



SPP *Southwest
Power Pool*

***System Impact Study
SPP-2018-013
For Transmission Service
Requested By:
REMC***

From SPS.JDWIND1 to EDDY

***For a Reserved Amount Of
50 MW***

***From 02/10/2018
To 02/25/2018***

1. Executive Summary

REMC has requested a system impact study for weekly firm transmission service from SPS.JDWIND1 to EDDY. The period of the transaction is from 02/10/2018 00:00:00 to 02/25/2018 00:00:00. The request is for reservation 86291344.

The 50MW transaction from SPS.JDWIND1 has an impact on the following flowgates with no AFC: SPSNMTIES, MRTPANHUTMRT, TUCXF2TUCXF1. To provide the AFC necessary for this transfer, the impact on these flowgates must be relieved.

2. Introduction

DCT has requested a system impact study for transmission service from SPS.JDWIND1 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:

- SPSNMTIES: CROSSRDS – EDDY_CO 345 kV.
- MRTPANHUTMRT: Martin – Pantex 115 kV for the loss of the Martin – Hutch 115 kV.
- TUCXF2TUCXF1: TUCO XFMR 2 for the loss of the TUCO XFMR 1.

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 2018 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 (%)	Required Relief (MW)
5529:SPSNMTIES	2/10/2018 00:00 - 2/25/2018 00:00	66.01%	33
5590:MRTPANHUTMRT	2/10/2018 00:00 - 2/25/2018 00:00	3.73%	2
5643:TUCXF2TUCXF1	2/10/2018 00:00 - 2/25/2018 00:00	10.01%	5

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

Table 2

5529:SPSNMTIES			
Increment	Decrement	Sensitivity	MW
Cunningham	Harrington	76.80%	43
Cunningham	Nichols	76.80%	43
Cunningham	Blackhawk	76.77%	43
Hobbs	Harrington	67.37%	49
Hobbs	Nichols	67.36%	49
Hobbs	Blackhawk	67.33%	49
Maddox	Harrington	66.88%	49
Maddox	Nichols	66.88%	49
Maddox	Blackhawk	66.84%	49

5590:MRTPANHUTMRT			
Increment	Decrement	Sensitivity	MW
No redispatch pairs were available.			

5643:TUCXF2TUCXF1			
Increment	Decrement	Sensitivity	MW
Jones	Anadarko	53.24%	9
Jones	Turk	52.69%	9
Jones	Welsh	52.62%	10
Mustang	Anadarko	48.28%	10
Mustang	Turk	47.73%	10
Mustang	Welsh	47.65%	10
Hobbs	Anadarko	47.61%	11
Hobbs	Turk	47.06%	11
Hobbs	Welsh	46.98%	11

5. Conclusion

Generation redispatch options were studied in order to relieve the necessary constraint. The result of this study shows that the constraints on the flowgates in question could not be relieved by executing one of the options described in the Study Results section of this document. The reservation will be refused due to no ATC on the impacted flowgates.