

**SPP TLR 5 Investigation Report**  
**Flowgate 15911**  
**(Arcadia 345/138 kV Transformer for loss of Arcadia – Northwestern 345 kV)**  
**(Temp10)**  
**TLR Level 5: July 20, 2009**  
**Report Issued: August 3, 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 15911 on July 20, 2009. Flowgate 15911 is an SPP flowgate. The Level 5 TLR was in effect from 17:00 until 19:00 CST on July 20, 2009. Projected post-contingent flows on the Arcadia 345/138 kV transformer exceeded the SOL. This flowgate was created to monitor flows during the temporary outage of the Arcadia – Seminole 345 kV line. The outage was required to repair structures damaged by recent storms.

**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 493 MVA. Flow on the Limiting Element was 257 MVA. Flow on the Contingent Element was 605 MVA. The LODF was approximately 32%. Post-contingent flow on the Limiting Element was approximately 452 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.**

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 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 during the temporary outage of the Arcadia – Seminole 345 kV line. Due to this situation, no further actions were 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

### 15911 - Temporary 10 - Arcadia 345/138 XFR 1 (flo) Arcadia - Northwestern 345 kV

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	07/20/2009 12:30	07/20/2009 12:20	07/20/2009 12:19:14	15.0	15.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	07/20/2009 14:00	07/20/2009 13:27	07/20/2009 13:26:34	30.0	19.0	11.0	0	0
<a href="#">SUPERSEDED</a>	3A	07/20/2009 15:00	07/20/2009 14:26	07/20/2009 14:26:00	18.0	18.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	07/20/2009 16:00	07/20/2009 15:27	07/20/2009 15:27:07	10.0	10.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	07/20/2009 17:00	07/20/2009 16:29	07/20/2009 16:28:54	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	07/20/2009 18:00	07/20/2009 17:26	07/20/2009 17:25:56	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	07/20/2009 19:00	07/20/2009 18:29	07/20/2009 18:28:59	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	07/20/2009 20:00	07/20/2009 19:26	07/20/2009 19:26:06	92.0	92.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	07/20/2009 21:00	07/20/2009 20:27	07/20/2009 20:27:02	0.0	0.0	0.0	0	0
<a href="#">TERMINATED</a>	0	07/20/2009 21:20	07/20/2009 21:06	07/20/2009 21:06:31	0.0	0.0	0.0	0	0

08/06/2009 07:22:45 (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.

## Event Summary

FILE SAVED AS: SWPP\_15911\_20090720\_1230.htm

Incident:	SWPP_15911_20090720_1230	Date: 07/20/2009	Reliability Coordinator: SWPP
Initial Conditions:	N/A		
Flowgate:	15911 - Temporary 10 - Arcadia 345/138...	Rating: 0	LODF: 32.35%
TLR Direction:	Normal		
Effective StartTime:	07/20/2009 12:30	Effective EndTime: 07/20/2009 21:20	TLR Duration: 8 Hours and 50 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												
Jul 20 12:20	TLR 3B	CURRENT		NONE								NONE			ED-2	SWPP	0.0	0.0	286	482	688	N/A
		NEXT		NONE								NONE			ED-6	SWPP	0.0	0.0				
				NONE								NONE			FIRM-7	SWPP	0.0	0.0				
				NONE								NONE			<b>Total</b>		<b>0.0</b>	<b>0.0</b>				
Jul 20 13:27	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	254	445	591	N/A
				NONE								NONE			ED-6	SWPP	11.0	11.0				
				NONE								NONE			FIRM-7	SWPP	0.0	0.0				
				NONE								NONE			<b>Total</b>		<b>11.0</b>	<b>11.0</b>				
Jul 20 14:28	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	257	453	608	N/A
				NONE								NONE			ED-6	SWPP	0.0	0.0				
				NONE								NONE			FIRM-7	SWPP	0.0	0.0				
				NONE								NONE			<b>Total</b>		<b>0.0</b>	<b>0.0</b>				
Jul 20 15:27	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	286	469	629	N/A
				NONE								NONE			ED-6	SWPP	0.0	0.0				
				NONE								NONE			FIRM-7	SWPP	0.0	0.0				
				NONE								NONE			<b>Total</b>		<b>0.0</b>	<b>0.0</b>				
Jul 20 16:29	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	257	452	605	N/A
				NONE								NONE			ED-6	SWPP	0.0	0.0				
				NONE								NONE			FIRM-7	SWPP	0.0	0.0				
				NONE								NONE			FIRM-CREDIT	SWPP	0.0	0.0				
				NONE								NONE			<b>Total</b>		<b>0.0</b>	<b>0.0</b>				
Jul 20 17:28	TLR 5A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	257	452	604	N/A
				NONE								NONE			ED-6	SWPP	0.0	0.0				
				NONE								NONE			FIRM-7	SWPP	0.0	0.0				
				NONE								NONE			FIRM-CREDIT	SWPP	0.0	0.0				
				NONE								NONE			<b>Total</b>		<b>0.0</b>	<b>0.0</b>				
Jul 20 18:29	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	258	453	604	N/A
				NONE								NONE			ED-6	SWPP	0.0	0.0				
				NONE								NONE			FIRM-7	SWPP	0.0	0.0				
				NONE								NONE			<b>Total</b>		<b>0.0</b>	<b>0.0</b>				

Jul 20 19:26	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>	257	449	598	N/A
Jul 20 20:27	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>	280	451	592	N/A
Jul 20 21:06	TLR 0	CURRENT	NONE	NONE	NONE				230	386	485	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
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MW	RC Ackn MW
SWPP	ED-2	0.0	0.0
	ED-6	11.0	11.0
	FIRM-7	0.0	0.0
<b>Total for SWPP</b>		<b>11.0</b>	<b>11.0</b>
<b>Total</b>		<b>11.0</b>	<b>11.0</b>

	A	B	C	D	E
1	<b>Reliability Log for July, 20</b>			<b>2009</b>	
2	Time	Initials	Comments		
48	1319	LRG	Issued TLR Level 3B on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern		
52	1426	LRG	Issued TLR Level 3A on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern		
56	1526	LRG	Issued TLR Level 3A on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern		
60	1627	LRG	Issued TLR Level 3A on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern		
66	1728	LRG	Issued TLR Level 5A on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern		
72	1825	LWB	Re-issued TLR Level 5A on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern.For feasibility		
74	1928	LWB	Re-issued TLR Level 3A on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern.		
77	2026	LWB	Re-issued TLR Level 3A on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern.		
80	2127	LWB	Re-issued TLR Level 3A on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern.		
82	2206	LWB	Issued TLR Level 0 on Temp. 10 Arcadia 345/138 fll0 Arcadis-Northwestern.		
89					
90					
91					

15911 7/20/09

