SPP
Southwest Power Pool

System Impact Study
SPP-2016-036
For Transmission Service
Requested By:
WRGS

From SPS to EDDY

For a Reserved Amount Of
50 MW
For 9/1/2016 – 10/1/2016

1. Executive Summary

WRGS has requested a system impact study for monthly firm transmission service from SPS to EDDY. The period of the transaction is from 9/1/2016 00:00 CDT to 10/1/2016 00:00 CDT. The request is for reservation 83274627.

The 50 MW transaction from SPS has an impact on the following flowgates with no AFC: TUCJONPLASUN, SPSNMTIES, and CARLPDLUBWOL. To provide the AFC necessary for this transfer, the impact on these flowgates must be relieved.

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

2. Introduction

WRGS has requested a system impact study for transmission service from SPS to EDDY.

There are 3 constrained flowgates that require relief in order for this reservation to be accepted. The flowgates and the explanations are as follows:

- TUCJONPLASUN: Tuco to Jones 230kV FTLO Plant X to Sundown 230kV

- SPSNMTIES: SPS to New Mexico interface limit

- CARLPDLUBWOL: Carlisle to LP-Doud Tp 115kV FTLO Lubbock South to Wolfforth 230kV

3. Study Methodology

A. Description

Southwest Power Pool used Transmission Adequacy & Reliability Assessment (TARA) to obtain possible unit pairings that would relieve the constraint. TARA 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 2016 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 Transmission Adequacy & Reliability Assessment (TARA), 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 TARA is the amount of redispatch necessary to relieve the impact on the affected flowgate.

4. Study Results

After studying the impacts of the request, two flowgates require relief. The flowgates and associated amount of relief are as follows:

Table 1

Flowgate	Duration	Sensitivity	Impact
5056:CARLPDLUBWOL	9/1/2016-10/1/2016	3.55%	2
5482:TUCJONPLASUN	9/1/2016-10/1/2016	3.9%	2
5529:SPSNMTIES	9/1/2016-10/1/2016	89.87%	45

Table 2 displays a list of generator pairs that are possible relief options for each flowgate in question and the amount of redispatch capacity needed.

Table 2

5482:TUCJONPLASUN			
Increment	**Decrement**	**Sensitivity**	**Redispatch**
Jones	Antelope	55.91%	4
Massengale	Antelope	49.62%	4
Mustang	Antelope	26.59%	8
Jones	Comanchee	52.28%	4
Massengale	Comanchee	45.98%	4
Mustang	Comanchee	22.95%	9
Jones	Southwestern	78.43%	3
Massengale	Southwestern	72.14%	3
Mustang	Southwestern	49.11%	4
5529:SPSNMTIES			
Increment	**Decrement**	**Sensitivity**	**Redispatch**
Hobbs	Tolk	76.89%	59
Cunningham	Tolk	76.77%	59
Maddox	Tolk	68.15%	68
Hobbs	Plant X	75.67%	59
Cunningham	Plant X	75.56%	60
Maddox	Plant X	64.81%	69
Hobbs	Harrington	75.37%	60
Cunningham	Harrington	75.26%	60
Maddox	Harrington	64.50%	70

5056:CARLPDLUBWOL			
Increment	Decrement	Sensitivity	Redispatch
Mustang	Massengale	32.62%	6
Hobbs	Massengale	29.18%	7
Maddox	Massengale	29.17%	7
Mustang	Jones	32.24%	6
Hobbs	Jones	28.80%	7
Maddox	Jones	28.79%	7
Mustang	Antelope	28.22%	7
Hobbs	Antelope	24.78%	8
Maddox	Antelope	24.77%	8

5. Conclusion

Generation redispatch options were studied in order to relieve the necessary constraints. 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, agreement to the redispatch costs must be presented to Southwest Power Pool. Noncompliance with this guideline will result in the refusal of the reservation.