

**SPP TLR 5 Investigation Report
Flowgate 6007
(Gentleman – Red Willow 345 kV)
(GENTLMREDWIL)
TLR Level 5: August 11, 2010
Report Issued: December 13, 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 6007 on August 11, 2010. Flowgate 6007 is an SPP flowgate. This flowgate is used to monitor and control voltage and loading on several facilities in the area. The Level 5 TLR was in effect from 10:00 until 14:00 CST on August 11, 2010. Projected flows on the Gentleman – Red Willow 345 kV line were expected to exceed the SOL.

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

The rating of this flowgate is determined by periodic review by NPPD depending upon current and anticipated system conditions. At the time the Level 5A TLR was issued, the Limiting Element was rated at 445 MVA. Flow on the Limiting Element was 393 MVA.

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 3-7.

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

There were no unplanned outages that contributed to this TLR.

5. Procedures implemented prior to hold/curtailment.

There were not enough non-firm transactions or market flows that impacted the flowgate by more than 5% to relieve the loading. The TLR was escalated to a Level 5 in order to curtail firm transactions and firm market flow to alleviate loading on the flowgate.

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 8. 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 9.

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. Reconfiguration is sometimes a viable companion to TLR on this flowgate. However, it was not available at the time of this TLR.

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 Flow were reduced on the flowgate as reported in the TLR Event History and NERC TLR Log on pages 3-7.

Event History

Issuing RC: SWPP
Flowgate: 6007 - GENTLMN3 345 REDWILO3 345 1
Event Begin: 2010-08-10 22:40
Event End: 2010-08-11 17:16
Event Duration: 19 Hours

TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
							Tags	MW
TLR Level 3A	08/10/2010 23:00	08/10/2010 22:40	08/10/2010 22:39:46	30.0	0.0	30.1	2	129
TLR Level 3A	08/11/2010 00:00	08/10/2010 23:29	08/10/2010 23:27:50	31.0	0.0	31.1	2	133
TLR Level 3A	08/11/2010 01:00	08/11/2010 00:29	08/11/2010 00:28:23	35.0	0.0	35.2	3	191
TLR Level 3A	08/11/2010 02:00	08/11/2010 01:27	08/11/2010 01:26:15	56.0	8.3	47.7	2	204
TLR Level 1	08/11/2010 02:15	08/11/2010 02:05	08/11/2010 02:04:10	0.0	0.0	0.0	0	0
TLR Level 3B	08/11/2010 07:35	08/11/2010 07:24	08/11/2010 07:24:15	25.0	0.0	25.1	4	262
TLR Level 3A	08/11/2010 09:00	08/11/2010 08:27	08/11/2010 08:26:21	53.0	7.3	45.7	3	260
TLR Level 5A	08/11/2010 10:00	08/11/2010 09:28	08/11/2010 09:27:57	0.0	0.0	40.8	2	153
TLR Level 5A	08/11/2010 11:00	08/11/2010 10:29	08/11/2010 10:28:32	0.0	0.0	40.9	2	153
TLR Level 5A	08/11/2010 12:00	08/11/2010 11:30	08/11/2010 11:29:15	0.0	0.0	40.7	2	153
TLR Level 5A	08/11/2010 13:00	08/11/2010 12:38	08/11/2010 12:37:48	0.0	0.0	45.4	3	205
TLR Level 3A	08/11/2010 14:00	08/11/2010 13:41	08/11/2010 13:40:26	49.0	1.7	47.3	4	230
TLR Level 3A	08/11/2010 15:00	08/11/2010 14:36	08/11/2010 14:35:31	130.0	92.4	37.6	3	131
TLR Level 3A	08/11/2010 16:00	08/11/2010 15:34	08/11/2010 15:33:29	0.0	0.0	3.9	1	44
TLR Level 3A	08/11/2010 17:00	08/11/2010 16:31	08/11/2010 16:31:20	0.0	0.0	0.2	1	2
TLR Level 0	08/11/2010 17:25	08/11/2010 17:16	08/11/2010 17:16:04	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_6007_20100810_2300.htm

