SPP Southwest Power Pool

System Impact Study For Transmission Service Requested By Constellation Power Source, Inc.

From Central and South West Services To Ameren

For Reserved Amounts Of 150MW From 12/1/02 To 12/1/04

SPP Transmission Planning

SPP IMPACT STUDY (#SPP-2000-044)
September 1, 2000

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1. Executive Summary

Constellation Power Source, Inc. (CPS) has requested a system impact study for long-term Firm Point-to-Point transmission service from Central and South West Services to Ameren. The period of the transaction is from 12/1/02 to 12/1/04. The request is for two reservations OASIS numbers 194668 and 194669, totaling 150 MW.

The principal objective of this study is to identify system problems and potential system modifications necessary to facilitate the additional 150 MW transfer while maintaining system reliability. The analysis in this document shows that to accommodate an additional 150 MW transfer, upgrades will be required on the SPP transmission systems.

Prior to conducting the study for the 150MW request, SPP studied a 290MW transfer, System Impact Study SPP-2000-011, and a 250MW transfer, System Impact Study SPP-2000-043. The customer's acceptance of the facilities identified in these studies affects what facilities will be assigned to Constellation Power Source, Inc. and subsequently the System Impact of the 150MW transfer will need to be reevaluated. The facilities identified in study SPP-2000-011 and the associated costs are listed in Table 5. The facilities identified in study SPP-2000-043 are listed in Table 6.

The new overloads caused by the 150MW transfer are listed in Table 1, Table 2, Table 3, and Table 4. Constellation Power Source, Inc. will be assigned the facilities listed in Table 1 and possibly the facilities listed in Table 7 with the assumption that the facilities listed in Table 5 and Table 6 are accepted.

In addition to the SPP transmission limits identified, the SPP to AMRN interface will need 150 MW of capacity through either transmission system upgrades (not determined in this study) or the possible withdrawal of existing reserved capacity and higher priority customers. Tables 8-12 included in the report contain all higher priority reservations over the SPP to AMRN interface for the request period.

The SPP and effected member companies shall use due diligence to coordinate the addition of necessary facilities or transmission system upgrades to provide the requested transmission service. Constellation Power Source, Inc. is to compensate SPP for such costs pursuant to the terms of section 27 of the SPP Open Access Transmission Tariff. Expedited procedures for new facilities are available to Constellation Power Source, Inc. per section 19.8 of the SPP Open Access Transmission Service Tariff.

Engineering and construction of any new facilities or modifications will not start until after a transmission service agreement and/or construction agreement is in place and effected member companies receives the appropriate authorization to proceed from the SPP after they receive authorization from the transmission customer.

2. Introduction

Constellation Power Source, Inc. has requested an impact study for transmission service from CSWS control area with a sink of AMRN.

The principal objective of this study is to identify the restraints on the SPP Regional Tariff System that may limit the transfer to less than 150 MW. This study includes two steady-state contingency analyses (PSS/E function ACCC) and Available Transfer Capability (ATC) analyses, and the determination of available capacity over the SPP to AMRN interface.

The steady-state analyses consider the impact of the 150 MW transfer on transmission line loading and transmission bus voltages for outages of single and selected multiple transmission lines and transformers on the SPP system.

ATC analyses shows the amount of First Contingency Incremental Transfer Capabilities (FCITC) between the given study systems and what the limitations are, if any, for transferring up to 150 MW.

3. Study Methodology

A. Description

Three analyses were conducted to determine the impact of the 150MW transfer on the system. The first analysis was conducted to identify any new overloads caused by the 150MW transfer. The second analysis was done to ensure that available capacity exists on previously identified circuits that have been assigned to higher priority customers, including the previous Constellation PSI CSWS to EES transfer.

The first analysis was done using two steps. The first step was to study the steady-state analysis impact of the 150MW transfer on the SPP system. The second step was to study Available Transfer Capability (ATC) of the facilities identified in the steady-state analysis impact. The steady-state analysis was done to ensure current SPP Criteria and NERC Planning Standards requirements are fulfilled. The Southwest Power Pool (SPP) conforms to the NERC Planning Standards, which provide the strictest requirements, related to thermal overloads with a contingency. It requires that all facilities be within emergency ratings after a contingency. The ATC study portion was done using the requirements specified in the current SPP Criteria related to determination of ATC.

The second analysis was done to ensure that capacity exists on previously identified facilities, such as the facilities found in study SPP-2000-011. The analysis also includes determining the loading on the circuits identified for the previous CPS CSWS to EES 250MW transfer (Table 6).

For the third analysis, all confirmed and non-confirmed long-term SPP transmission requests with a POD of AMRN were included in finding the available capacity over the SPP to AMRN interface. The transactions included are confirmed long-term requests, long-term requests with right of renewal, and all long-term requests currently being studied. All of these long-term requests have a higher priority to the available capacity over the interface. Capacity is reserved for possible renewal of exiting firm service reservations per section 2.2 of the SPP Open Access Transmission Tariff.

B. Model Updates

SPP used three seasonal models to study the 150MW request. The SPP 2000 Series Cases 2001 April (Spring Minimum), 2004 Summer Peak, and 2004/05 Winter Peak were used to study the impact of the 150MW transfer on the SPP system during the transaction period of 12/01/02 to 12/1/04.

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 request period that were not already included in the January 2000 base case series models. The added future firm transfers include the CSWS to EES 290MW and 250MW transfers previously mentioned. The 2001 April minimum case was further modified to include planned 230KV lines and above listed in the SPP EIA-411. The Constellation Units,

facilities, and 150MW transfer were then added to the three base case models to produce the 150MW transfer cases.

The Base and Transfer case Power Flow models developed are assumed a proxy of the system at the beginning of service 12/1/02.

C. Transfer Analysis

Using the created models and the ACCC function of PSS\E, single and select double contingency outages were analyzed. Then full AC solution was used to obtain the most accurate results possible. Any facility overloaded, using MVA ratings, in the transfer case and not overloaded in the base case was flagged. The PSS/E options chosen to conduct the Impact Study analysis can be found in Appendix A.

