

**SPP TLR 5 Investigation Report
Flowgate 5207
(Redbud – Arcadia 345 kV Circuit 1 for loss of Redbud – Arcadia 345 kV Circuit 2)
(REDARCREDARC)
TLR Level 5: August 26, 2009
Report Issued: August 28, 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 5207 on August 26, 2009. Flowgate 5207 is an SPP flowgate. The Level 5 TLR was in effect from 14:00 until 16:05 CST on August 26, 2009. Projected post-contingent flows on the Redbud – Arcadia 345 kV line exceeded the SOL. 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 1426 MVA. Flow on the Limiting Element was 739 MVA. Flow on the Contingent Element was 699 MVA. The LODF was approximately 96%. Post-contingent flow on the Limiting Element was approximately 1412 MVA.

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.

There were no unplanned outages that contributed to this TLR.

5. Procedures implemented prior to hold/curtailment.

Non-firm transactions had already been curtailed due to TLR action. The TLR was escalated to a Level 5 in order to curtail firm transactions and firm market flow.

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 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. No additional action was taken.

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 5207 - RedArcRedArc

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	08/26/2009 12:00	08/26/2009 11:44	08/26/2009 11:43:38	71.0	48.2	22.8	6	204
SUPERSEDED	3A	08/26/2009 13:00	08/26/2009 12:33	08/26/2009 12:33:01	0.0	0.0	4.2	3	47
SUPERSEDED	5A	08/26/2009 14:00	08/26/2009 13:28	08/26/2009 13:27:28	28.0	0.0	33.0	7	204
SUPERSEDED	5A	08/26/2009 15:00	08/26/2009 14:26	08/26/2009 14:25:50	0.0	0.0	23.1	7	204
SUPERSEDED	5A	08/26/2009 16:00	08/26/2009 15:26	08/26/2009 15:25:40	17.0	0.0	38.9	6	179
SUPERSEDED	3A	08/26/2009 16:05	08/26/2009 15:46	08/26/2009 15:46:14	0.0	0.0	17.7	5	154
SUPERSEDED	3A	08/26/2009 17:00	08/26/2009 16:33	08/26/2009 16:33:29	0.0	0.0	4.2	3	47
SUPERSEDED	3A	08/26/2009 18:00	08/26/2009 17:34	08/26/2009 17:34:07	0.0	0.0	4.0	4	29
SUPERSEDED	3A	08/26/2009 19:00	08/26/2009 18:31	08/26/2009 18:30:55	0.0	0.0	0.4	2	5
SUPERSEDED	3A	08/26/2009 20:00	08/26/2009 19:31	08/26/2009 19:31:02	22.0	0.0	22.0	4	129
SUPERSEDED	3A	08/26/2009 21:00	08/26/2009 20:30	08/26/2009 20:29:39	0.0	0.0	2.4	2	22
TERMINATED	0	08/26/2009 21:20	08/26/2009 21:09	08/26/2009 21:09:28	0.0	0.0	0.0	0	0

08/28/2009 08:55:12 (CST)

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Event Summary

FILE SAVED AS: SWPP_5207_20090826_1200.htm

Incident: SWPP_5207_20090826_1200	Date: 08/26/2009	Reliability Coordinator: SWPP
Initial Conditions: increasing load		
Flowgate: 5207 - RedArcRedArc	Rating: 1426	LODF: 96.30%
TLR Direction: Normal		
Effective StartTime: 08/26/2009 12:00	Effective EndTime: 08/26/2009 21:20	TLR Duration: 9 Hours and 20 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											MW	
Aug 26 11:44	TLR 3A	NEXT	1-NS 2-NH Total	1 / 0 4 / 0 5 / 0	25 175 200	1.3 21.3 22.6	25 175 200	1.3 21.3 22.6	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	723	1377	680	N/A			
Aug 26 12:33	TLR 3A	NEXT	NONE								NONE			ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	750	1430	707	N/A	
Aug 26 13:28	TLR 5A	NEXT	1-NS 2-NH Total	1 / 0 5 / 0 6 / 0	25 175 200	1.3 21.5 22.8	25 175 200	1.3 21.5 22.8	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-8 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 10.0 0.0 10.0	0.0 0.0 10.0 0.0 10.0	739	1412	699	N/A			
Aug 26 14:28	TLR 5A	NEXT	1-NS 2-NH Total	1 / 0 5 / 0 6 / 0	25 175 200	1.3 21.6 22.9	25 175 200	1.3 21.6 22.9	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-8 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	726	1386	686	N/A			
Aug 26 15:26	TLR 5A	NEXT	2-NH Total	5 / 0 5 / 0	175 175	21.7 21.7	175 175	21.7 21.7	0 0	0.0 0.0	NONE	ED-2 ED-8 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 17.0 0.0 17.0	0.0 0.0 17.0 0.0 17.0	730	1394	690	N/A			
Aug 26 15:46	TLR 3A	NEXT	2-NH Total	4 / 0 4 / 0	150 150	17.5 17.5	150 150	17.5 17.5	0 0	0.0 0.0	NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	737	1407	696	N/A			
Aug 26 16:33	TLR 3A	NEXT	NONE								NONE			ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	733	1388	681	N/A	
Aug 26 17:34	TLR 3A	NEXT	NONE								NONE			ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	689	1314	650	N/A	

Aug 26 18:31	TLR 3A	NEXT	NONE								NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	683	1304	645	N/A
Aug 26 19:31	TLR 3A	NEXT	1-NS 2-NH Total	1 / 0 2 / 0 3 / 0	25 100 125	1.3 9.4 10.7	25 100 125	1.3 9.4 10.7	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 11.1 0.0 11.1	0.0 11.1 0.0 11.1	738	1407	695	N/A
Aug 26 20:30	TLR 3A	NEXT	NONE								NONE	ED-2 ED-8 FIRM-7 Total	SWPP SWPP SWPP	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	724	1379	681	N/A
Aug 26 21:09	TLR 0	CURRENT	NONE								NONE	NONE			538	1029	510	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	4	100	100	0
2	25	950	950	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	29	1050	1050	0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-8	11.1	11.1
	FIRM-7	27.0	27.0
Total for SWPP		38.1	38.1
Total		38.1	38.1

	A	B	C	D	E	F
1	Reliability Log for August, 26			2009		
2	Time	Initials	Comments	Wednesday		
3	1243	MRH	Issued TLR Level 3A on RedArcRedArc FG 5207			
4	1333	MRH	Re-issued TLR Level 3A on RedArcRedArc FG 5207			
5	1427	MRH	Re-issued TLR Level 5A on RedArcRedArc FG 5207 -Loading and Feasibility			
6	1525	MRH	Re-issued TLR Level 5A on RedArcRedArc FG 5207 -Loading and Feasibility			
7	1625	MRH	Re-issued TLR Level 5A on RedArcRedArc FG 5207 -Loading and Feasibility			
8	1646	MRH	Re-issued TLR Level 3A on RedArcRedArc FG 5207			
9	1733	MRH	Re-issued TLR Level 3A on RedArcRedArc FG 5207			
10	1834	LRG	Re-issued TLR Level 3A on RedArcRedArc FG 5207			
11	1930	LRG	Re-issued TLR Level 3A on RedArcRedArc FG 5207			
12	2129	LRG	Re-issued TLR Level 3A on RedArcRedArc FG 5207			
13	2209	LRG	Re-issued TLR Level 0 on RedArcRedArc FG 5207			
14						
15						
16						

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