SPP Southwest Power Pool

System Impact Study
SPP-2004-082
For Transmission Service
Requested By:
Exelon Generation Company, LLC

From CSWS to MPS

For a Reserved Amount Of
101 MW
From 07/01/04
To 09/01/04

SPP Transmission Planning

1. Executive Summary

Exelon Generation Company, LLC has requested a system impact study for monthly firm transmission service from CSWS to MPS. The period of the transactions is from 07/01/04 to 09/01/04. The request is for reservations 669564 and 669566 for the total amount of 101 MW.

The 101 MW transactions from CSWS to MPS have an impact on the following flowgate with no ATC: LACWGRLACSTI. To provide the ATC necessary for this transfer, the impact on this flowgate must be relieved.

After studying many scenarios using curtailment of reservations and generation redispatch, there are several feasible scenarios that will relieve the flowgate(s) in question.

2. Introduction

Exelon Generation Company, LLC has requested a system impact study for transmission service from CSWS to MPS.

There is one constrained flowgate that requires relief in order for the reservations to be accepted. The flowgate and the explanation are as follows:

- LACWGRLACSTI: Lacygne to West Gardner 345 kV line for the loss of Lacygne to Stilwell 345 KV line

3. Study Methodology

A. Description

Southwest Power Pool used the NERC Generator Sensitivity Factor (GSF) Viewer to obtain possible unit pairings that would relieve the constraint. The GSF viewer calculates impacts on monitored facilities for all units above 20MW in the Eastern Interconnection. The SPP ATC Calculator is used to determine response factors for the time period of the reservation.

B. Model Updates

The 2004 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 the NERC Generator Sensitivity Factor (GSF) Viewer, 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 the Viewer is the amount of redispatch necessary to relieve the impact on the affected flowgate.

4. Study Results

After studying the impact of requests 669564 and 669566 , one flowgate requires relief. The flowgate and associated amount of relief for the reservations are as follows:

Table 1

Flowgates	Sensitivity (%) Redirect	Sensitivity (%) Original	Required Relief (MW)
LACWGRLACSTI (669564)	22.5	11.5	6
LACWGRLACSTI (669566)	22.5	-	12

Table 2 displays a list of reservation paths that, if curtailed, would offer relief for the flowgate in question.

Table 2

Transactions Path	LACWGRLACSTI Sensitivity (%)
CSWS – AMRN	9.5
OKGE – EES	6.4
SPA – WR	13.0
SPS – AMRN	5.4

Table 3 displays the amount of capacity required for each reservation path to relieve the flowgate in question.

Table 3

Transactions Path	LACWGRLACSTI Sensitivity (MW)
CSWS – AMRN	190
OKGE – EES	282
SPA – WR	139
SPS – AMRN	334

Table 4 displays a list of generator pairs that are possible relief options for the flowgate in question.

Table 4

Source	Sink	LACWGROACSTI Sensitivity (%)
LEC (WR)	NEC (WR)	30.5
LEC (WR)	HEC (WR)	10.0
HEC (WR)	EEC (WR)	14.6
HEC (WR)	GEC (WR)	15.5
HEC (WR)	NEC (WR)	20.5

Table 5 displays the amount of redispatch capacity necessary for each generator pair.

Table 5

Source	Sink	LACWGRLACSTI Sensitivity (MW)
LEC (WR)	NEC (WR)	59
LEC (WR)	HEC (WR)	180
HEC (WR)	EEC (WR)	124
HEC (WR)	GEC (WR)	117
HEC (WR)	NEC (WR)	88

5. Conclusion

Reservation curtailment and generation redispatch options were studied in order to relieve the necessary constraint. The results of this study shows that the constraints on the flowgate 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 one of these relief options must be presented to Southwest Power Pool. Noncompliance with this guideline will result in the refusal of the reservations.