

SPP TLR 5 Investigation Report
Flowgate 15849
(Randall-Palo Duro 115kV for the loss of Amarillo-Swisher 230kV)
(Temp14)
TLR Level 5: July 21-22, 2009
Report Issued: August 4, 2009

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 15849 on July 21-22, 2009. Flowgate 15849 is an SPP flowgate. The Level 5 TLR was in effect from 13:00 until 19:00 CST and again from 21:00 to 23:00 on July 21, 2009. Projected post-contingent flows on the Randall – Palo Duro 115 kV line exceeded the SOL. This flowgate was created in response to a request from the balancing authority due to an equipment rating decrease which in turn caused thermal loading concerns. The rating is based on the limit within the substation.

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

At the time the Level 5A TLR was issued, the Limiting Element was rated at 99 MVA. Flow on the Limiting Element was 56 MVA. Flow on the Contingent Element was 160 MVA. The LODF was approximately 21%. Post-contingent flow on the Limiting Element was approximately 88 MVA. However, the balancing authority had been reporting post-contingent loading on the Limiting Element up to 30% higher than those recorded by the Reliability Coordinator. The Reliability Coordinator took action based on the higher loading observed by the balancing authority.

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.

There were no unplanned outages that contributed to this TLR.

5. Procedures implemented prior to hold/curtailment.

There were no non-firm transactions that impacted the flowgate by more than 5%. 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 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 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 coupled with a facility derating. This facility has been in TLR frequently since the derate in October 2008. Loading sometimes requires escalating to a Level 5 TLR in order to obtain sufficient relief to reduce overloads. There are currently no plans to uprate this facility; however, a permanent reconfiguration option has been studied, and a new operation guide is being developed to alleviate loading on the flowgate.

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 Market Flow was reduced on the flowgate as reported in the TLR Event History and NERC TLR Log on pages 3-6.

TLR Event History

15849 - Temporary 14 - RCIPALAMASWI

Status	TLR Level	TLR Date (CST)	TLR Confirm Time (CST)	Run Time (CST)	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3B	07/21/2009 11:35	07/21/2009 11:22	07/21/2009 11:22:32	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/21/2009 13:00	07/21/2009 12:28	07/21/2009 12:28:07	0.0	0.0	0.0	0	0
SUPERSEDED	5A	07/21/2009 13:00	07/21/2009 12:32	07/21/2009 12:32:35	0.0	0.0	0.0	0	0
SUPERSEDED	5A	07/21/2009 14:00	07/21/2009 13:28	07/21/2009 13:27:42	0.0	0.0	0.0	0	0
SUPERSEDED	5A	07/21/2009 15:00	07/21/2009 14:29	07/21/2009 14:29:01	0.0	0.0	0.0	0	0
SUPERSEDED	5A	07/21/2009 16:00	07/21/2009 15:28	07/21/2009 15:28:05	0.0	0.0	0.0	0	0
SUPERSEDED	5A	07/21/2009 17:00	07/21/2009 16:26	07/21/2009 16:25:44	0.0	0.0	0.0	0	0
SUPERSEDED	5A	07/21/2009 18:00	07/21/2009 17:27	07/21/2009 17:27:33	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/21/2009 19:00	07/21/2009 18:26	07/21/2009 18:26:22	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/21/2009 20:00	07/21/2009 19:27	07/21/2009 19:27:30	0.0	0.0	0.0	0	0
SUPERSEDED	5A	07/21/2009 21:00	07/21/2009 20:29	07/21/2009 20:28:48	0.0	0.0	0.0	0	0
SUPERSEDED	5A	07/21/2009 22:00	07/21/2009 21:27	07/21/2009 21:26:51	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/21/2009 23:00	07/21/2009 22:28	07/21/2009 22:28:22	37.0	37.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 00:00	07/21/2009 23:30	07/21/2009 23:28:12	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 01:00	07/22/2009 00:28	07/22/2009 00:27:50	39.0	39.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 02:00	07/22/2009 01:26	07/22/2009 01:26:20	37.0	37.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 03:00	07/22/2009 02:29	07/22/2009 02:28:57	27.0	26.0	1.0	0	0
SUPERSEDED	3A	07/22/2009 04:00	07/22/2009 03:30	07/22/2009 03:29:40	34.0	34.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 05:00	07/22/2009 04:28	07/22/2009 04:27:58	28.0	26.0	2.0	0	0
SUPERSEDED	3A	07/22/2009 06:00	07/22/2009 05:26	07/22/2009 05:25:44	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 07:00	07/22/2009 06:26	07/22/2009 06:26:03	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 08:00	07/22/2009 07:27	07/22/2009 07:26:44	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 09:00	07/22/2009 08:26	07/22/2009 08:26:24	0.0	0.0	0.0	0	0
SUPERSEDED	3A	07/22/2009 10:00	07/22/2009 09:25	07/22/2009 09:25:35	0.0	0.0	0.0	0	0
TERMINATED	0	07/22/2009 10:20	07/22/2009 10:11	07/22/2009 10:11:00	0.0	0.0	0.0	0	0

