

SPP TLR 5 Investigation Report
Flowgate 5211
(Lone Oak – Sardis 138 kV for loss of Pittsburg – Valliant 345 kV)
(LONSARPITVAL)
TLR Level 5: April 6, 2010
Report Issued: April 26, 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 5211 on April 4-5, 2010. Flowgate 5211 is an SPP flowgate. The Level 5 TLR was in effect from 12:30 until 14:00 CST and again from 17:00 until 21:45 CST on April 6, 2010. North – South loading in the region caused the projected post-contingent flows on the Lone Oak – Sardis 138 kV line 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 107 MVA. Flow on the Limiting Element was 56 MVA. Flow on the Contingent Element was 678 MVA. The LODF was approximately 10%. Post-contingent flow on the Limiting Element was approximately 125 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 3-6.

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 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 CPT.

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 North to South loading on the transmission system in the region. Loading sometimes requires escalating to a Level 5 TLR in order to obtain sufficient relief to reduce overloads.

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. Non-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 5211 - LonSarPitVal

Status	TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3B	04/06/2010 08:25	04/06/2010 08:16	04/06/2010 08:15:27	0.0	0.0	0.0	0	0
SUPERSEDED	3A	04/06/2010 10:00	04/06/2010 09:27	04/06/2010 09:26:00	4.0	4.0	0.0	0	0
SUPERSEDED	3A	04/06/2010 11:00	04/06/2010 10:39	04/06/2010 10:38:31	13.0	5.0	8.0	0	0
SUPERSEDED	3A	04/06/2010 12:00	04/06/2010 11:32	04/06/2010 11:29:58	8.0	0.0	8.0	0	0
SUPERSEDED	5B	04/06/2010 12:30	04/06/2010 12:23	04/06/2010 12:17:19	100.0	57.0	43.0	0	0
SUPERSEDED	3A	04/06/2010 14:00	04/06/2010 13:27	04/06/2010 13:27:04	57.0	10.0	47.0	0	0
SUPERSEDED	3A	04/06/2010 15:00	04/06/2010 14:26	04/06/2010 14:25:48	52.0	7.0	45.0	0	0
SUPERSEDED	3A	04/06/2010 16:00	04/06/2010 15:27	04/06/2010 15:27:05	29.0	0.0	29.0	0	0
SUPERSEDED	3A	04/06/2010 17:00	04/06/2010 16:28	04/06/2010 16:27:59	18.0	0.0	18.0	0	0
SUPERSEDED	5A	04/06/2010 17:00	04/06/2010 16:43	04/06/2010 16:42:51	47.0	0.0	47.0	1	17
SUPERSEDED	5A	04/06/2010 18:00	04/06/2010 17:40	04/06/2010 17:39:36	0.0	0.0	45.0	0	0
SUPERSEDED	5A	04/06/2010 19:00	04/06/2010 18:44	04/06/2010 18:43:59	7.0	0.0	45.0	0	0
SUPERSEDED	5A	04/06/2010 20:00	04/06/2010 19:38	04/06/2010 19:38:14	0.0	0.0	45.0	0	0
SUPERSEDED	5A	04/06/2010 21:00	04/06/2010 20:39	04/06/2010 20:38:17	4.0	0.0	50.5	1	50
TERMINATED	0	04/06/2010 21:45	04/06/2010 21:31	04/06/2010 21:31:06	0.0	0.0	0.0	0	0

Apr 08 15:27 (CST)	TLR 3A	NEXT	NONE								NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 29.0 29.0	0.0 0.0 29.0 29.0	48	107	580	N/A
Apr 08 16:28 (CST)	TLR 3A	NEXT	NONE								NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 18.0 18.0	0.0 0.0 18.0 18.0	48	108	591	N/A
Apr 08 16:43 (CST)	TLR 5A	NEXT	7-F Total	1 / 0 1 / 0	17 17	0.9 0.9	17 17	0.9 0.9	0 0	0.0 0.0	NONE	ED-2 ED-8 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 46.2 0.0 46.2	0.0 0.0 46.2 0.0 46.2	47	94	465	N/A
Apr 08 17:40 (CST)	TLR 5A	NEXT	NONE								NONE	ED-2 ED-8 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 45.0 0.0 45.0	0.0 0.0 45.0 0.0 45.0	48	102	555	N/A
Apr 08 18:44 (CST)	TLR 5A	NEXT	NONE								NONE	ED-2 ED-8 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 45.0 0.0 45.0	0.0 0.0 45.0 0.0 45.0	45	101	550	N/A
Apr 08 19:38 (CST)	TLR 5A	NEXT	NONE								NONE	ED-2 ED-8 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 45.0 0.0 45.0	0.0 0.0 45.0 0.0 45.0	48	105	580	N/A
Apr 08 20:39 (CST)	TLR 5A	NEXT	2-NH Total	1 / 0 1 / 0	50 50	3.5 3.5	50 50	3.5 3.5	0 0	0.0 0.0	NONE	ED-2 ED-8 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 22.0 25.0 0.0 47.0	0.0 22.0 25.0 0.0 47.0	50	111	599	N/A
Apr 08 21:31 (CST)	TLR 0	CURRENT	NONE								NONE	NONE				40	88	448	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	1	50	50	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	1	17	17	0
Total	2	67	67	0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	48.0	48.0
	FIRM-7	378.2	378.2
Total for SWPP		426.2	426.2
Total		426.2	426.2

Reliability Log for April, 6

2010

Time	Initials	Comments	Tuesday
0609	LWB	Issued TLR level 3B on lonSarPitVal flgt #5211	
0726	LWB	Issued TLR level 3A on lonSarPitVal flgt #5211	
0827	LWB	Issued TLR level 0 on lonSarPitVal flgt #5211	
0915	LWB	Issued TLR level 3B on lonSarPitVal flgt #5211	
1026	LWB	Issued TLR level 3A on lonSarPitVal flgt #5211	
1138	LWB	Issued TLR level 3A on lonSarPitVal flgt #5211	
1229	LWB	Issued TLR level 3A on lonSarPitVal flgt #5211	
1317	LWB	Issued TLR level 5B on lonSarPitVal flgt #5211	
1427	LWB	Issued TLR level 3A on lonSarPitVal flgt #5211	
1525	LWB	Re-issued TLR level 3A on lonSarPitVal flgt #5211	
1410	LWB	Tyler with AEP-W reports that they have come up with a mitigation plan for flgt 5211 if Pit-Val trip, it is to open breakers 1317A and 1301A at Loneoak splitting the buss.	
1627	LWB	Re-issued TLR level 3A on lonSarPitVal flgt #5211	
1728	LWB	Re-issued TLR level 3A on lonSarPitVal flgt #5211	
1742	LWB	Issued TLR level 5A on lonSarPitVal flgt #521, loading and feasibility.	
1839	DGA	Re-issued TLR level 5A on LonSarPitVal flgt #521, loading and feasibility.	
1943	DGA	Re-issued TLR level 5A on LonSarPitVal flgt #521, loading and feasibility.	
2039	DGA	Re-issued TLR level 5A on LonSarPitVal flgt #521, loading and feasibility.	
2138	DGA	Re-issued TLR level 5A on LonSarPitVal flgt #5211, loading and feasibility.	
2231	DGA	Issued TLR level 0 on LonSarPitVal flgt #5211	

LONSARPITVAL #5211

— Post Cont. — SOL

