



SPP

*Southwest
Power Pool*

***System Impact Study
SPP-2004-081
For Transmission Service
Requested By:
Reliant Energy Services, Inc.***

From CSWS to ERCOTE

***For a Reserved Amount Of
44 MW***

***From 07/01/04
To 06/01/05***

SPP Transmission Planning

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1. Executive Summary

Reliant Energy Services, Inc. has requested a system impact study for monthly firm transmission service from CSWS to ERCOTE. The period of the transaction is from 07/01/04 to 06/01/04. The request is for reservation 668949 for the amount of 44 MW and is a redirect of reservation 515925 (CLEC to ERCOTE).

The 44 MW transaction from CSWS to ERCOTE has an impact on the following flowgate with no ATC: HPPVALPITVAL. To provide the ATC necessary for this transfer, the impact on these flowgates must be relieved.

After studying many scenarios using curtailment of reservations and generation redispatch, there are several feasible scenarios that will relieve the flowgate(s) in question.

2. Introduction

Reliant Energy Services, Inc. has requested a system impact study for transmission service from CSWS to ERCOTE.

There is one constrained flowgate that requires relief in order for this reservation to be accepted. The flowgate and the explanation is as follows:

- HPPVALPITVAL: Hugo Power Plant to Valiant 138 kV line for the loss of Pittsburg to Valliant 345 KV line

3. Study Methodology

A. Description

Southwest Power Pool used the NERC Generator Sensitivity Factor (GSF) Viewer to obtain possible unit pairings that would relieve the constraint. The GSF viewer calculates impacts on monitored facilities for all units above 20MW in the Eastern Interconnection. The SPP ATC Calculator is used to determine response factors for the time period of the reservation.

B. Model Updates

The 2004 Southwest Power Pool model was used for the study. This model was updated to reflect the most current information available.

C. Transfer Analysis

Using the short-term calculator, the limiting constraints for the transfer are identified. The response factor of the transfer on each constraint is also determined.

The product of the transfer amount and the response factor is the impact of a transfer on a limiting flowgate that must be relieved. With multiple flowgates affected by a transfer, relief of the largest impact may also provide relief of smaller impacts.

Using the NERC Generator Sensitivity Factor (GSF) Viewer, specific generator pairs are chosen to reflect the units available for redispatch. The quotient of the amount of impact that must be relieved and the generation sensitivity factor calculated by the Viewer is the amount of redispatch necessary to relieve the impact on the affected flowgate.

4. Study Results

After studying the impacts of request 668949, one flowgate requires relief. The flowgate and associated amount of relief is as follows:

Table 1

Flowgates	Redirect Sensitivity (%)	Original Sensitivity (%)	Duration	Required Relief (MW)
HPPVALPITVAL	6.6	5.3	October 1 – December 1	1

Table 2 displays a list of reservation paths that offer relief, if curtailed, for the flowgate in question.

Table 2

Transaction Path	HPPVALPITVAL Sensitivity (%)
CLECO – ERCOTE	5.9
CSWS – ERCOTE	8.6
OKGE – EES	7.4
SPS – CSWS	5.9
WR – EES	5.4

Table 3 displays the amount of capacity required for each reservation path to relieve the flowgate in question.

Table 3

Transaction Path	HPPVALPITVAL Sensitivity (MW)
CLECO – ERCOTE	17
CSWS – ERCOTE	12
OKGE – EES	14
SPS – CSWS	17
WR – EES	19

Table 4 displays a list of generator pairs that are possible relief options for the flowgate in question.

Table 4

Source	Sink	HPPVALPITVAL Sensitivity (%)
Welsh (CSWS)	Southwestern Station (CSWS)	-15.8
Wilkes (CSWS)	Southwestern Station (CSWS)	-14.7
Welsh (CSWS)	Weleetka (CSWS)	-15.1
Wilkes (CSWS)	Weleetka (CSWS)	-14.1
Knox Lee (CSWS)	Southwestern Station (CSWS)	-14.6
Pirkey (CSWS)	Southwestern Station (CSWS)	-14.6
Knox Lee (CSWS)	Weleetka (CSWS)	-13.9
Pirkey (CSWS)	Weleetka (CSWS)	-13.9

Table 5 displays the amount of redispatch capacity necessary for each generator pair.

Table 5

Source	Sink	HPPVALPITVAL Sensitivity (MW)
Welsh (CSWS)	Southwestern Station (CSWS)	7
Wilkes (CSWS)	Southwestern Station (CSWS)	7
Welsh (CSWS)	Weleetka (CSWS)	7
Wilkes (CSWS)	Weleetka (CSWS)	8
Knox Lee (CSWS)	Southwestern Station (CSWS)	7
Pirkey (CSWS)	Southwestern Station (CSWS)	7
Knox Lee (CSWS)	Weleetka (CSWS)	8
Pirkey (CSWS)	Weleetka (CSWS)	8

5. Conclusion

Reservation curtailment and generation redispatch options were studied in order to relieve the necessary constraint. The results of this study shows that the constraint on the flowgate in question could be relieved by executing one or more of the options described in the Study Results section of this document. A redispatch option agreement can be explored further by contacting Richard Ross, American Electric Power, at 918.594.2906. Before the Transmission Provider accepts the reservation, proof of one of these relief options must be presented to Southwest Power Pool. Noncompliance with this guideline will result in the refusal of the reservation.