

SPP TLR 5 Investigation Report
Flowgate 16989
(TEMP 24 - SOONER 345/138KV XFR (FLO) SOONER - ONEOAK 345KV)
TLR Level 5: March 15, 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 16989 on March 15, 2011. Flowgate 16989 is an SPP flowgate. The Level 5 TLR was in effect from 21:00 until 22:00 CST on March 15, 2011. Projected post-contingent flows on the Temp 24 - Sooner 345/138kV XFR (flo) Sooner - Oneoak 345kV exceeded 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 448 MVA. Flow on the Limiting Element was 34 MVA. Flow on the Contingent Element was 473 MVA. The LODF was approximately 88%. Post-contingent flow on the Limiting Element was approximately 450 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. Sooner – Woodring 345kV was in a planned outage.

5. Procedures implemented prior to hold/curtailment.

Curtailed 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 the temporary outage. 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.

Event History

Issuing RC: SWPP
Flowgate: 16989 - Temp 24 - Sooner 345/138kV XFR (flo) Sooner - Oneoak 345kV
Event Begin: 2011-03-15 13:00
Event End: 2011-03-15 23:45
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 3A	03/15/2011 13:00	03/15/2011 12:32	03/15/2011 12:30:12	6.0	0.0	6.0	1	20
TLR Level 3A	03/15/2011 14:00	03/15/2011 13:29	03/15/2011 13:27:18	3.0	0.0	3.0	1	20
TLR Level 3A	03/15/2011 15:00	03/15/2011 14:27	03/15/2011 14:26:31	15.0	0.0	15.0	1	20
TLR Level 3A	03/15/2011 16:00	03/15/2011 15:27	03/15/2011 15:26:38	15.0	0.0	15.0	0	0
TLR Level 3A	03/15/2011 17:00	03/15/2011 16:28	03/15/2011 16:26:46	15.0	0.0	15.0	1	20
TLR Level 3A	03/15/2011 18:00	03/15/2011 17:27	03/15/2011 17:26:28	4.0	0.0	4.0	1	20
TLR Level 3A	03/15/2011 19:00	03/15/2011 18:26	03/15/2011 18:26:04	2.0	0.6	1.4	1	20
TLR Level 3A	03/15/2011 20:00	03/15/2011 19:28	03/15/2011 19:27:36	2.0	0.6	1.4	1	20
TLR Level 5A	03/15/2011 21:00	03/15/2011 20:30	03/15/2011 20:28:47	7.0	0.0	7.1	3	22
TLR Level 3A	03/15/2011 22:00	03/15/2011 21:41	03/15/2011 21:40:43	0.0	0.0	0.0	0	0
TLR Level 3A	03/15/2011 23:00	03/15/2011 22:30	03/15/2011 22:26:31	0.0	0.0	0.0	0	0
TLR Level 0	03/15/2011 23:45	03/15/2011 23:35	03/15/2011 23:35:03	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_16989_20110315_1200.htm

Incident: SWPP_16989_20110315_1200 **Date:** 03/15/2011 **Reliability Coordinator:** SWPP
Initial Conditions: increasing flows
Flowgate: 16989 - Temp 24 - Sooner 345/138kV XFR... **Rating:** 448 **LODF:** 88.04%
TLR Direction: Normal
Effective StartTime: 03/15/2011 13:00 **Effective EndTime:** 03/15/2011 23:45 **TLR Duration:** 10 Hours and 45 Minutes

