



SPP

*Southwest
Power Pool*

***System Impact Study
SPP-2007-017
For Transmission Service
Requested By:
Western Resources Generation
Services***

From MPS to WR

***For a Reserved Amount Of
225 MW***

***From 06/01/2007
To 09/01/2007***

SPP Transmission Planning

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1. Executive Summary

Western Resources has requested a system impact study for monthly firm transmission service from MPS to WR. The period of the transaction is from 06/01/2007 to 09/01/2007. The request is for reservation 1257703 for the amount of 225 MW.

The 225 MW transaction from MPS to WR has an impact on the following flowgate with no AFC: STIANTLACWGR. To provide the AFC necessary for this transfer, the impact on this flowgate must be relieved.

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

2. Introduction

Western Resources has requested a system impact study for transmission service from MPS to WR.

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

- STIANTLACWGR: Stilwell to Antioch 161 kV line for the loss of LaCygne to West Gardner 345 kV line.

3. Study Methodology

A. Description

Southwest Power Pool used Managing and Utilizing System Transmission (MUST) to obtain possible unit pairings that would relieve the constraint. MUST calculates impacts on monitored facilities for all units within the Southwest Power Pool Footprint. The SPP ATC Calculator is used to determine response factors for the time period of the reservation.

B. Model Updates

The 2006 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 Managing and Utilizing System Transmission (MUST), 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 MUST is the amount of redispatch necessary to relieve the impact on the affected flowgate.

4. Study Results

After studying the impacts of request 1257703, one flowgate requires relief. The flowgate the associated amount of relief is as follows:

Table 1

Flowgates	Sensitivity (%)	Duration	Required Relief (MW)
STIANTLACWGR	3.4	June 1 – Sept 1	8

Table 2 displays a list of generator pairs that are possible relief options for the flowgates in question.

Table 2

Source	Sink	STIANLACWGR Sensitivity (%)
JEC (WR)	BURLING2 (WR)	5.9
JEC (WR)	CC2SHAR2 (WR)	5.9
JEC (WR)	NEC (WR)	4.7
JEC (WR)	FREDON (WR)	4.6
AEC GT (WR)	BURLING2 (WR)	4.6
AEC GT (WR)	CC2SHAR2 (WR)	4.6
TWA (MPS)	S HARP (MPS)	10.0
TWA (MPS)	RGREEN (MPS)	9.0
LAKE RD (MPS)	S HARP (MPS)	8.5
GARDNER (KCPL)	LACYGNE (WR)	25.0
GARDNER (KCPL)	S HARP (MPS)	25.0
GARDNER (KCPL)	MONTROSE (KCPL)	23.0
JEC (WR)	LACYGNE (WR)	7.0
LEC (WR)	LACYGNE (WR)	6.4
TEC (WR)	LACYGNE (WR)	6.0

Table 3 displays the amount of redispatch capacity necessary for each generator pair.

Table 3

Source	Sink	STIANLACWGR Relief (MW)
JEC (WR)	BURLING2 (WR)	136
JEC (WR)	CC2SHAR2 (WR)	136
JEC (WR)	NEC (WR)	170
JEC (WR)	FREDON (WR)	174
AEC GT (WR)	BURLING2 (WR)	174
AEC GT (WR)	CC2SHAR2 (WR)	174
TWA (MPS)	S HARP (MPS)	80
TWA (MPS)	RGREEN (MPS)	88
LAKE RD (MPS)	S HARP (MPS)	94
GARDNER (KCPL)	LACYGNE (WR)	32
GARDNER (KCPL)	S HARP (MPS)	32
GARDNER (KCPL)	MONTROSE (KCPL)	35
JEC (WR)	LACYGNE (WR)	114
LEC (WR)	LACYGNE (WR)	125
TEC (WR)	LACYGNE (WR)	133

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 constraints 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. Before the Transmission Provider accepts the reservations, proof of the necessary relief options must be presented to Southwest Power Pool. Noncompliance with this guideline will result in the refusal of the reservation.