



**SPP**

*Southwest  
Power Pool*

***System Impact Study***

***SPP-2005-018***

***For Transmission Service***

***Requested By:***

***Exelon Generation Company,  
LLC***

***From CSWS to AECL***

***For a Reserved Amount Of***

***208 MW***

***From 02/01/05***

***To 03/01/05***

# ***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 AECI. The period of the transaction is from 02/01/05 to 03/01/05. The request is for reservations 814729, 814730, 814832, and 814733 for the amount of 52 MW each.

The 52 MW transactions from CSWS to AECI have an impact on the following flowgate with no ATC: PECXFRMUSCLA To provide the ATC necessary for this transfer, the impact on the 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 in question.

## 2. Introduction

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

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

- PECXFRMUSCLA: Pecan 345/161 Transformer for the loss of Muskogee to Clarksville 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 impacts of requests 814729, 814830, 814732, and 814733, one flowgate requires relief. The flowgate and associated amount of relief is as follows:

**Table 1**

<b>Flowgates</b>	<b>Sensitivity Redirect (%)</b>	<b>Sensitivity Original (%)</b>	<b>Duration</b>	<b>Required Relief (MW)</b>
PECXFRMUSCLA	4.51	3.8	February	2

Table 2 displays a reservation path that offers relief for the flowgate in question.

**Table 2**

<b>Transactions Path</b>	<b>PECXFRMUSCLA Sensitivity (%)</b>
CSWS – AMRN	3.8

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

**Table 3**

<b>Transactions Path</b>	<b>PECXFRMUSCLA Sensitivity (MW)</b>
CSWS – AMRN	53

## **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 reservation.