



SPP *Southwest Power Pool*

***System Impact Study SPP-2003-277
For Transmission Service
Requested By
Golden Spread Electric Coop., Inc.
(GSEC)***

From SPS To AEPW

***For a Reserved Amount Of 13MW
From 1/1/2004 To 1/1/2020***

SPP Engineering, Tariff Studies

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ATTACHMENT: *SPP-2003-277 Tables*

1. Executive Summary

Golden Spread Electric Coop., Inc. (GSEC) has requested a system impact study to designate a New Network Resource in the SPS Control Area for a total of 13 MW to serve Network Load in the AEPW Control Area. The period of the service requested is from 1/1/2004 to 1/1/2020. The OASIS reservation numbers are 631454 and 631455 for the first requested year of 1/1/2004 to 1/1/2005. The OASIS reservation numbers are 631456 and 631457 for the remaining request period of 1/1/2005 to 1/1/2020.

The principal objective of this study is to identify current system limitations using AC analyses and to determine the system upgrades necessary to provide the requested service.

Tables 1 and 2 list the SPP Facility Overloads caused or impacted by the requested service and include solutions with engineering and construction costs to alleviate the limiting facilities. Tables 3 and 4 include Non - SPP Facility Overloads caused or impacted by the requested service. Excluding any third party requirements and additional upgrades that may be required after modeling the assigned upgrades, the total engineering and construction cost to provide the requested service is determined in Table 1. For Non-SPP third-party facilities listed in Tables 3 and 4, the facility limitations will be mitigated in accordance with Section 21 of the SWPP OATT.

The original request period for the 13MW transfer is 1/1/2004 to 1/1/2020. The system impact study shows that the full 13 MW can be accommodated for the first year. Therefore, OASIS reservations 631454 and 631455 for the first year of service will be accepted and a facility study agreement tendered for the remaining term of service. The facility study must be performed in order to determine if service can be provided from 1/1/2005 to 1/1/2020.

2. Introduction

Southwestern Public Service Company has requested a system impact study for Point-to-Point Service from SPS to AEPW for 13 MW. The principal objective of this study is to identify the restraints on the SPP Regional Tariff System that may limit the requested service and determine the least cost solutions required to alleviate the limiting facilities.

This study includes steady-state contingency analyses (PSS/E function ACCC) and Available Transfer Capability (ATC) analyses. The steady-state analyses consider the impact of the 13 MW transfer and the impact of the required upgrades for service on transmission line loading and transmission bus voltages for 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 50 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.

B. Model Updates

SPP used eight seasonal models to study the SPS to AEPW 13 MW transfer for the requested service period. The SPP 2003 Series Cases 2003/04 Winter Peak, 2004 April, 2004 Spring Peak, 2004 Summer Peak, 2004 Fall Peak, 2004/05 Winter Peak, 2009 Summer Peak, and 2009/10 Winter Peak were used to study the impact of the 1 MW transfer on the SPP system during the requested service period of 1/1/2004 to 1/1/2020. The Spring Peak models apply to April and May, the Summer Peak models apply to June through September, the Fall Peak models apply to October and November, and the Winter Peak models apply to December through March.

The chosen base case models were modified to reflect the most current modeling information. The cases were modified to reflect future firm transfers during the requested service period that were not already included in the January 2003 base case series models.

C. Transfer Analysis

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

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 50 MW KCPL to SPS transfer.

4. Study Results

A. Study Analysis Results

Tables 1 and 2 contain the steady-state analysis results of the System Impact Study. The Tables are in the attached workbook *SPP-2003-277 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 studied, and the estimated ATC value using interpolation if calculated. Comments are provided in the tables to document any SPP or Non - SPP identification or assignment of the event, existing mitigations plans or criteria to disregard the event as a limiting constraint, upgrades and costs to mitigate a limiting constraint, or any specific study procedures associated with modeling an event.

Table 1 lists the SPP Facility Overloads caused or impacted by the first transfer for 7 MW from SPS to AEPW. Solutions with engineering and construction costs are provided in the tables.

