

SPP TLR 5 Investigation Report
Temp 26 Flowgate 16045
(Neosho – Columbus 161 kV for the loss of Neosho – Delaware 345 kV)
TLR Level 5: May 12, 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 16045 on May 12, 2010. Flowgate 16045 is an SPP flowgate created for a planned outage of Neosho – Morgan 345 kV line earlier last fall. Loading on the flowgate remained relatively high after the Neosho – Morgan 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 03:00 until 5:00 CST on May 12, 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 120 MVA. Flow on the Contingent Element was 444 MVA. The LODF was approximately 17%. Post-contingent flow on the Limiting Element was approximately 195 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 not enough non-firm transactions and market flows to provide the necessary relief on the flowgate. 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

16045 - Temporary 26 - Neosho-Columbus 161 flo Neosho-Delaware 345

Status	TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3B	05/11/2010 21:20	05/11/2010 21:08	05/11/2010 21:08:19	50.0	0.0	50.0	0	0
SUPERSEDED	3A	05/11/2010 23:00	05/11/2010 22:27	05/11/2010 22:26:25	21.0	0.0	21.0	0	0
SUPERSEDED	3A	05/12/2010 00:00	05/11/2010 23:27	05/11/2010 23:27:14	43.0	0.0	43.0	0	0
SUPERSEDED	3A	05/12/2010 01:00	05/12/2010 00:30	05/12/2010 00:29:30	19.0	0.0	19.0	0	0
SUPERSEDED	3A	05/12/2010 02:00	05/12/2010 01:27	05/12/2010 01:27:01	130.0	42.0	88.0	0	0
SUPERSEDED	5A	05/12/2010 03:00	05/12/2010 02:30	05/12/2010 02:29:29	0.0	0.0	89.0	0	0
SUPERSEDED	5A	05/12/2010 04:00	05/12/2010 03:31	05/12/2010 03:30:39	0.0	0.0	101.0	0	0
SUPERSEDED	3A	05/12/2010 05:00	05/12/2010 04:28	05/12/2010 04:27:35	90.0	0.0	90.0	1	3
SUPERSEDED	3A	05/12/2010 06:00	05/12/2010 05:27	05/12/2010 05:27:31	75.0	0.0	75.0	1	6
SUPERSEDED	3A	05/12/2010 07:00	05/12/2010 06:27	05/12/2010 06:27:17	0.0	0.0	0.0	0	0
SUPERSEDED	3A	05/12/2010 08:00	05/12/2010 07:30	05/12/2010 07:29:40	10.0	0.0	10.0	2	153
SUPERSEDED	3A	05/12/2010 09:00	05/12/2010 08:31	05/12/2010 08:31:08	50.0	0.0	50.0	3	254
SUPERSEDED	3A	05/12/2010 10:00	05/12/2010 09:26	05/12/2010 09:26:20	50.0	0.0	50.0	2	251
TERMINATED	0	05/12/2010 10:40	05/12/2010 10:29	05/12/2010 10:28:44	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_16045_20100511_2120.htm

Incident:	SWPP_16045_20100511_2120	Date: 05/11/2010 (CST)	Reliability Coordinator: SWPP
Initial Conditions:	increasing load		
Flowgate:	16045 - Temporary 26 - Neosho-Columbus...	Rating: 215	LODF: 17.11%
TLR Direction:	Normal		
Effective StartTime:	05/11/2010 21:20 (CST)	Effective EndTime: 05/12/2010 10:40 (CST)	TLR Duration: 13 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 MW	RC Ackn MW	Current	Post Cont.	Cont. Flow		
					MW	Relief	MW	Relief	MW	Relief												
May 11 21:06 (CST)	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	131	208	453	N/A
		NEXT	1-NS 2-NH 3-ND 6-NN Total	1 / 0 3 / 0 1 / 0 0 / 1 5 / 1	112 200 2 0 0	7.0 11.8 0.1 0.0 18.9	112 200 2 0 314	7.0 11.8 0.1 0.0 18.9	0 0 0 20 20	0.0 0.0 0.0 1.2 1.2	NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 50.0 0.0 50.0	0.0 50.0 0.0 50.0					
May 11 22:27 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 21.0 0.0 21.0	0.0 21.0 0.0 21.0	109	196	512	N/A
May 11 23:27 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 43.0 0.0 43.0	0.0 43.0 0.0 43.0	114	192	459	N/A
May 12 00:30 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 19.0 0.0 19.0	0.0 19.0 0.0 19.0	116	196	470	N/A
May 12 01:27 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 88.0 0.0 88.0	0.0 88.0 0.0 88.0	129	209	469	N/A
May 12 02:30 (CST)	TLR 5A	NEXT		NONE								NONE			ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 89.0 0.0 0.0 89.0	0.0 89.0 0.0 0.0 89.0	120	195	444	N/A

