System Impact Study
SPP-2025-001
For Transmission Service
Requested By:
MAG

From ERCOTN to OKGE

For a Reserved Amount Of
110 MW

From 01/06/2025
To 01/08/2025

1. Executive Summary

MAG has requested a system impact study for daily firm transmission service from ERCOTN to OKGE. The period of the transaction is from 01/06/2025 00:00 to 01/08/2025 00:00. The request is for reservation 104863675.

The 110 MW transaction from ERCOTN has an impact on the following flowgate(s) with no AFC: CIMXF3CIMXF2, CIMXF2CIMXF3, SWSANAGRAANA. 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

MAG has requested a system impact study for transmission service from ERCOTN to OKGE.

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

- CIMXF3CIMXF2: Cimaron 7 – Cimaron 4 138 kV for the loss of the Cimaron 4 – Cimaron 7 345 kV.

- CIMXF2CIMXF3: Cimaron 7 – Cimaron 4 138 kV for the loss of the Cimaron 4 – Cimaron 7 345 kV.

- SWSANAGRAANA: Southwestern Station – Anadarko 130 kV for the loss of Gracemont – Anadarko 138 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 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 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 are as follows:

Table 1

Flowgate	Duration	Sensitivity (%)	Required Relief (MW)
5123:CIMXF3CIMXF2	1/6/2025 00:00 - 1/8/2025 00:00	5.60%	6.17
5136:CIMXF2CIMXF3	1/6/2025 00:00 - 1/8/2025 00:00	5.41%	5.95
5716:SWSANAGRAANA	1/6/2025 00:00 - 1/8/2025 00:00	4.50%	4.95

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

5123:CIMXF3CIMXF2			
Increment	**Decrement**	**Sensitivity**	**MW**
MSTNG 9G	SOONER2G	17.16%	35.97

5136:CIMXF2CIMXF3			
Increment	**Decrement**	**Sensitivity**	**MW**
MSTNG 9G	SOONER2G	16.46%	36.14

5716:SWSANAGRAANA			
Increment	**Decrement**	**Sensitivity**	**MW**
ANADRK4	SOONER2G	46.41%	10.67

5. Conclusion

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