SYSTEM IMPACT STUDY SPP-2026-064

REQUESTED BY: TEA

INTERFACE: WAUE.PCWF.PCWF TO MEC

RESERVED AMOUNT: 50 MW

TRANSACTION PERIOD: 07/01/2026 – 07/08/2026

EXECUTIVE SUMMARY

TEA has requested a system impact study for weekly firm transmission service from WAUE.PCWF.PCWF to MEC. The transaction period is from 07/01/2026 00:00 to 07/08/2026 00:00. The reservation request number is 109850522.

The 50 MW transaction from WAUE.PCWF.PCWF has an impact on the following flowgate(s) with no AFC: NEB456WAG454, NEBS56S40S55. 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.

INTRODUCTION

TEA has requested a system impact study for transmission service from WAUE.PCWF.PCWF to MEC.

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

Flowgate	Description
NEB456WAG454	Nebraska City – Sub 3456 345 kV for the loss of Sub 3456 – Wagener 345 kV
NEBS56S40S55	Nebraska City – Sub 3456 345 kV for the loss of Sub 3740 – Sub 3455 345 kV

STUDY METHODOLOGY

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 reservation transaction period.

MODEL UPDATES

The 2026 Southwest Power Pool model was used for the study. This model was updated to reflect the most current information available.

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.

STUDY RESULTS

After studying the impacts of the request, two flowgates require relief. The flowgates and the associated amount of relief are as follows:

Table 1

Flowgate	Duration	Sensitivity (%)	Required Relief (MW)
5759: NEB456WAG454	7/1/2026 00:00 - 7/8/2026 00:00	4.41%	2.21
5508: NEBS56S40S55	7/1/2026 00:00 - 7/8/2026 00:00	3.79%	1.90

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

5759: NEB456WAG454			
Increment	**Decrement**	**Sensitivity**	**MW**
N OMA 3G	SOONER1G	21.41%	10.32
N OMA 3G	SEMINL1G	21.12%	10.46
N OMA 3G	MUSKOG5G	20.98%	10.53
FREM 8G	SOONER1G	16.32%	13.54
FREM 8G	SEMINL1G	16.03%	13.79
FREM 8G	MUSKOG5G	15.89%	13.91

5508: NEBS56S40S55			
Increment	**Decrement**	**Sensitivity**	**MW**
N OMA 3G	SOONER1G	22.73%	7.87
N OMA 3G	SEMINL1G	22.39%	7.99
N OMA 3G	MUSKOG5G	22.33%	8.02
FREM 8G	SOONER1G	18.22%	9.82
FREM 8G	SEMINL1G	17.88%	10.01
FREM 8G	MUSKOG5G	17.82%	10.05

CONCLUSION

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