

**SPP TLR 5 Investigation Report
LAKALASTJHAW
(Lake Road – Alabama 161 kV for the loss of St. Joe - Hawthorn 345 kV)
TLR Level 5: September 6, 2010
Report Issued: December 28, 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 5382 on September 6, 2010. Flowgate 5382 is an SPP flowgate. The Level 5 TLR was in effect from 15:40 until 23:00 CST on September 6, 2010. Projected flows on the Lake Road – Alabama 161 kV line were expected 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 171 MVA. Flow on the Limiting Element was 103 MVA. Flow on the Contingent Element was 657 MVA. The LODF was approximately 12%. Post-contingent flow on the Limiting Element was approximately 184 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 or market flows 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 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.

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 - South flows on the transmission system in this 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. Firm and non-firm Market Flows were reduced on the flowgate as reported in the TLR Event History and NERC TLR Log on pages 3-6. AECI re-dispatched to provide 57 MW of NNL Relief.

Event History

Issuing RC: SWPP
Flowgate: 5382 - LAKALASTJHAW
Event Begin: 2010-09-06 15:29
Event End: 2010-09-07 00:07
Event Duration: 9 Hours

TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
							Tags	MW
TLR Level 5B	09/06/2010 15:40	09/06/2010 15:29	09/06/2010 15:28:01	50.0	0.0	50.0	4	180
TLR Level 5A	09/06/2010 17:00	09/06/2010 16:28	09/06/2010 16:27:45	20.0	0.0	36.8	3	60
TLR Level 5A	09/06/2010 18:00	09/06/2010 17:32	09/06/2010 17:30:29	25.0	0.0	34.0	3	61
TLR Level 5A	09/06/2010 19:00	09/06/2010 18:28	09/06/2010 18:27:31	26.0	0.0	35.0	4	88
TLR Level 5A	09/06/2010 20:00	09/06/2010 19:31	09/06/2010 19:30:37	31.0	0.0	39.4	4	97
TLR Level 5A	09/06/2010 21:00	09/06/2010 20:31	09/06/2010 20:29:12	18.0	0.0	26.4	3	39
TLR Level 5A	09/06/2010 22:00	09/06/2010 21:30	09/06/2010 21:29:23	12.0	0.0	16.8	3	12
TLR Level 3A	09/06/2010 23:00	09/06/2010 22:28	09/06/2010 22:28:16	19.2	9.2	10.0	0	0
TLR Level 3A	09/07/2010 00:00	09/06/2010 23:27	09/06/2010 23:27:22	7.0	7.0	0.0	0	0
TLR Level 0	09/07/2010 00:20	09/07/2010 00:07	09/07/2010 00:07:27	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_5382_20100906_1540.htm

Incident: SWPP_5382_20100906_1540	Date: 09/06/2010	Reliability Coordinator: SWPP
Initial Conditions: Loading		
Flowgate: 5382 - LAKALASTJHAW	Rating: 171	LODF: 12.41%
TLR Direction: Normal		
Effective StartTime: 09/06/2010 15:40	Effective EndTime: 09/07/2010 00:20	TLR Duration: 8 Hours and 40 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 Akn MW	Type	Mkt	IDC MW	RC Akn MW	Current	Post Cont.	Cont. Flow		
					MW	Relief	MW	Relief	MW	Relief												
Sep 06 15:29	TLR 5B	CURRENT	7-F Total	4 / 0 4 / 0	180 180	10.9 10.9	180 180	10.9 10.9	0 0	0.0 0.0	AECI Total	17.0 17.0	17.0 17.0	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 19.0 22.5 41.5	0.0 19.0 22.5 41.5	103	184	657	N/A	
		NEXT	7-F Total	4 / 0 4 / 0	180 180	10.9 10.9	180 180	10.9 10.9	0 0	0.0 0.0	NONE			NONE								
Sep 06 16:28	TLR 5A	NEXT	7-F Total	3 / 0 3 / 0	60 60	3.0 3.0	60 60	3.0 3.0	0 0	0.0 0.0	AECI Total	9.0 9.0	9.0 9.0	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 19.0 5.8 0.0 24.8	0.0 19.0 5.8 0.0 24.8	97	174	623	N/A	
Sep 06 17:32	TLR 5A	NEXT	7-F Total	3 / 0 3 / 0	61 61	3.1 3.1	61 61	3.1 3.1	0 0	0.0 0.0	AECI Total	9.0 9.0	9.0 9.0	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 19.0 3.1 0.0 22.1	0.0 19.0 3.1 0.0 22.1	95	170	608	N/A	
Sep 06 18:28	TLR 5A	NEXT	7-F Total	4 / 0 4 / 0	88 88	5.4 5.4	88 88	5.4 5.4	0 0	0.0 0.0	AECI Total	8.0 8.0	8.0 8.0	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 19.0 2.2 0.0 21.2	0.0 19.0 2.2 0.0 21.2	94	172	632	N/A	
Sep 06 18:31	TLR 5A	NEXT	7-F Total	4 / 0 4 / 0	97 97	6.0 6.0	97 97	6.0 6.0	0 0	0.0 0.0	AECI Total	8.0 8.0	8.0 8.0	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 19.0 6.1 0.0 25.1	0.0 19.0 6.1 0.0 25.1	100	179	643	N/A	

