



SPP *Southwest
Power Pool*

***System Impact Study
SPP-2024-054
For Transmission Service
Requested By:
ATOP***

From OKGE to ERCOTE

***For a Reserved Amount Of
100 MW***

***From 09/01/2024
To 11/01/2024***

1. Executive Summary

ATOP has requested a system impact study for monthly firm transmission service from OKGE to ERCOTE. The period of the transaction is from 09/01/2024 00:00 to 11/01/2024 00:00. The request is for reservation 103156667.

The 100 MW transaction from OKGE has an impact on the following flowgate(s) with no AFC: WASSWSLESGRA, SWIWGRWERHOY. To provide the AFC necessary for this transfer, the impact on these flowgate(s) 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

ATOP has requested a system impact study for transmission service from OKGE to ERCOTE.

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

- WASSWSLESGRA: Washita – Southwestern Station 138kV for the loss of Lawton – Gracemont 345 kV.
- SWIWGRWERHOY: Swissvale – West Gardner for the loss of Hoyt – Stranger Creek 345kV.

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 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)
5117:WASSWSLESGRA	10/1/2024 00:00 - 11/1/2024 00:00	3.49%	3.49
5721:SWIWGRWERHOY	9/1/2024 00:00 - 11/1/2024 00:00	3.63%	3.63

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

5117:WASSWSLESGRA			
Increment	Decrement	Sensitivity	MW
TUCO_INT 7_1	REDBUD1G-CT	3.30%	105.82
TUCO_INT 7_1	JEC U1	2.84%	122.80

5721:SWIWGRWERHOY			
Increment	Decrement	Sensitivity	MW
GRNWD#1	JEC U1	42.29%	8.58
GRNWD#1	REDBUD1G-CT	15.47%	23.47

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.