

**SPP TLR 5 Investigation Report
ELPFARWICWDR
(El Paso – Farber 138 kV for the loss of Wichita - Woodring 345 kV)
TLR Level 5: May 16, 2010
Report Issued: June 7, 2010**

1. Description of purpose/cause of hold/curtailment.

This report is submitted in accordance with the NERC Transmission Loading Relief Investigation Procedure for the Level 5 TLR event that occurred on Flowgate 5015 on May 16, 2010. Flowgate 5015 is an SPP flowgate. The Level 5 TLR was in effect from 12:30 on until 22:00 CST on May 16, 2010. Projected flows on the El Paso - Farber 138 kV line were expected to exceed the SOL.

2. Facility/flowgate limitations and flows at the time the TLR was initiated.

At the time the Level 5B TLR was issued, the Limiting Element was rated at 168 MVA. Flow on the Limiting Element was 146 MVA. The contingent element had tripped offline on May 10 at 16:00 CDT as a result of storm damage. The TLR process was used to control the real-time loading on the El Paso – Farber 138 kV line.

3. TLR levels, timing, and relief requested amounts.

TLR levels, timing and relief requested amounts are shown in the Event History and NERC TLR Log on pages 3-6.

4. Transmission and generation outages or changes from prediction that may have contributed.

The Wichita – Woodring 345 kV line was forced out on May 10 at 16:00 due to storm damage.

5. Procedures implemented prior to hold/curtailment.

There were no non-firm transactions or market flows impacting the flowgate by more than 5% prior to the level 5 TLR. The TLR was escalated to a Level 5 in order to curtail firm transactions and firm market flow to relieve loading.

6. The initial investigation shall compare all transaction curtailment lists as generated by the IDC with the list of transactions flowing as determined by the IDC (Whole Transaction Lists) both before and after curtailment. The reasons for any transactions that were excluded from curtailment shall be provided. For those transactions not curtailed, the Reliability Authority will identify those entities and any affiliation with said entities.

There were no known transactions excluded from curtailment for this TLR.

7. List of known transactions not in the IDC with Transaction Contribution Factors greater than the curtailment threshold and actions taken to curtail such transactions.

There were no known transactions not in the IDC.

8. Excerpts from the RA Operations Log containing information relevant to the TLR event.

Information was provided to Reliability Coordinators through the IDC and the RCIS. Also the SPP Reliability Coordinators logged information describing the actions taken at each issuance of the TLR, see page 7. Times in the RC Log are CDT.

9. Flowgate limitations as identified by security analysis processes conducted by the Reliability Authority for the day prior to the TLR event.

The next day study process did not indicate an issue with this flowgate based upon conditions at the time of the daily peak.

10. State Estimator snapshots and security analysis, including any contingency analysis or stability analysis, along with any other recorded data indicating need for TLR.

The SPP Reliability Coordinator was monitoring their state estimator, RTCA and RTLODF applications for current flowgate loading and other potential issues during this time. eDNA data historian recorded all line flows before, during and after the Level 5 TLR event, see page 8.

11. ATC limitations before, during, and after the TLR event.

SPP Tariff Administration grants transmission service using an AFC process. This process evaluates each transmission request on a case by case basis. SPP Tariff Administration was not granting any transmission requests that impacted the congested flowgate by 3 % or greater at the time of the Level 5 TLR.

12. Description of actions taken to avoid future hold/curtailments.

This TLR was caused by a combination of generation patterns, load, and system flows following the forced outage of the Wichita – Woodring 345 kV line. Since this temporary outage was the most significant factor, no further action was necessary.

13. Provide IDC generated Congestion Management Reports showing transaction curtailment list and Control Area NNL (network and native load) curtailment responsibility.

Congestion Management Reports for each issuance of the TLR have been reviewed and are archived in the IDC. These screen shots have not been included to reduce the size of this report.

14. Re-dispatch actions taken.

SPP EIS Market redispatch was implemented during the entire TLR event. Firm and non-firm Market Flows were reduced on the flowgate as reported in the TLR Event History and NERC TLR Log on pages 3-6.