Table 2 lists the SPP Facility Overloads caused or impacted by the second transfer for 6 MW from SPS to AEPW. Solutions with engineering and construction costs are provided in the tables.

Table 3 lists overloads on first tier Non - SPP Regional Tariff participants' transmission systems caused or impacted by the first transfer for 7 MW.

Table 4 lists overloads on first tier Non - SPP Regional Tariff participants' transmission systems caused or impacted by the second transfer for 6 MW.

Table 1a documents the modeling representation of the events identified in Table 1 to include bus numbers and bus names.

Table 2a documents the modeling representation of the events identified in Table 2 to include bus numbers and bus names.

5. Conclusion

The original request period for the 13MW transfer is 1/1/2004 to 1/1/2020. The system impact study shows that the full 13 MW can be accommodated for the first year. Therefore, OASIS reservations 631454 and 631455 for the first year of service will be accepted and a facility study agreement tendered for the remaining term of service. The facility study must be performed in order to determine if service can be provided from 1/1/2005 to 1/1/2020.

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 - Phase shift adjustment
 - Flat start
 - Lock DC taps
 - Lock switched shunts

ACCC CASES:

Solutions – AC contingency checking (ACCC)

1. MW mismatch tolerance – 0.5
2. Contingency case rating – Rate B
3. Percent of rating – 100
4. Output code – Summary
5. Min flow change in overload report – 1mw
6. Excl'd 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 - Phase shift adjustment
 - Flat start
 - Lock DC taps
 - Lock switched shunts

Table 1 - SPP Facility Overloads Caused
or Impacted by the 7 MW Transfer

Study Year	From Area	To Area	Monitored Branch Over 100% Rate B	Rate B	BC % Loading	TC % Loading	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
03WP			None				None	7		
04AP			None				None	7		
04G			None				None	7		
04SP			None				None	7		
04FA			None				None	7		
04WP			None				None	7		
09SP	WFEC	WFEC	CARTER JCT - LAKE CREEK 69KV	26	140.6	140.9	ELK CITY 138/69KV TRANSFORMER	0	Carter > Lake Creek: Upgrade 1/0 to 336 (May be upgraded by WFEC - Expedited costs only may apply)	\$ 3,100,000
09SP	WFEC	WFEC	CARTER JCT - LAKE CREEK 69KV	26	107.2	108.2	PINE RIDGE - WASHITA 69KV	0	See Previous Upgrade Specified for Facility	
09SP	WFEC	WFEC	COMANCHE - WALTERS 69KV	38	103.1	103.5	COMANCHE - LAWTON DISPOSAL TAP 69KV	0	Comanches> Walters: Upgrade 4/0 to 556 ACSR (May be upgraded by WFEC - Expedited costs only may apply)	\$ 3,500,000
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	115.7	116.2	PINE RIDGE - WASHITA 69KV	0	Elk(AEPW)>Elk WFEC: Upgrade 4/0 to 795 ACSR (May be upgraded by WFEC - Expedited costs only may apply)	\$ 414,000
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	108.4	108.9	MOUNTAIN VIEW - PINE RIDGE 69KV	0	See Previous Upgrade Specified for Facility	
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	106.2	106.6	MOREWOOD - MORWOOD 69KV	0	See Previous Upgrade Specified for Facility	
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	104.6	105.0	BRANTLEY - MORWOOD 69KV	0	See Previous Upgrade Specified for Facility	
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	103.0	103.4	BRANTLEY - DURHAM 69KV	0	See Previous Upgrade Specified for Facility	
09SP	SPS	SPS	FLOYDADA INTERCHANGE 115/69KV TRANSFORMER CKT 1	40	114.2	114.3	FLOYDADA INTERCHANGE 115/69KV TRANSFORMER CKT 2	0	May be relieved due to SPS Mitigation Plan	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	124.9	125.0	HOLLYWOOD - MIDWEST TAP 138KV	0	Replace 800 amp wavetrapp with 2000 amp wavetrapp at Franklin Switch and 795ACSR jumpers with 1590ACSR connectors	\$ 24,000
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	113.3	113.4	CROMWELL - WETUMKA 138KV	0	See Previous Upgrade Specified for Facility	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	113.1	113.2	PHAROAH - WETUMKA 138KV	0	See Previous Upgrade Specified for Facility	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	110.2	110.4	CROMWELL - WEWOKA 138KV	0	See Previous Upgrade Specified for Facility	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	107.6	107.7	DRAPER LAKE - SOONER TAP 138KV	0	See Previous Upgrade Specified for Facility	
09SP	SPS	SPS	HALE CO INTERCHANGE 115/69KV TRANSFORMER CKT 1	46	155.9	156.0	HALE CO INTERCHANGE 115/69KV TRANSFORMER CKT 2	0	May be relieved due to SPS Mitigation Plan	
09SP	AEPW	AEPW	SNYDER - TIPTON & HEADERICK 69KV	53	97.3	100.5	HOBART JUNCTION - TAMARAC TAP 138KV	6	Replace Snyder wavetrapp	\$ 40,000
09WP			None				None	7		
									Total Estimated Cost	\$ 7,078,000

