

SPP TLR 5 Investigation Report
Flowgate 15290
(Arcadia 345/138 kV Transformer A for loss of Northwest – Arcadia 345 kV)
(ARCXFRNWTARC)
TLR Level 5: September 11, 2008
Report Issued: October 21, 2008

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 15290 on September 11, 2008. Flowgate 15290 is an SPP flowgate. The Level 5 TLR was in effect from 19:00 until 22:30 CST on September 11, 2008. Projected post-contingent flows on the Arcadia 345/138 kV Transformer A exceeded the SOL. The flowgate was created due to the outage of circuit breakers 311 and 381 at the Arcadia ring bus. This altered configuration tied the Northwest – Arcadia 345kV line to one of the Arcadia – Redbud 345kV lines and made the existing local flowgate ineffective. The IDC model cannot model breaker outages so the rating of this flowgate factors in the loss of the contingent element plus 345/138 kV Transformer B at Arcadia. The rating is not the thermal rating of the Arcadia 345/138kV A Transformer. TLR was issued dependent on this calculated rating.

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 274 MVA. Flow on the Limiting Element was 178 MVA. Flow on the Contingent Element was 262 MVA. The LODF was approximately 31%. Post-contingent flow on the Limiting Element was approximately 274 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.

5. Procedures implemented prior to hold/curtailment.

Curtailed non-firm transactions. Next hour flows for the 19:00 hour predicted that not enough non-firm could be curtailed 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.

In the next day process, we did not see an issue with this flowgate, based off of the peak study.

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 the temporary outage at the Arcadia ring bus. Due to this situation, no actions were taken to avoid future hold/curtailments.

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

15290 - Temporary 13 - ARCXFRNWTARC

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	09/11/2008 08:25	09/11/2008 08:13	09/11/2008 08:12:54	15.0	15.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 10:00	09/11/2008 09:26	09/11/2008 09:26:15	19.0	19.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 11:00	09/11/2008 10:27	09/11/2008 10:27:03	0.0	0.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 12:00	09/11/2008 11:31	09/11/2008 11:31:11	0.0	0.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 13:00	09/11/2008 12:31	09/11/2008 12:31:34	19.0	19.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 14:00	09/11/2008 13:32	09/11/2008 13:31:53	0.0	0.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 15:00	09/11/2008 14:36	09/11/2008 14:36:03	0.0	0.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 16:00	09/11/2008 15:35	09/11/2008 15:35:34	9.0	9.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 17:00	09/11/2008 16:35	09/11/2008 16:34:58	0.0	0.0	0.0	0	0
SUPERSEDED	3A	09/11/2008 18:00	09/11/2008 17:30	09/11/2008 17:30:12	5.0	5.0	0.0	0	0
SUPERSEDED	5A	09/11/2008 19:00	09/11/2008 18:29	09/11/2008 18:28:39	12.0	0.0	12.0	1	13
SUPERSEDED	5A	09/11/2008 20:00	09/11/2008 19:27	09/11/2008 19:26:47	20.0	0.0	20.0	2	39
SUPERSEDED	5A	09/11/2008 21:00	09/11/2008 20:27	09/11/2008 20:27:05	0.0	0.0	0.0	0	0
SUPERSEDED	5A	09/11/2008 22:00	09/11/2008 21:29	09/11/2008 21:28:06	56.0	0.0	56.0	1	8
TERMINATED	0	09/11/2008 22:30	09/11/2008 22:14	09/11/2008 22:14:01	0.0	0.0	0.0	0	0

10/24/2008 08:24:23 (CST)

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Event Summary

FILE SAVED AS: SWPP_15290_20080911_0825.htm

Incident:	SWPP_15290_20080911_0825	Date: 09/11/2008	Reliability Coordinator: SWPP
Initial Conditions:	increasing flow		
Flowgate:	15290 - Temporary 13 - ARCXFRNWTARC	Rating: 274	LODF: 30.87%
TLR Direction:	Normal		
Effective StartTime:	09/11/2008 08:25	Effective EndTime: 09/11/2008 22:30	TLR Duration: 14 Hours and 5 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												
Sep 11 08:13	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	171	258	283	N/A
		NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0				

Sep 11 17:30	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	177	280	271	N/A
Sep 11 18:29	TLR 5A	NEXT	7-F Total	1 / 0 1 / 0	13 13	0.7 0.7	13 13	0.7 0.7	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 11.3 0.0 11.3	0.0 0.0 11.3 0.0 11.3	178	262	274	N/A
Sep 11 19:27	TLR 5A	NEXT	7-F Total	2 / 0 2 / 0	39 39	2.6 2.6	39 39	2.6 2.6	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 0.0 17.4 0.0 17.4	0.0 0.0 17.4 0.0 17.4	179	263	274	N/A
Sep 11 20:27	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	179	264	276	N/A
Sep 11 21:29	TLR 5A	NEXT	7-F Total	1 / 0 1 / 0	8 8	2.3 2.3	8 8	2.3 2.3	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	SWPP SWPP SWPP SWPP	0.0 53.8 0.0 0.0 53.8	0.0 53.8 0.0 0.0 53.8	178	262	275	N/A
Sep 11 22:14	TLR 0	CURRENT	NONE								NONE	NONE				141	185	145	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	4	60	60	0
Total	4	60	60	0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	53.8	53.8
	FIRM-7	28.6	28.7
Total for SWPP		82.4	82.5
Total		82.4	82.5

Reliability Log for September, 11**2008**

Time	Initials	Comments	
0912	AH	Issued TLR 3B on Temp13,flgt #15290	
1026	AH	Issued TLR 3A on Temp13,flgt #15290	
1231	AH	Issued TLR 3A on Temp13,flgt #15290	
1331	AH	Issued TLR 3A on Temp13,flgt #15290	
1431	AH	Issued TLR 3A on Temp13,flgt #15290	
1531	AH	Issued TLR 3A on Temp13,flgt #15290	
1632	AH	Issued TLR 3A on Temp13,flgt #15290	
1733	AH	Issued TLR 3A on Temp13,flgt #15290	
1830	RST	Re-issued TLR 3A on Temp13,flgt #15290	
1928	"	Re-issued TLR 5A on Temp13,flgt #15290 due to loading.	
2026	"	Re-issued TLR 5A on Temp13,flgt #15290 due to loading.	
2127	"	Re-issued TLR 5A on Temp13,flgt #15290 due to loading.	
2228	"	Re-issued TLR 5A on Temp13,flgt #15290 due to loading.	
2314	"	Re-issued TLR 0 on Temp13,flgt #15290.	

15290 9-11-08