TLR Event History 5015 - ElpFarWicWdr

Status	TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3B	05/16/2010 07:20	05/16/2010 07:08	05/16/2010 07:08:25	10.0	10.0	0.0	0	0
SUPERSEDED	3A	05/16/2010 09:00	05/16/2010 08:27	05/16/2010 08:26:55	0.0	0.0	0.0	0	0
SUPERSEDED	3A	05/16/2010 10:00	05/16/2010 09:26	05/16/2010 09:25:57	0.0	0.0	0.0	0	0
SUPERSEDED	3A	05/16/2010 11:00	05/16/2010 10:26	05/16/2010 10:26:04	0.0	0.0	0.0	0	0
SUPERSEDED	3A	05/16/2010 12:00	05/16/2010 11:27	05/16/2010 11:27:21	0.0	0.0	0.0	0	0
SUPERSEDED	5B	05/16/2010 12:30	05/16/2010 12:22	05/16/2010 12:19:42	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/16/2010 14:00	05/16/2010 13:27	05/16/2010 13:27:00	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/16/2010 15:00	05/16/2010 14:29	05/16/2010 14:28:42	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/16/2010 16:00	05/16/2010 15:31	05/16/2010 15:31:30	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/16/2010 17:00	05/16/2010 16:27	05/16/2010 16:27:06	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/16/2010 18:00	05/16/2010 17:26	05/16/2010 17:26:34	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/16/2010 19:00	05/16/2010 18:28	05/16/2010 18:28:22	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/16/2010 20:00	05/16/2010 19:27	05/16/2010 19:26:44	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/16/2010 21:00	05/16/2010 20:27	05/16/2010 20:26:59	0.0	0.0	0.0	0	0
SUPERSEDED	3A	05/16/2010 22:00	05/16/2010 21:27	05/16/2010 21:27:08	64.0	64.0	0.0	0	0
SUPERSEDED	3A	05/16/2010 23:00	05/16/2010 22:30	05/16/2010 22:30:20	60.0	60.0	0.0	0	0
SUPERSEDED	3A	05/17/2010 00:00	05/16/2010 23:26	05/16/2010 23:26:33	52.0	52.0	0.0	0	0
SUPERSEDED	3A	05/17/2010 01:00	05/17/2010 00:27	05/17/2010 00:27:05	51.0	51.0	0.0	0	0
SUPERSEDED	3A	05/17/2010 02:00	05/17/2010 01:27	05/17/2010 01:26:47	45.0	45.0	0.0	0	0
SUPERSEDED	3A	05/17/2010 03:00	05/17/2010 02:26	05/17/2010 02:26:27	40.0	40.0	0.0	0	0
SUPERSEDED	3A	05/17/2010 04:00	05/17/2010 03:27	05/17/2010 03:26:53	45.0	45.0	0.0	0	0
SUPERSEDED	3A	05/17/2010 05:00	05/17/2010 04:29	05/17/2010 04:29:23	0.0	0.0	0.0	0	0
TERMINATED	0	05/17/2010 05:45	05/17/2010 05:31	05/17/2010 05:31:11	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_5015_20100516_0720.htm

Incident:	SWPP_5015_20100516_0720	Date: 05/16/2010 (CST)	Reliability Coordinator: SWPP
Initial Conditions:	Loading on Monitored element, Cont. element out on forced outage.		
Flowgate:	5015 - ElpFarWicWdr	Rating: 168	LODF: 0.00%
TLR Direction:	Normal		
Effective StartTime:	05/16/2010 07:20 (CST)	Effective EndTime: 05/17/2010 05:45 (CST)	TLR Duration: 22 Hours and 25 Minutes

TLR Actions

Confirm Time	Level	Effective Hour	Priority	Schedule								NNL Relief			Market Relief				Flow			TLR Action Comments
				Total Tags Cut / Hold		IDC Cut		RC Cut Acknowledge		Hold		CA	IDC MW	RC Ackn MW	Type	Mkt	IDC MW	RC Ackn MW	Current	Post Cont.	Cont. Flow	
May 16 07:06 (CST)	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	151	151	0	N/A
		NEXT		NONE								NONE			ED-5	SWPP	0.0	0.0				
May 16 08:27 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	143	143	0	N/A
May 16 09:26 (CST)	TLR 3A	NEXT		NONE								NONE			ED-5	SWPP	0.0	0.0	149	149	0	N/A
May 16 10:26 (CST)	TLR 3A	NEXT		NONE								NONE			FIRM-7	SWPP	0.0	0.0	152	152	0	N/A
May 16 11:27 (CST)	TLR 3A	NEXT		NONE								NONE			Total		0.0	0.0	142	142	0	N/A
May 16 12:22 (CST)	TLR 5B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	146	146	0	N/A
		NEXT		NONE								NONE			ED-5	SWPP	4.0	4.0				
															FIRM-7	SWPP	26.0	26.0				
															Total		30.0	30.0				