4. Study Results

A. Study Analysis Results

Tables 1, 2, 3, and 4 contain the analysis results of the System Impact Study. The tables identify the seasonal case in which the event occurred; the emergency rating of the overloaded circuit (Rate B), the loading percentage of circuit, the determined ATC value if calculated, any SPP identification or assignment of the event, and any solutions received from the transmission owners.

Table 1 shows the new overload events caused by the 150MW transfer. These new valid overloads can be directly assigned to the Constellation CSWS to AMRN 150MW transfer.

Table 2 contains overloads initially caused by the 250MW transfer from CSWS to EES and are overloaded by subsequent contingencies with the addition of the 150MW transfer. No ATC values were calculated for the events.

Table 3 contains overloads caused initially by higher priority reservations and are again overloaded by subsequent contingencies with the addition of the 150MW transfer. Possible assignment of the overloads to the Constellation Requests (#194668,194669) depends on the future acceptance of facility upgrade costs by Transmission Customers of higher priority reservations. The assignment of these upgrade costs to Request (#194668,194669) will be determined by the existence of future service agreements and reevaluation of the Constellation Requests. No ATC values were calculated for the events.

Table 4 documents overloads on Non SPP Regional Tariff participants' transmission systems caused by the 150MW transfer. The table reports the worst contingency overload. No ATC values were calculated for the events.

B. Existing Overload's Available Capacity

Table 5 lists the facilities assigned to study SPP-2000-011. Again, the assignment of these upgrade costs to the CPS Request will be determined by the existence of future service agreements and the completion of a facility study. The table includes the facility, the required facility upgrade, the estimated cost, and the date the facility is needed for the SPP-2000-011 290MW study.

If the facilities listed in Table 5 are accepted by the customer, the previously identified facilities need to be monitored with the upgraded rating to ensure the new rating is not exceeded. SPP has identified four facilities that may need additional capacity to provide the CSWS to AMRN 150MW transfer. The four facilities are listed in Table 7. The table includes the facility, the contingency, the existing rating, the upgraded rating, and the transfer case MVA loading.

Table 6 lists the facilities identified for the previous CPS request (CSWS to EES 250MW). The table shows the facilities loading after the additional 150MW transfer from CSWS to AMRN.

C. SPP to AMRN Interface

The SPP to AMRN interface is contract path limited to 1,287 MW. SPP currently has 1,808 MW of higher priority yearly firm reservations over the AMRN interface for the reservation period (Table 11).

The confirmed yearly reservations over the interface total 645 MW for June 2003 (Table 8). The additional higher priority reservations on the interface are dependent on the possible renewal of existing firm service (Table 9) and the outcomes of requests currently in study mode by SPP (Table 10).

Table 11 contains a summation of all higher priority SPP reservations with a POD of AMRN for the CPS request period. The current available capacity over the interface for the request period is 0MW. The available capacity allotted to the CPS CSWS to AMRN requests is dependent on the renewal of already confirmed requests and the acceptance of requests being studied.

Table 1 – Overloads caused by the 150MW transfer that have not been previously assigned.

Study Year	Load flow case description / (opened branch(es))	OVERLOADED BRANCH(ES)	From - To	Rate B <MVA>	%LOADING	ATC	Initial Limit Mileage
01AP		NONE					
04SP	SOUTH SHREVEPORT to WALLACE LAKE 138KV 53446 [S SHV 4] TO 53461 [WALLAKE4] CKT 1	ELLERBE ROAD to FORBING TAP 69KV 53401 ELLERBE269.0 53406 FORBNGT269.0 1	CESW-CESW	95	100.8	90	Jumpers 2.0 miles
04SP	CHEROKEE to KNOXLEE 138KV 53522 [CHEROKE4] TO 53557 [KNOXLEE4] CKT 1	BLOCKER TAP to ROSBOROUGH 69KV 53516 BLOCKRT269.0 53600 ROSBORO269.0 1	CESW-CESW	72	100.7	98	600A Switch 4.98 miles
04SP	MARSHALL to MARSHALL AUTO 69KV 53570 [MARSHAL2] TO 53623 [MARAUTO2] CKT 1	HALLSVILLE to LONGVIEW HEIGHTS 69KV 53541 HALLSVL269.0 53567 LONGVHT269.0 1	CESW-CESW	48	100.1	141	Conductor 7.07 miles
04SP	LONGWOOD to WILKES 345KV 53424 [LONGWD 7] TO 53620 [WILKES 7] CKT 1	NORTH MARSHALL to WOODLAWN 69KV 53579 NMARSHL269.0 53621 WOODLWN269.0 1	CESW-CESW	51	102.8	35	Jumpers 7.55 miles
04SP	LONGWOOD to WILKES 345KV 53424 [LONGWD 7] TO 53620 [WILKES 7] CKT 1	PIRKEY to SABINE MINING CO. 138KV 53592 PIRKEY 4 138 53602 SABMINT4 138 1	CESW-CESW	287	103.5	11	1200A Switch 0.88 miles
04SP	LONGWOOD to WILKES 345KV 53424 [LONGWD 7] TO 53620 [WILKES 7] CKT 1	SABINE MINING CO. to SE MARSHALL 138KV 53602 SABMINT4 138 53605 SEMRSHL4 138 1	CESW-CESW	287	100.4	137	1200A Breaker 10.52 miles
04SP	KILDARE TAP to WHITE EAGLE 138KV 54760 [KILDR4] TO 54761 [WHEGL4] CKT 1	CHILOCCO TAP to CHIKASKIA 69KV 54744 CHLOC269.0 54756 CKSKI269.0 1	OKGE-OKGE	57	100.4	83	Conductor Not Available
04SP	Multiple Outage Contingency SW SHREVEPORT to DIANA 345KV 53454 [SW SHV 7] TO 53528 [DIANA 7] CKT 1 SW SHREVEPORT to LONGWOOD 345KV 53454 [SW SHV 7] TO 53424 [LONGWD 7] CKT 1	MARSHALL to NORTH MARSHALL 69KV 53570 MARSHAL269.0 53579 NMARSHL269.0 1	CESW-CESW	75	100.5	129	Jumpers 3.49 miles
04WP	ELDORADO-EHV 500/345KV XFRM 17529 [7ELDEHV] TO 17530 [8ELDEHV] CKT 1	SOUTH NASHVILLE to MURFREESBORO 138KV 53321 SNASHVL4 138 17609 4MURFRE 138 1	CESW-EES	96	100.1	149	Wave Trap 19.54 miles
04WP	LONGWOOD to ELDORADO-EHV 345KV 53424 [LONGWD 7] TO 17529 [7ELDEHV] CKT 1	SOUTH NASHVILLE to MURFREESBORO 138KV 53321 SNASHVL4 138 17609 4MURFRE 138 1	CESW-EES	96	100.3	146	

Table 2 – Overloads caused by 150MW transfer that have been assigned to the Constellation CSWS to EES 250MW transfer.

