SPP TLR 5 Investigation Report
Flowgate TEMP16_16341
(McElroy – Kinze 138 kV for loss of Sooner – Woodring 345 kV)
TLR Level 5: May 3, 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 16341 on May 3, 2010. Flowgate 16341 is an SPP flowgate. The Level 5 TLR was in effect from 12:20 until 17:40 CST on May 3, 2010. Projected post-contingent flows on the McElroy – Kinze 138 kV line exceeded the SOL. The flowgate was built to control loading during the outage of the Sooner – Spring Creek 345 kV line.

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 222 MVA. Flow on the Limiting Element was 91 MVA. Flow on the Contingent Element was 328 MVA. The LODF was approximately 38%. Post-contingent flow on the Limiting Element was approximately 214 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 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 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.
SPP's outage coordination process identified potential for loading issues due to the outage of the Sooner – Spring Creek 345 kV line. The temporary flowgate was created in order to dispatch around the constraint via TLR to control the loading until the line was returned to service.

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 due to the temporary outage the Sooner – Spring Creek 345 kV line. Since the temporary outage was the most significant factor associated with this event, 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 Flow were reduced on the flowgate as reported in the TLR Event History and NERC TLR Log on pages 3-6.

TLR Event History

16341 - Temp 16 - McElroy - Kinze 138 kV (ftlo) Sooner - Woodring 345 kV

Status	TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3B	05/03/2010 07:40	05/03/2010 07:30	05/03/2010 07:29:13	0.0	0.0	0.0	0	0
SUPERSEDED	3A	05/03/2010 09:00	05/03/2010 08:26	05/03/2010 08:26:07	30.0	30.0	0.0	0	0
SUPERSEDED	3A	05/03/2010 10:00	05/03/2010 09:26	05/03/2010 09:25:55	0.0	0.0	0.0	0	0
SUPERSEDED	3A	05/03/2010 11:00	05/03/2010 10:29	05/03/2010 10:28:50	0.0	0.0	0.0	0	0
SUPERSEDED	3A	05/03/2010 12:00	05/03/2010 11:27	05/03/2010 11:26:34	0.0	0.0	0.0	0	0
SUPERSEDED	5B	05/03/2010 12:20	05/03/2010 12:08	05/03/2010 12:07:44	100.0	0.0	100.0	2	8
SUPERSEDED	5A	05/03/2010 14:00	05/03/2010 13:26	05/03/2010 13:25:40	115.0	0.0	115.0	2	8
SUPERSEDED	5A	05/03/2010 15:00	05/03/2010 14:27	05/03/2010 14:26:56	118.0	0.0	118.0	0	0
SUPERSEDED	5A	05/03/2010 16:00	05/03/2010 15:30	05/03/2010 15:29:38	120.0	0.0	120.0	0	0
SUPERSEDED	5A	05/03/2010 17:00	05/03/2010 16:29	05/03/2010 16:29:21	0.0	0.0	0.0	0	0
TERMINATED	0	05/03/2010 17:40	05/03/2010 17:28	05/03/2010 17:28:02	0.0	0.0	0.0	0	0

Event Summary

FILE SAVED AS: SWPP_16341_20100503_0740.htm

Incident:	SWPP_16341_20100503_0740	Date: 05/03/2010 (CST)	Reliability Coordinator: SWPP
Initial Conditions:	increasing load due to outage		
Flowgate:	16341 - Temp 16 - McElroy - Kinze 138 ...	Rating: 222	LODF: 37.79%
TLR Direction:	Normal		
Effective StartTime:	05/03/2010 07:40 (CST)	Effective EndTime: 05/03/2010 17:40 (CST)	TLR Duration: 10 Hours and 0 Minutes

TLR Actions

Confirm Time	Level	Effective Hour	Priority	Schedule							NNL Relief			Market Relief				Flow		Cont. Flow	TLR Action Comments
				Total Tags Cut / Hold	IDC Cut		RC Cut Acknowledge		Hold												
					MW	Relief	MW	Relief	MW	Relief	CA	IDC MW	RC Ackn MW	Type	Mkt	IDC MW	RC Ackn MW	Current	Post Cont.		
May 03 07:30 (CST)	TLR 3B	CURRENT		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**	102	180	209	contingent element is a negative
		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**				
May 03 08:26 (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**	107	107	0	N/A
May 03 09:26 (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**	83	83	0	N/A
May 03 10:29 (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**	73	138	173	173 is neg
May 03 11:27 (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**	92	218	336	N/A
May 03 12:08 (CST)	TLR 5B	CURRENT	7-F **Total**	2 / 0 **2 / 0**	8 **8**	0.4 **0.4**	8 **8**	0.4 **0.4**	0 **0**	0.0 **0.0**		NONE		ED-2 ED-6 FIRM-7 **Total**	SWPP SWPP SWPP	0.0 0.0 99.6 **99.6**	0.0 0.0 99.6 **99.6**	91	214	328	N/A
		NEXT	7-F **Total**	2 / 0 **2 / 0**	8 **8**	0.4 **0.4**	8 **8**	0.4 **0.4**	0 **0**	0.0 **0.0**		NONE		NONE							

