

SPP TLR 5 Investigation Report
Flowgate 6145
(Lake Rd. – Alabama 161 kV for loss of latan – Stranger Creek 345 kV)
(LAKALAIATSTR)
TLR Level 5: January 24, 2010
Report Issued: February 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 January 24, 2010. Flowgate 6145 is an SPP flowgate. The Level 5 TLR was in effect from 20:45 until 23:45 CST on January 24, 2010. High North – South flows coupled with an increase in external impacts < 5% 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 5B TLR was issued, the Limiting Element was rated at 184 MVA. Flow on the Limiting Element was 109 MVA. Flow on the Contingent Element was 573 MVA. The LODF was approximately 13%. Post-contingent flow on the Limiting Element was approximately 181 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 3-8.

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 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 9-10. 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 11.

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 which typically shows up on this 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 and non-firm Market Flow were reduced on the flowgate as reported in the TLR Event History and NERC TLR Log on pages 3-8. AECI re-dispatched to provide relief for NNL responsibility during this TLR.

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	3B	01/24/2010 06:20	01/24/2010 06:11	01/24/2010 06:10:49	25.0	24.8	0.2	1	2
SUPERSEDED	3A	01/24/2010 08:00	01/24/2010 07:27	01/24/2010 07:26:45	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 09:00	01/24/2010 08:28	01/24/2010 08:28:18	12.0	8.8	3.2	1	2
SUPERSEDED	3A	01/24/2010 10:00	01/24/2010 09:28	01/24/2010 09:28:09	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 11:00	01/24/2010 10:28	01/24/2010 10:27:54	2.0	1.8	0.2	1	2
SUPERSEDED	3A	01/24/2010 12:00	01/24/2010 11:27	01/24/2010 11:26:49	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 13:00	01/24/2010 12:28	01/24/2010 12:28:32	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 14:00	01/24/2010 13:29	01/24/2010 13:29:02	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 15:00	01/24/2010 14:27	01/24/2010 14:27:14	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 16:00	01/24/2010 15:28	01/24/2010 15:27:39	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 17:00	01/24/2010 16:29	01/24/2010 16:28:50	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 18:00	01/24/2010 17:30	01/24/2010 17:30:09	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/24/2010 19:00	01/24/2010 18:30	01/24/2010 18:30:15	27.0	26.8	0.2	1	2
SUPERSEDED	3A	01/24/2010 20:00	01/24/2010 19:32	01/24/2010 19:31:38	41.0	40.8	0.2	1	2
SUPERSEDED	3A	01/24/2010 21:00	01/24/2010 20:28	01/24/2010 20:27:47	46.0	45.8	0.2	1	2
SUPERSEDED	5B	01/24/2010 20:45	01/24/2010 20:33	01/24/2010 20:32:30	0.0	0.0	0.0	0	0
SUPERSEDED	5A	01/24/2010 22:00	01/24/2010 21:27	01/24/2010 21:26:29	40.0	0.0	40.0	1	2
SUPERSEDED	5A	01/24/2010 23:00	01/24/2010 22:30	01/24/2010 22:28:17	0.0	0.0	0.2	1	2
TERMINATED	0	01/24/2010 23:45	01/24/2010 23:28	01/24/2010 23:28:17	0.0	0.0	0.0	0	0

02/01/2010 16:56:49 (CST)

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

Copyright 2010 - Interchange Distribution Calculator (OATI IDC) - Open Access Technology International, Inc. All Rights Reserved.

Event Summary

FILE SAVED AS: SWPP_6145_20100124_0620.htm

Incident: SWPP_6145_20100124_0620	Date: 01/24/2010	Reliability Coordinator: SWPP
Initial Conditions: increasing load		
Flowgate: 6145 - Lake Road-Nashua 161 flo laten...	Rating: 184	LODF: 12.70%
TLR Direction: Normal		
Effective StartTime: 01/24/2010 06:20	Effective EndTime: 01/24/2010 23:45	TLR Duration: 17 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											
Jan 24 06:11	TLR 3B	CURRENT	3-ND	1 / 0	2	0.2	2	0.2	0	0.0	NONE			ED-2	SWPP	0.0	0.0	105	187	646	N/A
		Total	1 / 0	2	0.2	2	0.2	0	0.0	ED-6	SWPP	0.0	0.0	FIRM-7	SWPP	0.0	0.0				
Jan 24 07:27	TLR 3A	NEXT	3-ND	1 / 0	2	0.2	2	0.2	0	0.0	NONE			ED-2	SWPP	0.0	0.0	97	166	545	N/A
		Total	1 / 0	2	0.2	2	0.2	0	0.0	ED-6	SWPP	0.0	0.0	FIRM-7	SWPP	0.0	0.0				
Jan 24 08:28	TLR 3A	NEXT	3-ND	1 / 0	2	0.2	2	0.2	0	0.0	NONE			ED-2	SWPP	0.0	0.0	103	177	583	N/A
		Total	1 / 0	2	0.2	2	0.2	0	0.0	ED-6	SWPP	3.0	3.0	FIRM-7	SWPP	0.0	0.0				
Jan 24 09:28	TLR 3A	NEXT	NONE							NONE			ED-2	SWPP	0.0	0.0	106	180	584	N/A	
		Total	NONE							NONE			ED-6	SWPP	0.0	0.0					FIRM-7
Jan 24 10:28	TLR 3A	NEXT	3-ND	1 / 0	2	0.2	2	0.2	0	0.0	NONE			ED-2	SWPP	0.0	0.0	101	172	561	N/A
		Total	1 / 0	2	0.2	2	0.2	0	0.0	ED-6	SWPP	0.0	0.0	FIRM-7	SWPP	0.0	0.0				
Jan 24 11:27	TLR 3A	NEXT	NONE							NONE			ED-2	SWPP	0.0	0.0	97	187	557	N/A	
		Total	NONE							NONE			ED-6	SWPP	0.0	0.0					FIRM-7
Jan 24 12:28	TLR 3A	NEXT	NONE							NONE			ED-2	SWPP	0.0	0.0	100	169	550	N/A	
		Total	NONE							NONE			ED-6	SWPP	0.0	0.0					FIRM-7

