



**SPP**

*Southwest  
Power Pool*

***System Impact Study***

***SPP-2005-061***

***For Transmission Service***

***Requested By:***

***Southwestern Public Service  
Company***

***From WERE to SWPS***

***For a Reserved Amount Of  
25 MW***

***From 07/01/05***

***To 1/01/06***

# ***SPP Transmission Planning***

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## 1. Executive Summary

Southwester Public Service Company has requested a system impact study for monthly firm transmission service from WERE to SWPS. The period of the transaction is from 07/01/05 to a 1/1/06. The request is for reservation 895429 for the amount of 25 MW each.

The 25 MW transactions from WERE to SWPS has an impact on the following flowgates with no AFC: SPSNORTH\_STH. To provide the AFC 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

Southwestern Public Service Company has requested a system impact study for transmission service from WERE to SWPS.

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

- SPSNorth\_Sth: Bushland to Deaf Smith 230 kV line  
Potter County to Plant X 230 kV line  
Osage to Canyon 115 kV line  
Randall to Paldour 115 kV line  
Nichols Plant to Amarillo South 230 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 2005 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 requests 895429, one flowgate requires relief. The flowgate and associated amount of relief is as follows:

**Table 1**

<b>Flowgates</b>	<b>Sensitivity Redirect (%)</b>	<b>Sensitivity Original (%)</b>	<b>Duration</b>	<b>Required Relief (MW)</b>
SPSNorth_Sth	25.2	24.2	July 1 – September 1	1

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

**Table 2**

<b>Transactions Path</b>	<b>SPSNorth_Sth Sensitivity (%)</b>
AMRN – SWPS	24.2

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

**Table 3**

<b>Transactions Path</b>	<b>SPSNorth_Sth Sensitivity (MW)</b>
AMRN – SWPS	1

## **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 flowgates 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 one of these relief options must be presented to Southwest Power Pool. Noncompliance with this guideline will result in the refusal of the reservation.