



***System Impact Study SPP-2002-098
For Transmission Service
Requested By
Dynergy Marketing and Trade***

From CLEC To ERCOTE

***For a Reserved Amount Of 50 MW
From 6/1/02
To 6/1/03***

SPP Coordinated Planning

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1. Executive Summary

Dynegy Marketing and Trade (DYPM) has requested a system impact study for long-term Firm Point-to-Point transmission service from CLEC to ERCOTE. The period of the transaction is from 6/1/02 to 6/1/03. The request is for OASIS reservation 357106 for 50 MW. OASIS reservation 357106 is the renewal of OASIS reservation 213499.

Due to the existence of a competing request for transmission capacity to the ERCOTE tie, SPP requested the existing applicable customers to match the term of service of the competing request. The existing applicable customers elected not to match the existing request, and OASIS request 357107 has the lowest reservation queue priority of renewal reservations. Therefore, this request will be reduced by 6 MW and will only be studied for 44 MW.

The principal objective of this study is to identify system problems and potential system modifications necessary to facilitate the additional 44 MW transfer while maintaining system reliability.

New overloads caused by the 44 MW transfer were identified along with determining the impact of the transfer on any previously assigned and identified facilities.

No facilities in SPP restrict the requested CLEC to ERCOTE 44 MW transfer; therefore the reservations will be accepted.

2. Introduction

Dynegy Marketing and Trade (DYPM) has requested an impact study for transmission service from CLEC to ERCOTE.

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 44 MW. 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 44 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.

3. Study Methodology

A. Description

Two analyses were conducted to determine the impact of the 44 MW transfer on the system. The first analysis was conducted to identify any new overloads caused by the 44 MW transfer. The second analysis was done to ensure that available capacity exists on previously identified circuits.

The first analysis was to study the steady-state analysis impact of the 44 MW 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 second analysis was done to determine the impact of the transfer on previously assigned and identified facilities.

B. Model Updates

SPP used five seasonal models to study the CLEC to ERCOTE 44 MW transfer. The SPP 2002 Series Cases: 2002 Summer Peak, 2002 Fall Peak, 2002/03 Winter Peak, 2003 April Minimum, and 2003 Spring Peak were used to study the impact of the 49 MW transfer on the SPP system during the transaction period of 6/1/02 to 6/1/03.

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 2002 base case series models.

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, and 3 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 contingent loading percentage of circuit with and without the studied transfer, the estimated ATC value using interpolation if calculated, any SPP identification or assignment of the event, and any solutions received from the transmission owners.

Table 1 shows the new SPP facility overloads caused by the 44 MW transfer. Available solutions are given in the table.

Table 2 documents overloads on Non SPP Regional Tariff participants' transmission systems caused by the 44 MW transfer.

Table 3 documents the 44 MW transfer impact on previously assigned and identified SPP facilities. Available solutions are given in the table.

Table 1 – SPP Facility Overloads caused by the CLEC to ERCOTE 44 MW Transfer

Study Year	From Area To Area	Branch Over 100% RateB	RATE B	BC %Loading	TC %Loading	Outaged Branch That Caused Overload	ATC (MW)	Solution
02SP		NONE					15	
02FA		NONE					15	
02WP		NONE					15	
03AP		NONE					15	
03G		NONE					15	

Table 2 – Non - SPP Facility Overloads caused by the CLEC to ERCOTE 44 MW Transfer

Study Year	From Area To Area	Branch Over 100% RateB	RATE B	BC %Loading	TC %Loading	Outaged Branch That Caused Overload
02SP	CELE-EES	50098 LEESV 4 138 to 97708 4TOLEDO 138 CKT 1	148	95.7	100.7	50033 COLFAX 6 230 to 50177 RODEMR 6 230 CKT1
02FA	EES-EES	98489 3BOGLSA 115 to 99066 3DEXTER* 115 CKT 1	80	99.9	100.1	98952 8G.GULF 500 to 99027 8FRKLIN 500 CKT1
02WP		NONE				
03AP		NONE				
03G		NONE				

Table 3 – Previously Assigned and Identified SPP Facilities Impacted by the CLEC to ERCOTE 44 MW Transfer

Study Year	From Area To Area	Branch Over 100% RateB	RATE B	BC %Loading	TC %Loading	Outaged Branch That Caused Overload	ATC (MW)	Assignment
02SP	CELE-AEPW	INTERNATIONAL PAPER TO WALLACE LAKE, 138KV 50090 IPAPER 4 138 to 53461 WALLAKE4 138 CKT 1	108.7	112.2	209	DOLET HILLS TO SOUTHWEST SHREVEPORT, 345KV 50045 DOLHILL7 345 to 53454 SW SHV 7 345 CKT1	44	Dolet Hills Operating Guide Monitor Line At 260 MVA 24.4% Rating Increase
02FA		NONE						
02WP		NONE						
02WP		NONE						
03AP		NONE						
03G		NONE						

5. Conclusion

The 44 MW of firm point-to-point transmission service was studied for the time period of the request (6/1/02-6/1/03).

No facilities in SPP restrict the requested CLEC to ERCOTE 44 MW transfer; therefore the reservations will be accepted.

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