



SPP

*Southwest
Power Pool*

***System Impact Study
SPP-2016-051
For Transmission Service
Requested By:
SPSM***

From BLKW to SPS

***For a Reserved Amount Of
25 MW
For 1/1/2017 – 5/1/2017***

1. Executive Summary

SPSM has requested a system impact study for monthly firm transmission service from BLKW to SPS. The period of the transaction is from 1/1/2017 00:00 CST to 5/1/2017 00:00 CDT. The request is for reservation 83654224.

The 25 MW transaction from SPS has an impact on the following flowgates with no AFC: TUCJONTUCCAR, TUCJONPLASUN, and SPSNMTIES. 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

SPSM has requested a system impact study for transmission service from BLKW to SPS.

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

- TUCJONTUCCAR: Tuco – Jones Sub 230 kV ftlo Tuco – Carlisle 230 kV
- TUCJONPLASUN: Tuco – Jones Sub 230 kV ftlo Plant X – Sundown 230 kV
- SPSNMTIES: SPS New Mexico tie interface

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, three flowgates require relief. The flowgates and associated amount of relief follows:

Table 1

Flowgate	Duration	Sensitivity	Impact
5444:TUCJONTUCCAR	3/1/2017 - 4/1/2017	3.4%	1
5482:TUCJONPLASUN	4/1/2017 - 5/1/2017	4.5%	1
5529:SPSNMTIES	1/1/2017 - 5/1/2017	15.4%	4

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

5444:TUCJONTUCCAR			
Increment	Decrement	Sensitivity	Redispatch MW
Jones SPS	Antelope	58.30%	2
Cooke	Antelope	55.65%	2
Jones SPS	Commanche	53.03%	2
Jones SPS	Southwest Station	52.72%	2
Cooke	Commanche	50.39%	2
Cooke	Southwest Station	50.08%	2
Mustang SPS	Antelope	28.04%	4
Mustang SPS	Commanche	22.77%	4
Mustang SPS	Southwest Station	22.47%	4

5482:TUCJONPLASUN			
Increment	Decrement	Sensitivity	Redispatch MW
Jones SPS	Antelope	55.92%	2
Jones SPS	Commanche	52.34%	2
Jones SPS	Southwest Station	52.13%	2
Cooke	Antelope	51.16%	2
Cooke	Commanche	47.58%	2
Cooke	Southwest Station	47.37%	2
Mustang SPS	Antelope	26.60%	4
Mustang SPS	Commanche	23.01%	4
Mustang SPS	Southwest Station	22.80%	4

5529:SPSNMTIES			
Increment	Decrement	Sensitivity	Redispatch MW
Hobbs	Tolk	76.90%	5
Cunningham	Tolk	76.79%	5
Hobbs	Plant X	76.29%	5
Cunningham	Plant X	76.18%	5
Hobbs	Harrington	75.43%	5
Cunningham	Harrington	75.31%	5
Maddox	Tolk	66.03%	6
Maddox	Plant X	65.42%	6
Maddox	Harrington	64.56%	6

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.