May 16 13:27 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	146	146	0	N/A
May 16 14:29 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	147	147	0	N/A
May 16 15:31 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	143	143	0	N/A
May 16 16:27 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	146	146	0	N/A
May 16 17:26 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	148	148	0	N/A
May 16 18:28 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	141	141	0	N/A
May 16 19:27 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	142	142	0	N/A
May 16 20:27 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	152	152	0	N/A
May 16 21:27 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	146	146	0	N/A
May 16 22:30 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	145	145	0	N/A
May 16 23:26 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	146	146	0	N/A

May 17 00:27 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	146	146	0	N/A
May 17 01:27 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	144	144	0	N/A
May 17 02:26 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	146	146	0	N/A
May 17 03:27 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	137	137	0	N/A
May 17 04:29 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	136	136	0	N/A
May 17 05:31 (CST)	TLR 0	CURRENT	NONE	NONE	NONE				106	106	0	N/A

TLR Schedule Totals

Priority	Schedule			
	Total Tags Cut / Hold	IDC Cut MW	RC Cut Acknowledge MW	Hold MW
0	0	0	0	0
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
Total	0	0	0	0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	4.0	4.0
	FIRM-7	28.0	28.0
Total for SWPP		30.0	30.0
Total		30.0	30.0

Reliability Log for May, 16 2010

Time	Initials	Comments
0747	MRH	Nppd reports opening Redwil 115kv Breaker 1110 per ops guide to relieving local area loading.
0808	MRH	Issued TLR level 3B on ElpFarWicWdr #5015 set effective limit at 150 to lower real time loading on the El Paso-FARBER 138kv line, Normal Limit 150 and ES limit 168 per WVR, Contigent Element is out on forced outage.
0926	MRH	Re-ssued TLR level 3A on ElpFarWicWdr #5015
1025	MRH	Re-ssued TLR level 3A on ElpFarWicWdr #5015
1126	MRH	Re-ssued TLR level 3A on ElpFarWicWdr #5015
1219	MRH	Set effective limit to 140 to control loading on ElpFarWicWdr #5015
1227	MRH	Re-ssued TLR level 3A on ElpFarWicWdr #5015
1255	MRH	Set effective limit to 150 to control loading on ElpFarWicWdr #5015
1319	MRH	Re-ssued TLR level 5B on ElpFarWicWdr #5015 - FEASIBILITY
1427	MRH	Re-ssued TLR level 5A on ElpFarWicWdr #5015 - FEASIBILITY
1528	MRH	Re-ssued TLR level 5A on ElpFarWicWdr #5015 - FEASIBILITY
1631	MRH	Re-ssued TLR level 5A on ElpFarWicWdr #5015 - FEASIBILITY
1727	LRG	Re-ssued TLR level 5A on ElpFarWicWdr #5015 - FEASIBILITY
1826	LRG	Re-ssued TLR level 5A on ElpFarWicWdr #5015 - FEASIBILITY
1928	LRG	Re-ssued TLR level 5A on ElpFarWicWdr #5015 - FEASIBILITY
2026	LRG	Re-ssued TLR level 5A on ElpFarWicWdr #5015 - FEASIBILITY
2126	LRG	Re-ssued TLR level 5A on ElpFarWicWdr #5015 - FEASIBILITY
2227	LRG	Re-ssued TLR level 3A on ElpFarWicWdr #5015
2330	LRG	Re-ssued TLR level 3A on ElpFarWicWdr #5015

Reliability Log for May, 17 2010

Time	Initials	Comments
0026	LRG	Re-ssued TLR level 3A on ElpFarWicWdr #5015
0127	LRG	Re-ssued TLR level 3A on ElpFarWicWdr #5015
0226	LRG	Re-ssued TLR level 3A on ElpFarWicWdr #5015
0326	LRG	Re-ssued TLR level 3A on ElpFarWicWdr #5015
0426	LRG	Re-ssued TLR level 3A on ElpFarWicWdr #5015
0529	LWB	Re-issued TLR level 3A on ElpFarWicWdr #5015
0631	LWB	Issued TLR level 0 on ElpFarWicWdr #5015

ELPFARWICWDR #5015

— Post Cont. — SOL