May 12 03:31 (CST)	TLR 5A	NEXT	NONE							NONE			ED-2	SWPP	0.0	0.0	105	183	460	N/A
												ED-6	SWPP	89.8	89.8					
												FIRM-7	SWPP	0.0	0.0					
												FIRM-CREDIT	SWPP	0.0	0.0					
												Total		101.0	101.0					
May 12 04:28 (CST)	TLR 3A	NEXT	1-NS	1 / 0	3	0.2	3	0.2	0	0.0	NONE	ED-2	SWPP	0.0	0.0	109	188	462	N/A	
			Total	1 / 0	3	0.2	3	0.2	0	0.0		ED-6	SWPP	89.8	89.8					
												FIRM-7	SWPP	0.0	0.0					
												Total		89.8	89.8					
May 12 05:27 (CST)	TLR 3A	NEXT	6-NN	1 / 0	6	0.4	6	0.4	0	0.0	NONE	ED-2	SWPP	0.0	0.0	121	189	399	N/A	
			Total	1 / 0	6	0.4	6	0.4	0	0.0		ED-6	SWPP	74.6	74.6					
												FIRM-7	SWPP	0.0	0.0					
												Total		74.6	74.6					
May 12 06:27 (CST)	TLR 3A	NEXT	NONE							NONE			ED-2	SWPP	0.0	0.0	122	172	295	N/A
												ED-6	SWPP	0.0	0.0					
												FIRM-7	SWPP	0.0	0.0					
												Total		0.0	0.0					
May 12 07:30 (CST)	TLR 3A	NEXT	1-NS	1 / 0	51	3.0	51	3.0	0	0.0	NONE	ED-2	SWPP	0.0	0.0	123	178	325	N/A	
			2-NH	1 / 0	102	7.0	102	7.0	0	0.0		ED-6	SWPP	0.0	0.0					
			Total	2 / 0	153	10.0	153	10.0	0	0.0		FIRM-7	SWPP	0.0	0.0					
												Total		0.0	0.0					
May 12 08:31 (CST)	TLR 3A	NEXT	1-NS	1 / 0	52	3.1	52	3.1	0	0.0	NONE	ED-2	SWPP	0.0	0.0	125	192	397	N/A	
			2-NH	2 / 0	202	14.2	202	14.2	0	0.0		ED-6	SWPP	32.7	32.7					
			Total	3 / 0	254	17.3	254	17.3	0	0.0		FIRM-7	SWPP	0.0	0.0					
												Total		32.7	32.7					
May 12 09:26 (CST)	TLR 3A	NEXT	1-NS	1 / 0	51	2.9	51	2.9	0	0.0	NONE	ED-2	SWPP	0.0	0.0	126	183	334	N/A	
			2-NH	1 / 0	200	13.4	200	13.4	0	0.0		ED-6	SWPP	33.7	33.7					
			Total	2 / 0	251	16.3	251	16.3	0	0.0		FIRM-7	SWPP	0.0	0.0					
												Total		33.7	33.7					
May 12 10:29 (CST)	TLR 0	CURRENT	NONE							NONE			NONE				113	153	234	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	5	269	269	0
2	7	704	704	0
3	1	2	2	0
4	0	0	0	0
5	0	0	0	0
6	1	6	6	20
7	0	0	0	0
Total	14	981	981	20

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	641.8	641.8
	FIRM-7	0.0	0.0
Total for SWPP		641.8	641.8
Total		641.8	641.8

Reliability Log for May, 11				2010
Time	Initials	Comments	Tuesday	
2208	LWB	Issued TLR Level 3B on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045.		
2326	LWB	Issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045.		

Reliability Log for May, 12				2010
Time	Initials	Comments	Wednesday	
0027	LWB	Re-issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045.		
0129	LWB	Re-issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045.		
0214	LWB	Request to Market Operators to get EDE's available units on deployment being off they are affecting flgt Temp 26.		
0227	LWB	Re-issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045.		
0232	LWB	Request to Market Operators to get EDE's available units on deployment being off they are affecting flgt Temp 26.		
0329	LWB	Issued TLR Level 5A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045 for feasibility.		
0430	LWB	Issued TLR Level 5A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045 for feasibility.		
0527	LRG	Issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045		
0627	LRG	Issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045		
0727	LRG	Issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045		
0829	LRG	Issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045		
0931	LRG	Issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045		
1026	LRG	Issued TLR Level 3A on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045		
1128	LRG	Issued TLR Level 0 on Temp 26 Neosho-Columbus 161 fto Neosho-Delaware 345 Flgt 16045		

TEMP26_16045

— Post Cont. — SOL