Study Year	Opened branch(es))	OVERLOADED BRANCH(ES)	From - To	Rate B <MVA>	%LOADING	Initial Limit Mileage
01AP		NONE				
04SP	17529 [7ELDEHV] TO 17530 [8ELDEHV] CKT 1	52660 BULL SH5 161 17875 5MIDWAY# 161 1	SWPA-EES	162	100.1	600A Switches 7.0 miles
04SP	53424 [LONGWD 7] TO 17529 [7ELDEHV] CKT 1	52660 BULL SH5 161 17875 5MIDWAY# 161 1	SWPA-EES	162	100.1	"
04SP	53526 [CROCKET7] TO 16555 [7GRIMES] CKT 1	53306 PATTERS4 138 53321 SNASHVL4 138 1	CESW-CESW	105	102.9	Wave Trap 25.06 miles
04SP	53381 [WHOPE 3] TO 53382 [HOPESWI3] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	100.1	Conductor 11.34 miles
04SP	53382 [HOPESWI3] TO 53383 [HOPE 3] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	100.1	"
04SP	50024 [CARROLL4] TO 17450 [3RINGLD] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	100.2	"
04SP	16897 [8MCKNT] TO 17361 [8FRKLIN] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	100.4	"
04SP	53232 [MCNAB 3] TO 53376 [HOPETAP3] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	100.5	"
04SP	55305 [FTSMI8] TO 17632 [8ANO] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	100.8	"
04SP	53593 [PIRKEY 7] TO 54061 [TENASKA7] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	100.9	"
04SP	17575 [3AMITY *] TO 17608 [3MURF-E#] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	101.0	"
04SP	53615 [WELSH 7] TO 53620 [WILKES 7] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	101.1	"
04SP	17576 [3ARKA-N] TO 17626 [3FRIEND] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	101.2	"
04SP	17622 [3HSEHVW] TO 17626 [3FRIEND] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	101.4	"
04SP	17607 [3MURF-S] TO 17608 [3MURF-E#] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	101.5	"
04SP	17607 [3MURF-S] TO 17609 [4MURFRE] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	101.5	"
04SP	53321 [SNASHVL4] TO 17609 [4MURFRE] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	101.5	"
04SP	50023 [CARROLL6] TO 50046 [DOLHILL6] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	102.2	"
04SP	53306 [PATTERS4] TO 53321 [SNASHVL4] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	103.5	"
04SP	53454 [SW SHV 7] TO 53528 [DIANA 7] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	103.8	"
04SP	53374 [FULTON 3] TO 53376 [HOPETAP3] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	104.4	"
04SP	Multiple Outage Contingency 53454 [SW SHV 7] TO 53528 [DIANA 7] CKT 1 53454 [SW SHV 7] TO 53424 [LONGWD 7] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	106.0	"
04WP	53277 [LYDIA 7] TO 54037 [VALIANT7] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	197	100.5	"
04WP	53526 [CROCKET7] TO 54061 [TENASKA7] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	197	101.3	"
04WP	17543 [8MCNEIL] TO 17544 [3MCNEIL] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	197	101.9	"
04WP	53526 [CROCKET7] TO 16555 [7GRIMES] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	197	104.3	"

Table 3– Overloads caused by 150MW transfer that have been previously assigned to customers.

Study Year	Opened branch(es))	OVERLOADED BRANCH(ES)	From - To	Rate B <MVA>	%LOADING	ASSIGNMENT
		NONE				
04SP	59969 [BRKLNE 5] TO 59984 [BRKLNE 7] CKT 1	52690 CARTHG 269.0 96751 2REEDS 69.0 1	SWPA-AECI	36	103.2	2000-003 01SP / CHANGE CT'S RATIO SETTINGS
04SP	53153 [SEFAYTV5] TO 53157 [SFAYTVL5] CKT 1	53131 DYESS 5 161 53154 CHAMSPR5 161 1	CESW-CESW	244	100.3	2000-011 01SP / Reconductor 18.73 miles of 666 ACSR with 1590 ACSR $4,700,000
04SP	53542 [HARRISN4] TO 53557 [KNOXLEE4] CKT 1	53522 CHEROKE4 138 53557 KNOXLEE4 138 1	CESW-CESW	209	101.7	2000-011 01SP / Reconductor 3.25 miles of 666 ACSR with 1272 ACSR $720,000
04SP	53583 [NWHENDR2] TO 53595 [POYNTER2] CKT 1	53522 CHEROKE4 138 53557 KNOXLEE4 138 1	CESW-CESW	209	101.8	"
04SP	53423 [LONGWD 4] TO 53473 [NORAM 4] CKT 1	53522 CHEROKE4 138 53557 KNOXLEE4 138 1	CESW-CESW	209	101.9	"
04SP	54033 [PITTSB-7] TO 54037 [VALIANT7] CKT 1	53522 CHEROKE4 138 53557 KNOXLEE4 138 1	CESW-CESW	209	102.3	"
04SP	53597 [ROKHILL2] TO 53600 [ROSBORO2] CKT 1	53522 CHEROKE4 138 53611 TATUM 4 138 1	CESW-CESW	209	100.4	2000-011 01SP / Reconductor 6.25 miles of 666 ACSR with 1272 ACSR $1,300,000
04SP	53516 [BLOCKRT2] TO 53600 [ROSBORO2] CKT 1	53522 CHEROKE4 138 53611 TATUM 4 138 1	CESW-CESW	209	100.5	"
04SP	53603 [SCOTTSV4] TO 53605 [SEMRSHL4] CKT 1	53522 CHEROKE4 138 53611 TATUM 4 138 1	CESW-CESW	209	100.6	"
04SP	53526 [CROCKET7] TO 54061 [TENASKA7] CKT 1	53522 CHEROKE4 138 53611 TATUM 4 138 1	CESW-CESW	209	101.0	"
04SP	53602 [SABMINT4] TO 53605 [SEMRSHL4] CKT 1	53598 ROKHILL4 138 53611 TATUM 4 138 1	CESW-CESW	209	101.4	2000-011 01SP / Reconductor 0.81 miles of 666 ACSR with 1272 ACSR. Replace 800A trap with new 2000A trap. $190,000
04SP	53592 [PIRKEY 4] TO 53602 [SABMINT4] CKT 1	53598 ROKHILL4 138 53611 TATUM 4 138 1	CESW-CESW	209	101.8	"
04SP	53571 [MARSHL-4] TO 53592 [PIRKEY 4] CKT 1	53598 ROKHILL4 138 53611 TATUM 4 138 1	CESW-CESW	209	102.0	"
	Multiple Outage Contingency 53454 [SW SHV 7] TO 53528 [DIANA 7] CKT 1					1999-014 01SP / Jefferson
04SP	53454 [SW SHV 7] TO 53424 [LONGWD 7] CKT 1	53548 IPCJEFF4 138 53551 JEFFRSN4 138 1	CESW-CESW	136	103.1	138KV Line Rebuild,1.49 miles,795MCM

