

SPP TLR 5 Investigation Report
Temp 6 Flowgate 16094
(Neosho – Columbus 161 kV for the loss of Neosho – Morgan 345 kV)
TLR Level 5: May 22, 2010
Report Issued: June 7, 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 16094 on May 22, 2010. Flowgate 16094 is an SPP flowgate created for a planned outage of Northeastern – Delaware 345 kV line in December 2009. Loading on the flowgate remained relatively high after the Northeastern - Delaware 345 kV line was returned to service so the flowgate was maintained following the end of the outage. The Level 5 TLR was in effect from 12:00 until 23:25 CST on May 22, 2010. Projected post contingent flows on the Neosho – Columbus 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 215 MVA. Flow on the Limiting Element was 154 MVA. Flow on the Contingent Element was 376 MVA. The LODF was approximately 14%. Post-contingent flow on the Limiting Element was approximately 206 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 and sporadic 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 system flows. Lack of available generation in the Joplin area during heavy north to south flows from Kansas and Missouri into Oklahoma and Arkansas contributed to the loading.

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.

TLR Event History

16094 - Temp 6 -- Neosho - Columbus 161kV (flo) Neosho - Morgan 345kV

Status	TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3B	05/22/2010 09:55	05/22/2010 09:53	05/22/2010 09:52:37	10.0	10.0	0.0	0	0
SUPERSEDED	3A	05/22/2010 11:00	05/22/2010 10:27	05/22/2010 10:27:00	21.0	21.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 12:00	05/22/2010 11:27	05/22/2010 11:26:50	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 13:00	05/22/2010 12:30	05/22/2010 12:29:58	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 14:00	05/22/2010 13:32	05/22/2010 13:32:08	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 15:00	05/22/2010 14:33	05/22/2010 14:32:59	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 16:00	05/22/2010 15:34	05/22/2010 15:33:54	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 17:00	05/22/2010 16:41	05/22/2010 16:40:17	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 18:00	05/22/2010 17:44	05/22/2010 17:44:14	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 19:00	05/22/2010 18:46	05/22/2010 18:45:10	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 20:00	05/22/2010 19:37	05/22/2010 19:36:33	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 21:00	05/22/2010 20:35	05/22/2010 20:34:59	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 22:00	05/22/2010 21:33	05/22/2010 21:32:22	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/22/2010 23:00	05/22/2010 22:34	05/22/2010 22:33:23	0.0	0.0	0.0	0	0
TERMINATED	0	05/22/2010 23:25	05/22/2010 23:13	05/22/2010 23:12:47	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_16094_20100522_0955.htm

Incident:	SWPP_16094_20100522_0955	Date: 05/22/2010 (CST)	Reliability Coordinator: SWPP
Initial Conditions:	loading		
Flowgate:	16094 - Temp 6 -- Neosho - Columbus 16...	Rating: 215	LODF: 14.00%
TLR Direction:	Normal		
Effective StartTime:	05/22/2010 09:55 (CST)	Effective EndTime: 05/22/2010 23:25 (CST)	TLR Duration: 13 Hours and 30 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												
May 22 09:53 (CST)	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	164	219	397	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				
May 22 10:27 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	155	209	389	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				
May 22 11:27 (CST)	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	154	208	378	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				
May 22 12:30 (CST)	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	155	208	383	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				
May 22 13:32 (CST)	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	154	209	394	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				
May 22 14:33 (CST)	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	147	203	400	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				

May 22 15:34 (CST)	TLR 5A	NEXT	NONE	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	150	207	411	N/A
May 22 16:41 (CST)	TLR 5A	NEXT	NONE	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	151	209	417	N/A
May 22 17:44 (CST)	TLR 5A	NEXT	NONE	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	153	211	418	N/A
May 22 18:46 (CST)	TLR 5A	NEXT	NONE	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	150	208	421	N/A
May 22 19:37 (CST)	TLR 5A	NEXT	NONE	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	153	210	413	N/A
May 22 20:35 (CST)	TLR 5A	NEXT	NONE	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	154	206	375	N/A
May 22 21:33 (CST)	TLR 5A	NEXT	NONE	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	156	205	353	N/A
May 22 22:34 (CST)	TLR 5A	NEXT	NONE	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	158	203	328	N/A
May 22 23:13 (CST)	TLR 0	CURRENT	NONE	NONE	NONE				149	191	306	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 Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	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 May, 22**2010**

Time	Initials	Comments	
1052	LRG	Issued TLR level 3B on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094	
1127	LRG	Issued TLR level 3A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094	
1226	LRG	Issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
1329	LRG	Issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
1432	LRG	Issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
1532	LRG	Issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
1633	LRG	Issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
1740	LWB	Re-issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
1844	LWB	Re-issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
1945	LWB	Re-issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
2036	LWB	Re-issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
2134	LWB	Re-issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
2232	LWB	Re-issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	
2333	LWB	Re-issued TLR level 5A on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094- Feasibility	

Reliability Log for May, 23**2010**

Time	Initials	Comments	
0012	LWB	Issued TLR level 0 on Temp. 6 Neosho-Columbus flo Neosho-Morgan #16094.	

TEMP06_16094

— Post Cont. — SOL

