



**SPP**

*Southwest  
Power Pool*

***System Impact Study  
SPP-2003-294D  
For Transmission Service  
Requested By:  
Reliant Energy Services, INC***

***From AMRN to WFEC***

***For a Reserved Amount Of  
50 MW  
From 03/01/04  
To 05/01/04***

# ***SPP Transmission Planning***

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## **1. Executive Summary**

Reliant Energy Services, INC has requested a system impact study for Monthly Firm transmission service from AMRN to WFEF. The period of the transaction is from 03/01/04 to 05/01/04. The request is for reservation 622969 for the amount of 50 MW and is a redirect of original confirmed service 260858 from ERCOTE to EES.

The 50 MW transaction from AMRN to WFEF has created greater impacts on the WEBRERICHARD flowgate. To provide the ATC necessary for this transfer, the impact on this flowgate 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 are no feasible scenarios that will relieve that flowgate in question.

## 2. Introduction

Reliant Energy Services, INC has requested an impact study for transmission service from AMRN to WFEC.

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

- WEBRERICHARD: Webre to Richard 500 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 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 comparing impacts of original request 260858 and redirect request 622969, one flowgate remains unrelieved. The flowgate and associated amount of relief is as follows:

**Table 1**

| <b>Flowgates</b> | <b>Sensitivity Numbers<br/>(%)</b> | <b>MW of relief required</b> |
|------------------|------------------------------------|------------------------------|
| WEBRERICHARD     | 5.2                                | 2.6                          |

There are no feasible redispatch/curtailment options available for the WEBRERICHARD flowgate.

## **5. Conclusion**

Reservation curtailment and generation redispatch options were studied in order to relieve the necessary constraint. The result of this study shows that there are no feasible redispatch/curtailment options available to relieve the WEBRERICHARD flowgate. Based on these results, reservation 622969 will be refused due to no ATC on the impacted flowgate: WEBRERICHARD.