

SPP TLR 5 Investigation Report
Flowgate TEMP10_16439
(Platte City – Kansas City International 161 kV line for loss of Stranger - Craig 345 kV line)
TLR Level 5: June 20-21, 2010
Report Issued: July 14, 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 16439 on June 20-21, 2010. Flowgate 16439 is an SPP flowgate. The Level 5 TLR was in effect from 21:30 CST on June 20 until 3:00 CST on June 21, 2010. Projected post-contingent flows on the Platte City – Kansas City International (KCI) 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 5B TLR was issued, the Limiting Element was rated at 224 MVA. Flow on the Limiting Element was 168 MVA. Flow on the Contingent Element was 502 MVA. The LODF was approximately 10%. The actual LODF differs from the IDC LODF due to the breaker reconfiguration at the Nashua Bus. Post-contingent flow on the Limiting Element was approximately 218 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 no non-firm transactions that impacted the flowgate by more than 5%. 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 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. The Platte City – KCI 161 kV line was showing in the RTCA application on June 10, 2010. After confirmation with the Balancing Authority, it was decided to build the temporary flowgate. 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 in the Kansas City area. This combination created heavy west to east and north to south loading in the area. KCPL has replaced a wavetrap at the KCI substation in order to increase the rating on the Platte City – KCI 161 kV line.

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 Flow were reduced on the flowgate as reported in the TLR Event History and NERC TLR Log on pages 3-5.

TLR Event History

16439 - Temporary 10 - Plat City - KCI 161 ftlo Stranger - Craig 345

Status	TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3B	06/20/2010 19:40	06/20/2010 19:29	06/20/2010 19:29:20	13.0	2.0	11.0	0	0
SUPERSEDED	3A	06/20/2010 21:00	06/20/2010 20:26	06/20/2010 20:26:04	20.0	7.0	13.0	0	0
SUPERSEDED	5B	06/20/2010 21:30	06/20/2010 21:18	06/20/2010 21:16:47	10.0	0.0	10.0	0	0
SUPERSEDED	5A	06/20/2010 23:00	06/20/2010 22:27	06/20/2010 22:27:19	50.0	0.0	50.0	0	0
SUPERSEDED	5A	06/21/2010 00:00	06/20/2010 23:36	06/20/2010 23:35:24	50.0	0.0	50.0	0	0
SUPERSEDED	5A	06/21/2010 01:00	06/21/2010 00:29	06/21/2010 00:29:07	47.0	0.0	47.0	0	0
SUPERSEDED	5A	06/21/2010 02:00	06/21/2010 01:29	06/21/2010 01:28:58	20.0	0.0	20.0	0	0
SUPERSEDED	3A	06/21/2010 03:00	06/21/2010 02:29	06/21/2010 02:29:32	0.0	0.0	0.0	0	0
TERMINATED	0	06/21/2010 03:25	06/21/2010 03:11	06/21/2010 03:11:44	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_16439_20100620_1940.htm

Incident: SWPP_16439_20100620_1940	Date: 06/20/2010 (CST)	Reliability Coordinator: SWPP
Initial Conditions: Increased Loading		
Flowgate: 16439 - Temporary 10 - Plat City - KCL...	Rating: 224	LODF: 4.18%
TLR Direction: Normal		
Effective StartTime: 06/20/2010 19:40 (CST)	Effective EndTime: 06/21/2010 03:25 (CST)	TLR Duration: 7 Hours and 45 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																	
Jun 20 19:29 (CST)	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	183	206	570	N/A					
		NEXT		NONE								NONE			ED-6	SWPP	11.0	11.0					ED-6	SWPP	13.0	13.0	FIRM-7
Jun 20 20:26 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	171	191	495	N/A					
		NEXT		NONE								NONE			ED-6	SWPP	13.0	13.0					FIRM-7	SWPP	0.0	0.0	Total
Jun 20 21:18 (CST)	TLR 5B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	188	188	502	N/A					
		NEXT		NONE								NONE			ED-6	SWPP	19.0	19.0					FIRM-7	SWPP	0.0	0.0	Total
Jun 20 22:27 (CST)	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	173	196	565	N/A					
		NEXT		NONE								NONE			ED-6	SWPP	38.0	38.0					FIRM-7	SWPP	12.0	12.0	FIRM-CREDIT
Jun 20 23:36 (CST)	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	183	184	512	N/A					
		NEXT		NONE								NONE			ED-6	SWPP	38.0	38.0					FIRM-7	SWPP	12.0	12.0	FIRM-CREDIT
Jun 21 00:29 (CST)	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	154	173	478	N/A					
		NEXT		NONE								NONE			ED-6	SWPP	38.0	38.0					FIRM-7	SWPP	9.0	9.0	FIRM-CREDIT