Table 3 continued– Overloads caused by 150MW transfer that have been previously assigned to customers.

Study Year	Opened branch(es))	OVERLOADED BRANCH(ES)	From - To	Rate B <MVA>	%LOADING	ASSIGNMENT
04SP	59969 [BRKLNE 5] TO 59984 [BRKLNE 7] CKT 2	59468 AUR124 5 161 59480 MON383 5 161 1	EMDE-EMDE	157	100.7	1999-015 05SP / BASE CASE MITIGATION PLAN IN EFFECT
04SP	59208 [NEVADA 5] TO 59216 [BUTLER_5] CKT 1	59468 AUR124 5 161 59480 MON383 5 161 1	EMDE-EMDE	157	100.7	"
04SP	59969 [BRKLNE 5] TO 59984 [BRKLNE 7] CKT 1	59468 AUR124 5 161 59480 MON383 5 161 1	EMDE-EMDE	157	100.7	"
04SP	17852 [5BERRYV] TO 17880 [5OSAGE #] CKT 1	59468 AUR124 5 161 59480 MON383 5 161 1	EMDE-EMDE	157	100.8	"
04WP	56804 [LITCH 5] TO 59476 [ASB349 5] CKT 1	52690 CARTHG 269.0 96649 2JASPER 69.0 1	SWPA-AECI	43	100.8	2000-003 01SP / CHANGE CT'S RATIO SETTINGS
04WP	57965 [W.GRDNR7] TO 57981 [LACYGNE7] CKT 1	52690 CARTHG 269.0 96649 2JASPER 69.0 1	SWPA-AECI	43	101.1	"
04WP	59480 [MON383 5] TO 59591 [MON383 2] CKT 1	52690 CARTHG 269.0 96751 2REEDS 69.0 1	SWPA-AECI	43	100.4	2000-003 01SP / CHANGE CT'S RATIO SETTINGS
04WP	59468 [AUR124 5] TO 59499 [CPK446 5] CKT 1	52690 CARTHG 269.0 96751 2REEDS 69.0 1	SWPA-AECI	43	100.5	"
04WP	53140 [FLINTCR7] TO 59984 [BRKLNE 7] CKT 1	53139 FLINTCR5 161 53187 GENTRYR5 161 1	CESW-CESW	335	100.2	2000-003/011 04SP / REPLACE SWITCH $60,000

Table 4 – Summary of the overloads caused by the 150MW transfer owned by Non SPP Tariff Participants

Study Year	Opened branch(es))	OVERLOADED BRANCH(ES)	From - To	Rate B <MVA>	%LOADING
01AP	53424 [LONGWD 7] TO 17529 [7ELDEHV] CKT 1	16502 4DOBBIN 138 16562 4TUBULAR 138 1	EES- EES	112	102.0
01AP	16528 [4L558T48] TO 16534 [4MT.ZION] CKT 1	16503 4WALDEN 138 16518 4APRIL 138 1	EES- EES	206	102.4
01AP	16534 [4MT.ZION] TO 16556 [4GRIMES] CKT 1	16518 4APRIL 138 16519 4LFOREST 138 1	EES- EES	206	101.8
01AP	16534 [4MT.ZION] TO 16556 [4GRIMES] CKT 1	16519 4LFOREST 138 16578 4WDHAVN 138 1	EES- EES	206	100.2
01AP	16894 [6RVRBN] TO 16896 [6FANCY] CKT 1	16528 4L558T48 138 16534 4MT.ZION 138 1	EES- EES	206	101.8
01AP	50057 [FISHER 4] TO 50199 [VP TAP 4] CKT 1	16534 4MT.ZION 138 16556 4GRIMES 138 1	EES- EES	206	102.2
01AP	50027 [CLARN 6] TO 50126 [MESSICK6] CKT 1	17450 3RINGLD 115 17451 3SAILES 115 1	EES- EES	115	103.1
01AP	53424 [LONGWD 7] TO 17529 [7ELDEHV] CKT 1	50024 CARROLL4 138 17450 3RINGLD 115 1	CELE-EES	125	104.9
01AP	17529 [7ELDEHV] TO 17530 [8ELDEHV] CKT 1	50045 DOLHILL7 345 50046 DOLHILL6 230 1	CELE-CELE	700	104.6
01AP	50023 [CARROLL6] TO 50126 [MESSICK6] CKT 1	50098 LEESV 4 138 16677 4TOLEDO 138 1	CELE-EES	148	102.8
		NONE			
04WP	17326 [3FLORA] TO 17328 [3LAKEOV] CKT 1	17333 3VKSBRG 115 17334 3VKSB-W 115 1	EES- EES	161	100.3
04WP	16757 [8NELSON] TO 16828 [8RICHARD] CKT 1	17430 3STERL 115 17480 3CROS-N 115 1	EES- EES	80	110.3
04WP	17479 [3CROS-X#] TO 17525 [3LACY 11] CKT 1	17430 3STERL 115 17539 3MERIDN# 115 1	EES- EES	68	100.3
04WP	50027 [CLARN 6] TO 50126 [MESSICK6] CKT 1	17450 3RINGLD 115 17451 3SAILES 115 1	EES- EES	115	101.6
04WP	55305 [FTSMI8] TO 17632 [8ANO] CKT 1	17478 3COUCH 115 17502 3LEWIS # 115 1	EES- EES	159	104.1
04WP	50027 [CLARN 6] TO 17401 [6MONTGY] CKT 1	17502 3LEWIS # 115 17537 3PATMOS# 115 1	EES- EES	159	106.4
04WP	54119 [O.K.U.-7] TO 59991 [OKLAUN 7] CKT 1	17607 3MURF-S 115 17609 4MURFRE 138 1	EES- EES	60	101.4
04WP	50023 [CARROLL6] TO 50126 [MESSICK6] CKT 1	50024 CARROLL4 138 17450 3RINGLD 115 1	CELE-EES	125	105.3