Sep 08 20:31	TLR 5A	NEXT	7-F Total	3 / 0 3 / 0	39 39	2.0 2.0	39 39	2.0 2.0	0 0	0.0 0.0	AECI Total	5.0 5.0	5.0 5.0	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 19.0 0.7 0.0	0.0 19.0 0.7 0.0	99	177	635	N/A
Sep 08 21:30	TLR 5A	NEXT	7-F Total	3 / 0 3 / 0	12 12	0.6 0.6	12 12	0.6 0.6	0 0	0.0 0.0	AECI Total	1.0 1.0	1.0 1.0	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 15.0 0.0 0.0	0.0 15.0 0.0 0.0	97	177	651	N/A
Sep 08 22:28	TLR 3A	NEXT	NONE								NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 10.0 0.0	0.0 10.0 0.0	96	176	648	N/A
Sep 08 23:27	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	93	169	620	N/A
Sep 07 00:07	TLR 0	CURRENT	NONE								NONE			NONE				81	153	588	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	28	717	717	0
Total	28	717	717	0

TLR NNL Totals

CA	NNL Relief	
	IDC MW	RC Ackn MW
AECI	57.0	57.0
Total	57.0	57.0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	139.0	139.0
	FIRM-7	40.4	40.4
Total for SWPP		179.4	179.4
Total		179.4	179.4

Reliability Log for September, 6

2010

Time	Initials	Comments
8/26/10		KCPL Nashua Bus Breakers R5-8 and R3-4 Open per op Guide Reconfig #1 , New limits on 5228 & 5050 in this configuration, See new Op Guide.
1628	MRH	Issued TLR Level 5B on LAKALASTHAW Flgt 5382, CME effective limit at 155, this for loading
1630	MRH	TVA-Jason advised they have AECI has 16.7 NNL for HE1800.
1645	MRH	TVA-Jason reports Dec, Gentry 34, Clyde 29, Winslow 129 and Inc Holden units 175 to meet their 16.7 NNL For HE1700
1727	MRH	Issued TLR Level 5A on LAKALASTHAW Flgt 5382, CME effective limit at 155, this for loading
1730	MRH	TVA-Jason advised they have AECI has 8.9 NNL for HE1900.
1750	LRG	Tva says Aeci will Dec Winslow 54 @ -5.4 gsf and Inc holden 175 @ 3.5 gsf = 8.9 nnl
1830	LRG	Issued TLR Level 5A on LAKALASTHAW Flgt 5382, this for loading Aeci NNL = 8.9 no change
1927	LRG	Issued TLR Level 5A on LAKALASTHAW Flgt 5382, this for loading Aeci NNL = 8.3 no change
2129	LRG	Issued TLR Level 5A on LAKALASTHAW Flgt 5382, this for loading Aeci NNL = 4.7 Gentry,Clyde and Winslow off =8.4 NNL
2229	LRG	Issued TLR Level 5A on LAKALASTHAW Flgt 5382, this for loading Aeci NNL = 1.2 Gentry,Clyde and Winslow off =8.4 NNL
2328	LRG	Issued TLR Level 3A on LAKALASTHAW Flgt 5382,

Reliability Log for September, 7

2010

Time	Initials	Comments
8/26/10		KCPL Nashua Bus Breakers R5-8 and R3-4 Open per op Guide Reconfig #1 , New limits on 5228 & 5050 in this configuration, See new Op Guide.
0027	LRG	Issued TLR Level 3A on LAKALASTHAW Flgt 5382,
0107	LRG	Issued TLR Level 0 on LAKALASTHAW Flgt 5382,

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