



**SPP** *Southwest  
Power Pool*

***System Impact Study  
SPP-2024-045  
For Transmission Service  
Requested By:  
TEA***

***From CSWS.EASTMAN to ERCOTE***

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

***From 05/25/2024  
To 06/01/2024***

## **1. Executive Summary**

TEA has requested a system impact study for weekly firm transmission service from CSWS.EASTMAN to ERCOTE. The period of the transaction is from 05/25/2024 00:00 to 06/01/2024 00:00. The request is for reservation 102871451.

The 50 MW transaction from CSWS.EASTMAN has an impact on the following flowgate(s) with no AFC: SABSEMPIRDIA, LYDVALNWTVAL. 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**

TEA has requested a system impact study for transmission service from CSWS.EASTMAN to ERCOTE.

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

- SABSEMPIRDIA: Sabin Mining – S.E. Marshall 138 kV for the loss of Pirkey – Diana 345 kV.
- LYDVALNWTVAL: Lydia – Valiant 345 kV for the loss of Northwest Texarkana – Valiant 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, two flowgates require relief. The flowgates and associated amount of relief are as follows:

**Table 1**

Flowgate	Duration	Sensitivity (%)	Required Relief (MW)
5212:SABSEMPIRDIA	5/25/2024 00:00 - 6/1/2024 00:00	14.61%	7.30
5658:LYDVALNWTVAL	5/25/2024 00:00 - 6/1/2024 00:00	28.65%	14.32

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**

5212:SABSEMPIRDIA			
Increment	Decrement	Sensitivity	MW
L1G382 1	LEBROCS1	16.97%	43.01
MATISN-1	LEBROCS1	16.97%	43.03
GREC TAP7	LEBROCS1	16.96%	43.04
L1G382 1	KNOXLEE4	11.40%	64.03
MATISN-1	KNOXLEE4	11.39%	64.07
GREC TAP7	KNOXLEE4	11.39%	64.10
L1G382 1	ESTGAS1	11.20%	65.17
MATISN-1	ESTGAS1	11.20%	65.21
GREC TAP7	ESTGAS1	11.19%	65.24

5658:LYDVALNWTVAL			
Increment	Decrement	Sensitivity	MW
GREC TAP7	LEBROCS1	37.65%	38.03
GREC TAP7	ESTGAS1	37.50%	38.19
MATISN-1	LEBROCS1	37.31%	38.38
GREC TAP7	KNOXLEE4	37.18%	38.51
MATISN-1	ESTGAS1	37.15%	38.54
MATISN-1	KNOXLEE4	36.84%	38.87
L1G382 1	LEBROCS1	35.30%	40.57
L1G382 1	ESTGAS1	35.14%	40.75
L1G382 1	KNOXLEE4	34.83%	41.11

## **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.