SPP Southwest Power Pool

System Impact Study
SPP-2007-023
For Transmission Service
Requested By:
Western Farmers Electric Cooperative

From Redbud to WFEC

For a Reserved Amount Of
225 MW
From 08/01/07
To 9/01/07

1. Executive Summary

Western Farmers has requested a system impact study for monthly firm transmission service from Redbud to WFEC. The period of the transaction is from 8/01/2007 to 9/01/2007. The request is for reservation 1312227.

The 225 MW transaction from Redbud to WFEC has an impact on the following flowgate with no AFC: SILDIVNWSCIM. To provide the AFC necessary for this transfer, the impact on this flowgate must be relieved.

After studying many scenarios using generation redispatch, there are several feasible scenarios that will relieve the flowgate in question.

2. Introduction

Western Farmers has requested a system impact study for transmission service from Redbud to WFEC.

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

- SILDIVNWSCIM: Silverlake to Division 138 kV line for the loss of Northwest to Cimaron 345 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 2007 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 the request, one flowgate requires relief. The flowgate and associated amount of relief are as follows:

Table 1

Flowgates	Sensitivity (%)	Duration	Required Relief (MW)
SILDIVNWSCIM	13.5	08/01/07 – 9/01/07	30

Table 2 displays a list of generator pairs that are possible relief options for the flowgate in question.

Table 2

Source	Sink	SILDIVNWSCIM Sensitivity (%)
Anadarko (WFEC)	Spring Creek (WERE)	15.3
Blue Canyon (WFEC)	Spring Creek (WERE)	15.2
GENCO1 (WFEC)	Spring Creek (WERE)	15.2
Moreland (WFEC)	Spring Creek (WERE)	14.0

Tables 4 displays the amount of redispatch capacity necessary for each generator pair.

Table 4

Source	Sink	SILDIVNWSCIM Relief (MW)
Anadarko (WFEC)	Spring Creek (WERE)	196
Blue Canyon (WFEC)	Spring Creek (WERE)	197
GENCO1 (WFEC)	Spring Creek (WERE)	197
Moreland (WFEC)	Spring Creek (WERE)	214

5. Conclusion

Generation redispatch options were studied in order to relieve the necessary constraint. The results of this study shows that the constraints on the flowgate 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.