08/04/2009 14:28:33 (CST)

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Event Summary

FILE SAVED AS: SWPP_15849_20090721_1135.htm

Incident:	SWPP_15849_20090721_1135	Date: 07/21/2009	Reliability Coordinator: SWPP
Initial Conditions:	load		
Flowgate:	15849 - Temporary 14 - RCIPALAMASWI	Rating: 99	LODF: 20.61%
TLR Direction:	Normal		
Effective StartTime:	07/21/2009 11:35	Effective EndTime: 07/22/2009 10:20	TLR Duration: 22 Hours and 45 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												
Jul 21 11:22	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	81	98	181	N/A
		NEXT		NONE								NONE			ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															Total		0.0	0.0				
Jul 21 12:28	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	58	88	158	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															Total		0.0	0.0				
Jul 21 12:32	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	58	88	160	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															FIRM-CREDIT	SWPP	0.0	0.0				
															Total		0.0	0.0				
Jul 21 13:28	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	57	90	163	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															FIRM-CREDIT	SWPP	0.0	0.0				
															Total		0.0	0.0				
Jul 21 14:29	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	57	90	164	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															FIRM-CREDIT	SWPP	0.0	0.0				
															Total		0.0	0.0				
Jul 21 15:28	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	55	87	158	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															FIRM-CREDIT	SWPP	0.0	0.0				
															Total		0.0	0.0				
Jul 21 18:28	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	57	90	163	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															FIRM-CREDIT	SWPP	0.0	0.0				
															Total		0.0	0.0				

Jul 21 17:27	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	55	87	160	N/A
Jul 21 18:26	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	58	92	165	N/A
Jul 21 19:27	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	58	92	167	N/A
Jul 21 20:29	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	59	92	164	N/A
Jul 21 21:27	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	59	93	165	N/A
Jul 21 22:28	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	58	92	169	N/A
Jul 21 23:30	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	57	90	163	N/A
Jul 22 00:28	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	58	92	169	N/A
Jul 22 01:26	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	59	95	179	N/A
Jul 22 02:29	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 1.0 0.0 1.0	0.0 1.0 0.0 1.0	59	95	179	N/A
Jul 22 03:30	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	60	97	181	N/A
Jul 22 04:28	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 2.0 0.0 2.0	0.0 2.0 0.0 2.0	59	95	178	N/A
Jul 22 05:26	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	59	95	176	N/A

Jul 22 08:28	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	62	100	186	N/A
Jul 22 07:27	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	59	94	174	N/A
Jul 22 08:28	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	55	88	161	N/A
Jul 22 09:25	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	53	83	149	N/A
Jul 22 10:11	TLR 0	CURRENT	NONE	NONE	NONE				52	81	145	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	3.0	3.0
	FIRM-7	0.0	0.0
Total for SWPP		3.0	3.0
Total		3.0	3.0

	A	B	C	D
272	Reliability Log for July, 21			2009
273	Time	Initials	Comments	
287	1222	LRG	Re-issued TLR Level 3B on Temp 14 - RCIPALAMASWI FG 15849 For feasibility.	
288	1332	LRG	Re-issued TLR Level 5A on Temp 14 - RCIPALAMASWI FG 15849 For feasibility.	
289	1427	LRG	Re-issued TLR Level 5A on Temp 14 - RCIPALAMASWI FG 15849 For feasibility.	
290	1528	LRG	Re-issued TLR Level 5A on Temp 14 - RCIPALAMASWI FG 15849 For feasibility.	
291	1628	LRG	Re-issued TLR Level 5A on Temp 14 - RCIPALAMASWI FG 15849 For feasibility.	
292	1725	LRG	Re-issued TLR Level 5A on Temp 14 - RCIPALAMASWI FG 15849 For feasibility.	
293	1827	LWB	Re-issued TLR Level 5A on Temp 14 - RCIPALAMASWI FG 15849.For feasibility	
294	1926	LWB	Issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
295	2027	LWB	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
296	2128	LWB	Re-issued TLR Level 5A on Temp 14 - RCIPALAMASWI FG 15849.For feasibility	
297	2226	LWB	Re-issued TLR Level 5A on Temp 14 - RCIPALAMASWI FG 15849.For feasibility	
298	2328	LWB	Issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
300				
301	Reliability Log for July, 22			2009
302	Time	Initials	Comments	
303	0028	LWB	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
304	0127	LWB	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
305	0226	LWB	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
306	0328	LWB	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
307	0430	LWB	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
308	0527	LWB	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
309	0625	LRG	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
310	0726	LRG	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
311	0826	LRG	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
312	0926	LRG	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
313	1025	LRG	Re-issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
314	1110	LRG	Re-issued TLR Level 0 on Temp 14 - RCIPALAMASWI FG 15849.	
315	2217	LWB	Issued TLR Level 3B on Temp 14 - RCIPALAMASWI FG 15849.	
316	2325	LWB	Issued TLR Level 3A on Temp 14 - RCIPALAMASWI FG 15849.	
317				
318				

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