

**SPP TLR 5 Investigation Report**  
**Flowgate 5211**  
**(Lone Oak – Sardis 138 kV for loss of Pittsburg – Valliant 345 kV)**  
**(LONSARPITVAL)**  
**TLR Level 5: April 16, 2010**  
**Report Issued: April 26, 2010**

**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 5211 on April 16, 2010. Flowgate 5211 is an SPP flowgate. The Level 5 TLR was in effect from 11:55 until 20:00 CST on April 16, 2010. North – South loading in the region caused the projected post-contingent flows on the Lone Oak – Sardis 138 kV line to exceed the SOL.

**2. Facility/flowgate limitations and flows at the time the TLR was initiated.**

At the time the Level 5B TLR was issued, the Limiting Element was rated at 107 MVA. Flow on the Limiting Element was 53 MVA. Flow on the Contingent Element was 559 MVA. The LODF was approximately 10%. Post-contingent flow on the Limiting Element was approximately 110 MVA.

**3. TLR levels, timing, and relief requested amounts.**

TLR 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 impacting the flowgate by more than 5% prior to the Level 5 TLR. The TLR was escalated to a Level 5 in order to curtail firm transactions and firm market flow to relieve loading.

**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 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 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 North to South loading on the transmission system in the region. Loading sometimes requires escalating to a Level 5 TLR in order to obtain sufficient relief to reduce overloads.

**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. Non-firm Market Flow was reduced on the flowgate as reported in the TLR Event History and NERC TLR Log on pages 3-6.

## TLR Event History 5211 - LonSarPitVal

Status	TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
								Tags	MW
<a href="#">SUPERSEDED</a>	3B	04/16/2010 04:25	04/16/2010 04:11	04/16/2010 04:11:23	40.0	38.3	1.7	1	25
<a href="#">SUPERSEDED</a>	3A	04/16/2010 06:00	04/16/2010 05:33	04/16/2010 05:33:06	11.0	11.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	04/16/2010 07:00	04/16/2010 06:32	04/16/2010 06:31:27	42.0	42.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	04/16/2010 08:00	04/16/2010 07:30	04/16/2010 07:29:55	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	04/16/2010 09:00	04/16/2010 08:32	04/16/2010 08:32:00	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	04/16/2010 10:00	04/16/2010 09:41	04/16/2010 09:40:38	35.0	35.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	04/16/2010 11:00	04/16/2010 10:35	04/16/2010 10:34:21	50.0	50.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5B	04/16/2010 11:55	04/16/2010 12:02	04/16/2010 11:59:33	20.0	6.5	13.5	2	268
<a href="#">SUPERSEDED</a>	5A	04/16/2010 13:00	04/16/2010 12:33	04/16/2010 12:32:58	74.0	60.4	13.6	2	270
<a href="#">SUPERSEDED</a>	5A	04/16/2010 14:00	04/16/2010 13:32	04/16/2010 13:31:49	28.0	14.3	13.7	2	271
<a href="#">SUPERSEDED</a>	5A	04/16/2010 15:00	04/16/2010 14:30	04/16/2010 14:29:45	30.0	16.3	13.7	2	272
<a href="#">SUPERSEDED</a>	5A	04/16/2010 16:00	04/16/2010 15:36	04/16/2010 15:35:15	30.0	16.1	13.9	2	275
<a href="#">SUPERSEDED</a>	5A	04/16/2010 17:00	04/16/2010 16:30	04/16/2010 16:29:36	29.0	15.1	13.9	2	275
<a href="#">SUPERSEDED</a>	5A	04/16/2010 18:00	04/16/2010 17:30	04/16/2010 17:30:01	3.0	3.0	0.0	0	0
<a href="#">SUPERSEDED</a>	5A	04/16/2010 19:00	04/16/2010 18:30	04/16/2010 18:29:30	0.0	0.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	04/16/2010 20:00	04/16/2010 19:31	04/16/2010 19:30:43	2.0	2.0	0.0	0	0
<a href="#">SUPERSEDED</a>	3A	04/16/2010 21:00	04/16/2010 20:33	04/16/2010 20:32:18	20.0	15.0	5.0	2	75
<a href="#">SUPERSEDED</a>	3A	04/16/2010 22:00	04/16/2010 21:29	04/16/2010 21:28:24	11.0	9.3	1.7	1	25
<a href="#">TERMINATED</a>	0	04/16/2010 22:40	04/16/2010 22:30	04/16/2010 22:29:59	0.0	0.0	0.0	0	0

