

SPP TLR 5 Investigation Report
Temp 26 Flowgate 16045
(Neosho – Columbus 161 kV for the loss of Neosho – Delaware 345 kV)
TLR Level 5: April 27, 2010
Report Issued: May 3, 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 April 27, 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 3:00 CST on April 27 until 6:00 CST on April 27, 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 140 MVA. Flow on the Contingent Element was 505 MVA. The LODF was approximately 21%. Post-contingent flow on the Limiting Element was approximately 245 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 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 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 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 3-5.

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	04/27/2010 01:20	04/27/2010 01:10	04/27/2010 01:09:47	0.0	0.0	0.0	0	0
SUPERSEDED	3A	04/27/2010 02:00	04/27/2010 01:27	04/27/2010 01:27:04	34.0	0.0	34.0	2	120
SUPERSEDED	5A	04/27/2010 03:00	04/27/2010 02:29	04/27/2010 02:28:56	38.0	0.0	47.9	3	145
SUPERSEDED	5A	04/27/2010 04:00	04/27/2010 03:28	04/27/2010 03:28:01	20.0	0.0	24.5	3	120
SUPERSEDED	5A	04/27/2010 05:00	04/27/2010 04:30	04/27/2010 04:28:42	0.0	0.0	28.8	3	105
SUPERSEDED	3A	04/27/2010 06:00	04/27/2010 05:29	04/27/2010 05:28:05	23.0	0.0	23.2	3	69
SUPERSEDED	3A	04/27/2010 07:00	04/27/2010 06:31	04/27/2010 06:29:49	38.0	2.6	35.4	3	110
SUPERSEDED	3A	04/27/2010 08:00	04/27/2010 07:28	04/27/2010 07:27:29	27.0	0.0	27.1	3	19
TERMINATED	0	04/27/2010 08:50	04/27/2010 08:16	04/27/2010 08:15:57	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_16045_20100427_0120.htm

Incident:	SWPP_16045_20100427_0120	Date: 04/27/2010 (CST)	Reliability Coordinator: SWPP
Initial Conditions:	Increased Loading		
Flowgate:	16045 - Temporary 26 - Neosho-Columbus...	Rating: 215	LODF: 20.94%
TLR Direction:	Normal		
Effective StartTime:	04/27/2010 01:20 (CST)	Effective EndTime: 04/27/2010 08:50 (CST)	TLR Duration: 7 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 MVV	RC Ackn MVV	Type	Mkt	IDC MVV	RC Ackn MVV	Current	Post Cont.	Cont. Flow																
					MW	Relief	MW	Relief	MW	Relief																										
Apr 27 01:10 (CST)	TLR 3B	CURRENT		NONE							NONE			ED-2	SWPP	0.0	0.0	133	230	465	N/A															
		NEXT	2-NH Total	2 / 0 2 / 0	120 20	9.3 9.3	100 100	7.3 7.3	0 0	0.0 0.0	NONE			ED-2	SWPP	0.0	0.0					ED-6	SWPP	23.0	0.0	FIRM-7	SWPP	5.0	0.0	Total	28.0	0.0				
Apr 27 01:27 (CST)	TLR 3A	NEXT	2-NH 7-F Total	2 / 1 0 / 1 2 / 2	120 0 120	9.3 0.0 9.3	120 0 120	9.3 0.0 9.3	25 25 50	1.6 1.6 3.2	NONE			ED-2	SWPP	0.0	0.0	ED-6	SWPP	23.0	23.0	FIRM-7	SWPP	1.7	1.7	Total	24.7	24.7	132	228	462	N/A				
Apr 27 02:29 (CST)	TLR 5A	NEXT	2-NH Total	3 / 0 3 / 0	145 145	10.9 10.9	145 145	10.9 10.9	0 0	0.0 0.0	NONE			ED-2	SWPP	0.0	0.0	ED-6	SWPP	37.0	37.0	FIRM-7	SWPP	0.0	0.0	FIRM-CREDIT	SWPP	0.0	0.0	Total	37.0	37.0	140	245	505	N/A
Apr 27 03:28 (CST)	TLR 5A	NEXT	2-NH 7-F Total	3 / 0 0 / 1 3 / 1	120 0 120	8.5 0.0 8.5	120 0 120	8.5 0.0 8.5	0 20 20	0.0 1.0 1.0	NONE			ED-2	SWPP	0.0	0.0	ED-6	SWPP	16.0	16.0	FIRM-7	SWPP	0.0	0.0	FIRM-CREDIT	SWPP	0.0	0.0	Total	16.0	16.0	108	194	411	N/A
Apr 27 04:30 (CST)	TLR 5A	NEXT	2-NH 8-NN Total	1 / 0 2 / 0 3 / 0	5 100 105	0.5 11.3 11.8	5 100 105	0.5 11.3 11.8	0 0 0	0.0 0.0 0.0	NONE			ED-2	SWPP	0.0	0.0	ED-6	SWPP	17.0	17.0	FIRM-7	SWPP	0.0	0.0	FIRM-CREDIT	SWPP	0.0	0.0	Total	17.0	17.0	118	195	372	N/A
Apr 27 05:29 (CST)	TLR 3A	NEXT	2-NH 8-NN Total	1 / 0 2 / 0 3 / 0	10 59 69	1.0 8.7 7.8	10 59 69	1.0 8.7 7.8	0 0 0	0.0 0.0 0.0	NONE			ED-2	SWPP	0.0	0.0	ED-6	SWPP	15.4	15.4	FIRM-7	SWPP	0.0	0.0	Total	15.4	15.4	126	199	349	N/A				

