

**SPP TLR 5 Investigation Report**  
**Temp 13 Flowgate 16118**  
**(McElroy - Kinze 138 kV for the loss of Sooner – Spring Creek 345 kV)**  
**TLR Level 5: December 15, 2009**  
**Report Issued: December 18, 2009**

**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 16118 on December 15, 2009. Flowgate 16118 is an SPP flowgate created during an extended maintenance outage of the Cimarron – Woodring 345 kV line. The Level 5 TLR was in effect from 3:00 until 7:00 CST on December 15, 2009. RTCA indicated that projected post contingent flows on the McElroy – Kinze 138 kV line exceeded the SOL. The flowgate was created to address the issue at that time.

**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 222 MVA. Flow on the Limiting Element was 98 MVA. Flow on the Contingent Element was 453 MVA. The LODF was approximately 23%. Post-contingent flow on the Limiting Element was approximately 202 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 3-5.

**4. Transmission and generation outages or changes from prediction that may have contributed.**

A planned outage of the Cimarron – Woodring 345 kV line was extended due to complications associated with the maintenance activities. During the initial outage, no problems were anticipated nor encountered. Only during the extended outage were problems encountered.

**5. Procedures implemented prior to hold/curtailment.**

There were no non-firm transactions or market flows that impacted the flowgate by more than 5% prior to the Level 5 TLR being issued. 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 because the outage of the Cimarron – Woodring 345 kV line was scheduled to be completed by then. RTCA results during the extended outage indicated loading problems with these facilities. The flowgate was built and TLR implemented in response to the results of the RTCA.

**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 due to the extended outage of the Cimarron – Woodring 345 kV line. 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

### 16118 - Temp13 Mcelroy-Kinze 138 FTLO Sooner-Spring Creek 345

Status	TLR Level	TLR Date (CST)	TLR Confirm Time (CST)	Run Time (CST)	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
SUPERSEDED	3A	12/15/2009 01:10	12/15/2009 00:53	12/15/2009 00:52:33	60.0	60.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	12/15/2009 02:00	12/15/2009 01:29	12/15/2009 01:26:52	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	12/15/2009 03:00	12/15/2009 02:30	12/15/2009 02:29:46	28.0	0.0	28.1	4	18
<a href="#">SUPERSEDED</a>	5A	12/15/2009 04:00	12/15/2009 03:27	12/15/2009 03:27:00	12.0	0.0	12.1	3	8
<a href="#">SUPERSEDED</a>	5A	12/15/2009 05:00	12/15/2009 04:26	12/15/2009 04:26:16	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	12/15/2009 06:00	12/15/2009 05:29	12/15/2009 05:25:47	0.0	0.0	0.2	1	4
<a href="#">SUPERSEDED</a>	3A	12/15/2009 07:00	12/15/2009 06:26	12/15/2009 06:26:01	0.0	0.0	0.0	0	0
<a href="#">TERMINATED</a>	0	12/15/2009 07:40	12/15/2009 07:27	12/15/2009 07:27:23	0.0	0.0	0.0	0	0

12/18/2009 09:48:35 (CST)