Incident: SWPP_6007_20100810_2300	Date: 08/10/2010	Reliability Coordinator: SWPP
Initial Conditions: increasing flow		
Flowgate: 6007 - GENTLMN3 345 REDWILO3 345 1	Rating: 445	LODF: N/A
TLR Direction: Normal		
Effective StartTime: 08/10/2010 23:00	Effective EndTime: 08/11/2010 17:25	TLR Duration: 18 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		
					MW	Relief	MW	Relief	MW	Relief												
Aug 10 22:40	TLR 3A	NEXT	6-NN	2 / 0	129	30.1	129	30.1	0	0.0	NONE	ED-2	MISO	0.0	0.0	446	N/A	N/A	N/A			
			Total	2 / 0	129	30.1	129	30.1	0	0.0		ED-6	MISO	0.0	0.0							
												FIRM-7	MISO	0.0	0.0							
												Total	SWPP	0.0	0.0							
Aug 10 23:29	TLR 3A	NEXT	6-NN	2 / 0	133	31.1	133	31.1	0	0.0	NONE	ED-2	MISO	0.0	0.0	413	N/A	N/A	N/A			
			Total	2 / 0	133	31.1	133	31.1	0	0.0		ED-6	MISO	0.0	0.0							
												FIRM-7	MISO	0.0	0.0							
												Total	SWPP	0.0	0.0							
Aug 11 00:29	TLR 3A	NEXT	2-NH	1 / 0	50	2.5	50	2.5	0	0.0	NONE	ED-2	MISO	0.0	0.0	415	N/A	N/A	N/A			
			6-NN	2 / 0	141	32.7	141	32.7	0	0.0		ED-6	MISO	0.0	0.0							
			Total	3 / 0	191	35.2	191	35.2	0	0.0		FIRM-7	MISO	0.0	0.0							
												Total	SWPP	0.0	0.0							
Aug 11 01:27	TLR 3A	NEXT	6-NN	2 / 0	204	47.7	204	47.7	0	0.0	NONE	ED-2	MISO	0.0	0.0	391	N/A	N/A	N/A			
			Total	2 / 0	204	47.7	204	47.7	0	0.0		ED-6	MISO	0.0	0.0							
												FIRM-7	MISO	0.0	0.0							
												Total	SWPP	0.0	0.0							
Aug 11 02:05	TLR 1	CURRENT			NONE						NONE		NONE				399	N/A	N/A	N/A		

Aug 11 07:24	TLR 3B	CURRENT	2-NH 6-NN Total	3 / 0 1 / 0 4 / 0	260 2 522	21.4 0.5 21.9	260 2 262	21.4 0.5 21.9	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 1.0 0.0 2.2 0.0 0.0	0.0 1.0 0.0 2.2 0.0 0.0	432	N/A	N/A	N/A
		NEXT	2-NH Total	3 / 0 3 / 0	260 522	21.3 21.3	260 260	21.3 21.3	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 26.0 0.0 0.0	0.0 2.0 0.0 28.0 0.0 0.0				
Aug 11 08:27	TLR 3A	NEXT	2-NH Total	3 / 0 3 / 0	260 260	17.7 17.7	260 260	17.7 17.7	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 1.0 0.0 27.0 0.0 0.0	0.0 1.0 0.0 27.0 0.0 0.0	409	N/A	N/A	N/A
Aug 11 09:28	TLR 5A	NEXT	1-NS 2-NH Total	1 / 0 1 / 1 2 / 1	53 100 153	3.0 9.8 12.8	53 100 153	3.0 9.8 12.8	0 55 55	0.0 5.4 5.4	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 26.0 0.0 0.0 0.0 0.0	0.0 2.0 0.0 28.0 0.0 0.0 0.0 0.0	393	N/A	N/A	N/A
Aug 11 10:29	TLR 5A	NEXT	1-NS 2-NH Total	1 / 0 1 / 0 2 / 0	53 100 153	3.0 9.9 12.9	53 100 153	3.0 9.9 12.9	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 26.0 0.0 0.0 0.0 0.0	0.0 2.0 0.0 28.0 0.0 0.0 0.0 0.0	390	N/A	N/A	N/A
Aug 11 11:30	TLR 5A	NEXT	1-NS 2-NH Total	1 / 0 1 / 0 2 / 0	53 100 153	3.0 9.8 12.7	53 100 153	3.0 9.8 12.7	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 26.0 0.0 0.0 0.0 0.0	0.0 2.0 0.0 28.0 0.0 0.0 0.0 0.0	409	N/A	N/A	N/A
Aug 11 12:38	TLR 5A	NEXT	1-NS 2-NH Total	1 / 0 1 / 0 2 / 0	53 100 153	3.0 9.8 12.7	53 100 153	3.0 9.8 12.7	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP	0.0 3.0 0.0 25.0 0.0 0.0 0.0 0.0	0.0 3.0 0.0 25.0 0.0 0.0 0.0 0.0	410	N/A	N/A	N/A