Table 2 - SPP Facility Overloads Caused or Impacted by the 6 MW Transfer

Southwest Power Pool
System Impact Study

Study Year	From Area	To Area	Monitored Branch Over 100% Rate B	Rate B	BC % Loading	TC % Loading	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost Cost
03WP			None				None	6		
04AP			None				None	6		
04G			None				None	6		
04SP			None				None	6		
04FA			None				None	6		
04WP			None				None	6		
09SP	AEPW	AEPW	BLUE CIRCLE - CATOOSA 69KV	72	118.4	118.5	LYNN LANE TAP - LYNN LANE WEST TAP 138KV	6	Invalid Contingency	
09SP	SPS	SPS	CARLSBAD PLANT 115/69KV TRANSFORMER CKT 2	25	176.2	176.6	CARLSBAD PLANT 115/69KV TRANSFORMER CKT 1	6	May be relieved due to SPS Mitigation Plan	
09SP	WFEC	WFEC	CARTER JCT - LAKE CREEK 69KV	26	140.9	141.2	ELK CITY 138/69KV TRANSFORMER	0	Identified for Initial 7MW request	
09SP	WFEC	WFEC	CARTER JCT - LAKE CREEK 69KV	26	108.2	109.2	PINE RIDGE - WASHITA 69KV	0	Identified for Initial 7MW request	
09SP	AEPW	AEPW	CATOOSA 138/69KV TRANSFORMER	55	158.7	158.8	LYNN LANE TAP - LYNN LANE WEST TAP 138KV CKT 1	6	Invalid Contingency	
09SP	WFEC	WFEC	COMANCHE - WALTERS 69KV	38	103.5	103.9	COMANCHE - LAWTON DISPOSAL TAP 69KV	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	116.2	116.8	PINE RIDGE - WASHITA 69KV	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	108.9	109.4	MOUNTAIN VIEW - PINE RIDGE 69KV	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	106.6	107.0	MOREWOOD - MORWOOD 69KV	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	105.0	105.4	BRANTLEY - MORWOOD 69KV	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	ELK CITY - ELK CITY 69KV	39	103.4	103.8	BRANTLEY - DURHAM 69KV	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	125.0	125.1	HOLLYWOOD - MIDWEST TAP 138KV	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	113.4	113.5	CROMWELL - WETUMKA 138KV	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	113.2	113.3	PHAROAH - WETUMKA 138KV	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	110.4	110.5	CROMWELL - WEWOKA 138KV	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	FRANKLIN SW - MIDWEST TAP 138KV	191	107.7	107.8	DRAPER LAKE - SOONER TAP 138KV	0	Identified for Initial 7MW request	
09SP	SPS	SPS	HOCKLEY INTARCHANGE 115/69KV TRANSFORMER CKT 2	46	145.0	145.3	HOCKLEY INTARCHANGE 115/69KV TRANSFORMER CKT 1	0	May be relieved due to SPS Mitigation Plan	
09SP	SPS	SPS	KRESS INTERCHANGE 115/69KV TRANSFORMER CKT 1	44	241.9	242.2	KRESS INTERCHANGE 115/69KV TRANSFORMER CKT 2	0	May be relieved due to SPS Mitigation Plan	
09SP	SPS	SPS	LUBBOCK EAST INTERCHANGE 115/69KV TRANSFORMER	50.6	109.9	110.0	LUBBOCK SOUTH INTERCHANGE 115/69KV TRANSFORMER CKT 1	0	May be relieved due to SPS Mitigation Plan	
09SP	SPS	SPS	NORTHEAST HEREFORD INTERCHANGE 115/69KV TRANSFORMER	84	107.6	108.9	DEAF SMITH INTERCHANGE - HEREFORD INTERCHANGE 115KV CKT 1	0	May be relieved due to SPS Mitigation Plan	
09SP	AEPW	AEPW	SNYDER - TIPTON & HEADERICK 69KV	53	100.5	103.4	HOBART JUNCTION - TAMARAC TAP 138KV	0	Identified for Initial 7MW request	
09WP	SPS	SPS	CARLSBAD PLANT 115/69KV TRANSFORMER CKT 2	25	143.9	144.5	CARLSBAD PLANT 115/69KV TRANSFORMER CKT 1	0	May be relieved due to SPS Mitigation Plan	
09WP	SPS	SPS	KRESS INTERCHANGE 115/69KV TRANSFORMER CKT 1	44	131.1	131.4	KRESS INTERCHANGE 115/69KV TRANSFORMER CKT 2	0	May be relieved due to SPS Mitigation Plan	
									Total Estimated Cost (With Initial 7MW Upgrades Included)	\$ -