Table 5 – Facilities previously assigned to study SPP-2000-011

Upgraded Facility Name	Upgraded Component Within Facility	Transmission Owner	Estimated Cost	Date Required
ALUMAX TAP-BANN, 138KV	Reconductor 0.67 miles of 1024 ACAR with 1590 ACSR.	CESW	233,000	6/1/04
PATTERSON - ASHDOWN REC 115KV	Patterson Switch Replacement, 600A To 1200A	CESW	20,000	4/1/01
CHEROKEE REC-KNOX LEE, 138 KV	Reconductor 3.25 miles of 666 ACSR with 1272 ACSR.	CESW	720,000	6/1/01
CHEROKEE REC-TATUM, 138 KV	Reconductor 6.25 miles of 666 ACSR with 1272 ACSR	CESW	1,300,000	6/1/01
DYESS TO CHAMSPR5 161KV	Reconductor 18.73 miles of 666 ACSR with 1590 ACSR	CESW	4,700,000	6/1/04
EAST CENTERTON-GENTRY REC, 161 KV	E.Centerton 161kV Breaker & Switch Replacements, Gentry Tap 161kV Line Switch Replacement	CESW	167,960	6/1/04
GREGGTON-LAKE LAMOND, 69KV	Reconductor 2.66 miles of 755 ACAR with 1272 ACSR	CESW	1,400,000	6/1/04
HAWKINS TO HAWKINS REC 69KV	Reconductor 1.00 mile of 477 ACSR with 795 ACSR	CESW	375,000	6/1/04
JACKSONVILLE -PINE GROVE, 138KV	Reset 300/5 CTs at Jacksonville to 400/5	CESW	1,000	4/1/01
LIEBERMAN-IPC JEFFERSON, 138 KV	Replace 4/0 jumpers to switches & Wavetrap at Lieberman	CESW	10,000	6/1/01
NORTHWEST HENDERSON-POYNTER, 69KV	Replace 4/0 jumpersand bus at Poynter	CESW	45,700	6/1/01
NORTHWEST TEXARKANA TO PATTERSON 138KV	Reconductor 13.37 miles of 1024 ACAR with 1590 ACSR. Replace 1200A switches & brreaker @ Patterson, and replace wavetrap jumpers at both ends.	CESW	3,800,000	12/1/01
ROCK HILL TO TATUM 138KV	Reconductor 0.81 miles of 666 ACSR with 1272 ACSR. Replace 800A trap with new 2000A trap.	CESW	190,000	6/1/01
AURORA H.T.-MONETT, 161 KV	N/A	EDE	N/A	6/1/04
TIPTON FORD TO MONETT 161KV	Reconductor 30 miles of 336 ACSR with 795 MCM.	EDE	5,700,000	6/1/01
STILWELL-LACYGNE, 345 KV	Reconductor to 1192 MCM ACSR	KACP	14,700,000	6/1/01

Table 5 continued – Facilities assigned to study SPP-2000-011

Upgraded Facility Name	Upgraded Component Within Facility	Transmission Owner	Estimated Cost	Date Required
BEAVER TO EUREKA SPRINGS 161KV	SWPA Cost-Reconnect CT's to 1000:5 Tap on Bkrs 42, 32, & half or 22. Replace metering & reset relays for Line 2 & Line 3	SWPA,CESW	22,500	6/1/01
"	CESW Cost-Reconductor 1.25 miles of 795 ACSR with 1590 ACSR (CSW owns 1.25 of 7.22 miles of the line)	"	515,000	"
GORE TO MUSKOGEE TAP 161KV	Disconnect Switch#71, 73, &77 Replacement Complete	SWPA	N/A	6/1/01
VAN BUREN TO ROBERT S. KERR 161KV	Replace 161-kV Disconnect Switches 31,33,35,&37 with 1200A Switches	SWPA	105,000	6/1/04
DYESS TO EAST ROGERS 161KV	Reconductor with 1590MCM	CESW	4,000,000	6/1/01
FLINK CREEK TO GENTRY 161KV	Replace Switch	CESW	60,000	6/1/04

Table 6 – Facilities assigned to study SPP-2000-043 Constellation Power Source Request #194656,194657 (CSWS to EES 250MW)

