SPP Southwest Power Pool

System Impact Study
SPP-2025-025
For Transmission Service
Requested By:
CHAN

From SPA to WR_SEG

For a Reserved Amount Of
2 MW

From 08/01/2025
To 12/01/2025

1. Executive Summary

CHAN has requested a system impact study for daily firm transmission service from SPA to WR_SEG. The period of the transaction is from 08/01/2025 00:00 to 12/01/2025 00:00. The request is for reservation 106373894.

The 2 MW transaction from SPA has an impact on the following flowgate(s) with no AFC: VINHAYKNOXFR, COPSTJCPFRSJ, and WICBENVIOREN. 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

CHAN has requested a system impact study for transmission service from SPA to WR_SEG.

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

- VINHAYKNOXFR: Vine Tap – North Hays 155 kV for the loss of Knoll North to Knoll 3 230 kV

- COPSTJCPFRSJ: Cooper – St. Joe 345 kV for the loss of St. Joe to Fairport to Cooper 345 kV

- WICBENVIOREN: Wichita – Benton 345 kV for the loss of Viola – Renfrow 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 duration of the reservation.

B. Model Updates

The 2025 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(s).

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)
5406:VINHAYKNOXFR	8/1/2025 00:00 - 12/1/2025 00:00	4.79%	0.10
5566:COPSTJCPFRSJ	8/1/2025 00:00 - 8/4/2025 00:00	3.31%	0.07
5740:WICBENVIOREN	9/1/2025 00:00 - 10/1/2025 00:00	6.61%	0.13

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

5406:VINHAYKNOXFR			
Increment	**Decrement**	**Sensitivity**	**MW**
GMECG1 1	SOONER1G	67.58%	0.15

5566:COPSTJCPFRSJ			
Increment	**Decrement**	**Sensitivity**	**MW**
LAKERD34-5	GENTLM1G	36.66%	0.19
CGENSUB2	GENTLM1G	16.43%	0.43

5740:WICBENVIOREN			
Increment	**Decrement**	**Sensitivity**	**MW**
CGENSUB2	GENTLM1G	20.98%	0.62

5. Conclusion

Generation redispatch options were studied to relieve the necessary constraints. The results of this study show that the constraints 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.