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Table 3 - Non-SPP Facility Overloads Caused
or Impacted by the 7 MW Transfer

Southwest Power Pool
System Impact Study

Study Year	From Area	To Area	Monitored Branch Over 100% Rate B	Rate B	BC % Loading	TC % Loading	Outaged Branch Causing Overload
03WP			None				None
04AP			None				None
04G			None				None
04SP			None				None
04FA			None				None
04WP			None				None
09SP			None				None
09WP			None				None

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Table 4 - Non-SPP Facility Overloads Caused
or Impacted by the 6 MW Transfer

Southwest Power Pool
System Impact Study

Study Year	From Area	To Area	Monitored Branch Over 100% Rate B	Rate B	BC % Loading	TC % Loading	Outaged Branch Causing Overload
03WP			None				None
04AP			None				None
04G			None				None
04SP			None				None
04FA			None				None
04WP			None				None
09SP			None				None
09WP			None				None

Table 1a - SPP Facility Overloads Caused
or Impacted by the 7 MW Transfer

Study Year	From Area	To Area	Monitored Branch Over 100% Rate B	Rate B	BC % Loading	TC % Loading	Outaged Branch Causing Overload	ATC (MW)	Solution	Cost
03WP			None				None	7		
04AP			None				None	7		
04G			None				None	7		
04SP			None				None	7		
04FA			None				None	7		
04WP			None				None	7		
09SP	WFEC	WFEC	55846 CARTERJ2 69 to 55978 LKCREEK2 69 CKT 1	26	140.6	140.9	54121 ELKCTY-4 138 to 54122 ELKCTY-2 69 CKT 1	0	Carter > Lake Creek: Upgrade 1/0 to 336 (May be upgraded by WFEC - Expedited costs only may apply)	\$ 3,100,000
09SP	WFEC	WFEC	55846 CARTERJ2 69 to 55978 LKCREEK2 69 CKT 1	26	107.2	108.2	56027 PINERDG2 69 to 56088 WASHITA2 69 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	WFEC	WFEC	56086 WALTERS2 69 to 55863 COMANCH2 69 CKT 1	38	103.1	103.5	54099 COMANC-2 69 to 54187 L-DISTP2 69 CKT 1	0	Comanche> Walters: Upgrade 4/0 to 556 ACSR (May be upgraded by WFEC - Expedited costs only may apply)	\$ 3,500,000
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	115.7	116.2	56027 PINERDG2 69 to 56088 WASHITA2 69 CKT 1	0	Elk(AEPW)>Elk WFEC: Upgrade 4/0 to 795 ACSR (May be upgraded by WFEC - Expedited costs only may apply)	\$ 414,000
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	108.4	108.9	56003 MTNVIEW2 69 to 56027 PINERDG2 69 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	106.2	106.6	56000 MORWODS2 69 to 56002 MORWOOD2 69 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	104.6	105.0	55832 BRANTLY2 69 to 56002 MORWOOD2 69 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	103.0	103.4	55832 BRANTLY2 69 to 55885 DURHAM 2 69 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	SPS	SPS	51518 FLOYD3 115 to 51517 FLOYD2 69 CKT 1	40	114.2	114.3	51517 FLOYD2 69 to 51518 FLOYD3 115 CKT 2	0	May be relieved due to SPS Mitigation Plan	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	124.9	125.0	54946 MIDWEST4 138 to 54953 HOLLYWD4 138 CKT 1	0	Replace 800 amp wavetrap with 2000 amp wavetrap at Franklin Switch and 795ACSR jumpers with 1590ACSR, connectors	\$ 24,000
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	113.3	113.4	55869 CROMWEL4 138 to 56084 WETUMKA4 138 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	113.1	113.2	56026 PHAROAH4 138 to 56084 WETUMKA4 138 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	110.2	110.4	55869 CROMWEL4 138 to 56094 WEWOKA 4 138 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	107.6	107.7	54933 DRAPER 4 138 to 54949 SOONRTP4 138 CKT 1	0	See Previous Upgrade Specified for Facility	
09SP	SPS	SPS	51402 HALECO3 115 to 51401 HALECO2 69 CKT 1	46	155.9	156.0	51401 HALECO2 69 to 51402 HALECO3 115 CKT 2	0	May be relieved due to SPS Mitigation Plan	
09SP	AEPW	AEPW	54125 TIP&HED2 69 to 54138 SNYDER-2 69 CKT 1	53	97.3	100.5	54126 HOB-JCT4 138 to 54158 TAMARTP4 138 CKT 1	6	Replace Snyder wavetrap	\$ 40,000
09WP			None				None	7		
									Total Estimated Cost	\$ 7,078,000

