



SPP

*Southwest
Power Pool*

***System Impact Study
SPP-2003-252
For Transmission Service
Requested By:
Western Resources***

From WR to SECI

***For a Reserved Amount Of
131 MW
From 11/05/03
To 11/06/03***

SPP Transmission Planning

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1. Executive Summary

Western Resources has requested a system impact study for Daily Firm transmission service from WR to SECI. The period of the transaction is from 11/05/03 to 11/06/03. The request is for reservations 615086 and 615087 for the total amount of 131 MW.

The transactions from WR to SECI have an impact on one flowgate (SPHWMCSUMEMC), which is constrained for the period of the requests. To provide the ATC necessary for this transfer, the impact of this request on this flowgate must be relieved.

It has been determined that there is not sufficient time available to complete upgrades to the system that would relieve these flowgates.

After studying many scenarios using redispatch of unit pairs, there is a feasible solution to relieve the flowgate in question.

2. Introduction

Western Resources has requested an impact study for transmission service from WR to SECI.

There is one constrained flowgate that requires relief in order for these reservations to be accepted. The flowgate and its explanation is as follows:

- SPHWMCSUMEMC: South Phillips to West McPherson 115 KV line for the loss of Summit to East McPherson 230 KV line.

There are no facility upgrades available to relieve this flowgate that can be completed in the time period available. This impact study reviews curtailment of existing reservations as an option to relieving the transmission constraints.

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 2003 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 requests 615086 and 615087, it was determined that one flowgate is constrained. Table 1 indicates the constrained flowgate, the percent impact that reservations 615086 and 615087 have on the flowgate, and the amount of relief that must be provided in order for reservations 615086 and 615087 to be accepted.

Table 1

Flowgates	Sensitivity Numbers (%)	MW of relief required
SPHWMCSUMEMC	7.04	9.23

Table 2 provides a list of generator pairs that will relieve the SPHWMCSUMEMC flowgate.

Table 2

Source	Sink	Sensitivity Factor (%) For SPHWMCSUMEMC
WR_HEC GT3 13.8_1	WR_LEC U3 14.4_1	-46.0
WR_HEC GT2 13.8_1	WR_JEC U2 26.0_1	-47.7
WR_HEC GT4 13.8_1	WR_AEC GT1 13.8_1	-56.2

5. Conclusion

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 of the options described in the Study Results section of this document. Before the Transmission Customer accepts the reservations, 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.