TLR Actions

Confirm Time	Level	Effective Hour	Priority	Schedule						NHL Relief			Market Relief				Flow		Cont. Flow	TLR Action Comments
				Total Tags Cut / Hold	IDC Cut MW	RC Cut Acknowledge MW	Hold MW	CA	IDC MW	RC Acln MW	Type	Mkt	IDC MW	RC Acln MW	Current	Post Cont.				
Mar 15 12:32	TLR 3A	NEXT	1-NS	1 / 0	20	1.4	20	1.4	0	0.0	NONE	ED-2 ED-5 FIRML-7	SWPP SWPP SWPP	0.0 4.6 0.0	0.0 4.6 0.0	2	398	450	N/A	
			Total	1 / 0	20	1.4	20	1.4	0	0.0		Total	SWPP SWPP SWPP	0.0 4.6 0.0	0.0 4.6 0.0					
Mar 15 13:29	TLR 3A	NEXT	1-NS	1 / 0	20	1.4	20	1.4	0	0.0	NONE	ED-2 ED-5 FIRML-7	SWPP SWPP SWPP	0.0 1.6 0.0	0.0 1.6 0.0	14	413	454	current flow is a negative number	
			Total	1 / 0	20	1.4	20	1.4	0	0.0		Total	SWPP SWPP SWPP	0.0 1.6 0.0	0.0 1.6 0.0					
Mar 15 14:27	TLR 3A	NEXT	1-NS	1 / 0	20	1.4	20	1.4	0	0.0	NONE	ED-2 ED-5 FIRML-7	SWPP SWPP SWPP	0.0 13.6 0.0	0.0 13.6 0.0	24	435	487	current flow is a negative number	
			Total	1 / 0	20	1.4	20	1.4	0	0.0		Total	SWPP SWPP SWPP	0.0 13.6 0.0	0.0 13.6 0.0					
Mar 15 15:27	TLR 3A	NEXT				NONE					NONE	ED-2 ED-5 FIRML-7	SWPP SWPP SWPP	0.0 15.0 0.0	0.0 15.0 0.0	27	437	488	current flow is a negative number	
			Total	1 / 0	20	1.4	20	1.4	0	0.0		Total	SWPP SWPP SWPP	0.0 15.0 0.0	0.0 15.0 0.0					
Mar 15 16:26	TLR 3A	NEXT	1-NS	1 / 0	20	1.4	20	1.4	0	0.0	NONE	ED-2 ED-5 FIRML-7	SWPP SWPP SWPP	0.0 13.6 0.0	0.0 13.6 0.0	28	440	488	current flow is a negative number	
			Total	1 / 0	20	1.4	20	1.4	0	0.0		Total	SWPP SWPP SWPP	0.0 13.6 0.0	0.0 13.6 0.0					
Mar 15 17:27	TLR 3A	NEXT	1-NS	1 / 0	20	1.4	20	1.4	0	0.0	NONE	ED-2 ED-5 FIRML-7	SWPP SWPP SWPP	0.0 2.6 0.0	0.0 2.6 0.0	32	445	470	current flow is a negative number	
			Total	1 / 0	20	1.4	20	1.4	0	0.0		Total	SWPP SWPP SWPP	0.0 2.6 0.0	0.0 2.6 0.0					
Mar 15 18:26	TLR 3A	NEXT	1-NS	1 / 0	20	1.4	20	1.4	0	0.0	NONE	ED-2 ED-5 FIRML-7	SWPP SWPP SWPP	0.0 0.0 0.0	0.0 0.0 0.0	44	459	483	current flow is a negative number	
			Total	1 / 0	20	1.4	20	1.4	0	0.0		Total	SWPP SWPP SWPP	0.0 0.0 0.0	0.0 0.0 0.0					

Mar 15 19:28	TLR 3A	NEXT	1-NS Total	1 / 0 1 / 0	20 20	1.4 1.4	20 20	1.4 1.4	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	55	488	492	current flow is a negative number	
Mar 15 20:30	TLR 5A	NEXT	1-NS 7-F Total	1 / 0 2 / 0 3 / 0	20 2 22	1.4 0.1 1.6	20 2 22	1.4 0.1 1.6	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 5.6 0.0 5.6	0.0 0.0 5.6 0.0 5.6	34	450	473	current flow is a negative number	
Mar 15 21:41	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	27	450	458	current flow is a negative number
Mar 15 22:30	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	25	385	410	N/A
Mar 15 23:35	TLR 0	CURRENT	NONE									NONE	NONE			48	337	329	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	8	160	160	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	2	2	2	0
Total	10	162	162	0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	50.9	51.0
	FIRM-7	5.6	5.6
Total for SWPP		56.5	56.6
Total		56.5	56.6

Date	Time	Category	Issue
3/15/2011	12:30	TLR - 3a Initial	Flowgate active CME with impacting NF tag.
3/15/2011	20:28	TLR - 5a Initial	PC 100%; loading and feasibility, notified OGE TO (Tom)
3/15/2011	21:40	TLR - 3a Initial	PC 96%; Notified OGE TO (Drew); Controlling FG w/ Temp_6 CME (FG 16951)
3/15/2011	23:35	TLR - 0	PC 84%; still in CME, Notified OGE TO (Tom)