Table 2a - SPP Facility Overloads Caused or Impacted by the 6 MW Transfer

Southwest Power Pool
System Impact Study

Study Year	From Area	To Area	Monitored Branch Over 100% Rate B	Rate B	BC % Loading	TC % Loading	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
03WP			None				None	6		
04AP			None				None	6		
04G			None				None	6		
04SP			None				None	6		
04FA			None				None	6		
04WP			None				None	6		
09SP	AEPW	AEPW	53806 BCIRCLE2 69 to 53811 CATOOSA2 69 CKT 1	72	118.4	118.5	53782 LLAN WT4 138 to 53816 LLANETP4 138 CKT 1	6	Invalid Contingency	
09SP	SPS	SPS	52310 CARLSBD3 115 to 52309 CARLSBD2 69 CKT 2	25	176.2	176.6	52309 CARLSBD2 69 to 52310 CARLSBD3 115 CKT 1	6	May be relieved due to SPS Mitigation Plan	
09SP	WFEC	WFEC	55846 CARTERJ2 69 to 55978 LKCREEK2 69 CKT 1	26	140.9	141.2	54121 ELKCTY-4 138 to 54122 ELKCTY-2 69 CKT 1	0	Identified for Initial 7MW request	
09SP	WFEC	WFEC	55846 CARTERJ2 69 to 55978 LKCREEK2 69 CKT 1	26	108.2	109.2	56027 PINERD2 69 to 56088 WASHITA2 69 CKT 1	0	Identified for Initial 7MW request	
09SP	AEPW	AEPW	53802 CATOOSA4 138 to 53811 CATOOSA2 69 CKT 1	55	158.7	158.8	53782 LLAN WT4 138 to 53816 LLANETP4 138 CKT 1	6	Invalid Contingency	
09SP	WFEC	WFEC	56086 WALTERS2 69 to 55863 COMANCH2 69 CKT 1	38	103.5	103.9	54099 COMANC-2 69 to 54187 L-DISTP2 69 CKT 1	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	116.2	116.8	56027 PINERD2 69 to 56088 WASHITA2 69 CKT 1	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	108.9	109.4	56003 MTNVIEW2 69 to 56027 PINERD2 69 CKT 1	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	106.6	107.0	56000 MORWODS2 69 to 56002 MORWOOD2 69 CKT 1	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	105.0	105.4	55832 BRANTLY2 69 to 56002 MORWOOD2 69 CKT 1	0	Identified for Initial 7MW request	