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## Event Summary

FILE SAVED AS: SWPP\_16118\_20091215\_0110.htm

Incident: SWPP_16118_20091215_0110	Date: 12/15/2009	Reliability Coordinator: SWPP
Initial Conditions: increasing flow		
Flowgate: 16118 - Temp13 Mcelroy-Kinze 138 FTLO ...	Rating: 222	LODF: 23.15%
TLR Direction: Normal		
Effective StartTime: 12/15/2009 01:10	Effective EndTime: 12/15/2009 07:40	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											
Dec 15 00:53	TLR 3A	NEXT		NONE							NONE			ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	137	282	630	N/A
Dec 15 01:29	TLR 3A	NEXT	7-F <b>Total</b>	0 / 1 <b>0 / 1</b>	0 <b>0</b>	0.0 <b>0.0</b>	0 <b>0</b>	0.0 <b>0.0</b>	10 <b>10</b>	0.5 <b>0.5</b>	NONE			ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	129	251	529	N/A
Dec 15 02:30	TLR 5A	NEXT	7-F <b>Total</b>	4 / 0 <b>4 / 0</b>	18 <b>18</b>	1.0 <b>1.0</b>	18 <b>18</b>	1.0 <b>1.0</b>	0 <b>0</b>	0.0 <b>0.0</b>	NONE			ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 27.1 0.0 <b>27.1</b>	0.0 0.0 27.1 0.0 <b>27.1</b>	98	202	453	N/A
Dec 15 03:27	TLR 5A	NEXT	7-F <b>Total</b>	3 / 0 <b>3 / 0</b>	8 <b>8</b>	0.4 <b>0.4</b>	8 <b>8</b>	0.4 <b>0.4</b>	0 <b>0</b>	0.0 <b>0.0</b>	NONE			ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 11.6 0.0 <b>11.6</b>	0.0 0.0 11.6 0.0 <b>11.6</b>	98	216	521	N/A
Dec 15 04:26	TLR 5A	NEXT		NONE							NONE			ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 0.0 <b>0.0</b>	92	207	498	N/A
Dec 15 05:29	TLR 5A	NEXT	1-NS <b>Total</b>	1 / 0 <b>1 / 0</b>	4 <b>4</b>	0.2 <b>0.2</b>	4 <b>4</b>	0.2 <b>0.2</b>	0 <b>0</b>	0.0 <b>0.0</b>	NONE			ED-2 ED-6 FIRM-7 FIRM-CREDIT <b>Total</b>	SWPP SWPP SWPP SWPP	0.0 0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 0.0 <b>0.0</b>	112	231	515	N/A
Dec 15 06:26	TLR 3A	NEXT		NONE							NONE			ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 0.0 <b>0.0</b>	0.0 0.0 0.0 <b>0.0</b>	91	181	391	N/A
Dec 15 07:27	TLR 0	CURRENT		NONE							NONE			NONE				75	143	295	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	1	4	4	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	7	26	26	10
<b>Total</b>	<b>8</b>	<b>30</b>	<b>30</b>	<b>10</b>

### 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	38.7	38.7
Total for SWPP		38.7	38.7
<b>Total</b>		<b>38.7</b>	<b>38.7</b>

	A	B	C	D
1	<b>Reliability Log for December, 15</b>			<b>2009</b>
2	Time	Initials	Comments	
3	0052	RST	Issued TLR Level 3A on Temp 13-McElroy-Kinze 138 flo Sooner-Spring Creek 345 Flgt. 16118. RTB flow was solving at 314 MWs, so I set effective limit at 250 MWs for starting point to see where it would go.	
4	0126	RST	Re-issued TLR Level 3A on Temp 13-McElroy-Kinze 138 flo Sooner-Spring Creek 345 Flgt. 16118.	
5	0229	RST	Re-issued TLR Level 5A on Temp 13-McElroy-Kinze 138 flo Sooner-Spring Creek 345 Flgt. 16118.	
6	0327	RST	Re-issued TLR Level 5A on Temp 13-McElroy-Kinze 138 flo Sooner-Spring Creek 345 Flgt. 16118.	
7	0426	RST	Re-issued TLR Level 5A on Temp 13-McElroy-Kinze 138 flo Sooner-Spring Creek 345 Flgt. 16118.	
8	0525	RST	Re-issued TLR Level 5A on Temp 13-McElroy-Kinze 138 flo Sooner-Spring Creek 345 Flgt. 16118.	
9	0626	WRG	Re-issued TLR Level 3A on Temp 13-McElroy-Kinze 138 flo Sooner-Spring Creek 345 Flgt. 16118.	
10	0727	WRG	Issued TLR Level 0 on Temp 13-McElroy-Kinze 138 flo Sooner-Spring Creek 345 Flgt. 16118.	
11				
12				

16118 - 12/15/09

Post Cont. SOL

