

SPP TLR 5 Investigation Report
Flowgate 15940
(Osage Switch – Canyon East 115 kV for loss of Bushland – Deaf Smith 230 kV)
(OASCANBUSDEA)
TLR Level 5: September 21, 2009
Report Issued: October 7, 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 15940 on September 21, 2009. Flowgate 15940 is an SPP flowgate. The Level 5 TLR was in effect from 16:00 until 21:00 CST on September 21, 2009. Projected post-contingent flows on the Osage Switch – Canyon East 115 kV line exceeded the SOL. The flowgate was built as a result of the reconfiguration option to relieve the Randall-Palo Duro 115 kV for the loss of Amarillo-Swisher 230 kV flowgate (# 5354, RANPALAMASWI).

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 46 MVA. Flow on the Contingent Element was 198 MVA. The LODF was approximately 24%. Post-contingent flow on the Limiting Element was approximately 92 MVA.

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

TLRs 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 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. Times on the chart are CDT.

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. A reconfiguration option to relieve loading on the Randall-Palo Duro 115 kV line (flowgate # 5354) had been implemented prior to this TLR. It did not provide sufficient relief to prevent the TLR and escalation to a Level 5.

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 3-6.

TLR Event History

15940 - Temporary 1 - OASCANBUSDEA

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	09/21/2009 09:15	09/21/2009 09:06	09/21/2009 09:05:48	40.0	32.0	8.0	0	0
SUPERSEDED	3A	09/21/2009 11:00	09/21/2009 10:28	09/21/2009 10:27:39	14.0	11.0	3.0	0	0
SUPERSEDED	3A	09/21/2009 12:00	09/21/2009 11:26	09/21/2009 11:25:46	28.0	28.0	0.0	0	0
SUPERSEDED	3A	09/21/2009 13:00	09/21/2009 12:26	09/21/2009 12:26:01	41.0	41.0	0.0	0	0
SUPERSEDED	3A	09/21/2009 14:00	09/21/2009 13:25	09/21/2009 13:25:40	37.0	37.0	0.0	0	0
SUPERSEDED	3A	09/21/2009 15:00	09/21/2009 14:26	09/21/2009 14:25:51	40.0	40.0	0.0	0	0
SUPERSEDED	5A	09/21/2009 16:00	09/21/2009 15:27	09/21/2009 15:26:39	0.0	0.0	0.0	0	0
SUPERSEDED	5A	09/21/2009 17:00	09/21/2009 16:25	09/21/2009 16:25:33	0.0	0.0	0.0	0	0
SUPERSEDED	5A	09/21/2009 18:00	09/21/2009 17:29	09/21/2009 17:29:25	35.0	0.0	35.1	2	38
SUPERSEDED	5A	09/21/2009 19:00	09/21/2009 18:38	09/21/2009 18:31:40	27.0	0.0	27.0	1	22
SUPERSEDED	5A	09/21/2009 20:00	09/21/2009 19:35	09/21/2009 19:34:56	21.0	0.0	21.1	2	23
SUPERSEDED	3A	09/21/2009 21:00	09/21/2009 20:28	09/21/2009 20:28:07	8.0	2.0	6.0	0	0
SUPERSEDED	3A	09/21/2009 22:00	09/21/2009 21:40	09/21/2009 21:40:29	15.0	2.0	13.0	0	0
SUPERSEDED	3A	09/21/2009 23:00	09/21/2009 22:34	09/21/2009 22:34:14	14.0	14.0	0.0	0	0
SUPERSEDED	3A	09/22/2009 00:00	09/21/2009 23:30	09/21/2009 23:29:41	35.0	11.0	24.0	0	0
SUPERSEDED	3A	09/22/2009 01:00	09/22/2009 00:26	09/22/2009 00:25:40	40.0	14.0	26.0	0	0
SUPERSEDED	3A	09/22/2009 02:00	09/22/2009 01:29	09/22/2009 01:27:00	38.0	12.0	26.0	0	0
SUPERSEDED	3A	09/22/2009 03:00	09/22/2009 02:27	09/22/2009 02:27:37	32.0	3.0	29.0	0	0
SUPERSEDED	3A	09/22/2009 04:00	09/22/2009 03:27	09/22/2009 03:26:42	34.0	7.0	27.0	0	0
SUPERSEDED	3A	09/22/2009 05:00	09/22/2009 04:27	09/22/2009 04:26:56	35.0	17.0	18.0	0	0
TERMINATED	0	09/22/2009 05:40	09/22/2009 05:28	09/22/2009 05:28:22	0.0	0.0	0.0	0	0

10/07/2009 08:02:27 (CST)

