

**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: August 30, 2009**  
**Report Issued: September 1, 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 August 30, 2009. Flowgate 15940 is an SPP flowgate. The Level 5 TLR was in effect from 17:00 until 22:30 CST on August 30, 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 53 MVA. Flow on the Contingent Element was 197 MVA. The LODF was approximately 24%. Post-contingent flow on the Limiting Element was approximately 99 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 CST.

**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. 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 relieve 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	3A	08/30/2009 02:00	08/30/2009 01:25	08/30/2009 01:25:36	10.0	7.0	3.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 03:00	08/30/2009 02:28	08/30/2009 02:28:22	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 04:00	08/30/2009 03:26	08/30/2009 03:26:34	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 05:00	08/30/2009 04:26	08/30/2009 04:26:08	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 06:00	08/30/2009 05:26	08/30/2009 05:26:10	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 07:00	08/30/2009 06:29	08/30/2009 06:28:58	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 08:00	08/30/2009 07:26	08/30/2009 07:26:22	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 09:00	08/30/2009 08:26	08/30/2009 08:25:42	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 10:00	08/30/2009 09:26	08/30/2009 09:25:51	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 11:00	08/30/2009 10:26	08/30/2009 10:25:43	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 12:00	08/30/2009 11:26	08/30/2009 11:26:03	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 13:00	08/30/2009 12:27	08/30/2009 12:27:20	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 14:00	08/30/2009 13:28	08/30/2009 13:28:18	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 15:00	08/30/2009 14:26	08/30/2009 14:26:05	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	08/30/2009 16:00	08/30/2009 15:27	08/30/2009 15:26:56	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	08/30/2009 17:00	08/30/2009 16:26	08/30/2009 16:25:44	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	08/30/2009 18:00	08/30/2009 17:26	08/30/2009 17:25:49	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	08/30/2009 19:00	08/30/2009 18:27	08/30/2009 18:26:56	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	08/30/2009 20:00	08/30/2009 19:27	08/30/2009 19:26:48	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	08/30/2009 21:00	08/30/2009 20:31	08/30/2009 20:31:01	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	08/30/2009 22:00	08/30/2009 21:29	08/30/2009 21:28:38	0.0	0.0	0.0	0	0
<a href="#">TERMINATED</a>	0	08/30/2009 22:30	08/30/2009 22:17	08/30/2009 22:17:28	0.0	0.0	0.0	0	0

09/01/2009 12:07:45 (CST)

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Aug 30 10:26	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	51	94	183	N/A
Aug 30 11:26	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	52	97	191	N/A
Aug 30 12:27	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	51	95	188	N/A
Aug 30 13:28	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	52	95	186	N/A
Aug 30 14:26	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	52	96	188	N/A
Aug 30 15:27	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	53	98	192	N/A
Aug 30 16:26	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 0.0 <b>0.0</b>	53	99	197	N/A
Aug 30 17:26	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 0.0 <b>0.0</b>	52	98	198	N/A
Aug 30 18:27	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 0.0 <b>0.0</b>	47	88	177	N/A
Aug 30 19:27	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 0.0 <b>0.0</b>	49	92	185	N/A
Aug 30 20:31	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 0.0 <b>0.0</b>	51	93	182	N/A
Aug 30 21:29	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 0.0 <b>0.0</b>	48	90	182	N/A

Aug 30 22:17	TLR 0	CURRENT	NONE	NONE	NONE	47	85	161	N/A
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### 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
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 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
<b>Total</b>		<b>3.0</b>	<b>3.0</b>

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	A	B	C	D	E
1	<b>Reliability Log for August, 30</b>			<b>2009</b>	
2	Time	Initials	Comments	Sunday	
3	0030	MRH	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
4	0037	MRH	Re-issued TLR level 0 on Temp. 1-OasCanBusDea Flgt. 15940.		
5	0225	MRH	Issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
6	0328	MRH	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
7	0426	MRH	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
8	0526	MRH	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
9	0626	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
10	0729	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
11	0826	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
12	0925	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
13	1025	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
14	1125	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
15	1226	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
16	1327	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
17	1428	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
18	1526	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
19	1626	RST	Re-issued TLR level 3A on Temp. 1-OasCanBusDea Flgt. 15940.		
20	1725	RST	Re-issued TLR Level 5A on Temp. 1-OasCanBusDea Flgt. 15940. Feasibility.		
21	1825	MRH	Re-issued TLR Level 5A on Temp. 1-OasCanBusDea Flgt. 15940. Feasibility.		
22	1926	MRH	Re-issued TLR Level 5A on Temp. 1-OasCanBusDea Flgt. 15940. Feasibility.		
23	2026	MRH	Re-issued TLR Level 5A on Temp. 1-OasCanBusDea Flgt. 15940. Feasibility.		
24	2131	MRH	Re-issued TLR Level 5A on Temp. 1-OasCanBusDea Flgt. 15940. Feasibility.		
25	2228	MRH	Re-issued TLR Level 5A on Temp. 1-OasCanBusDea Flgt. 15940. Feasibility.		
26	2317	MRH	Re-issued TLR Level 0 on Temp. 1-OasCanBusDea Flgt. 15940. Feasibility.		
27	2356	MRH	Issued TLR Level 3B on Temp. 1-OasCanBusDea Flgt. 15940.		
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