Southwest Power Pool

System Impact Study
SPP-2012-005
For Transmission Service
Requested By:
EXGN

From GREENCOUNTRY to
CSWS.OMPA

For a Reserved Amount Of
120 MW
From 7/1/2012
To 9/1/2012

1. Executive Summary

EXGN has requested a system impact study for monthly firm transmission service from GREENCOUNTRY to CSWS.OMPA. The period of the transaction is from 6/30/2012 23:00 CST to 8/31/2012 23:00 CST. The request is for reservations 77054987 and 77055000.

The 120 MW transaction from GREENCOUNTRY has an impact on the following flowgates with no AFC: VALLYDELDLON, FLCXFRFLCXFR, PITVALELDLON, and ONEBANCLKCHA. 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

EXGN has requested a system impact study for transmission service from GREENCOUNTRY to CSWS.OMPA.

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

- VALLYDELDLON: Valliant – Lydia 345 kV line for the loss of the Sarepta – Longwood 345 kV line.

- FLCXFRFLCXFR: Flint Creek 345/161 kV transformer for the loss of the Flint Creek 345/161 kV transformer.

- PITVALELDLON: Pittsburg – Valliant 345 kV line for the loss of the Sarepta – Longwood 345 kV line.

- ONEBANCLKCHA: Oneta – BA_North 138 kV line for the loss of the Clarksville – Chambers 345 kV line.

3. Study Methodology

A. Description

Southwest Power Pool used Managing and Utilizing System Transmission (MUST) to obtain possible unit pairings that would relieve the constraint. MUST 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 2012 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 Managing and Utilizing System Transmission (MUST), 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 MUST 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)
5413:ONEBANCLKCHA	7/1/2012 - 9/1/2012	3.3%	1
5262:PITVALELDLON	7/1/2012 - 8/1/2012	13.3%	1
5215:VALLYDELDLON	7/1/2012 - 8/1/2012	20.7%	2
5249:FLCXFRFLCXFR	7/1/2012 - 9/1/2012	3.5%	4

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

5215 VALLYDELDLON			
Increment	**Decrement**	**Sensitivity**	**MW**
CSWS Welsh	OKGE Seminole	58.7%	3.4
CSWS Welsh	CSWS Comanche	58.5%	3.4
CSWS Welsh	CSWS Southwestern Station	58.1%	3.4
CSWS Welsh	OKGE McClain	57.3%	3.5
CSWS Welsh	OKGE Mustang	57.0%	3.5
CSWS Welsh	OKGE Horseshoe Lake	56.9%	3.5
CSWS Wilkes	OKGE Seminole	55.6%	3.6
CSWS Wilkes	CSWS Comanche	55.5%	3.6
CSWS Wilkes	CSWS Southwestern Station	55.1%	3.6
CSWS Wilkes	OKGE McClain	54.3%	3.7
CSWS Wilkes	OKGE Mustang	54.0%	3.7
CSWS Wilkes	OKGE Horseshoe Lake	53.8%	3.7
CSWS Pirkey	OKGE Seminole	54.9%	3.6
CSWS Pirkey	CSWS Comanche	54.7%	3.7
CSWS Pirkey	CSWS Southwestern Station	54.3%	3.7
CSWS Pirkey	OKGE McClain	53.5%	3.7
CSWS Pirkey	OKGE Mustang	53.2%	3.8
CSWS Pirkey	OKGE Horseshoe Lake	53.1%	3.8

5249 FLCXFRFLCXFR			
Increment	Decrement	Sensitivity	MW
CSWS Flint Creek	GRDA 17	51.9%	7.7
CSWS Flint Creek	CSWS Northeast Station	42.1%	9.5
CSWS Mattison	GRDA 17	41.7%	9.6
CSWS Mattison	CSWS Northeast Station	31.9%	12.5

5262 PITVALELDLON			
Increment	Decrement	Sensitivity	MW
CSWS Welsh	OKGE Seminole	37.5%	2.7
CSWS Welsh	OKGE Redbud	34.4%	2.9
CSWS Welsh	OKGE McClain	34.4%	2.9
CSWS Wilkes	OKGE Seminole	36.3%	2.8
CSWS Wilkes	OKGE Redbud	33.2%	3.0
CSWS Wilkes	OKGE McClain	33.2%	3.0
CSWS Pirkey	OKGE Seminole	35.4%	2.8
CSWS Pirkey	OKGE Redbud	32.3%	3.1
CSWS Pirkey	OKGE McClain	32.3%	3.1

5413 ONEBANCLKCHA			
Increment	Decrement	Sensitivity	MW
CSWS Northeast Station	Calpine Oneta	18.8%	5.3
CSWS Northeast Station	OKGE Muskogee	14.8%	6.7
CSWS Northeast Station	Greencountry	14.7%	6.8
GRDA 17	Calpine Oneta	13.2%	7.6
GRDA 17	OKGE Muskogee	9.3%	10.8
GRDA 17	Greencountry	9.1%	11.0
CSWS Flint Creek	Calpine Oneta	12.4%	8.1
CSWS Flint Creek	OKGE Muskogee	8.5%	11.8
CSWS Flint Creek	Greencountry	8.3%	12.1
CSWS Mattison	Calpine Oneta	12.3%	8.2
CSWS Mattison	OKGE Muskogee	8.4%	12.0
CSWS Mattison	Greencountry	8.2%	12.2

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.