Apr 27 06:31 (CST)	TLR 3A	NEXT	2-NH 6-NN Total	1 / 0 2 / 0 3 / 0	10 100 110	1.0 11.4 12.4	10 100 110	1.0 11.4 12.4	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 23.0 0.0 23.0	0.0 23.0 0.0 23.0	136	197	292	N/A	
Apr 27 07:28 (CST)	TLR 3A	NEXT	2-NH 6-NN Total	1 / 0 2 / 0 3 / 0	10 9 19	1.0 1.0 2.1	10 9 19	1.0 1.0 2.1	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 25.0 0.0 25.0	0.0 25.0 0.0 25.0	124	177	257	N/A	
Apr 27 08:16 (CST)	TLR 0	CURRENT	NONE									NONE	NONE				115	157	204	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	14	540	520	25
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	8	268	268	0
7	0	0	0	45
Total	22	808	788	70

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	158.4	158.4
	FIRM-7	1.7	1.7
Total for SWPP		158.1	158.1
Total		158.1	158.1

Reliability Log for April, 27**2010**

Time	Initials	Comments	Tuesday
0209	MRH	Issued TLR Level 3B on Temp 26 Flgt.16045.	
0227	MRH	Re-issued TLR Level 3A on Temp 26 Flgt.16045. Curtailments.	
0328	MRH	Re-issued TLR Level 5A on Temp 26 Flgt.16045. - curtailments due to Loading and feasibility.	
0428	MRH	Re-issued TLR Level 5A on Temp 26 Flgt.16045. - curtailments due to Loading and feasibility.	
0528	LRG	Re-issued TLR Level 5A on Temp 26 Flgt.16045. - curtailments due to Loading and feasibility.	
0628	LRG	Re-issued TLR Level 3A on Temp 26 Flgt.16045.	
0729	LRG	Re-issued TLR Level 3A on Temp 26 Flgt.16045.	
0827	LRG	Re-issued TLR Level 3A on Temp 26 Flgt.16045.	
0915	LRG	Re-issued TLR Level 0 on Temp 26 Flgt.16045.	

Temp26_16045

— Post Cont. — SOL

