SPP Southwest Power Pool

System Impact Study SPP-2003-124-1 For Transmission Service Requested By AEMC

From AEPW To ERCOTE

For a Redirected Amount Of 50MW From 10/1/2003 To 10/1/2007

SPP Engineering, Tariff Studies

System Impact Study

AEMC has requested a system impact study for long-term Firm Point-to-Point transmission service from AEPW to ERCOTE for 50 MW. The period of the service requested is from 10/1/2003 to 10/1/2007. The OASIS reservation number is 518104. This is a request to redirect the previously confirmed OASIS reservation 376647. Oasis Reservation 376647 is a 50MW transfer from CLEC to ERCOTE. The principal objective of this study is to identify system constraints on the SPP Regional Tariff System and potential system facility upgrades that may be necessary to provide the requested service.

The AEPW to ERCOTE request was studied to determine the facility upgrades required based on the actual queue position of the request with only those higher priority requests in Facility Study mode included in the models. Higher priority requests still in study mode that have not gone to facility study mode were not included in the models. The results of the transfer analysis are documented in Table 1. The results given in Table 1 include upgrades that may be assigned to higher priority requests. The results of this study gives the customer an estimated cost of the facility upgrades that may be required in order to accommodate the AEPW to ERCOTE 50 MW request for redirected service.

Five seasonal models were used to study the AEPW to ERCOTE 50 MW request for the requested service period. The SPP 2003 Series Cases 2004 Summer Peak (04SP), 2004 Fall Peak (04FA), 2004/05 Winter Peak (04WP), 2009 Summer Peak (09SP), and 2009/10 Winter Peak (09WP) were used to study the impact of the 50 MW request on the SPP system during a the requested service period of 10/1/2003 to 10/1/2007. 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 January 2003 base case series models.

PTI's MUST First Contingency Incremental Transfer Capability (FCITC) DC analysis was used to study the request. The MUST option to convert MVA branch ratings to estimated MW ratings was used to partially compensate for reactive loading.

With only the higher priority requests that have signed Facility Study Agreements included in the models, the study results of the AEPW to ERCOTE 50 MW transfer show that limiting constraints exist. Due to the limiting constraints identified, the Transmission Service Request 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 the status of higher priority requests, unknown facility upgrades and proposed transmission plans that will be identified during the facility study process, and the final results of the full AC analysis. Execution of a Facility Study Agreement is now required to maintain queue position. The final upgrade solutions and cost assignments will be determined upon the completion of the facility study.

Table 1 – SPP facility overloads identified for the AEPW to ERCOTE transfer as a redirect of CLEC to ERCOTE service

Study Year	From Area - To Area	Branch Over 100% Rate B	Rate B	Outaged Branch Causing Overload	ATC	AEPW to ERCOTE TDF (%)	CLEC to ERCOTE TDF (%)	Solution	Estimated Cost
04SP	AEPW-AEPW	53154 CHAMSPR5 161 53170 TONTITN5 161 1	247	53139 FLINTCR5 161 53170 TONTITN5 161 1	0	1.6	0	Rebuild 12 miles with 2156MCM ACSR. Replace Chamber Springs wavetrap & reset relays.	$ 7,200,000
04SP	AEPW-AEPW	54023 OKMULGE4 138 54049 EC.HEN-4 138 1	104	54023 OKMULGE4 138 54057 KELCO 4 138 1	0	4.2	0.9	Replace Okmulgee Wavetrap	$ 40,000
04SP	AEPW-AEPW	54028 WELETK4 138 54049 EC.HEN-4 138 1	104	54023 OKMULGE4 138 54057 KELCO 4 138 1	0	4.2	0.9	Replace Weleetka Wavetrap	$ 40,000
04SP	AEPW-AEPW	53139 FLINTCR5 161 53187 GENTRYR5 161 1	354	53144 LOWELL 5 161 53170 TONTITN5 161 1	0	1.1	0	Rebuild 1.09 miles of 2-397.5 ACSR with 2156 ACSR. Replace Flint Creek wavetrap & jumpers	$ 450,000
04FA	SWPA-AEPW	52814 BRKN BW4 138 54015 CRAIGJT4 138 1	107	55823 BBDAMTP4 138 56004 MTRIVER4 138 1	0	3.9	1.8	Rebuild 7.66 miles of 3/0 CW CU with 795 ACSR	$ 2,700,000
04WP	AEPW-AEPW	54023 OKMULGE4 138 54049 EC.HEN-4 138 1	105	54023 OKMULGE4 138 54057 KELCO 4 138 1	0	4.2	0.9	See Previous	$ -
04WP	AEPW-AEPW	54028 WELETK4 138 54049 EC.HEN-4 138 1	104	54023 OKMULGE4 138 54057 KELCO 4 138 1	0	4.2	0.9	See Previous	$ -
09SP	AEPW-AEPW	53781 BA101-N4 138 53818 ONETA--4 138 1	235	53785 RSSAUTO4 138 53794 R.S.S.-7 345 1	0	2.7	0	Rebuild 6.05 miles of 795 ACSR with 1590 ACSR. Replace jumper @ Oneta	$ 3,600,000
09SP	SWPA-SPRM	52692 SPRGFLD5 161 59969 BRKLNE 5 161 1	308	59954 SWPS 5 161 59960 SWDISP 5 161 1	0	1.0	0	Replace disconnect switches at Springfield.	$ 60,000
09SP	AEPW-AEPW	53154 CHAMSPR5 161 53195 FARMGTN5 161 1	335	53154 CHAMSPR5 161 53170 TONTITN5 161 1	0	1.4	0	Replace Farmington switch 8839	$ 60,000
09SP	AEPW-AEPW	53154 CHAMSPR5 161 53170 TONTITN5 161 1	243	53139 FLINTCR5 161 53170 TONTITN5 161 1	0	1.4	0	See Previous	$ -
09SP	AEPW-AEPW	53157 SFAYTVL5 161 53195 FARMGTN5 161 1	313	53154 CHAMSPR5 161 53170 TONTITN5 161 1	0	1.4	0	Replace Farmington switch 5894 and replace South Fayetteville wavetrap jumpers	$ 50,000
09WP	SWPA-SPRM	52692 SPRGFLD5 161 59969 BRKLNE 5 161 1	317	59954 SWPS 5 161 59960 SWDISP 5 161 1	0	1.2	0	See Previous	$ -
09WP	AEPW-AEPW	53154 CHAMSPR5 161 53170 TONTITN5 161 1	243	53139 FLINTCR5 161 53170 TONTITN5 161 1	0	1.7	0	See Previous	$ -
09WP	AEPW-AEPW	54023 OKMULGE4 138 54049 EC.HEN-4 138 1	105	54023 OKMULGE4 138 54057 KELCO 4 138 1	0	4.2	0.9	See Previous	$ -
09WP	AEPW-AEPW	54028 WELETK4 138 54049 EC.HEN-4 138 1	104	54023 OKMULGE4 138 54057 KELCO 4 138 1	0	4.2	0.9	See Previous	$ -
09WP	AEPW-AEPW	53139 FLINTCR5 161 53187 GENTRYR5 161 1	361	53144 LOWELL 5 161 53170 TONTITN5 161 1	0	1.1	0	See Previous	$ -
								Total Estimated Cost	$ 14,200,000