



SPP *Southwest
Power Pool*

***System Impact Study
SPP-2014-003
For Transmission Service
Requested By:
OMPA***

***From OKGE.SC.WR to
OKGE.OMPA***

***For a Reserved Amount Of
40 MW
For 6/1/2014 – 10/1/2014***

1. Executive Summary

OMPA has requested a system impact study for monthly firm transmission service from OKGE.SC.WR to OKGE.OMPA. The period of the transaction is from 6/1/2014 00:00 to 10/1/2014 00:00. The request is for reservation 79295188.

The 40 MW transaction from OKGE.SC.WR has an impact on the following flowgates with no AFC: WDRCIMSPRNRW. 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

OMPA has requested a system impact study for transmission service from OKGE.SC.WR to OKGE.OMPA.

There is 1 constrained flowgate that requires relief in order for this reservation to be accepted. The flowgate and the explanations are as follows:

- WDRCIMSPRNRW: Woodring – Cimarron 345 kV line for the loss of the Spring Creek – Northwest Station 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 2014 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)
5214 : WDRCIMSPRNRW	6/1/2014 - 7/1/2014	30.7%	12

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

5214 : WDRCIMSPRNRW			
Increment	Decrement	Sensitivity	Impact
Mustang OKGE	Chisholm View Wind OKGE	45.2%	27
McClain OKGE	Chisholm View Wind OKGE	45.0%	27
Smith OKGE	Chisholm View Wind OKGE	44.9%	27
Anadarko WFEC	Chisholm View Wind OKGE	44.4%	27
Genco WFEC	Chisholm View Wind OKGE	44.4%	27
Orme WFEC	Chisholm View Wind OKGE	44.4%	27
Mustang OKGE	Flat Ridge Wind 2	33.8%	35
McClain OKGE	Flat Ridge Wind 2	33.7%	36
Smith OKGE	Flat Ridge Wind 2	33.6%	36
Mustang OKGE	Sooner OKGE	33.3%	36
Mustang OKGE	Spring Creek WR	33.2%	36
McClain OKGE	Sooner OKGE	33.1%	36
McClain OKGE	Spring Creek WR	33.1%	36
Smith OKGE	Sooner OKGE	33.0%	36
Anadarko WFEC	Flat Ridge Wind 2	33.0%	36
Genco WFEC	Flat Ridge Wind 2	33.0%	36
Orme WFEC	Flat Ridge Wind 2	33.0%	36
Smith OKGE	Spring Creek WR	33.0%	36
Anadarko WFEC	Sooner OKGE	32.5%	37
Genco WFEC	Sooner OKGE	32.5%	37
Orme WFEC	Sooner OKGE	32.5%	37
Anadarko WFEC	Spring Creek WR	32.5%	37
Genco WFEC	Spring Creek WR	32.5%	37
Orme WFEC	Spring Creek WR	32.5%	37

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, proof of the necessary relief options must be presented to Southwest Power Pool. Noncompliance with this guideline will result in the refusal of the reservation.