



SPP *Southwest Power Pool*

***System Impact Study
SPP-2023-067
For Transmission Service
Requested By:
OPPM***

From OPPD to NPPD.OPPD.LDX

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

***From 11/4/2023
To 11/18/2023***

1. Executive Summary

OPPM has requested a system impact study for weekly firm transmission service from OPPD to NPPD.OPPD.LDX. The period of the transaction is from 11/4/2023 00:00 to 11/18/2023 23:00. The request is for reservation 101092465.

The 7 MW transaction from OPPD has an impact on the following flowgate with no AFC: SHEBENSHEFOL. 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

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

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

- SHEBENSHEFOL: SW 7th & Bennet - Sheldon 115kV for the loss of Sheldon – Folsom & Pleasant Hill.

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 2023 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, one flowgate requires relief. The flowgate and associated amount of relief are as follows:

Table 1

Flowgate	Duration	Sensitivity (%)	Required Relief (MW)
5688:SHEBENSHEFOL	11/4/2023 00:00 - 11/18/2023 00:00	7.24%	0.51

Table 2 displays a list of generator pairs that are possible relief options for the flowgate in question and the amount of redispatch capacity needed.

Table 2

5688:SHEBENSHEFOL			
Increment	Decrement	Sensitivity	MW
SHELDON7	TBGS 2G	41.32%	1.23
SHELDON7	SARPY 3G	29.17%	1.75
SHELDON7	JONES 1G	29.15%	1.75
EGYCTR2G	TBGS 2G	15.59%	3.27
CANADAY7	TBGS 2G	14.46%	3.53
EGYCTR2G	SARPY 3G	3.44%	14.82
EGYCTR2G	JONES 1G	3.43%	14.89
CANADAY7	SARPY 3G	2.30%	22.14
CANADAY7	JONES 1G	2.29%	22.29

5. Conclusion

Generation redispatch options were studied in order to relieve the necessary constraints. The results of this study shows that the constraints on the flowgate in question could be relieved by executing one or more of the options described in the Study Results section of this document.