 56773 SUMMIT 7 345 CKT 1	25	Estimated In-Service 2006.	
									Relieved due to Westar Operating Procedure 625 - Outage of the Morris 230/115k	V
0SP	WERE	WERE	57309 WEMPORI3 115 to 57301 EAST ST3 115 CKT 1	92	120.4	121.7	56863 MORRIS 6 230 to 57305 MORRIS 3 115 to 56890 MORRIS 113.8 CKT 1	25	Transformer	
									Relieved due to Westar Operating Procedure 1209 - Outage of the Morris to West	
	WERE		57301 EAST ST3 115 to 57309 WEMPORI3 115 CKT 1	92	115.5	116.9	57305 MORRIS 3 115 to 57309 WEMPORI3 115 CKT 1	25	Emporia 115kV Line	
0SP	WERE	WERE	57368 EXIDE J3 115 to 57381 SUMMIT 3 115 CKT 1	196	102.7	104.0	57371 NORTHVW3 115 to 57381 SUMMIT 3 115 CKT 1	0	See Previous Upgrade Identifed for Facility	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
0SP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	164.6	166.5	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
	WERE		57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	92	125.3	126.8	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
	WERE		57371 NORTHVW3 115 to 57381 SUMMIT 3 115 CKT 1	181	101.2	102.3	57368 EXIDE J3 115 to 57381 SUMMIT 3 115 CKT 1	0	Limits rollover rights beginning 6/1/2010	
DWP	WERE	WERE	57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 1	68	99.2	101.0	57328 FT JCT 3 115 to 57343 WJCCTYE3 115 CKT 2	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 2			
OWP	WERE	WERE	57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 1	68	157.7	159.7	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	
							57328 FT JCT 3115 57335 MCDOWEL3115 CKT 1			
	WERE		57328 FT JCT 3 115 to 57335 MCDOWEL3 115 CKT 2	92	120.2	121.7	57328 FT JCT 3115 57335 MCDOWEL3115 CKT 3	25	Invalid Contingency	L
OWP	WERE	WERE	57374 SPHILPJ3 115 to 57438 WMCPHER3 115 CKT 1	68	98.5	103.4	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	8	See Previous Upgrade Identifed for Facility	
									Relieved due to Westar Operating Procedure 617 - Outage of the Summit	
0WP	WERE	WERE	57342 WJCCTY 3 115 to 57343 WJCCTYE3 115 CKT 1	141	102.0	103.9	56773 SUMMIT 7 345 to 56873 SUMMIT 6 230 to 56813 SUMMIT 114.4 CKT 1	25	345/230kV Transformer	
									Total Estimated Engineering and Construction Cost	\$ 9.412.4