

SPP TLR 5 Investigation Report
LAKALASTJHAW
(Lake Road – Alabama 161 kV for the loss of St. Joe - Hawthorn 345 kV)
TLR Level 5: August 14-15, 2010
Report Issued: December 21, 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 August 14-15, 2010. Flowgate 5382 is an SPP flowgate. The Level 5 TLR was in effect from 23:00 on August 14 until 6:40 CST on August 15, 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 5A TLR was issued, the Limiting Element was rated at 171 MVA. Flow on the Limiting Element was 97 MVA. Flow on the Contingent Element was 588 MVA. The LODF was approximately 12%. Post-contingent flow on the Limiting Element was approximately 169 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 3-5.

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 6. 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 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 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 3-5.

Event History

Issuing RC: SWPP
Flowgate: 5382 - LAKALASTJHAW
Event Begin: 2010-08-14 20:26
Event End: 2010-08-15 06:30
Event Duration: 10 Hours

TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
							Tags	MW
TLR Level 3B	08/14/2010 20:35	08/14/2010 20:26	08/14/2010 20:26:05	30.0	30.0	0.0	0	0
TLR Level 3A	08/14/2010 22:00	08/14/2010 21:29	08/14/2010 21:29:25	40.0	40.0	0.0	0	0
TLR Level 5A	08/14/2010 23:00	08/14/2010 22:31	08/14/2010 22:31:15	0.0	0.0	0.0	0	0
TLR Level 5A	08/15/2010 00:00	08/14/2010 23:33	08/14/2010 23:32:49	0.0	0.0	0.0	0	0
TLR Level 5A	08/15/2010 01:00	08/15/2010 00:40	08/15/2010 00:40:06	0.0	0.0	0.0	0	0
TLR Level 3A	08/15/2010 02:00	08/15/2010 01:38	08/15/2010 01:37:34	80.0	80.0	0.0	0	0
TLR Level 3A	08/15/2010 03:00	08/15/2010 02:37	08/15/2010 02:36:42	81.0	81.0	0.0	0	0
TLR Level 5A	08/15/2010 04:00	08/15/2010 03:38	08/15/2010 03:37:04	0.0	0.0	0.0	0	0
TLR Level 5A	08/15/2010 05:00	08/15/2010 04:31	08/15/2010 04:31:20	0.0	0.0	0.0	0	0
TLR Level 5A	08/15/2010 06:00	08/15/2010 05:30	08/15/2010 05:30:06	0.0	0.0	0.0	0	0
TLR Level 0	08/15/2010 06:40	08/15/2010 06:30	08/15/2010 06:29:45	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_5382_20100814_2035.htm

Incident: SWPP_5382_20100814_2035	Date: 08/14/2010	Reliability Coordinator: SWPP
Initial Conditions: increasing load		
Flowgate: 5382 - LAKALASTJHAW	Rating: 171	LODF: 12.34%
TLR Direction: Normal		
Effective StartTime: 08/14/2010 20:35	Effective EndTime: 08/15/2010 06:40	TLR Duration: 10 Hours and 5 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											
Aug 14 20:28	TLR 3B	CURRENT		NONE						NONE			ED-2	SWPP	0.0	0.0	101	185	524	N/A	
		NEXT		NONE						NONE			ED-6	SWPP	0.0	0.0					
				NONE						NONE			FIRM-7	SWPP	0.0	0.0					
													Total		0.0	0.0					
Aug 14 21:29	TLR 3A	NEXT		NONE						NONE			ED-2	SWPP	0.0	0.0	93	158	531	N/A	
				NONE						NONE			ED-6	SWPP	0.0	0.0					
				NONE						NONE			FIRM-7	SWPP	0.0	0.0					
													Total		0.0	0.0					
Aug 14 22:31	TLR 5A	NEXT		NONE						NONE			ED-2	SWPP	0.0	0.0	97	189	588	N/A	
				NONE						NONE			ED-6	SWPP	0.0	0.0					
				NONE						NONE			FIRM-7	SWPP	0.0	0.0					
													Total		0.0	0.0					
Aug 14 23:33	TLR 5A	NEXT		NONE						NONE			ED-2	SWPP	0.0	0.0	97	189	588	N/A	
				NONE						NONE			ED-6	SWPP	0.0	0.0					
				NONE						NONE			FIRM-7	SWPP	0.0	0.0					
													Total		0.0	0.0					
Aug 15 00:40	TLR 5A	NEXT		NONE						NONE			ED-2	SWPP	0.0	0.0	95	189	603	N/A	
				NONE						NONE			ED-6	SWPP	0.0	0.0					
				NONE						NONE			FIRM-7	SWPP	0.0	0.0					
													Total		0.0	0.0					

Aug 15 01:38	TLR 3A	NEXT	NONE	NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	93	185	588	N/A
Aug 15 02:37	TLR 3A	NEXT	NONE	NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	97	171	805	N/A
Aug 15 03:38	TLR 5A	NEXT	NONE	NONE	ED-2 ED-8 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	174	618	N/A
Aug 15 04:31	TLR 5A	NEXT	NONE	NONE	ED-2 ED-8 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	90	181	579	N/A
Aug 15 05:30	TLR 5A	NEXT	NONE	NONE	ED-2 ED-8 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	82	150	553	N/A
Aug 15 06:30	TLR 0	CURRENT	NONE	NONE	NONE				80	145	530	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	0	0	0	0
Total	0	0	0	0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Akn MW
SWPP	ED-2	0.0	0.0
	ED-8	0.0	0.0
	FIRM-7	0.0	0.0
Total for SWPP		0.0	0.0
Total		0.0	0.0

Reliability Log for August, 14

2010

Time	Initials	Comments
8/13/10		KCPL-Jennings opened Nashua 161kV PCB R3-8 and R4-5 to relieve Loading on Flgt 5382 LAKALASTJHAW per OP Guide.
2126	LWB	Issued TLR level 3B on LakAlaStjHaw #5382 set limit at 160
2229	LWB	Issued TLR level 3A on LakAlaStjHaw #5382 set limit at 160
2331	LWB	Issued TLR level 5A on LakAlaStjHaw #5382 set limit at 160---feasibility

Reliability Log for August, 15

2010

Time	Initials	Comments
8/13/10		KCPL-Jennings opened Nashua 161kV PCB R3-8 and R4-5 to relieve Loading on Flgt 5382 LAKALASTJHAW per OP Guide.
0032	LWB	Re-issued TLR level 5A on LakAlaStjHaw #5382 set limit at 160---feasibility
0140	LWB	Re-issued TLR level 5A on LakAlaStjHaw #5382 set limit at 160---feasibility
0237	LWB	Issued TLR level 3A on LakAlaStjHaw #5382 set limit at 172
0336	LWB	Re-issued TLR level 3A on LakAlaStjHaw #5382 set limit at 172
0437	LWB	Issued TLR level 5A on LakAlaStjHaw #5382 set limit at 172---feasibility.
0531	LRG	Issued TLR level 5A on LakAlaStjHaw #5382 set limit at 172---feasibility.
0630	LRG	Issued TLR level 5A on LakAlaStjHaw #5382 set limit at 172---feasibility.
0729	LRG	Issued TLR level 0 on LakAlaStjHaw #5382 set limit at 172---feasibility.

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