## Event Summary

FILE SAVED AS: SWPP\_5211\_20100416\_0425.htm

Incident:	SWPP_5211_20100416_0425	Date: 04/16/2010 (CST)	Reliability Coordinator: SWPP
Initial Conditions:	load increasing		
Flowgate:	5211 - LonSarPitVal	Rating: 107	LODF: 10.36%
TLR Direction:	Normal		
Effective StartTime:	04/16/2010 04:25 (CST)	Effective EndTime: 04/16/2010 22:40 (CST)	TLR Duration: 18 Hours and 15 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												
Apr 16 04:11 (CST)	TLR 3B	CURRENT	2-NH	1 / 0	25	1.7	25	1.7	0	0.0	NONE			ED-2	SWPP	0.0	0.0	49	102	516	N/A	
		<b>Total</b>	<b>1 / 0</b>	<b>25</b>	<b>1.7</b>	<b>25</b>	<b>1.7</b>	<b>0</b>	<b>0.0</b>	ED-6	SWPP	0.0	0.0	FIRM-7	SWPP	0.0	0.0					<b>Total</b>
		NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0				
				NONE								NONE			ED-2	SWPP	0.0	0.0	57	115	568	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>				
Apr 16 05:33 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	44	91	462	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>				
Apr 16 06:32 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	43	90	460	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>				
Apr 16 07:30 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	44	92	467	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>				
Apr 16 08:32 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	42	90	465	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>				
Apr 16 09:41 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0	43	92	477	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>				
Apr 16 10:35 (CST)	TLR 3A	NEXT		NONE								NONE			ED-2	SWPP	0.0	0.0				
				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>				

Apr 18 12:02 (CST)	TLR 5B	CURRENT	7-F <b>Total</b>	2 / 0 <b>2 / 0</b>	268 <b>268</b>	13.5 <b>13.5</b>	268 <b>268</b>	13.5 <b>13.5</b>	0 <b>0</b>	0.0 <b>0.0</b>	NONE	ED-2 ED-6 FIRM-7 <b>Total</b>	SWPP SWPP SWPP	0.0 0.0 19.0 <b>19.0</b>	0.0 0.0 19.0 <b>19.0</b>	53	110	559	N/A
		NEXT	7-F <b>Total</b>	2 / 0 <b>2 / 0</b>	268 <b>268</b>	13.5 <b>13.5</b>	268 <b>268</b>	13.5 <b>13.5</b>	0 <b>0</b>	0.0 <b>0.0</b>	NONE	NONE							
Apr 18 12:33 (CST)	TLR 5A	NEXT	7-F <b>Total</b>	2 / 0 <b>2 / 0</b>	270 <b>270</b>	13.6 <b>13.6</b>	270 <b>270</b>	13.6 <b>13.6</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>	51	105	529	N/A
Apr 18 13:32 (CST)	TLR 5A	NEXT	7-F <b>Total</b>	2 / 0 <b>2 / 0</b>	271 <b>271</b>	13.7 <b>13.7</b>	271 <b>271</b>	13.7 <b>13.7</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>	50	104	530	N/A
Apr 18 14:30 (CST)	TLR 5A	NEXT	7-F <b>Total</b>	2 / 0 <b>2 / 0</b>	272 <b>272</b>	13.7 <b>13.7</b>	272 <b>272</b>	13.7 <b>13.7</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>	48	102	527	N/A
Apr 18 15:36 (CST)	TLR 5A	NEXT	7-F <b>Total</b>	2 / 0 <b>2 / 0</b>	275 <b>275</b>	13.9 <b>13.9</b>	275 <b>275</b>	13.9 <b>13.9</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>	48	101	520	N/A
Apr 18 16:30 (CST)	TLR 5A	NEXT	7-F <b>Total</b>	2 / 0 <b>2 / 0</b>	275 <b>275</b>	13.9 <b>13.9</b>	275 <b>275</b>	13.9 <b>13.9</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>	45	94	482	N/A
Apr 18 17:30 (CST)	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>	44	100	548	N/A
Apr 18 18:30 (CST)	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>	46	103	556	N/A
Apr 18 19:31 (CST)	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>	43	87	432	N/A
Apr 18 20:33 (CST)	TLR 3A	NEXT	2-NH <b>Total</b>	2 / 0 <b>2 / 0</b>	75 <b>75</b>	5.0 <b>5.0</b>	75 <b>75</b>	5.0 <b>5.0</b>	0 <b>0</b>	0.0 <b>0.0</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>	45	100	538	N/A
Apr 18 21:29 (CST)	TLR 3A	NEXT	2-NH <b>Total</b>	1 / 0 <b>1 / 0</b>	25 <b>25</b>	1.7 <b>1.7</b>	25 <b>25</b>	1.7 <b>1.7</b>	0 <b>0</b>	0.0 <b>0.0</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>	46	96	492	N/A

