SPP Southwest Power Pool

System Impact Study
SPP-2005-221
For Transmission Service
Requested By:
Westar Energy, Inc.

From WERE to ENTR

For a Reserved Amount Of
108 MW
From 12/01/05
To 05/01/06

SPP Transmission Planning

1. Executive Summary

Westar Energy, Inc has requested a system impact study for monthly firm transmission service from WERE to ENTR. The period of the transaction is from 12/01/05 to 05/01/05. The request is for reservation 955432 for the amount of 108 MW.

The 108 MW transaction from WERE to ENTR has an impact on the following flowgates with no AFC: 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

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

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

- CRAASHVALLYD: Craig Junction to Ashdown West 138 kV line for the loss of Valliant to Lydia 345 kV line

- ELDLONVALLYD: Eldorado to Longwood 345 kV line for the loss of Valliant to Lydia 345 kV line

- HPPVALPITVAL: Hugo Power Plant to Valliant 138 kV line for the loss of Pittsburg to Valliant 345 kV line

- VALLYDELDLON: Valliant to Lydia 345 kV line for the loss of Eldorado to Longwood 345 kV line

- WDRCIMSPRNRW: Woodring to Cimarron 345 kV line for the loss of OneOk to Northwest Station 345 kV line

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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 955432, five flowgates require relief. The flowgates and associated amounts of relief is as follows:

Table 1

Flowgates	Sensitivity (%)	Duration	Required Relief (MW)
CRAASHVALLYD	5.9	12/01 – 5/1/05	6
ELDLONVALLYD	4.0	12/01 – 5/1/05	4
HPPVALPITVAL	5.0	12/01 – 5/1/05	5
VALLYDELDLON	15.2	12/01 – 5/1/05	16
WDRCIMSPRNRW	11.9	12/01 – 5/1/05	13

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

Table 2

Transactions Path	CRAASHVALLYD Sensitivity (%)	ELDLONVALLYD Sensitivity (%)	HPPVALPITVAL Sensitivity (%)
WERE – TVA	3.6	-	3.0
WERE – ENTR	5.9	4.0	5.0

Transactions Path	VALLYDELDLON Sensitivity (%)	WDRCIMSPRNRW Sensitivity (%)
WERE – TVA	8.0	9.8
WERE – ENTR	15.2	11.9

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

Table 3

Transactions Path	CRAASHVALLYD Sensitivity (MW)	ELDLONVALLYD Sensitivity (MW)	HPPVALPITVAL Sensitivity (MW)
WERE – TVA	178	-	180
WERE – ENTR	108	108	108

Transactions Path	VALLYDELDLON Sensitivity (MW)	WDRCIMSPRNRW Sensitivity (MW)
WERE – TVA	205	131
WERE – ENTR	108	108

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 the necessary relief options must be presented to Southwest Power Pool. Noncompliance with this guideline will result in the refusal of the reservation.