

**SPP TLR 5 Investigation Report
Temp 6 Flowgate 16094
(Neosho – Columbus 161 kV for the loss of Neosho – Morgan 345 kV)
TLR Level 5: January 10, 2010
Report Issued: January 31, 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 January 10, 2010. Flowgate 16094 is an SPP flowgate created for a planned outage of the Northeastern – Delaware 345 kV line in December 2009 but remained active to control loading as needed. The Level 5 TLR was in effect from 7:30 until 10:00 CST on January 10, 2010. Projected post contingent flows on the Neosho – Columbus 161 kV line exceeded the SOL.

2. Facility/flowgate limitations and flows at the time the TLR was initiated.

At the time the Level 5B TLR was issued, the Limiting Element was rated at 215 MVA. Flow on the Limiting Element was 146 MVA. Flow on the Contingent Element was 425 MVA. The LODF was approximately 14%. Post-contingent flow on the Limiting Element was projected to be approximately 205 MW.

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 on pages 3-7.

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 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, see page 6. Times in the RC Log are CST.

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 pages 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 due to the temporary maintenance outage of the Northeastern – Tulsa North 345 kV line. 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. Since the temporary outage was the most significant factor, no additional actions were necessary.

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

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

Status	TLR Level	TLR Date (CST)	TLR Confirm Time (CST)	Run Time (CST)	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3B	01/10/2010 05:55	01/10/2010 05:52	01/10/2010 05:51:32	0.0	0.0	0.0	0	0
SUPERSEDED	3A	01/10/2010 07:00	01/10/2010 06:28	01/10/2010 06:27:57	0.0	0.0	0.0	0	0
SUPERSEDED	5B	01/10/2010 07:30	01/10/2010 07:19	01/10/2010 07:18:52	10.0	0.0	10.1	5	21
SUPERSEDED	5A	01/10/2010 09:00	01/10/2010 08:27	01/10/2010 08:27:14	40.0	0.0	40.1	3	56
SUPERSEDED	3A	01/10/2010 10:00	01/10/2010 09:18	01/10/2010 09:17:44	28.0	28.0	0.0	0	0
SUPERSEDED	3A	01/10/2010 10:00	01/10/2010 09:26	01/10/2010 09:26:33	40.0	40.0	0.0	0	0
SUPERSEDED	3A	01/10/2010 11:00	01/10/2010 10:28	01/10/2010 10:27:59	10.0	10.0	0.0	0	0
SUPERSEDED	3A	01/10/2010 12:00	01/10/2010 11:28	01/10/2010 11:28:03	20.0	20.0	0.0	0	0
TERMINATED	0	01/10/2010 12:25	01/10/2010 12:12	01/10/2010 12:12:42	0.0	0.0	0.0	0	0

01/31/2010 22:39:09 (CST)

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Event Summary

FILE SAVED AS: SWPP_16094_20100110_0555.htm

Incident:	SWPP_16094_20100110_0555	Date: 01/10/2010	Reliability Coordinator: SWPP
Initial Conditions:	Increased Flows		
Flowgate:	16094 - Temp 6 -- Neosho - Columbus 16...	Rating: 215	LODF: 13.97%
TLR Direction:	Normal		
Effective StartTime:	01/10/2010 05:55	Effective EndTime: 01/10/2010 12:25	TLR Duration: 6 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												
Jan 10 05:52	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	154	215	437	N/A
		NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0				
Jan 10 06:28	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	135	193	421	N/A
				NONE								NONE			ED-2	SWPP	0.0	0.0				
Jan 10 07:19	TLR 5B	CURRENT	2-NH	1 / 0	5	0.4	5	0.4	0	0.0	NONE			ED-2	SWPP	0.0	0.0	146	205	425	N/A	
		7-F	4 / 0	16	1.0	16	1.0	0	0.0	ED-6	SWPP	15.0	15.0									
		Total		5 / 0	21	1.3	21	1.3	0	0.0			ED-7	SWPP	0.7	0.7						
		NEXT	2-NH	1 / 0	5	0.4	5	0.4	0	0.0	NONE			NONE								
			6-NN	1 / 0	1	0.1	1	0.1	0	0.0												
			7-F	3 / 1	25	1.7	25	1.7	10	0.7												
		Total		5 / 1	21	2.1	31	2.1	10	0.7												
Jan 10 08:27	TLR 5A	NEXT	7-F	3 / 0	56	3.3	56	3.3	0	0.0	NONE			ED-2	SWPP	0.0	0.0	154	216	445	N/A	
		Total		3 / 0	56	3.3	56	3.3	0	0.0	ED-6	SWPP	2.0	2.0								
													FIRM-7	SWPP	34.8	34.8						
													FIRM-CREDIT	SWPP	0.0	0.0						
		Total													36.8	36.8						
Jan 10 09:18	TLR 3A PRELIM	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	139	195	405	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						
Jan 10 09:26	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	150	213	453	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						

Jan 10 10:28	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	138	196	416	N/A
Jan 10 11:28	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	137	188	366	N/A
Jan 10 12:12	TLR 0	CURRENT	NONE	NONE	NONE				131	181	360	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	2	10	10	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	1	1	1	0
7	10	97	97	10
Total	13	108	108	10

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	17.0	17.0
	FIRM-7	35.5	35.5
Total for SWPP		52.5	52.5
Total		52.5	52.5

	A	B	C	D
1	Reliability Log for January, 10			2010
2	Time	Initials	Comments	
3	0551	MRH	Issued TLR level 3B on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094	
4	0627	MRH	Re-issued TLR level 3A on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094	
5	0718	MRH	Re-issued TLR level 5B on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094, Loading & feasibility.	
6	0827	MRH	Re-issued TLR level 5A on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094, Loading & feasibility.	
7	0917	MRH	Re-issued TLR level 3A on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094	
8	0926	MRH	Re-issued TLR level 3A on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094	
9	1027	MRH	Re-issued TLR level 3A on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094	
10	1128	MRH	Re-issued TLR level 3A on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094	
11	1212	MRH	Re-issued TLR level 0 on Temp 6 Neosho-Columbus 161 fto Neosho-Morgan 345kV Flgt 16094	
12				
13				

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