

SPP TLR 5 Investigation Report
Flowgate 6145
(Lake Rd. – Alabama 161 kV for loss of latan – Stranger Creek 345 kV)
(LAKALAIATSTR)
TLR Level 5: February 22, 2010
Report Issued: March 1, 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 6145 on February 22, 2010. Flowgate 6145 is an SPP flowgate. The Level 5 TLR was in effect from 14:00 until 14:25 CST on February 22, 2010. The temporary outage of the St. Joe – Hawthorn 345 kV line caused the projected post-contingent flows on the Lake Road – Alabama 161 kV line to exceed the SOL.

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 184 MVA. Flow on the Limiting Element was 37 MVA. Flow on the Contingent Element was 249 MVA. The LODF was approximately 26%. Post-contingent flow on the Limiting Element was approximately 101 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 3-5.

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

There were no unplanned outages that contributed to this TLR. However, shortly after the TLR was escalated to a Level 5, the St. Joe – Hawthorn 345 kV line was returned to service negating the need for the TLR. The line was scheduled to return to service at 17:00 CST on the 22nd.

5. Procedures implemented prior to hold/curtailment.

There were not enough non-firm transactions and market flows to provide the necessary relief on the flowgate. 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 pages 6. 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 7.

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 during the temporary outage of the St. Joe – Hawthorn 345 kV line. Since the temporary outage was the most significant factor, no additional actions were necessary.

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 3-5.

TLR Event History

6145 - Lake Road-Nashua 161 flo latan-Stranger Creek 345kV

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	02/22/2010 09:15	02/22/2010 08:59	02/22/2010 08:58:51	0.0	0.0	0.0	0	0
SUPERSEDED	3B	02/22/2010 09:25	02/22/2010 09:12	02/22/2010 09:11:32	25.0	0.6	24.4	6	392
SUPERSEDED	3A	02/22/2010 11:00	02/22/2010 10:28	02/22/2010 10:27:48	26.0	0.0	26.0	0	0
SUPERSEDED	3A	02/22/2010 12:00	02/22/2010 11:26	02/22/2010 11:26:12	56.0	0.0	56.0	0	0
SUPERSEDED	3A	02/22/2010 13:00	02/22/2010 12:27	02/22/2010 12:26:29	0.0	0.0	0.0	0	0
SUPERSEDED	3B	02/22/2010 12:55	02/22/2010 12:59	02/22/2010 12:59:05	0.0	0.0	0.0	0	0
SUPERSEDED	5A	02/22/2010 14:00	02/22/2010 13:27	02/22/2010 13:26:52	0.0	0.0	119.0	3	626
TERMINATED	0	02/22/2010 14:25	02/22/2010 14:12	02/22/2010 14:11:42	0.0	0.0	0.0	0	0

03/01/2010 08:30:57 (CST)

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Event Summary

FILE SAVED AS: SWPP_6145_20100222_0915.htm

Incident:	SWPP_6145_20100222_0915	Date: 02/22/2010	Reliability Coordinator: SWPP
Initial Conditions:	increasing load		
Flowgate:	6145 - Lake Road-Nashua 161 flo latan...	Rating: 184	LODF: 25.90%
TLR Direction:	Normal		
Effective StartTime:	02/22/2010 09:15	Effective EndTime: 02/22/2010 14:25	TLR Duration: 5 Hours and 10 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											
Feb 22 08:59	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	145	349	N/A
Feb 22 09:12	TLR 3B	CURRENT	1-NS 5-NM 6-NN Total	1 / 0 1 / 0 4 / 0 6 / 0	50 39 303 392	3.0 2.7 18.8 24.4	50 39 303 392	3.0 2.7 18.8 24.4	0 0 0 0	0.0 0.0 0.0 0.0	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	0	0	0	N/A
		NEXT	2-NH 5-NM 6-NN 7-F Total	0 / 1 1 / 0 6 / 0 0 / 1 7 / 2	0 39 335 0 392	0.0 2.7 19.5 0.0 22.1	0 39 335 0 374	0.0 2.7 19.5 0.0 22.1	100 0 0 25 125	5.1 0.0 0.0 1.9 6.9	NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	77.0 0.0 0.0 77.0	77.0 0.0 0.0 77.0				
Feb 22 10:28	TLR 3A	NEXT		NONE							NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	26.0 0.0 0.0 26.0	26.0 0.0 0.0 26.0	83	201	457	N/A
Feb 22 11:26	TLR 3A	NEXT		NONE							NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	56.0 0.0 0.0 56.0	56.0 0.0 0.0 56.0	87	202	447	N/A
Feb 22 12:27	TLR 3A	NEXT	6-NN Total	0 / 1 0 / 1	0 0	0.0 0.0	0 0	0.0 0.0	25 25	1.5 1.5	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	82	200	456	N/A
Feb 22 12:59	TLR 3B	CURRENT		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	85	206	488	N/A
		NEXT	6-NN Total	0 / 1 0 / 1	0 0	0.0 0.0	0 0	0.0 0.0	25 25	1.5 1.5	NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	51.0 0.0 0.0 51.0	51.0 0.0 0.0 51.0				

Feb 22 13:27	TLR 5A	NEXT	5-NM 6-NN Total	1 / 0 2 / 0 3 / 0	39 587 626	2.7 35.4 38.0	39 587 626	2.7 35.4 38.0	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	81.0 0.0 0.0 0.0 81.0	81.0 0.0 0.0 0.0 81.0	37	101	249	N/A
Feb 22 14:12	TLR 0	CURRENT	NONE						NONE		NONE		36	105	287	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	1	50	50	0
2	0	0	0	100
3	0	0	0	0
4	0	0	0	0
5	3	117	117	0
6	12	1225	1225	50
7	0	0	0	25
Total	16	1392	1392	175

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	163.0	163.0
	ED-6	0.0	0.0
	FIRM-7	0.0	0.0
Total for SWPP		163.0	163.0
Total		163.0	163.0

	A	B	C	D	E
1	Reliability Log for February, 22			2010	
2	Time	Initials	Comments	Monday	
3	0858	DGA	Issued TLR level 3A on LAKALAIATSTR flgt #6145		
4	0911	LWB	Issued TLR level 3B on LAKALAIATSTR flgt #6145		
5	1027	LWB	Issued TLR level 3A on LAKALAIATSTR flgt #6145		
6	1126	LWB	Issued TLR level 3A on LAKALAIATSTR flgt #6145		
7	1226	LWB	Re-issued TLR level 3A on LAKALAIATSTR flgt #6145		
8	1259	LWB	Issued TLR level 3B on LAKALAIATSTR flgt #6145.		
9	1326	LWB	Issued TLR level 5A on LAKALAIATSTR flgt #6145, for infeasibility		
10	1411	LWB	Issued TLR level 0 on LAKALAIATSTR flgt #6145, for infeasibility		
11					
12					
13					

FLGT 6145 - LAKALAIATSTR