09SP	AEPW	WFEC	54122 ELKCTY-2 69 to 55897 ELKCITY2 69 CKT 1	39	103.4	103.8	55832 BRANTLY2 69 to 55885 DURHAM 2 69 CKT 1	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	125.0	125.1	54946 MIDWEST4 138 to 54953 HOLLYWD4 138 CKT 1	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	113.4	113.5	55869 CROMWEL4 138 to 56084 WETUMKA4 138 CKT 1	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	113.2	113.3	56026 PHAROAH4 138 to 56084 WETUMKA4 138 CKT 1	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	110.4	110.5	55869 CROMWEL4 138 to 56094 WEWOKA 4 138 CKT 1	0	Identified for Initial 7MW request	
09SP	WFEC	OKGE	55917 FRNKLNS4 138 to 54946 MIDWEST4 138 CKT 1	191	107.7	107.8	54933 DRAPER 4 138 to 54949 SOONRTP4 138 CKT 1	0	Identified for Initial 7MW request	
09SP	SPS	SPS	51598 HOCKLEY3 115 to 51597 HOCKLEY2 69 CKT 2	46	145.0	145.3	51597 HOCKLEY2 69 to 51598 HOCKLEY3 115 CKT 1	0	May be relieved due to SPS Mitigation Plan	
09SP	SPS	SPS	51316 KRESS3 115 to 51315 KRESS2 69 CKT 1	44	241.9	242.2	51315 KRESS2 69 to 51316 KRESS3 115 CKT 2	0	May be relieved due to SPS Mitigation Plan	
09SP	SPS	SPS	51688 LUBE3 115 to 51687 LUBE2 69 CKT 1	50.6	109.9	110.0	51679 LUBS2 69 to 51680 LUBS3 115 CKT 1	0	May be relieved due to SPS Mitigation Plan	
09SP	SPS	SPS	51094 NEHFD3 115 to 51095 DS-MTR2 69 CKT 1	84	107.6	108.9	51106 HEREFD3 115 to 51110 DFSMTH3 115 CKT 1	0	May be relieved due to SPS Mitigation Plan	
09SP	AEPW	AEPW	54125 TIP&HED2 69 to 54138 SNYDER-2 69 CKT 1	53	100.5	103.4	54126 HOB-JCT4 138 to 54158 TAMARTP4 138 CKT 1	0	Identified for Initial 7MW request	
09WP	SPS	SPS	52310 CARLSBD3 115 to 52309 CARLSBD2 69 CKT 2	25	143.9	144.5	52309 CARLSBD2 69 to 52310 CARLSBD3 115 CKT 1	0	May be relieved due to SPS Mitigation Plan	
09WP	SPS	SPS	51316 KRESS3 115 to 51315 KRESS2 69 CKT 1	44	131.1	131.4	51315 KRESS2 69 to 51316 KRESS3 115 CKT 2	0	May be relieved due to SPS Mitigation Plan	
									Total Estimated Cost (With Initial 7MW Upgrades Included)	\$ -