# System Impact Study
# SPP-2024-050
# For Transmission Service
# Requested By:
# TNSK

# From CSWS.RSHSPRNGA to ERCOTE

# For a Reserved Amount Of 50 MW

# From 07/01/2024 To 10/01/2024

## 1. Executive Summary

TNSK has requested a system impact study for monthly firm transmission service from CSWS.RSHSPRNGA to ERCOTE. The period of the transaction is from 07/01/2024 00:00 to 10/01/2024 00:00. The request is for reservation 102729742.

The 50 MW transaction from CSWS.RSHSPRNGA has an impact on the following flowgate with no AFC: SWIWGRWERHOY. 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 in question.

## 2. Introduction

TNSK has requested a system impact study for transmission service from CSWS.RSHSPRNGA to ERCOTE.

There is one constrained flowgate that requires relief for this reservation to be accepted. The flowgate and the explanation are as follows:

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

**Table 1**

| Flowgate | Duration | Sensitivity (%) | Required Relief (MW) |
|---|---|---|---|
| 5721:SWIWGRWERHOY | 7/1/2024 00:00 - 10/1/2024 00:00 | 3.09% | 1.55 |
| | | | |
| | | | |

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**

| 5721:SWIWGRWERHOY | | | |
|---|---|---|---|
| **Increment** | **Decrement** | **Sensitivity** | **MW** |
| CASS 1G | JEC U1 | 33.57% | 4.62 |
| LES_CBLUF3 | JEC U1 | 33.45% | 4.63 |
| JRPS GT2-1 | JEC U1 | 32.93% | 4.71 |
| CASS 1G | HARRNGTON3-1 | 9.03% | 17.17 |
| LES_CBLUF3 | HARRNGTON3-1 | 8.92% | 17.39 |
| JRPS GT2-1 | HARRNGTON3-1 | 8.39% | 18.47 |
| CASS 1G | ANADRK5 | 7.17% | 21.63 |
| LES_CBLUF3 | ANADRK5 | 7.05% | 21.98 |
| JRPS GT2-1 | ANADRK5 | 6.53% | 23.75 |

## 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.