

SPP TLR 5 Investigation Report
Temp 6 Flowgate 16094
(Neosho – Columbus 161 kV for the loss of Neosho – Morgan 345 kV)
TLR Level 5: April 23, 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 16094 on April 23, 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 22:00 CST on April 23 until 00:00 CST on April 24, 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 161 MVA. Flow on the Contingent Element was 346 MVA. The LODF was approximately 13%. Post-contingent flow on the Limiting Element was approximately 206 MVA. (The 0% LODF calculated by the IDC and shown in the NERC TLR Log is incorrect. The SPP EMS calculated a 13% LODF during this TLR.)

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 or 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	04/23/2010 13:35	04/23/2010 13:23	04/23/2010 13:23:13	15.0	15.0	0.0	0	0
SUPERSEDED	3A	04/23/2010 15:00	04/23/2010 14:27	04/23/2010 14:26:34	15.0	15.0	0.0	0	0
SUPERSEDED	3A	04/23/2010 16:00	04/23/2010 15:27	04/23/2010 15:26:13	30.0	30.0	0.0	0	0
SUPERSEDED	3A	04/23/2010 17:00	04/23/2010 16:26	04/23/2010 16:25:45	10.0	10.0	0.0	0	0
SUPERSEDED	3A	04/23/2010 18:00	04/23/2010 17:27	04/23/2010 17:26:38	7.0	7.0	0.0	0	0
SUPERSEDED	3A	04/23/2010 19:00	04/23/2010 18:26	04/23/2010 18:25:49	3.0	3.0	0.0	0	0
SUPERSEDED	3A	04/23/2010 20:00	04/23/2010 19:27	04/23/2010 19:27:08	3.0	3.0	0.0	0	0
SUPERSEDED	3A	04/23/2010 21:00	04/23/2010 20:28	04/23/2010 20:27:30	2.0	2.0	0.0	0	0
SUPERSEDED	5A	04/23/2010 22:00	04/23/2010 21:28	04/23/2010 21:27:25	0.0	0.0	0.0	0	0
SUPERSEDED	5A	04/23/2010 23:00	04/23/2010 22:28	04/23/2010 22:28:04	0.0	0.0	13.0	0	0
SUPERSEDED	3A	04/24/2010 00:00	04/23/2010 23:27	04/23/2010 23:27:08	9.0	0.0	9.0	0	0
SUPERSEDED	3A	04/24/2010 01:00	04/24/2010 00:28	04/24/2010 00:27:27	0.0	0.0	0.0	0	0
SUPERSEDED	3A	04/24/2010 02:00	04/24/2010 01:26	04/24/2010 01:26:20	0.0	0.0	0.0	0	0
SUPERSEDED	3A	04/24/2010 03:00	04/24/2010 02:26	04/24/2010 02:26:03	0.0	0.0	0.0	0	0
SUPERSEDED	3A	04/24/2010 04:00	04/24/2010 03:44	04/24/2010 03:43:50	49.0	43.0	6.0	0	0
SUPERSEDED	3A	04/24/2010 05:00	04/24/2010 04:26	04/24/2010 04:26:11	0.0	0.0	0.0	0	0
TERMINATED	0	04/24/2010 05:25	04/24/2010 05:15	04/24/2010 05:15:11	0.0	0.0	0.0	0	0

Apr 23 20:28 (CST)	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	162	162	394	N/A
Apr 23 21:28 (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	161	161	348	N/A
Apr 23 22:28 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 13.0 0.0 0.0 13.0	0.0 13.0 0.0 0.0 13.0	162	162	337	N/A
Apr 23 23:27 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 9.0 0.0 9.0	0.0 9.0 0.0 9.0	151	151	314	N/A
Apr 24 00:28 (CST)	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	145	145	299	N/A
Apr 24 01:28 (CST)	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	139	139	258	N/A
Apr 24 02:28 (CST)	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	141	141	233	N/A
Apr 24 03:44 (CST)	TLR 3A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 Total	SWPP SWPP SWPP	0.0 6.0 0.0 6.0	0.0 6.0 0.0 6.0	143	143	248	N/A
Apr 24 04:28 (CST)	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	142	142	251	N/A
Apr 24 06:15 (CST)	TLR 0	CURRENT	NONE	NONE	NONE				146	146	260	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-8	28.0	28.0
	FIRM-7	0.0	0.0
Total for SWPP		28.0	28.0
Total		28.0	28.0

Reliability Log for April, 23			2010
Time	Initials	Comments	Friday
1425	DGA	Issued TLR Level 3B on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan	
1526	DGA	Issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan	
1626	DGA	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan	
1725	DGA	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan	
1826	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan	
1925	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan	
2027	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan	
2127	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan	
2227	WRG	Re-issued TLR Level 5A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	
2328	WRG	Re-issued TLR Level 5A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	

Reliability Log for April, 24			2010
Time	Initials	Comments	Saturday
0027	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	
0127	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	
0226	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	
0326	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	
0443	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	
0526	WRG	Re-issued TLR Level 3A on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	
0615	DGA	Issued TLR Level 0 on Temp06_16094 Neosho-Columbus ftlo Neosho-Morgan for feasibility	

Temp06_16094

— Post Cont. — SOL

