



SPP

*Southwest
Power Pool*

***System Impact Study
SPP-2004-202
For Transmission Service
Requested By:
Cargill Power Markets, LLC***

From WR to ERCOTN

***For a Reserved Amount Of
107 MW
From 12/28/04
To 01/24/05***

SPP Transmission Planning

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1. Executive Summary

Cargill Power Markets, LLC has requested a system impact study for monthly firm transmission service from WR to ERCOTN. The period of the transaction is from 12/28/04 to 01/24/05. The request is for reservation 815946 for the amount of 107 MW.

The 107 MW transaction from WR to ERCOTN has an impact on the following flowgates with no ATC: CREKILWOOWIC and SPHWMCSUMEMC. 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 the flowgate(s) in question.

2. Introduction

Cargill Power Markets, LLC has requested a system impact study for transmission service from WR to ERCOTN.

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

- CREKILWOOWIC: Creswell to Kildare 138 kV line for the loss of Wichita to Woodring 345 KV line
- SPHWMCSUMEMC: South Phillips to West McPherson 115 kV line for the loss of East McPherson to Summit 230 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 815946, two flowgates require relief. The flowgates and associated amount of relief is as follows:

Table 1

Flowgates	Sensitivity Redirect (%)	Sensitivity Original (%)	Duration	Required Relief (MW)
CREKILWOOWIC	10.1	8.3	December 28	2
SPHWMCSUMEMC	5.2	3.3	January 22 – 23	2

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

Table 2

Transactions Path	CREKILWOOWIC Sensitivity (%)	SPHWMCSUMEMC Sensitivity (%)
KCPL - ERCOTN	8.3	3.3

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

Table 3

Transactions Path	CREKILWOOWIC Sensitivity (MW)	SPHWMCSUMEMC Sensitivity (MW)
KCPL - ERCOTN	24	62

Table 4 displays a list of generator pairs that are possible relief options for the flowgates in question.

Table 4

Source	Sink	SPHWMCSUMEMC Sensitivity (%)
HEC (WR)	JEC (WR)	22
HEC (WR)	TEC (WR)	22

Table 5 displays the amount of redispatch capacity necessary for each generator pair.

Table 5

Source	Sink	SPHWMCSUMEMC Sensitivity (MW)
HEC (WR)	JEC (WR)	9
HEC (WR)	TEC (WR)	9

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.