OATI IDC Support Phone: 763-201-2010 Fax: 763-553-2813

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Event Summary

FILE SAVED AS: SWPP_15940_20090921_0915.htm

Incident: SWPP_15940_20090921_0915	Date: 09/21/2009	Reliability Coordinator: SWPP
Initial Conditions: load increasing		
Flowgate: 15940 - Temporary 1 - OASCANBUSDEA	Rating: 99	LODF: 23.67%
TLR Direction: Normal		
Effective StartTime: 09/21/2009 09:15	Effective EndTime: 09/22/2009 05:40	TLR Duration: 20 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												
Sep 21 09:06	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	53	106	225	N/A
		NEXT		NONE								NONE			ED-6	SWPP	1.0	1.0				
															FIRM-7	SWPP	7.0	7.0				
															Total		8.0	8.0				
Sep 21 10:23	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	47	94	199	N/A
															ED-6	SWPP	3.0	3.0				
															FIRM-7	SWPP	0.0	0.0				
															Total		3.0	3.0				
Sep 21 11:26	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	45	88	182	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															Total		0.0	0.0				
Sep 21 12:26	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	42	84	178	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															Total		0.0	0.0				
Sep 21 13:25	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	47	93	198	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															Total		0.0	0.0				
Sep 21 14:26	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	48	95	201	N/A
															ED-6	SWPP	0.0	0.0				
															FIRM-7	SWPP	0.0	0.0				
															Total		0.0	0.0				
Sep 21 15:27	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	46	92	198	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				

Sep 21 16:25	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	38	78	171	N/A	
Sep 21 17:29	TLR 5A	NEXT	7-F Total	2 / 0 2 / 0	38 38	2.3 2.3	38 38	2.3 2.3	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 32.7 0.0 32.7	0.0 0.0 32.7 0.0 32.7	37	78	175	N/A
Sep 21 18:38	TLR 5A	NEXT	7-F Total	1 / 0 1 / 0	22 22	1.3 1.3	22 22	1.3 1.3	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 25.8 0.0 25.8	0.0 0.0 25.8 0.0 25.8	45	95	212	N/A
Sep 21 19:35	TLR 5A	NEXT	7-F Total	2 / 0 2 / 0	23 23	1.4 1.4	23 23	1.4 1.4	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 19.6 0.0 19.6	0.0 0.0 19.6 0.0 19.6	44	91	202	N/A
Sep 21 20:28	TLR 3A	NEXT	NONE							NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 6.0 0.0 6.0	0.0 8.0 0.0 6.0	45	94	209	N/A	
Sep 21 21:40	TLR 3A	NEXT	NONE							NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 13.0 0.0 13.0	0.0 13.0 0.0 13.0	44	93	207	N/A	
Sep 21 22:34	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	42	90	205	N/A	
Sep 21 23:30	TLR 3A	NEXT	NONE							NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 24.0 0.0 24.0	0.0 24.0 0.0 24.0	42	82	171	N/A	
Sep 22 00:28	TLR 3A	NEXT	NONE							NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 26.0 0.0 26.0	0.0 26.0 0.0 26.0	42	84	178	N/A	
Sep 22 01:29	TLR 3A	NEXT	NONE							NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 26.0 0.0 26.0	0.0 26.0 0.0 26.0	43	85	180	N/A	
Sep 22 02:27	TLR 3A	NEXT	NONE							NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 29.0 0.0 29.0	0.0 29.0 0.0 29.0	45	92	199	N/A	
Sep 22 03:27	TLR 3A	NEXT	NONE							NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 27.0 0.0 27.0	0.0 27.0 0.0 27.0	42	88	197	N/A	

Sep 22 04:27	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 18.0 0.0 18.0	0.0 18.0 0.0 18.0	44	92	203	N/A
Sep 22 05:28	TLR 0	CURRENT	NONE	NONE	NONE				31	83	136	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	5	83	83	0
Total	5	83	83	0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	173.0	173.0
	FIRM-7	85.2	85.1
Total for SWPP		258.2	258.1
Total		258.2	258.1

	A	B	C	D	E
183	Reliability Log for Sept, 21			2009	
184	Time	Initials	Comments		
185	1005	WRG	Issued TLR Level 3B on Temp #1 flgt # 15940		
186	1127	WRG	Issued TLR Level 3A on Temp #1 flgt # 15940		
187	1225	WRG	Issued TLR Level 3A on Temp #1 flgt # 15940		
188	1326	WRG	Issued TLR Level 3A on Temp #1 flgt # 15940		
189	1425	WRG	Issued TLR Level 3A on Temp #1 flgt # 15940		
190	1525	WRG	Issued TLR Level 3A on Temp #1 flgt # 15940		
191	1626	WRG	Issued TLR Level 5A on Temp #1 flgt # 15940 Feasibility		
192	1725	WRG	Issued TLR Level 5A on Temp #1 flgt # 15940 Feasibility		
193	1829	RST	Re-issued TLR Level 5A on Temp #1 flgt # 15940		
194	1931	RST	Re-issued TLR Level 5A on Temp #1 flgt # 15940		
195	2034	RST	Re-issued TLR Level 5A on Temp #1 flgt # 15940		
196	2128	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
197	2240	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
198	2334	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
199					
200	Reliability Log for Sept, 22			2009	
201	Time	Initials	Comments		
202	0029	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
203	0125	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
204	0227	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
205	0327	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
206	0426	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
207	0526	RST	Re-issued TLR Level 3A on Temp #1 flgt # 15940		
208	0628	WRG	Re-issued TLR Level 0 on Temp #1 flgt # 15940		
209					
210					
211					

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