



SPP

*Southwest
Power Pool*

***System Impact Study
SPP-2015-014
For Transmission Service
Requested By:
MOWR***

***From DOGWOOD.MJMEUC to
MOWR_MOPEMPS***

***For a Reserved Amount Of
25 MW***

For 1/1/2016 – 7/1/2016

1. Executive Summary

MOWR has requested a system impact study for monthly firm transmission service from DOGWOOD.MJMEUS to MOWR_MOPEPMP. The period of the transaction is from 1/1/2016 00:00 CST to 7/1/2016 00:00 CST. The request is for reservation 81878982.

The 25 MW transaction from MPS has an impact on the following flowgates with no AFC: LACNEOEMPWIC and IATSTRNASHAW. 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

MOWR has requested a system impact study for transmission service from DOGWOOD.MJMEUC to MOWR_MOPEMPS.

There are 2 constrained flowgates that require relief in order for this reservation to be accepted. The flowgates and the explanations are as follows:

- LACNEOEMPWIC: Lacygne - Neosho 345kV for the loss of Emporia – Wichita 345kV line.
- IATSTRNASHAW: Iatan - Stranger 345 kV line for the loss of – Nashua - Hawthorne 345 kV line.

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 2015 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 %	Impact MW
5022 : LACNEOEMPWIC	1/1/2016 - 7/1/2016	3.0%	1
5228 : IATSTRNASHAW	1/1/2016 - 6/1/2016	8.0%	2

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

5228 : IATSTRNASHAW			
Increment	Decrement	Sensitivity	Redispatch
JEC	Iatan	60.25%	3
LEC	Iatan	60.08%	3
TEC	Iatan	57.91%	3
JEC	Lake Road	46.81%	4
LEC	Lake Road	46.64%	4
TEC	Lake Road	44.47%	4
JEC	Nebraska City	32.95%	6
LEC	Nebraska City	32.78%	6
TEC	Nebraska City	30.61%	7
5022 : LACNEOEMPWIC			
Increment	Decrement	Sensitivity	Redispatch
Asbury	Lacygne	34.31%	3
NES	Lacygne	34.00%	3
Stateline	Lacygne	33.70%	3
Asbury	WG CT	24.94%	4
NES	WG CT	24.63%	4
Stateline	WG CT	24.33%	4
Asbury	S. Harp	23.52%	4
NES	S. Harp	23.21%	4
Stateline	S. Harp	22.91%	4

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 flowgates in question could be relieved by executing one or more of the options described in the Study Results section of this document. Before the Transmission Provider accepts the reservations, agreement to the redispatch costs must be presented to Southwest Power Pool. Noncompliance with this guideline will result in the refusal of the reservation.