

SPP TLR 5 Investigation Report
Flowgate 5364
(Brookline XFMR1 for the loss of Brookline XFMR2)
(BRKXF1BRKXF2)
TLR Level 5: January 9, 2011
Report Issued:

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 5364 on January 9, 2011. Flowgate 5364 is an SPP flowgate. The Level 5 TLR was in effect from 9:25 AM until 1:45 PM CST on January 9, 2011. Projected post-contingent flows on the Brookline XFMR1 for the loss of Brookline XFMR2 did not 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 400 MVA. Flow on the Limiting Element was 243 MVA. Flow on the Contingent Element was 241 MVA. The LODF was approximately 54.7%. Post-contingent flow on the Limiting Element was approximately 374 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.

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

There were no unplanned outages. The high loading of Brookline transformers was caused by a combination of a 345kV line outage for maintenance and low Hydro generation.

5. Procedures implemented prior to hold/curtailment.

There were no non-firm transactions. Next hour flows predicted that not enough non-firm could be curtailed to alleviate loading on the flowgate.

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. 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.

In the next day process, we did not see an issue with this flowgate, based off of the peak study.

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.

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 line outage and low generation. Due to this situation, no actions were taken to avoid future hold/curtailments.

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. AECI had 15 MW of NNL, and SPA had 19 MW of NNL.

Event History

Issuing RC: SWPP
Flowgate: 5364 - BRKXF1BRKXF2
Event Begin: 2011-01-09 09:25
Event End: 2011-01-09 13:45
Event Duration: 4 Hours

TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
							Tags	MW
TLR Level SB	01/09/2011 09:25	01/09/2011 09:15	01/09/2011 09:14:40	50.0	0.0	51.0	22	153
TLR Level SA	01/09/2011 11:00	01/09/2011 10:29	01/09/2011 10:26:44	27.0	0.0	42.5	20	95
TLR Level SA	01/09/2011 12:00	01/09/2011 11:26	01/09/2011 11:26:03	0.0	0.0	15.1	17	38
TLR Level SA	01/09/2011 13:00	01/09/2011 12:26	01/09/2011 12:26:00	0.0	0.0	4.0	0	0
TLR Level 0	01/09/2011 13:45	01/09/2011 13:32	01/09/2011 13:31:56	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_5364_20110109_0825.htm

Incident: SWPP_5364_20110109_0825	Date: 01/09/2011	Reliability Coordinator: SWPP
Initial Conditions: load increasing		
Flowgate: 5364 - BRKXF1BRKXF2	Rating: 400	LODF: 54.65%
TLR Direction: Normal		
Effective StartTime: 01/09/2011 09:25	Effective EndTime: 01/09/2011 13:45	TLR Duration: 4 Hours and 20 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 MV	RC Ackn MV	Type	Mkt	IDC MV	RC Ackn MV	Current	Post Cont.	Cont. Flow		
Jan 09 09:15	TLR SB	CURRENT	1-NS	1 / 0	50	2.8	50	2.8	0	0.0	AECI	6.0	6.0	ED-2	SWPP	0.0	0.0	243	374	241	N/A
			7-F	21 / 0	103	11.8	103	11.8	0	0.0	SPA	8.0	8.0	ED-5	SWPP	0.0	0.0				
			Total	22 / 0	153	14.6	153	14.6	0	0.0	Total	14.0	14.0	Total	22.2	22.2					
		NEXT	7-F	18 / 1	96	11.0	96	11.0	8	0.7	NONE		NONE								
			Total	18 / 1	153	11.0	96	11.0	8	0.7											
Jan 09 10:29	TLR SA	NEXT	7-F	20 / 0	95	10.9	95	10.9	0	0.0	AECI	7.0	7.0	ED-2	SWPP	0.0	0.0	238	358	238	N/A
			7-F	20 / 0	95	10.9	95	10.9	0	0.0	SPA	7.0	8.0	ED-5	SWPP	1.0	1.0				
			Total	20 / 0	95	10.9	95	10.9	0	0.0	Total	14.0	15.0	Total	17.6	17.6					
Jan 09 11:26	TLR SA	NEXT	7-F	17 / 0	38	4.3	38	4.3	0	0.0	AECI	2.0	2.0	ED-2	SWPP	0.0	0.0	234	353	237	N/A
			7-F	17 / 0	38	4.3	38	4.3	0	0.0	SPA	2.0	3.0	ED-5	SWPP	0.0	0.0				
			Total	17 / 0	38	4.3	38	4.3	0	0.0	Total	4.0	5.0	Total	6.6	6.6					
Jan 09 12:26	TLR SA	NEXT			NONE						NONE			ED-2	SWPP	0.0	0.0	229	355	231	N/A
					NONE						NONE			ED-5	SWPP	0.0	0.0				
					NONE						NONE			FIRM-7	SWPP	4.0	4.0				
					NONE						NONE			FIRM-CREDIT	SWPP	0.0	0.0				
					NONE						NONE			Total	4.0	4.0					
Jan 09 13:32	TLR 0	CURRENT			NONE						NONE			NONE			220	341	222	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	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	76	332	332	8
Total	77	382	382	8

TLR NNL Totals

CA	NNL Relief	
	IDC MW	RC Ackn MW
AECI	15.0	15.0
SPA	17.0	19.0
Total	32.0	34.0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	1.0	1.0
	FIRM-7	49.4	49.4
Total for SWPP		50.4	50.4
Total		50.4	50.4

Date	Time	Category	Issue
1/9/2011	0814	TLR - 5b Reissue	Drop down on Initial Issue of 5B would not work, had to use the 5B reissue.
1/9/2011	0926	TLR - 5a Reissue	
1/9/2011	1231	TLR - 0	RTB vs RT flow