Study Year	Load flow case description / (opened branch(es))	OVERLOADED BRANCH(ES)	From - To	Rate B <MVA>	%LOADING After 150MW Transfer	Initial Limit Mileage
01AP	DOLET HILLS 345/230KV XFRM 50045 [DOLHILL7] TO 50046 [DOLHILL6] CKT 1	INTERNATIONAL PAPER to WALLACE LAKE 138KV 50090 IPAPER 4 138 53461 WALLAKE4 138 1	CELE-CESW	236	113.3	Conductor 17.63 miles
04SP	DOLET HILLS 345/230KV XFRM 50045 [DOLHILL7] TO 50046 [DOLHILL6] CKT 1	INTERNATIONAL PAPER to WALLACE LAKE 138KV 50090 IPAPER 4 138 53461 WALLAKE4 138 1	CELE-CESW	209	107.3	Conductor 17.63 miles
04SP	ARKANSAS NUCLEAR ONE to MABELVALE EHV 500KV 17632 [8ANO] TO 17701 [8MABEL] CKT 1	BULL SHOALS to MIDWAY AEC 161KV 52660 BULL SH5 161 17875 5MIDWAY# 161 1	SWPA-EES	162	100.5	600A Switches 7.0 miles
04SP	MAYFLOWER to P HILL 500KV 17707 [8MAYFL] TO 17935 [8P HILL] CKT 1	BULL SHOALS to MIDWAY AEC 161KV 52660 BULL SH5 161 17875 5MIDWAY# 161 1	SWPA-EES	162	100.7	
04SP	KEO to WEST MEMPHIS EHV 500KV 17758 [8KEO] TO 17842 [8WM-EHV] CKT 1	BULL SHOALS to MIDWAY AEC 161KV 52660 BULL SH5 161 17875 5MIDWAY# 161 1	SWPA-EES	162	101.5	
04SP	WALNUT RIDGE to BLACK ROCK 161KV 17839 [5WALNUT] TO 17848 [5BLKRK#] CKT 1	BULL SHOALS to MIDWAY AEC 161KV 52660 BULL SH5 161 17875 5MIDWAY# 161 1	SWPA-EES	162	100.9	
04SP	FORT SMITH to ARKANSAS NUCLEAR ONE 500KV 55305 [FTSMI8] TO 17632 [8ANO] CKT 1	BULL SHOALS to MIDWAY AEC 161KV 52660 BULL SH5 161 17875 5MIDWAY# 161 1	SWPA-EES	162	100.4	
04SP	FRANKS to SALEM 345KV 96041 [7FRANKS] TO 96047 [7SALEM] CKT 1	BULL SHOALS to MIDWAY AEC 161KV 52660 BULL SH5 161 17875 5MIDWAY# 161 1	SWPA-EES	162	100.2	
04SP	ELDORADO-EHV 500/345KV XFRM 17529 [7ELDEHV] TO 17530 [8ELDEHV] CKT 1	PATTERSON to SOUTH NASHVILLE 138KV 53306 PATTERS4 138 53321 SNASHVL4 138 1	CESW-CESW	105	111.9	Wave Trap 25.06 miles
04SP	LONGWOOD to ELDORADO-EHV 345KV 53424 [LONGWD 7] TO 17529 [7ELDEHV] CKT 1	PATTERSON to SOUTH NASHVILLE 138KV 53306 PATTERS4 138 53321 SNASHVL4 138 1	CESW-CESW	105	112.1	
04SP	DOLET HILLS 345/230KV XFRM 50045 [DOLHILL7] TO 50046 [DOLHILL6] CKT 1	HOPE to PATMOS WEST SS 115KV 53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	113.3	Conductor 11.34 miles
04SP	LYDIA to VALIANT 345KV 53277 [LYDIA 7] TO 54037 [VALIANT7] CKT 1	HOPE to PATMOS WEST SS 115KV 53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	114.3	
04SP	PITTSBURGH to VALIANT 345KV 54033 [PITTSB-7] TO 54037 [VALIANT7] CKT 1	HOPE to PATMOS WEST SS 115KV 53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	109.1	
04SP	LONGWOOD to WILKES 345KV 53424 [LONGWD 7] TO 53620 [WILKES 7] CKT 1	HOPE to PATMOS WEST SS 115KV 53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	114.4	

Table 6 continued – Facilities assigned to study SPP-2000-043 Constellation Power Source Request #194656,194657 (CSWS to EES 250MW)

Study Year	Load flow case description / (opened branch(es))	OVERLOADED BRANCH(ES)	From - To	Rate B <MVA>	%LOADING After 150MW Transfer	Initial Limit Mileage
	CROCKETT to TENASKA 345KV	HOPE to PATMOS WEST SS 115KV				Conductor
04SP	53526 [CROCKET7] TO 54061 [TENASKA7] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	118.7	11.34 miles
	MUSKOGEE to FORT SMITH 345KV	HOPE to PATMOS WEST SS 115KV				
04SP	55224 [MSKGE7] TO 55302 [FTSMI7] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	174	106.9	
	SOUTH SHREVEPORT to WALLACE LAKE 138KV	FORBING TAP to SOUTH SHREVEPORT 69KV				Jumpers
04SP	53446 [S SHV 4] TO 53461 [WALLAKE4] CKT 1	53406 FORBNGT269.0 53445 S SHV 269.0 1	CESW-CESW	95	104.4	0.27 miles
	DOLET HILLS 345/230KV XFRM	SOUTH SHREVEPORT to WALLACE LAKE 138KV				Conductor
04SP	50045 [DOLHILL7] TO 50046 [DOLHILL6] CKT 1	53446 S SHV 4 138 53461 WALLAKE4 138 1	CESW-CESW	209	112.5	11.18 miles
	SUB 383-MONETT 161/69KV XFRM	DIAMOND JCT. to SARCOXIE SOUTHWEST 69KV				Conductor
04SP	59480 [MON383 5] TO 59591 [MON383 2] CKT 1	59538 DIA131 269.0 59582 SAR362T269.0 1	EMDE-EMDE	38	101.2	8.8 miles
	Multiple Outage Contingency					
	SW SHREVEPORT to DIANA 345KV	RAINES TO NORAM 138KV				Conductor
	53454 [SW SHV 7] TO 53528 [DIANA 7] CKT 1	53439 RAINES 4 138 53473 NORAM 4 138 1	CESW-CESW	234	104.6	5.5 miles
	SW SHREVEPORT to LONGWOOD 345KV	NORTH MARSHALL to WOODLAWN 69KV				Jumpers
04SP	53454 [SW SHV 7] TO 53424 [LONGWD 7] CKT 1	53579 NMARSHL269.0 53621 WOODLWN269.0 1	CESW-CESW	51	107.8	7.55 miles
	ELDORADO-EHV 500/345KV XFRM	PATTERSON to SOUTH NASHVILLE 138KV				Wave Trap
04WP	17529 [7ELDEHV] TO 17530 [8ELDEHV] CKT 1	53306 PATTERS4 138 53321 SNASHVL4 138 1	CESW-CESW	105	109.0	25.06 miles
	LONGWOOD to ELDORADO-EHV 345KV	PATTERSON to SOUTH NASHVILLE 138KV				
04WP	53424 [LONGWD 7] TO 17529 [7ELDEHV] CKT 1	53306 PATTERS4 138 53321 SNASHVL4 138 1	CESW-CESW	105	109.2	
	ELDORADO-EHV 500/345KV XFRM	HOPE to PATMOS WEST SS 115KV				Conductor
04WP	17529 [7ELDEHV] TO 17530 [8ELDEHV] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	197	118.5	11.34 miles
	LONGWOOD to ELDORADO-EHV 345KV	HOPE to PATMOS WEST SS 115KV				
04WP	53424 [LONGWD 7] TO 17529 [7ELDEHV] CKT 1	53383 HOPE 3 115 17537 3PATMOS# 115 1	CESW-EES	197	118.7	

