



SPP *Southwest Power Pool*

***System Impact Study
SPP-2024-040
For Transmission Service
Requested By:
REMC***

***From SPS.ROSWELL_PV to
ERCOTN***

***For a Reserved Amount Of
120 MW***

***From 05/07/2024
To 05/18/2024***

1. Executive Summary

REMC has requested a system impact study for weekly firm transmission service from SPS.ROSWELL_PV to ERCOTN. The period of the transaction is from 05/07/2024 00:00 to 05/18/2024 00:00. The request is for reservation 102770556.

The 120 MW transaction from SPS.ROSWELL_PV has an impact on the following flowgate(s) with no AFC: SWECHIOKUTUC. 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(s) in question.

2. Introduction

REMC has requested a system impact study for transmission service from SPS.ROSWELL_PV to ERCOTN.

One constrained flowgate requires relief for this reservation to be accepted. The flowgate and the explanation are as follows:

- SWECHIOKUTUC: Sweetwater – Chisholm 230 kV for the loss of Oklaunion – Tuco 345 kV.

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 2024 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 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, one flowgate requires relief. The flowgate and associated amount of relief are as follows:

Table 1

Flowgate	Duration	Sensitivity (%)	Required Relief (MW)
5116:SWECHIOKUTUC	5/7/2024 00:00 - 5/14/2024 00:00	15.80%	18.96

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

5116:SWECHIOKUTUC			
Increment	Decrement	Sensitivity	MW
HSL 7S	NICHOLS_3-1	23.23%	81.63
HSL 7S	HARRNGTON3-1	23.00%	82.43
FULTONU1 1	NICHOLS_3-1	22.96%	82.60
WILKE3-1	NICHOLS_3-1	22.93%	82.69
FULTONU1 1	HARRNGTON3-1	22.73%	83.42
WILKE3-1	HARRNGTON3-1	22.70%	83.51
HSL 7S	PLANT_X4	18.23%	104.02
FULTONU1 1	PLANT_X4	17.96%	105.59

5. Conclusion

Generation redispatch options were studied to relieve the necessary constraint(s). The results of this study show that the constraint on the flowgate(s) in question could be relieved by executing one or more of the options described in the Study Results section of this document.