May 03 13:26 (CST)	TLR 5A	NEXT	7-F **Total**	2 / 0 **2 / 0**	8 **8**	0.4 **0.4**	8 **8**	0.4 **0.4**	0 **0**	0.0 **0.0**	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT **Total**	SWPP SWPP SWPP SWPP	0.0 0.0 114.6 0.0 **114.6**	0.0 0.0 114.6 0.0 **114.6**	95	217	325	N/A
May 03 14:27 (CST)	TLR 5A	NEXT	NONE								NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT **Total**	SWPP SWPP SWPP SWPP	0.0 0.0 118.0 0.0 **118.0**	0.0 0.0 118.0 0.0 **118.0**	96	217	321	N/A
May 03 15:30 (CST)	TLR 5A	NEXT	NONE								NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT **Total**	SWPP SWPP SWPP SWPP	0.0 0.0 120.0 0.0 **120.0**	0.0 0.0 120.0 0.0 **120.0**	98	218	320	N/A
May 03 16:29 (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**	102	219	311	N/A
May 03 17:28 (CST)	TLR 0	CURRENT	NONE								NONE	NONE				75	130	147	N/A

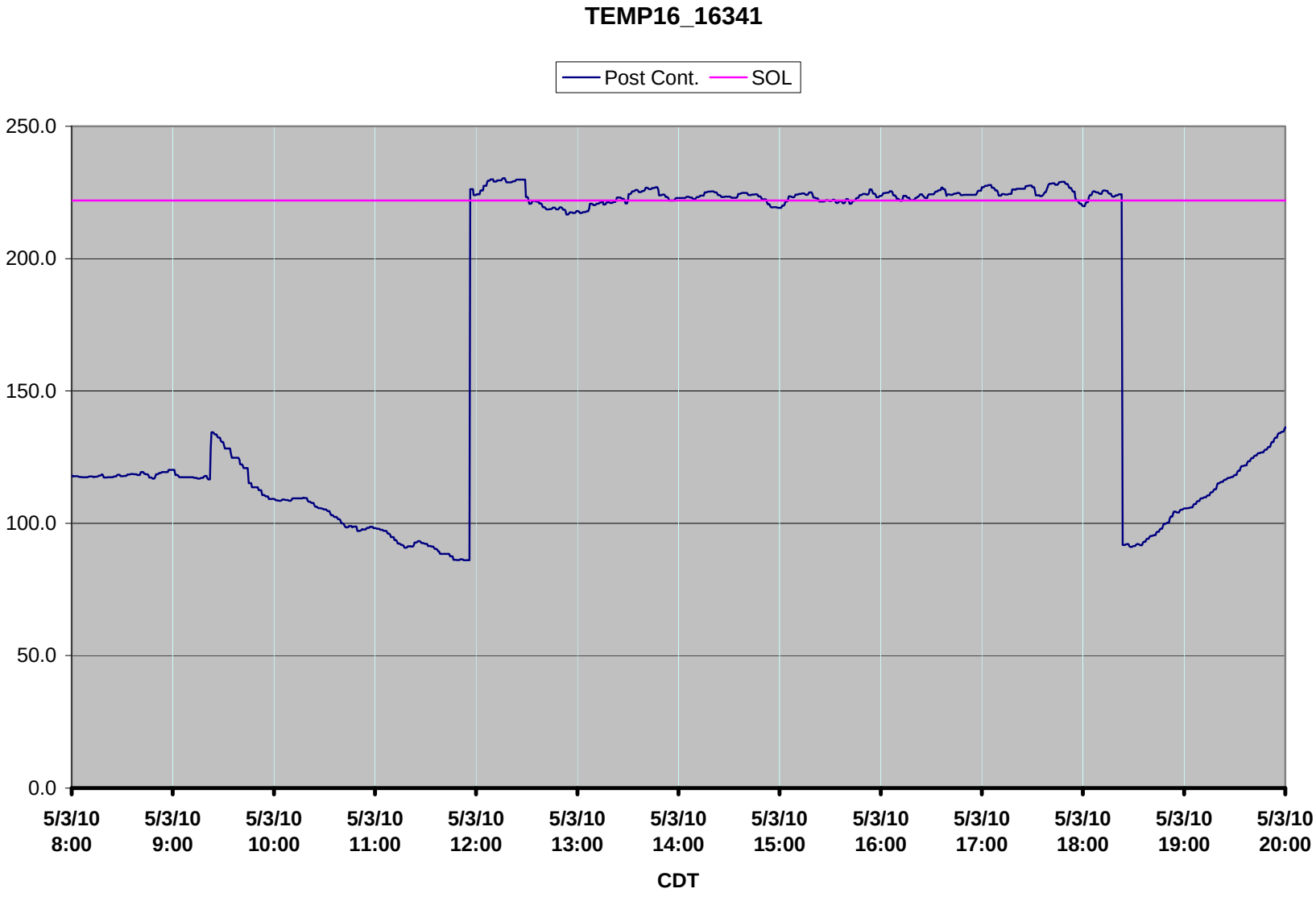
TLR Schedule Totals

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	6	24	24	0
Total	**6**	**24**	**24**	**0**

