



SPP

*Southwest
Power Pool*

***System Impact Study
SPP-2004-035
For Transmission Service
Requested By:
Western Resources***

From OKGE to AECL

***For a Reserved Amount Of
100 MW
From 06/01/04
To 09/01/04***

SPP Transmission Planning

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1. Executive Summary

Western Resources has requested a system impact study for monthly firm transmission service from OKGE to AECI. The period of the transaction is from 06/01/04 to 09/1/04. The request is for reservation 645640 for the amount of 100 MW.

The 100 MW transaction from OKGE to AECI has an impact on the following flowgate: LACWGRLACSTI. To provide the ATC 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 that flowgates in question.

2. Introduction

Western Resources has requested a system impact study for transmission service from OKGE to AECl.

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

- LACWRGLACSTI: Lacyne to West Gardner 345 KV line for the loss of the Lacyne to Stillwell 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 645640, one flowgate requires relief. The flowgate and associated amount of relief is as follows:

Table 1

Flowgates	Sensitivity (%)	Required Relief (MW)
LACWGRLACSTI	7.4	8

Table 2 represents reservations that, if curtailed, would offer relief for the flowgate in question.

Table 2

Transactions Path	LACWGRLACSTI Sensitivity (%)
CSWS - ERCOTE	6.7
CSWS – AMRN	9.5
OKGE – EES	6.3
SPA – WR	5.8
SPS - AMRN	7.3
WR – KCPL	13.4

Table 3 represents reservation paths with amount necessary to relieve the flowgate in question.

Transactions Path	LACWGRLACSTI (MW)
CSWS - ERCOTE	120
CSWS – AMRN	83
OKGE – EES	127
SPA – WR	138
SPS - AMRN	110
WR – KCPL	60

Table 4 represents generation redispatch options that would offer relief for the flowgate in question.

Table 4

Source	Sink	LACWGR LACSTI Sensitivity (%)
Bull Creek (KCPL)	Neosho (WR)	- 41.8
Bull Creek (KCPL)	Riverton (EDE)	-35.7
Bull Creek (KCPL)	Larusssel Entergy Center (EDE)	-33.6
Nearman (KACY)	Neosho (WR)	-33.6
Nearman (KACY)	Riverton (EDE)	-27.5
Nearman (KACY)	Larusssel Entergy Center (EDE)	-25.3
Quindaro (KACY)	Neosho (WR)	-33.3
Quindaro (KACY)	Riverton (EDE)	-27.2
Quindaro (KACY)	Larusssel Entergy Center (EDE)	-25.0

Table 5 represents the required generation that is necessary to relieve the flowgate in question.

Table 5

Source	Sink	LACWGR LACSTI Sensitivity (MW)
Bull Creek (KCPL)	Neosho (WR)	20
Bull Creek (KCPL)	Riverton (EDE)	23
Bull Creek (KCPL)	Larusssel Entergy Center (EDE)	24
Nearman (KACY)	Neosho (WR)	24
Nearman (KACY)	Riverton (EDE)	30
Nearman (KACY)	Larusssel Entergy Center (EDE)	32
Quindaro (KACY)	Neosho (WR)	25
Quindaro (KACY)	Riverton (EDE)	30
Quindaro (KACY)	Larusssel Entergy Center (EDE)	32

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 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.