Table 7 – Previously identified and upgraded Facilities needing additional capacity

Opened Branch	Overloaded Branch	Existing Rating A <MVA>	Existing Rating B <MVA>	Upgraded Rating A <MVA>	Upgraded Rating B <MVA>	Transfer Case Loading <MVA>
LONGWOOD TO WILKES 345KV	LIEBERMAN TO IPC JEFFERSON 138 KV					
53424 LONGWD 7 345 TO 53620 WILKES 7 345 CKT 1	53420 LIEBERM4 138 53548 IPCJEFF4 138 1	97.0	115.0	117.0	134.0	166.4
LONGWOOD TO WILKES 345KV	TATUM TO ROCKHILL 138KV					
53424 LONGWD 7 345 TO 53620 WILKES 7 345 CKT 1	53611 TATUM 4 138 53598 ROKHILL4 138 1	180.0	209.0	202.0	235.0	241
DYESS TO EAST ROGERS 161 KV	EAST CENTERTON TO GENTRY REC 161 KV					
53131 DYESS 5 161 TO 53135 EROGERS5 161 CKT 1	53133 ECNTRTN5 161 53187 GENTRYR5 161 1	305.0	335.0	305.0	353.0	368.2
DYESS TO EAST ROGERS 161 KV	FLINT CREEK TO GENTRY 161KV					
53131 DYESS 5 161 TO 53135 EROGERS5 161 CKT 1	53139 FLINTCR5 161 53187 GENTRYR5 161 1	304.0	335.0	Not Available	Not Available	372.2

Table 8 – SPP Confirmed Long-term Reservations with POD of AMRN for 12/1/02-12/1/04

Study	Request	Status	From	To	POR	POD	Amnt	Customer	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03
	171	CONFIRMED	5/1/83	1/1/14	KACY	AMRN	20	KCPL	20	20	20	20	20	20	20	20	20	20	20	20
	109080	CONFIRMED	6/1/99	6/1/03	SPA	AMRN	125	SPA	125	125	125	125	125	125						
	109431	CONFIRMED	4/1/99	4/1/04	KCPL	AMRN	200	KCPS	200	200	200	200	200	200	200	200	200	200	200	200
1999-010	119194	CONFIRMED	1/1/01	1/1/11	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-010	119196	CONFIRMED	1/1/01	1/1/11	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-010	119197	CONFIRMED	1/1/01	1/1/11	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-010	119198	CONFIRMED	1/1/01	1/1/11	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-016	133602	CONFIRMED	1/1/02	1/1/05	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-016	133608	CONFIRMED	1/1/02	1/1/05	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
					Total Confirmed				645	645	645	645	645	645	520	520	520	520	520	520

Study	Request	Status	From	To	POR	POD	Amnt	Customer	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04
	171	CONFIRMED	5/1/83	1/1/14	KACY	AMRN	20	KCPL	20	20	20	20	20	20	20	20	20	20	20	20
	109080	CONFIRMED	6/1/99	6/1/03	SPA	AMRN	125	SPA												
	109431	CONFIRMED	4/1/99	4/1/04	KCPL	AMRN	200	KCPS	200	200	200	200								
1999-010	119194	CONFIRMED	1/1/01	1/1/11	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-010	119196	CONFIRMED	1/1/01	1/1/11	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-010	119197	CONFIRMED	1/1/01	1/1/11	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-010	119198	CONFIRMED	1/1/01	1/1/11	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-016	133602	CONFIRMED	1/1/02	1/1/05	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
1999-016	133608	CONFIRMED	1/1/02	1/1/05	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
					Total Confirmed				520	520	520	520	320	320	320	320	320	320	320	320

Table 9 – SPP Long-term Reservations with the right to renew service for 12/1/02-12/1/04 per section 2.2 of Tariff

Study	Request	Status	From	To	POR	POD	Amnt	Customer	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03
	109012	CONFIRMED	6/1/99	6/1/02	SPA	AMRN	11	SPA	11	11	11	11	11	11	11	11	11	11	11	11
	109080	CONFIRMED	6/1/99	6/1/03	SPA	AMRN	125	SPA							125	125	125	125	125	125
	109431	CONFIRMED	4/1/99	4/1/04	KCPL	AMRN	200	KCPS												
1999-013	121377	CONFIRMED	1/1/01	1/1/02	CSWS	AMRN	400	PECO	400	400	400	400	400	400	400	400	400	400	400	400
	144552	CONFIRMED	1/1/00	1/1/01	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	144554	CONFIRMED	1/1/00	1/1/01	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	155346	CONFIRMED	5/1/00	5/1/01	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	155348	CONFIRMED	5/1/00	5/1/01	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	185958	CONFIRMED	9/1/00	6/1/02	SPA	AMRN	2	SPA	2	2	2	2	2	2	2	2	2	2	2	2
					Total Right to Renew				613	613	613	613	613	613	738	738	738	738	738	738

