

**ICTE TLR 5 Investigation Report**  
**Flowgate 16445**  
**(West Memphis - Birmingham Steel 500 kV for the loss of Sans Souci - Shelby 500 kV)**  
**TLR Level 5: August 19, 2010**  
**Report Issued:**

**1. Description of purpose/cause of hold/curtailment.**

This report is submitted in accordance with the NERC Transmission Loading Relief Investigation Procedure for the TLR 5 event that occurred on Flowgate 16445 on August 18, 2010. Flowgate 16445 is an Entergy flowgate. The TLR 5 was in effect from 9:28 AM until 9:29 PM on August 19, 2010. Projected post-contingent flows on the West Memphis - Bh Steel 500 kV line for the loss of the Sans Souci - Shelby 500 kV line exceeded the SOL.

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

At the time the TLR 5a was issued, the Limiting Element was rated at 1732 MVA. Flow on the Limiting Element was 1158 MVA. Flow on the Contingent Element was 1576 MVA. The LODF was approximately 40%. Post-contingent flow on the Limiting Element was approximately 1795 MVA.

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

TLRs levels, timing and relief requested amounts are shown on pages 2 and 3.

**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, not enough non-firm to alleviate 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 ICTE Reliability Coordinators logged information describing the actions taken at each issuance of the TLR.

**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 ICTE Reliability Coordinator was monitoring their state estimator for potential issues during this time. Screen shots were taken during each issuance of the TLR level 5.

**11. ATC limitations before, during, and after the TLR event.**

ICT Tariff Administration grants transmission service using an AFC process. This process evaluates each transmission request on a case by case basis. There are no ATC values for individual corridors to or from the Entergy system. ICT Tariff Administration was not granting any transmission requests that impacted the congested flowgate by 3 % or greater at the time of the TLR 5.

**12. Description of actions taken to avoid future hold/curtailments.**

This TLR was caused by a combination of generation patterns, load, and system flows. 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 kept on file. These screen shots are not being provided to reduce the size of this report.

**14. Re-dispatch actions taken.**

Entergy achieved their NNL obligation by moving generation on White Bluff.

**Event History**

Event History								
Issuing RC:		ICTE						
Flowgate:		16445 - Wmemphis-BirmingST 500KV FTLO SanSouci-Shelby 500KV						
Event Begin:		2010-08-19 10:00						
Event End:		2010-08-19 22:40						
Event Duration:		12 Hours						
TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
							Tags	MW
<a href="#">TLR Level 5A</a>	08/19/2010 10:00	08/19/2010 09:31	08/19/2010 09:28:45	0.0	0.0	158.4	16	1444
<a href="#">TLR Level 5A</a>	08/19/2010 11:00	08/19/2010 10:27	08/19/2010 10:27:03	22.0	0.0	94.3	10	861
<a href="#">TLR Level 5A</a>	08/19/2010 12:00	08/19/2010 11:30	08/19/2010 11:27:49	166.0	0.0	170.5	90	994
<a href="#">TLR Level 5A</a>	08/19/2010 13:00	08/19/2010 12:35	08/19/2010 12:33:13	317.0	0.0	374.6	107	1478
<a href="#">TLR Level 5A</a>	08/19/2010 14:00	08/19/2010 13:38	08/19/2010 13:35:20	260.0	0.0	411.7	107	1576
<a href="#">TLR Level 5A</a>	08/19/2010 15:00	08/19/2010 14:32	08/19/2010 14:31:02	227.0	0.0	386.2	109	1397
<a href="#">TLR Level 5A</a>	08/19/2010 16:00	08/19/2010 15:28	08/19/2010 15:27:13	226.0	0.0	381.5	110	1423
<a href="#">TLR Level 5A</a>	08/19/2010 17:00	08/19/2010 16:27	08/19/2010 16:26:20	198.0	0.0	347.4	108	1362
<a href="#">TLR Level 5A</a>	08/19/2010 18:00	08/19/2010 17:32	08/19/2010 17:29:53	180.0	0.0	327.7	111	1375
<a href="#">TLR Level 5A</a>	08/19/2010 19:00	08/19/2010 18:28	08/19/2010 18:27:00	78.0	0.0	225.8	97	1254
<a href="#">TLR Level 5A</a>	08/19/2010 20:00	08/19/2010 19:30	08/19/2010 19:28:36	138.0	0.0	221.3	97	1361
<a href="#">TLR Level 5A</a>	08/19/2010 21:00	08/19/2010 20:30	08/19/2010 20:29:24	0.0	0.0	50.8	7	877
<a href="#">TLR Level 5A</a>	08/19/2010 22:00	08/19/2010 21:29	08/19/2010 21:28:07	0.0	0.0	172.2	13	1861
<a href="#">TLR Level 0</a>	08/19/2010 22:40	08/19/2010 22:28	08/19/2010 22:28:19	0.0	0.0	0.0	0	0