Jan 24 13:29	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	100	169	545	N/A
Jan 24 14:27	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	100	170	553	N/A
Jan 24 15:28	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	91	160	544	N/A
Jan 24 16:29	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	100	172	569	N/A
Jan 24 17:30	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	105	174	546	N/A
Jan 24 18:30	TLR 3A	NEXT	3-ND Total	1 / 0 1 / 0	2 2	0.2 0.2	2 2	0.2 0.2	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	112	185	576	N/A
Jan 24 19:32	TLR 3A	NEXT	3-ND Total	1 / 0 1 / 0	2 2	0.2 0.2	2 2	0.2 0.2	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	110	182	569	N/A
Jan 24 20:28	TLR 3A	NEXT	3-ND Total	1 / 0 1 / 0	2 2	0.2 0.2	2 2	0.2 0.2	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	107	177	558	N/A
Jan 24 20:33	TLR 5B	CURRENT	NONE								NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 3.0 46.0 49.0	0.0 3.0 46.0 49.0	109	181	573	N/A
		NEXT	3-ND Total	1 / 0 1 / 0	2 0	0.2 0.2	2 2	0.2 0.2	0 0	0.0 0.0	NONE			NONE							
Jan 24 21:27	TLR 5A	NEXT	3-ND Total	1 / 0 1 / 0	2 2	0.2 0.2	2 2	0.2 0.2	0 0	0.0 0.0	AECI Total	7.0 7.0	7.0	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 32.8 0.0 32.8	0.0 0.0 32.8 0.0 32.8	103	176	577	N/A
Jan 24 22:30	TLR 5A	NEXT	3-ND Total	1 / 0 1 / 0	2 2	0.2 0.2	2 2	0.2 0.2	0 0	0.0 0.0	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	98	168	568	N/A
Jan 24 23:28	TLR 0	CURRENT	NONE								NONE			NONE				80	145	515	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	10	20	20	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
Total	10	20	20	0

TLR NNL Totals

CA	NNL Relief	
	IDC MW	RC Ackn MW
AECI	7.0	7.0
Total	7.0	7.0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-8	6.0	6.0
	FIRM-7	78.8	78.8
Total for SWPP		84.8	84.8
Total		84.8	84.8

	A	B	C	D	E
1	Reliability Log for January, 24			2010	
2	Time	Initials	Comments		
3	0610	DGA	Issued TLR Level 3B on LakAlalatStr flgt #6145		
4	0726	DGA	Issued TLR Level 3A on LakAlalatStr flgt #6145		
5	0828	DGA	Issued TLR Level 3A on LakAlalatStr flgt #6145		
6	0928	DGA	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
7	1027	LWB	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
8	1126	LWB	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
9	1230	DGA	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
10	1229	DGA	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
11	1427	DGA	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
12	1527	DGA	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
13	1628	DGA	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
14	1730	LWB	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
15	1830	AH	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
16	1931	AH	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
17	2027	AH	Re-issued TLR Level 3A on LakAlalatStr flgt #6145		
18	2032	AH	Issued TLR Level 5B on LakAlalatStr flgt #6145 -Feasability.		
19	2126	AH	Issued TLR Level 5A on LakAlalatStr flgt #6145 -Feasability.-AECI>NNL 7.1 ,shut down Gentry and Atchisn 2 and 2 Rockpt1.		
20	2228	AH	Issued TLR Level 5A on LakAlalatStr flgt #6145 -Feasability.-AECI>NNL 0		
21	2328	AH	Issued TLR Level 0 on LakAlalatStr flgt #6145 -		
22					

FLGT6145

— Post Cont. — SOL