Jun 21 01:29 (CST)	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 20.0 0.0 0.0 20.0	0.0 20.0 0.0 0.0 20.0	146	165	468	N/A
Jun 21 02:29 (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	159	432	N/A
Jun 21 03:11 (CST)	TLR 0	CURRENT	NONE	NONE	NONE				141	158	430	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	177.0	177.0
	FIRM-7	33.0	33.0
Total for SWPP		210.0	210.0
Total		210.0	210.0

Reliability Log for June, 20			2010
Time	Initials	Comments	
2029	MRH	Issued TLR Level 3B on Temp 10 Plat City-KCI fto Strabger-Craig 345 Flgt 16439, set effective limt at 224, Loading.	
2126	MRH	Re-issued TLR Level 3A on Temp 9-Holcomb-Plymell 115kv flo Hitchland-Potter 345 kv Flgt. 16438.	
2126	MRH	Re-issued TLR Level 3A on Temp 10 Plat City-KCI fto Strabger-Craig 345 Flgt 16439	
2216	MRH	Re-issued TLR Level 5B on Temp 10 Plat City-KCI fto Stranger-Craig 345 Flgt 16439, effective limit set at 180, Loading & Feasibility.	
2327	MRH	Re-issued TLR Level 5A on Temp 10 Plat City-KCI fto Stranger-Craig 345 Flgt 16439, Loading & Feasibility.	
2321	MRH	Issued TLR Level 3B on Cooper_S Flgt 6009, set effective limit at 1285	
2325	MRH	Issued TLR Level 3B (Reverse Direction) on St. Joe-Midway 161kV fto Fairport-Cooper/St. Joe 345kV Flgt 6152, Set effective limit to -165	

Reliability Log for June, 21			2010
Time	Initials	Comments	
20-Jun-10		Nashua PCBs R 5-8 and R 3-4 open per op guide due to loading on Flgt. 5382.	
0030	MRH	Re-issued TLR Level 3A on Cooper_S Flgt 6009.	
0033	MRH	Re-issued TLR Level 3A (Reverse Direction) on St. Joe-Midway 161kV fto Fairport-Cooper/St. Joe 345kV Flgt 6152.	
0035	MRH	Re-issued TLR Level 5A on Temp 10 Plat City-KCI fto Stranger-Craig 345 Flgt 16439, Loading & Feasibility.	
0126	MRH	Re-issued TLR Level 3A on Cooper_S Flgt 6009.	
0128	MRH	Re-issued TLR Level 3A (Reverse Direction) on St. Joe-Midway 161kV fto Fairport-Cooper/St. Joe 345kV Flgt 6152.	
0129	MRH	Re-issued TLR Level 5A on Temp 10 Plat City-KCI fto Stranger-Craig 345 Flgt 16439, Loading & Feasibility.	
0226	MRH	Re-issued TLR Level 3A on Cooper_S Flgt 6009.	
0227	MRH	Re-issued TLR Level 3A (Reverse Direction) on St. Joe-Midway 161kV fto Fairport-Cooper/St. Joe 345kV Flgt 6152.	
0228	MRH	Re-issued TLR Level 5A on Temp 10 Plat City-KCI fto Stranger-Craig 345 Flgt 16439, Loading & Feasibility.	
0327	MRH	Re-issued TLR Level 3A on Cooper_S Flgt 6009.	
0328	MRH	Re-issued TLR Level 3A (Reverse Direction) on St. Joe-Midway 161kV fto Fairport-Cooper/St. Joe 345kV Flgt 6152.	
0329	MRH	Re-issued TLR Level 3A on Temp 10 Plat City-KCI fto Stranger-Craig 345 Flgt 16439, Loading & Feasibility.	
0410	MRH	Re-issued TLR Level 0 (Reverse Direction) on St. Joe-Midway 161kV fto Fairport-Cooper/St. Joe 345kV Flgt 6152.	
0411	MRH	Re-issued TLR Level 0 on Temp 10 Plat City-KCI fto Stranger-Craig 345 Flgt 16439, Loading & Feasibility.	

TEMP10_16439

Real Time SOL