Apr 18 22:30 (CST)	TLR 0	CURRENT	NONE	NONE	NONE	33	71	375	N/A
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### 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	4	125	125	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	14	1899	1899	0
<b>Total</b>	<b>18</b>	<b>2024</b>	<b>2024</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	0.0	0.0
	FIRM-7	19.0	19.0
<b>Total for SWPP</b>		<b>19.0</b>	<b>19.0</b>
<b>Total</b>		<b>19.0</b>	<b>19.0</b>

**Reliability Log for April, 16****2010**

<b>Time</b>	<b>Initials</b>	<b>Comments</b>	<b>Friday</b>
0511	WRG	Re-issued TLR level 3B on LonSarPitVal flgt #5211 Feasibility curtailments	
0633	LWB	Issued TLR level 3A on LonSarPitVal flgt #5211	
0731	LWB	Issued TLR level 3A on LonSarPitVal flgt #5211	
0829	LWB	Issued TLR level 3A on LonSarPitVal flgt #5211	
0932	LWB	Re-issued TLR level 3A on LonSarPitVal flgt #5211	
1040	LWB	Re-issued TLR level 3A on LonSarPitVal flgt #5211	
1134	LWB	Re-issued TLR level 3A on LonSarPitVal flgt #5211	
1259	LWB	Issued TLR level 5B on LonSarPitVal flgt #5211, for feasibility and loading.	
1332	LWB	Issued TLR level 5A on LonSarPitVal flgt #5211, for feasibility and loading.	
1431	LWB	Issued TLR level 5A on LonSarPitVal flgt #5211, for feasibility and loading.	
1529	LWB	Issued TLR level 5A on LonSarPitVal flgt #5211, for feasibility and loading.	
1635	LWB	Issued TLR level 5A on LonSarPitVal flgt #5211, for feasibility and loading.	
1729	LWB	Re-issued TLR level 5A on LonSarPitVal flgt #5211, for feasibility and loading.	
1830	DGA	Re-issued TLR level 5A on LonSarPitVal flgt #5211, for feasibility and loading.	
1929	DGA	Re-issued TLR level 5A on LonSarPitVal flgt #5211, for feasibility and loading.	
2030	DGA	Re-issued TLR level 3A on LonSarPitVal flgt #5211	
2129	DGA	Re-issued TLR level 3A on LonSarPitVal flgt #5211	
2228	DGA	Re-issued TLR level 3A on LonSarPitVal flgt #5211	
2329	DGA	Issued TLR level 0 on LonSarPitVal flgt #5211	

# LONSARPITVAL #5211

— Post Cont. — SOL