Aug 11 13:41	TLR 3A	NEXT	1-NS 2-NH Total	1 / 0 2 / 0 3 / 0	53 126 179	3.0 11.8 14.8	53 126 179	3.0 11.8 14.8	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP Total	0.0 3.0 0.0 25.0 0.0 0.0 28.0	0.0 3.0 0.0 25.0 0.0 0.0 28.0	412	N/A	N/A	N/A
Aug 11 14:38	TLR 3A	NEXT	1-NS 2-NH Total	1 / 0 1 / 0 2 / 0	53 26 79	3.0 2.1 5.0	53 26 79	3.0 2.1 5.0	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP Total	0.0 3.0 0.0 25.0 0.0 0.0 28.0	0.0 3.0 0.0 25.0 0.0 0.0 28.0	380	N/A	N/A	N/A
Aug 11 15:34	TLR 3A	NEXT	NONE								NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP Total	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	375	N/A	N/A	N/A
Aug 11 16:31	TLR 3A	NEXT	NONE								NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP Total	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	353	N/A	N/A	N/A
Aug 11 17:16	TLR 0	CURRENT	NONE								NONE	NONE			350	N/A	N/A	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	6	318	318	0
2	17	1382	1382	55
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	9	609	609	0
7	0	0	0	0
Total	32	2309	2309	55

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
MISO	ED-2	0.0	0.0
	ED-6	0.0	0.0
	FIRM-7	0.0	0.0
Total MISO		0.0	0.0
SWPP	ED-2	17.0	17.0
	ED-6	182.2	182.2
	FIRM-7	0.0	0.0
Total for SWPP		199.2	199.2
Total		199.2	199.2

Reliability Log for August, 10 **2010**

Time	Initials	Comments
2339	DGA	Issued TLR level 3A on GENTLMREDWIL flgt 6007

Reliability Log for August, 11 **2010**

Time	Initials	Comments
0027	DGA	Re-issued TLR level 3A on GENTLMREDWIL flgt 6007
0128	DGA	Re-issued TLR level 3A on GENTLMREDWIL flgt 6007
0226	DGA	Re-issued TLR level 3A on GENTLMREDWIL flgt 6007
0303	DGA	NPPD opened Redwillow PCB 1110 per Operating Guide.
0304	DGA	Issued TLR level 1 on GENTLMREDWIL flgt 6007
0822	LWB	NPPD Closed Redwillow PCB 1110 per Operating Guide.
0824	LWB	Issued TLR level 3B on GENTLMREDWIL flgt 6007, 401 by direction of BA to get flgt under 410
0926	LWB	Issued TLR level 3A on GENTLMREDWIL flgt 6007 380 by direction of BA.to get flgt under 410
1027	LWB	Issued TLR level 5A on GENTLMREDWIL flgt 6007 380 by direction of BA.to get flgt under 410--feasibility.
1118	LWB	Raised eff limit on 6007 to 400
1128	LWB	Re-issued TLR level 5A on GENTLMREDWIL flgt 6007 380 by direction of BA.to get flgt under 410--feasibility.
1229	LWB	Re-issued TLR level 5A on GENTLMREDWIL flgt 6007 380 by direction of BA.to get flgt under 410--feasibility.
1337	LWB	Re-issued TLR level 5A on GENTLMREDWIL flgt 6007 380 by direction of BA.to get flgt under 410--feasibility.
1440	LWB	Re-issued TLR level 3A on GENTLMREDWIL flgt 6007 eff limit 410.
1535	LWB	Issued TLR level 3A on GENTLMREDWIL flgt 6007 eff limit 410.
1633	LWB	Re-issued TLR level 3A on GENTLMREDWIL flgt 6007 eff limit 410.
1731	LWB	Re-issued TLR level 3A on GENTLMREDWIL flgt 6007 eff limit 410.
1816	DGA	Issued TLR level 0 on GENTLMREDWIL flgt 6007.

GENTLMREDWIL - 6007

