Southwest Power Pool

System Impact Study
SPP-2014-007
For Transmission Service
Requested By:
OGE

From CSWS to OGE

For a Reserved Amount Of
100 MW
For 5/16/2014 – 9/1/2014

1. Executive Summary

OGE has requested a system impact study for monthly firm transmission service from CSWS to OGE. The period of the transaction is from 5/16/2014 00:00 to 9/1/2014 00:00. The request is for reservation79581425.

The 100 MW transaction from CSWS has an impact on the following flowgates with no AFC: PITSEMPITJHN and 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

OGE has requested a system impact study for transmission service from CSWS to OGE.

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

- PITSEMPITJHN: Pittsburg – Seminole 345 kV for the loss of the Pittsburg – Johnston County 345 kV

- WDRCIMSPRNRW: Woodring – Cimarron 345 kV for the loss of Spring Creek – Northwest Station 345 kV

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

Table 1

Flowgate	Duration	Sensitivity (%)	Required Relief (MW)
5099:PITSEMPITJHN	5/16/2014 - 6/1/2014	8.7%	9
5214:WDRCIMSPRNRW	5/16/2014 - 9/1/2014	11.9%	12

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

Table 2

5099:PITSEMPITJHN			
Increment	**Decrement**	**Sensitivity (%)**	**Redispatch Required (MW)**
Seminole OKGE	Hugo WFEC	35.7%	25
Seminole OKGE	Turk AEP	33.4%	27
Seminole OKGE	Welsh AEP	33.1%	27
Seminole OKGE	Wilkes AEP	32.2%	28
McClain OKGE	Hugo WFEC	27.7%	32
Smith CoGen OKGE	Hugo WFEC	27.0%	33
Horseshoe Lake OKGE	Hugo WFEC	27.0%	33
McClain OKGE	Turk AEP	25.3%	36
McClain OKGE	Welsh AEP	25.1%	36
Smith CoGen OKGE	Turk AEP	24.7%	36
Horseshoe Lake OKGE	Turk AEP	24.6%	37
Smith CoGen OKGE	Welsh AEP	24.4%	37
Horseshoe Lake OKGE	Welsh AEP	24.3%	37
McClain OKGE	Wilkes AEP	24.1%	37
Smith CoGen OKGE	Wilkes AEP	23.5%	38
Horseshoe Lake OKGE	Wilkes AEP	23.4%	38

5214:WDRCIMSPRNRW			
Increment	**Decrement**	**Sensitivity (%)**	**Redispatch Required (MW)**
Mustang OKGE	Chisholm View OKGE	45.3%	26
McClain OKGE	Chisholm View OKGE	45.1%	27
Smith CoGen OKGE	Chisholm View OKGE	45.1%	27
Mustang OKGE	Sooner OKGE	33.4%	36
Mustang OKGE	Spring Creek WR	33.4%	36
McClain OKGE	Sooner OKGE	33.2%	36
McClain OKGE	Spring Creek WR	33.2%	36
Smith CoGen OKGE	Sooner OKGE	33.2%	36
Smith CoGen OKGE	Spring Creek WR	33.2%	36

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