### Event Summary

FILE SAVED AS: ICTE\_16445\_20100819\_0900.htm

Incident: ICTE\_16445\_20100819\_0900 Date: 08/19/2010 Reliability Coordinator: ICTE  
 Initial Conditions: N/A  
 Flowgate: 16445 - Wmcmphbs-BirminghamST 500KV FLO ... Rating: 1732 LODF: 40.43%  
 TLR Direction: Normal  
 Effective StartTime: 08/19/2010 10:00 Effective EndTime: 08/19/2010 22:40 TLR Duration: 12 Hours and 40 Minutes

### TLR Actions

Cpfirm	Level	Effective Prior	Priority	Schedule					NHL Relief				Market Relief				Flow		TLR Action Comments		
				Total Taps Ckt / MW	IDC Ckt MW	RC Ckt Admittance MW	Relief MW	Hold MW	CA	IDC MW	RC Admittance MW	Type	Mkt	IDC MW	RC Admittance MW	Current	Post Cont.	Cont Flow			
Aug 19 09:21	TLR SA	NDT	1-N1	1/0	30	3.4	3.4	0	0.0	NONE				ED-2	SWPP	0.0	0.0	1188	1798	1876	N/A
			2-NH	6/0	405	80.0	405	80.0	0	0.0				ED-4	SWPP	0.0	0.0				
			6-NH	5/1	439	80.2	439	80.2	14.7	0.0				FIRM47	SWPP	0.0	0.0				
				<b>12 / 1</b>	<b>504</b>	<b>138.5</b>	<b>504</b>	<b>138.5</b>	<b>14.7</b>					<b>Total</b>		<b>0.0</b>	<b>0.0</b>				
Aug 19 10:27	TLR SA	NDT	2-NH	1/0	164	27.8	164	27.8	0	0.0				ED-2	SWPP	0.0	0.0	1117	1716	1469	N/A
			6-NH	6/0	167	17.8	167	17.8	0	0.0				ED-4	SWPP	5.0	5.0				
				<b>6 / 0</b>	<b>321</b>	<b>45.6</b>	<b>321</b>	<b>45.6</b>	<b>0</b>	<b>0.0</b>				<b>Total</b>		<b>10.0</b>	<b>10.0</b>				
Aug 19 11:20	TLR SA	NDT	6-NH	4/0	146	16.7	146	16.7	0	0.0	EE5	29.0	29.0	ED-2	SWPP	0.0	0.0	1127	1730	1043	N/A
			6-NH	4/1	146	16.8	146	16.8	0	0.0	SOCC	16.0	16.0	ED-4	SWPP	26.4	26.4				
				<b>8 / 1</b>	<b>292</b>	<b>33.5</b>	<b>292</b>	<b>33.5</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>45.0</b>	<b>45.0</b>	<b>Total</b>		<b>26.4</b>	<b>26.4</b>				
Aug 19 12:09	TLR SA	NDT	6-NH	5/0	230	24.5	230	24.5	0	0.0	EE5	32.0	32.0	ED-2	SWPP	0.0	0.0	1073	1668	1444	N/A
			7-F	90/0	942	111.8	942	111.8	0	0.0	SOCC	41.0	41.0	ED-4	SWPP	60.2	60.2				
				<b>191 / 0</b>	<b>873</b>	<b>146.3</b>	<b>873</b>	<b>146.3</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>73.0</b>	<b>73.0</b>	<b>Total</b>		<b>120.4</b>	<b>120.4</b>				
Aug 19 13:28	TLR SA	NDT	2-NH	1/0	61	7.6	61	7.6	0	0.0	EE5	65.0	65.0	ED-2	SWPP	0.0	0.0	1050	1624	1402	N/A
