

SPP TLR 5 Investigation Report
Flowgate 15765
(Temp 07 Kress-Hale Co. 115kV for the loss of Swisher-Tuco 230kV)
(Temp 07)
TLR Level 5: May 18-19, 2009
Report Issued: June 2, 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 15765 on May 18-19, 2009. Flowgate 15765 is an SPP flowgate. The Level 5 TLR was in effect from 23:00 on May 18 until 13:50 CST on May 19, 2009. Projected post-contingent flows on Kress-Hale Co. 115kV exceeded the SOL. The flowgate was created in response to a request from the balancing authority due to an equipment rating decrease which in turn caused thermal loading concerns. The rating is based on a limit within the substation.

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 120 MVA. Flow on the Limiting Element was 39 MVA. Flow on the Contingent Element was 107 MVA. The LODF was approximately 36%. Post-contingent flow on the Limiting Element was approximately 77 MVA. The balancing authority, however, had been reporting post-contingent loading on the Limiting Element approximately 30% higher than those recorded by the Reliability Coordinator. The Reliability Coordinator took action based on the higher loading observed by the balancing authority.

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 3-6.

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% at the time the Level 5 TLR was 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 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 process did not indicate an issue with this flowgate based upon the 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 coupled with a facility derating. This facility has been in TLR frequently since the derate in October 2008. Loading sometimes requires escalating to a Level 5 TLR in order to obtain sufficient relief to reduce overloads. The facility has been uprated recently but not to a level that would eliminate all loading issues.

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

15765 - Temp 07 Kress-Hale Co. 115kV flo Swisher-Tuco 230kV

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	05/18/2009 17:45	05/18/2009 17:33	05/18/2009 17:33:00	10.0	10.0	0.0	0	0
SUPERSEDED	3A	05/18/2009 19:00	05/18/2009 18:27	05/18/2009 18:27:27	10.0	10.0	0.0	0	0
SUPERSEDED	3A	05/18/2009 20:00	05/18/2009 19:28	05/18/2009 19:28:19	17.0	17.0	0.0	0	0
SUPERSEDED	3A	05/18/2009 21:00	05/18/2009 20:27	05/18/2009 20:27:15	37.0	37.0	0.0	0	0
SUPERSEDED	3A	05/18/2009 22:00	05/18/2009 21:27	05/18/2009 21:27:10	25.0	17.0	8.0	0	0
SUPERSEDED	5A	05/18/2009 23:00	05/18/2009 22:33	05/18/2009 22:33:09	37.0	0.0	37.0	0	0
SUPERSEDED	5A	05/19/2009 00:00	05/18/2009 23:29	05/18/2009 23:28:39	31.0	0.0	31.0	0	0
SUPERSEDED	5A	05/19/2009 01:00	05/19/2009 00:27	05/19/2009 00:26:58	28.0	0.0	28.0	0	0
SUPERSEDED	5A	05/19/2009 02:00	05/19/2009 01:28	05/19/2009 01:27:53	28.0	0.0	28.0	0	0
SUPERSEDED	5A	05/19/2009 03:00	05/19/2009 02:32	05/19/2009 02:31:46	24.0	0.0	24.0	0	0
SUPERSEDED	5A	05/19/2009 04:00	05/19/2009 03:27	05/19/2009 03:26:41	33.0	0.0	33.0	0	0
SUPERSEDED	5A	05/19/2009 05:00	05/19/2009 04:26	05/19/2009 04:26:18	20.0	0.0	20.0	0	0
SUPERSEDED	5A	05/19/2009 06:00	05/19/2009 05:35	05/19/2009 05:35:19	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/19/2009 07:00	05/19/2009 06:32	05/19/2009 06:31:45	18.0	0.0	18.0	0	0
SUPERSEDED	5A	05/19/2009 08:00	05/19/2009 07:27	05/19/2009 07:27:22	0.0	0.0	2.0	0	0
SUPERSEDED	5A	05/19/2009 09:00	05/19/2009 08:33	05/19/2009 08:32:40	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/19/2009 10:00	05/19/2009 09:32	05/19/2009 09:31:52	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/19/2009 11:00	05/19/2009 10:26	05/19/2009 10:26:07	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/19/2009 12:00	05/19/2009 11:27	05/19/2009 11:26:44	0.0	0.0	0.0	0	0
SUPERSEDED	5A	05/19/2009 13:00	05/19/2009 12:33	05/19/2009 12:33:25	0.0	0.0	0.0	0	0
TERMINATED	0	05/19/2009 13:50	05/19/2009 13:41	05/19/2009 13:40:57	0.0	0.0	0.0	0	0

06/09/2009 08:13:32 (CST)

OATI IDC Support Phone: 763-201-2010 Fax: 763-553-2813

Copyright 2009 - Interchange Distribution Calculator (OATI IDC) - Open Access Technology International, Inc. All Rights Reserved.

May 19 00:27	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 3.0 25.0 0.0 28.0	0.0 3.0 25.0 0.0 28.0	42	80	105	N/A
May 19 01:28	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 28.0 0.0 28.0	0.0 0.0 28.0 0.0 28.0	42	78	100	N/A
May 19 02:32	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 24.0 0.0 24.0	0.0 0.0 24.0 0.0 24.0	40	76	99	N/A
May 19 03:27	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 33.0 0.0 33.0	0.0 0.0 33.0 0.0 33.0	39	73	96	N/A
May 19 04:26	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 20.0 0.0 20.0	0.0 0.0 20.0 0.0 20.0	38	75	104	N/A
May 19 05:35	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	36	73	104	N/A
May 19 06:32	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 2.0 16.0 0.0 18.0	0.0 2.0 16.0 0.0 18.0	35	73	105	N/A
May 19 07:27	TLR 5A	NEXT	NONE	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 2.0 0.0 0.0 2.0	0.0 2.0 0.0 0.0 2.0	32	73	115	N/A
May 19 08:33	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	37	76	108	N/A
May 19 09:32	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	39	77	105	N/A
May 19 10:26	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	41	78	104	N/A

May 19 11:27	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	38	77	108	N/A
May 19 12:33	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	42	82	110	N/A
May 19 13:41	TLR 0	CURRENT	NONE	NONE	NONE				26	54	78	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	24.0	24.0
	FIRM-7	205.0	205.0
Total for SWPP		229.0	229.0
Total		229.0	229.0

06/09/2009 08:13:36 (CST)

OATI IDC Support Phone: 763-201-2010 Fax: 763-553-2813

Copyright 2009 - Interchange Distribution Calculator (OATI IDC) - Open Access Technology International, Inc. All Rights Reserved.

A	B	C	D
Reliability Log for May, 18			2009
Time	Initials	Comments	
1833	RST	Issued TLR Level 3B on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765.	
1927	RST	Re-issued TLR Level 3A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765.	
2028	RST	Re-issued TLR Level 3A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765.	
2127	RST	Re-issued TLR Level 3A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765.	
2227	RST	Re-issued TLR Level 3A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765.	
2333	RST	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
Reliability Log for May, 19			2009
Time	Initials	Comments	
0028	RST	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
0126	RST	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
0227	RST	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
0331	RST	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
0426	RST	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
0526	RST	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
0635	RGH	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
0731	RGH	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765.	
0827	RGH	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
0932	RGH	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
1031	RGH	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
1126	RGH	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
1226	RGH	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
1333	RGH	Re-issued TLR Level 5A on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765. For feasibility.	
1440	RGH	Re-issued TLR Level 0 on Temp 7 Kress - Hale 115kV flo Swisher - Tuco 230kV #15765.	

15765 5/18/09 - 5/19/09

