



SPP

*Southwest
Power Pool*

System Impact Study

SPP-2003-121

For Transmission Service

Requested By:

***Exelon Generation Company,
LLC***

From CSWS to SPS

For a Reserved Amount Of

50 MW

From 05/1/03

To 01/1/04

SPP Transmission Planning

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1. Executive Summary

Exelon Generation Company, LLC has requested a system impact study for Monthly Firm transmission service from CSWS to SPS. The period of the transaction is from 05/1/03 to 01/1/04. The request is for reservation 510563 for the amount of 50MW and is a redirect of original confirmed service 397067 from CSWS to AMRN.

The 50MW transaction from CSWS to SPS has created a greater impact on the flowgate PITEMPITSUN and has created a new constraint on WNE_WKS flowgates. To provide the ATC necessary for this transfer, the impact on these flowgates must be relieved.

It has been determined that there is not sufficient time available to complete upgrades to the system that would relieve these flowgates.

After studying many scenarios using curtailment of reservations, there is a scenario that will relieve the flowgates in question for every month except May and August.

2. Introduction

Exelon Generation Company, LLC has requested an impact study for transmission service from CSWS to SPS.

There are two constrained flowgates that need relief in order for this reservation to be accepted. The flowgates and their explanations are as follows:

- PITSEMPITSUN flowgate: Pittsburg to Seminole 345 KV line is monitored for the loss of the Pittsburg to Sunnyside 345 KV line.
- WNE_WKS flowgate: The Gentleman to Red Willow 345 KV line

There are no facility upgrades available to relieve this flowgate that can be completed in the time period available. This impact study reviews curtailment of existing reservations as an option to relieving the transmission constraints.

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 2003 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 all constraints is required.

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 comparing impacts of original request 397067 and the redirect request 510563, two flowgates remain unrelieved. These flowgates with the amount that is needed to be relieved are as follows:

Table 1

Constraints (MW)	June	July	August	September	October	November	December
PITSEMPITSUN	-	7	7	7	-	-	-
WNE_WKS	-	-	6	-	-	-	-

Sensitivity Numbers for the Redirect Reservation 510563 from Green Country to SPS are as follows:

Table 2

Sensitivity (%)	June	July	August	September	October	November	December
PITSEMPITSUN	-	14.8	14.8	14.8	-	-	-
WNE_WKS	-	-	12.2	-	-	-	-

Sensitivity Numbers from the Original Request 397067 from Green Country to AMRN are as follows:

Table 3

Sensitivity (%)	June	July	August	September	October	November	December
PITSEMPITSUN	-	-	-	-	-	-	-
WNE_WKS	-	-	-	-	-	-	-

Sensitivity Numbers for reservation 397065, Green Country to EES, is available for curtailment for up to 400 MWs. The sensitivity numbers are as follows:

Table 4

Sensitivity (%)	June	July	August	September	October	November	December
PITSEMPITSUN	-	6.9	6.9	6.9	-	-	-
WNE_WKS	-	-	-	-	-	-	-

Sensitivity Numbers for reservation 397067, Green Country to AMRN, is available for curtailment for up to 350 MWs. The sensitivity numbers are as follows:

Table 5

Sensitivity (%)	June	July	August	September	October	November	December
PITSEMPITSUN	-	-	-	-	-	-	-
WNE_WKS	-	-	-	-	-	-	-

5. Conclusion

Curtailment options given by Exelon Generation Company, LLC were exhausted in this study to relieve the constraints necessary. The results of the study showed the constraints on the flowgate PITSEMPITSUN could be relieved while constraint on flowgate WNE_WKS could not. Due to these results, every month except May and August will be accepted.