



SPP

*Southwest
Power Pool*

***System Impact Study
SPP-2025-040***

***For Transmission Service
Requested By:
OPPM***

From OPPD to NPPD.OPPD.LDX

***For a Reserved Amount Of
7 MW***

***From 10/01/2025
To 04/01/2026***

1. Executive Summary

OPPM has requested a system impact study for monthly firm transmission service from OPPD to NPPD.OPPD.LDX. The period of the transaction is from 10/01/2025 00:00 to 04/01/2026 00:00. The request is for reservation 106855005.

The 7 MW transaction from OPPD has an impact on the following flowgate(s) with no AFC: SHEBENSHEFOL and KELXFRTECXFR. To provide the AFC necessary for this transfer, the impact on the 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

OPPM has requested a system impact study for transmission service from OPPD to NPPD.OPPD.LDX.

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

- SHEBENSHEFOL: SW 7th & Bennet – Sheldon 115kV for the loss of Sheldon – Folsom & Pleasant Hill 115kV
- KELXFRTECXFR: Kelly 161/115/13.8 kV XF 1 for the loss of Tecumseh Hill 161/115/12.47 kV XF 1

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, two flowgates require relief. The flowgates and associated amount of relief are as follows:

Table 1

Flowgate	Duration	Sensitivity (%)	Required Relief (MW)
5688:SHEBENSHEFOL	12/1/2025 00:00 - 3/1/2026 00:00	10.72%	0.75
5739:KELXFRTECXFR	10/1/2025 00:00 - 12/1/2025 00:00	3.81%	0.27

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

5688:SHEBENSHEFOL			
Increment	Decrement	Sensitivity	MW
MCPHGT4	TBGS 2G	14.25%	5.26
HOLCGEN1	TBGS 2G	14.20%	5.28
JEC U3	TBGS 2G	14.19%	5.29
MCPHGT4	SARPY 3G	2.11%	35.56
MCPHGT4	CASS 1G	2.09%	35.92
HOLCGEN1	SARPY 3G	2.05%	36.55
JEC U3	SARPY 3G	2.05%	36.67
HOLCGEN1	CASS 1G	2.03%	36.93
JEC U3	CASS 1G	2.02%	37.06

5739:KELXFRTECXFR			
Increment	Decrement	Sensitivity	MW
JEC U3	SARPY 3G	5.57%	4.84
JEC U3	CASS 1G	5.20%	5.19
JEC U3	TBGS 2G	5.13%	5.27
MCPHGT4	SARPY 3G	4.71%	5.74
MCPHGT4	CASS 1G	4.33%	6.23
MCPHGT4	TBGS 2G	4.26%	6.34
HOLCGEN1	SARPY 3G	3.39%	7.97
HOLCGEN1	CASS 1G	3.01%	8.96
HOLCGEN1	TBGS 2G	2.94%	9.18

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.