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	0.0	0.0
	FIRM-7	452.2	452.2
Total for SWPP		452.2	452.2
Total		**452.2**	**452.2**

Reliability Log for May, 3			2010
Time	Initials	Comments	
0825	MRH	OGE Mike reports work is going to be starting with in the 45-60 minutes. Advised OG+E that we will need some time to get the loading down to prepare for the outage on Sooner-Spring Creek 345kV. SPP-SE reports Outage ran all studies is go - IF, Sooner units are willing to be placed in available status and willing to drop to help control loading on Mcroy-Kinze 138kV line for the lost of Sooner-Wdrng 1 345 kv Line. If OG+E-GO is not willing to place the unit in available and reduce gneration the outage will not be approved by SPP.	
0830	MRH	Issued TLR Level 3B on Temp 16 McElroy-Kinze 138kV ftlo Soomer-Wdrng 35Kv line Flgt 16341. Set the effective limit at 110 which was equal to current RTB soluction to prepare for increased loadind due to a planned outage on Sooner-Spring Creek 345kV line.	
0926	MRH	Re-issued TLR Level 3A on Temp 16 McElroy-Kinze 138kV ftlo Soomer-Wdrng 35Kv line Flgt 16341. Working effective limit down to 50	
0931	MRH	SPA-Eric advises at this time Gore 161kV PCB 72 is open to releive loading on Temp 13, IDC Flgt 16341.	
0932	MRH	Set Effective limit in MOI to 222 for FG Temp 16 so that it is not bound or violated in the market.	
1026	MRH	Re-issued TLR Level 3A on Temp 16 McElroy-Kinze 138kV ftlo Soomer-Wdrng 35Kv line Flgt 16341.	
1126	LWB	Spoke to MIKe at OKGE on the outage on Sooner-Spring Creek if they take it they will be over the emergency limit by 107%, to keep this from happing according to our study they need to drop 40mw's at Sooner Plant. They can move either Sooner 1 or 2, Mike states he will give the plant the option.	
1128	LWB	Re-issued TLR Level 3A on Temp 16 McElroy-Kinze 138kV ftlo Soomer-Wdrng 35Kv line Flgt 16341.	
1148	LWB	Mike informs me that Sooner 1 is at 274mw's, and they are ready to start the outage. Shift Engr ran a quick study and said they are good to go.	
1226	LWB	Re-issued TLR Level 3A on Temp 16 McElroy-Kinze 138kV ftlo Soomer-Wdrng 35Kv line Flgt 16341.	
1307	MRH	Re-issued TLR Level 5A on Temp 16 McElroy-Kinze 138kV ftlo Sooner-Woodring 35Kv line Flgt 16341. Feasibility & Loading. Set effective limit at 222	
1425	MRH	Re-issued TLR Level 5A on Temp 16 McElroy-Kinze 138kV ftlo Sooner-Woodring 35Kv line Flgt 16341. Feasibility & Loading. Set effective limit at 222	
1445	MRH	OG+E BA-James reports he advised Sooner Units to stay on dispatch to help with loading on Temp 16, Flgt 16341.	
1526	MRH	Re-issued TLR Level 5A on Temp 16 McElroy-Kinze 138kV ftlo Sooner-Woodring 35Kv line Flgt 16341. Feasibility & Loading. Set effective limit at 222	
1547	MRH	OGE-James advises Clearance has been released on the Sooner-Spring Creek 345 kv Line and they are switching it back to normal operations. SPP-RC advised OGE James that as soon as all is normal SPP-RC will issue TLR 0 on Flgt 16341	
1629	MRH	Re-issued TLR Level 5A on Temp 16 McElroy-Kinze 138kV ftlo Sooner-Woodring 35Kv line Flgt 16341. Feasibility & Loading. Set effective limit at 222	
1729	LRG	Re-issued TLR Level 5A on Temp 16 McElroy-Kinze 138kV ftlo Sooner-Woodring 35Kv line Flgt 16341. Feasibility & Loading. Set effective limit at 222	
1828	LRG	Re-issued TLR Level 0 on Temp 16 McElroy-Kinze 138kV ftlo Sooner-Woodring 35Kv line Flgt 16341.	


TEMP16_16341
Post Cont.
SOL
250.0
200.0
150.0
100.0
50.0
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5/3/10 8:00
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