



**SPP**

*Southwest  
Power Pool*

***System Impact Study  
SPP-2004-022  
For Transmission Service  
Requested By:  
Western Resources***

***From CSWS to WR***

***For a Reserved Amount Of  
250 MW  
From 05/25/04  
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 CSWS to WR. The period of the transaction is from 05/25/04 to 09/1/04. The request is for reservation 639676 for the amount of 250 MW.

The 250 MW transaction from CSWS to WR has an impact on the following flowgates: LACWGRLACSTI and KILCREWOOWIC. 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 that flowgates in question.

## 2. Introduction

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

There are two constrained flowgates that require relief in order for this reservation to be accepted. The flowgates and the explanations are as follows:

- LACWRGLACSTI: Lacyne to West Gardner 345 KV line for the loss of the Lacyne to Stillwell 345 KV line
- KILCREWOOVIC: Kildare to Creswell 138 KV line for the loss of the Woodring to Wichita 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 639676, two flowgates require relief. The flowgates and associated amount of relief is as follows:

**Table 1**

<b>Flowgates</b>	<b>Sensitivity (%)</b>	<b>Required Relief (MW)</b>
LACWGRLACSTI	7.75 (May)	20
KILCREWOOWIC	8.89 (June – September)	23

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

**Table 2**

<b>Transactions Path</b>	<b>LACWGRLACSTI Sensitivity (%)</b>	<b>KILCREWOOWIC Sensitivity (%)</b>
CSWS - ERCOTE	6.7	2.9
CSWS – AMRN	9.5	4.0
OKGE – EES	6.3	5.9
SPA – WR	5.8	6.5
SPS - AMRN	7.3	4.9
WR – KCPL	13.4	-

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

<b>Transactions Path</b>	<b>LACWGRLACSTI (MW)</b>	<b>KILCREWOOWIC (MW)</b>
CSWS - ERCOTE	298	794
CSWS – AMRN	211	575
OKGE – EES	317	390
SPA – WR	345	354
SPS - AMRN	274	470
WR – KCPL	150	-

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

**Table 4**

<b>Source</b>	<b>Sink</b>	<b>LACWGRLACSTI Sensitivity (%)</b>	<b>KILCREWOOWIC Sensitivity (%)</b>
Bull Creek (KCPL)	Neosho (WR)	- 41.8	-
Bull Creek (KCPL)	Riverton (EDE)	-35.7	-
Bull Creek (KCPL)	Larussel Entergy Center (EDE)	-33.6	-
Nearman (KACY)	Neosho (WR)	-33.6	-
Nearman (KACY)	Riverton (EDE)	-27.5	-
Nearman (KACY)	Larussel Entergy Center (EDE)	-25.3	-
Quindaro (KACY)	Neosho (WR)	-33.3	-
Quindaro (KACY)	Riverton (EDE)	-27.2	-
Quindaro (KACY)	Larussel Entergy Center (EDE)	-25.0	-
Gill (WR)	Conoco (OKGE)	-	-29.5
Gill (WR)	Sooner (OKGE)	-	-21.9
Evans (WR)	Conoco (OKGE)	-	-27.7
Evans (WR)	Sooner (OKGE)	-	-20.1

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

**Table 5**

<b>Source</b>	<b>Sink</b>	<b>LACWGRLACSTI Sensitivity (MW)</b>	<b>KILCREWOOWIC Sensitivity (MW)</b>
Bull Creek (KCPL)	Neosho (WR)	48	-
Bull Creek (KCPL)	Riverton (EDE)	57	-
Bull Creek (KCPL)	Larussel Entergy Center (EDE)	69	-
Nearman (KACY)	Neosho (WR)	69	-
Nearman (KACY)	Riverton (EDE)	73	-
Nearman (KACY)	Larussel Entergy Center (EDE)	79	-
Quindaro (KACY)	Neosho (WR)	61	-
Quindaro (KACY)	Riverton (EDE)	74	-
Quindaro (KACY)	Larussel Entergy Center (EDE)	80	-
Gill (WR)	Conoco (OKGE)	-	78
Gill (WR)	Sooner (OKGE)	-	106
Evans (WR)	Conoco (OKGE)	-	86
Evans (WR)	Sooner (OKGE)	-	115



## **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.