



**SPP**

*Southwest  
Power Pool*

***System Impact Study  
SPP-2004-107  
For Transmission Service  
Requested By:  
Kansas Electric Power  
Cooperative***

***From SPA to EDE***

***For a Reserved Amount Of  
6 MW***

***From 08/01/2004  
To 09/01/2004***

# ***SPP Transmission Planning***

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## **1. Executive Summary**

Kansas Electric Power Cooperative has requested a system impact study for monthly firm transmission service from SPA to EDE. The period of the transaction is from 08/01/04 to 09/01/04. The request is for reservation 695764 for the amount of 6 MW.

The 6 MW transaction from SPA to EDE has an impact on the following flowgates with no ATC: MUSCLAMUSRSS 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 is a feasible scenarios that will relieve the flowgate(s) in question.

## 2. Introduction

Kansas Electric Power Cooperative has requested a system impact study for transmission service from SPA to EDE.

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

- MUSCLAMUSRSS: Muskogee to Clarksville 345 kV line for the loss of Muskogee to Riverside Station 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 695764, one flowgate requires relief. The flowgate and associated amount of relief is as follows:

**Table 1**

<b>Flowgates</b>	<b>Sensitivity (%)</b>	<b>Duration</b>	<b>Required Relief (MW)</b>
MUSCLAMUSRSS	10.4	August	1

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

**Table 2**

<b>Transactions Path</b>	<b>MUSCLAMUSRSS Sensitivity (%)</b>
SPA - EDE	10.4

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>MUSCLAMUSRSS Sensitivity (MW)</b>
SPA - EDE	6



## **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.