Study	Request	Status	From	To	POR	POD	Amnt	Customer	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04
	109012	CONFIRMED	6/1/99	6/1/02	SPA	AMRN	11	SPA	11	11	11	11	11	11	11	11	11	11	11	11
	109080	CONFIRMED	6/1/99	6/1/03	SPA	AMRN	125	SPA	125	125	125	125	125	125	125	125	125	125	125	125
	109431	CONFIRMED	4/1/99	4/1/04	KCPL	AMRN	200	KCPS					200	200	200	200	200	200	200	200
1999-013	121377	CONFIRMED	1/1/01	1/1/02	CSWS	AMRN	400	PECO	400	400	400	400	400	400	400	400	400	400	400	400
	144552	CONFIRMED	1/1/00	1/1/01	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	144554	CONFIRMED	1/1/00	1/1/01	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	155346	CONFIRMED	5/1/00	5/1/01	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	155348	CONFIRMED	5/1/00	5/1/01	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	185958	CONFIRMED	9/1/00	6/1/02	SPA	AMRN	2	SPA	2	2	2	2	2	2	2	2	2	2	2	2
					Total Right to Renew				738	738	738	738	938	938	938	938	938	938	938	938

Table 10 – SPP Long-term Reservations being studied

Study	Request	Status	From	To	POR	POD	Amnt	Customer	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03
	158863	STUDY	1/1/01	1/1/02	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158864	STUDY	1/1/01	1/1/02	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158865	STUDY	1/1/02	1/1/03	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158866	STUDY	1/1/02	1/1/03	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158867	STUDY	1/1/03	1/1/04	ERCOTE	AMRN	50	TNSK		50	50	50	50	50	50	50	50	50	50	50
	158868	STUDY	1/1/03	1/1/04	ERCOTE	AMRN	50	TNSK		50	50	50	50	50	50	50	50	50	50	50
2000-010	168969	STUDY	1/1/01	1/1/02	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
2000-010	168970	STUDY	1/1/01	1/1/02	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	187568	STUDY	1/1/01	1/1/02	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
	187569	STUDY	1/1/01	1/1/02	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
2000-033	188155	STUDY	1/1/01	1/1/02	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
					Total Being Studied				450	550	550	550	550	550	550	550	550	550	550	550
Study	**Request**	**Status**	**From**	**To**	**POR**	**POD**	**Amnt**	**Customer**	**Dec-03**	**Jan-04**	**Feb-04**	**Mar-04**	**Apr-04**	**May-04**	**Jun-04**	**Jul-04**	**Aug-04**	**Sep-04**	**Oct-04**	**Nov-04**
	158863	STUDY	1/1/01	1/1/02	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158864	STUDY	1/1/01	1/1/02	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158865	STUDY	1/1/02	1/1/03	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158866	STUDY	1/1/02	1/1/03	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158867	STUDY	1/1/03	1/1/04	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
	158868	STUDY	1/1/03	1/1/04	ERCOTE	AMRN	50	TNSK	50	50	50	50	50	50	50	50	50	50	50	50
2000-010	168969	STUDY	1/1/01	1/1/02	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
2000-010	168970	STUDY	1/1/01	1/1/02	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
	187568	STUDY	1/1/01	1/1/02	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
	187569	STUDY	1/1/01	1/1/02	SPS	AMRN	50	SPSM	50	50	50	50	50	50	50	50	50	50	50	50
2000-033	188155	STUDY	1/1/01	1/1/02	WR	AMRN	50	WRGS	50	50	50	50	50	50	50	50	50	50	50	50
					Total Being Studied				550	550	550	550	550	550	550	550	550	550	550	550

Table 11 – Summation of Long-term Reservations with POD of AMRN for 12/1/02-12/1/04 and available interface capacity

Reservation Status	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	
Confirmed	645	645	645	645	645	645	520	520	520	520	520	520	
Possible Renewal	613	613	613	613	613	613	738	738	738	738	738	738	
Study	450	550	550	550	550	550	550	550	550	550	550	550	
	1287	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**Contract Path Limit**
	-421	-521	-521	-521	-521	-521	-521	-521	-521	-521	-521	-521	**Total Available (9-6-2000) Including Reservations With Right of First Refusal and being Studied**
	642	642	642	642	642	642	767	767	767	767	767	767	**Total Available (9-6-2000) Excluding Reservations With Right of First Refusal and being Studied**
	150	150	150	150	150	150	150	150	150	150	150	150	**Request #194668,194669**

Reservation Status	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	
Confirmed	520	520	520	520	320	320	320	320	320	320	320	320	
Possible Renewal	738	738	738	738	938	938	938	938	938	938	938	938	
Study	550	550	550	550	550	550	550	550	550	550	550	550	
	1287	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**1287**	**Contract Path Limit**
	-521	-521	-521	-521	-521	-521	-521	-521	-521	-521	-521	-521	**Total Available (9-6-2000) Including Reservations With Right of First Refusal and being Studied**
	767	767	767	767	967	967	967	967	967	967	967	967	**Total Available (9-6-2000) Excluding Reservations With Right of First Refusal and being Studied**
	150	150	150	150	150	150	150	150	150	150	150	150	**Request #194668,194669**

5. Conclusion

The results of the study show that before the 150MW transfer can take place system improvements will need to be completed. The facilities identified in Table 1 and Table 6 will be required before the start of service to maintain system reliability with the assumption that the facilities listed in Table 5 are accepted by the previous customer. Constellation Power Source, Inc. (CPS) may also be subject to the facilities needing additional upgrades, listed in Table 7.

The final assignment of facilities to CPS will be determined by the existence of future service agreements and upon the completion of an agreed upon facility study.

The SPP to AMRN contract path will need at least 150 MW of available capacity for 12/1/02-12/1/04 request period before the Southwest Power Pool accepts the CSWS to AMRN 150MW transfer. Currently, the capacity is fully reserved by previous SPP OASIS requests and is subject to change.

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 automatically
4. Solution options - X Phase shift adjustment
   _ Flat start
   _ Lock DC taps
   _ Lock switched shunts

ACCC CASES:
Solutions – AC contingency checking (ACCC)
1. MW mismatch tolerance –1.0
2. Contingency case rating – Rate B
3. Percent of rating – 100
4. Output code – Summary
5. Min flow change in overload report – 1mw
6. Excld cases w/ no overloads form report – YES
7. Exclude interfaces from report – NO
8. Perform voltage limit check – YES
9. Elements in available capacity table – 60000
10. Cutoff threshold for available capacity table – 99999.0
11. Min. contng. case Vltg chng for report – 0.02
12. Sorted output – None

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