			6-NH	4/1	146	16.8	146	16.8	0	0.0	SOCC	41.0	41.0	ED-4	SWPP	73.2	73.2				
				<b>7 / 1</b>	<b>207</b>	<b>24.4</b>	<b>207</b>	<b>24.4</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>106.0</b>	<b>106.0</b>	<b>Total</b>		<b>73.2</b>	<b>73.2</b>				
Aug 19 14:22	TLR SA	NDT	6-NH	4/0	101	21.4	101	21.4	0	0.0	EE5	62.0	62.0	ED-2	SWPP	0.0	0.0	1077	1634	1380	N/A
			7-F	99/0	801	111.8	801	111.8	0	0.0	SOCC	38.0	38.0	ED-4	SWPP	79.1	79.1				
				<b>103 / 0</b>	<b>902</b>	<b>133.2</b>	<b>902</b>	<b>133.2</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>Total</b>		<b>79.1</b>	<b>79.1</b>				
Aug 19 15:28	TLR SA	NDT	6-NH	6/0	401	39.7	401	39.7	0	0.0	EE5	76.0	76.0	ED-2	SWPP	0.0	0.0	1074	1671	1200	N/A
			7-F	99/0	637	107.4	637	107.4	0	0.0	SOCC	39.0	39.0	ED-4	SWPP	79.1	79.1				
				<b>105 / 0</b>	<b>1038</b>	<b>147.1</b>	<b>1038</b>	<b>147.1</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>115.0</b>	<b>115.0</b>	<b>Total</b>		<b>79.1</b>	<b>79.1</b>				
Aug 19 16:27	TLR SA	NDT	6-NH	5/0	201	20.5	201	20.5	0	0.0	EE5	76.0	76.0	ED-2	SWPP	0.0	0.0	1029	1506	1305	N/A
			7-F	97/0	576	99.4	576	99.4	0	0.0	SOCC	32.0	32.0	ED-4	SWPP	69.0	69.0				
				<b>102 / 0</b>	<b>777</b>	<b>120.0</b>	<b>777</b>	<b>120.0</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>108.0</b>	<b>108.0</b>	<b>Total</b>		<b>69.0</b>	<b>69.0</b>				
Aug 19 17:21	TLR SA	NDT	6-NH	5/0	201	20.5	201	20.5	0	0.0	EE5	76.0	76.0	ED-2	SWPP	0.0	0.0	670	1002	1316	N/A
			7-F	101/0	609	102.6	609	102.6	0	0.0	SOCC	32.0	32.0	ED-4	SWPP	30.0	30.0				
				<b>106 / 0</b>	<b>810</b>	<b>123.1</b>	<b>810</b>	<b>123.1</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>108.0</b>	<b>108.0</b>	<b>Total</b>		<b>30.0</b>	<b>30.0</b>				
Aug 19 18:28	TLR SA	NDT	2-NH	1/0	156	10.8	156	10.8	0	0.0	EE5	40.0	40.0	ED-2	SWPP	0.0	0.0	946	1404	1200	N/A
			6-NH	5/0	201	20.5	201	20.5	0	0.0	SOCC	17.0	17.0	ED-4	SWPP	35.5	35.5				
				<b>6 / 0</b>	<b>357</b>	<b>31.3</b>	<b>357</b>	<b>31.3</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>57.0</b>	<b>57.0</b>	<b>Total</b>		<b>35.5</b>	<b>35.5</b>				
Aug 19 19:20	TLR SA	NDT	2-NH	2/0	212	21.2	212	21.2	0	0.0	EE5	41.0	41.0	ED-2	SWPP	0.0	0.0	1033	1665	1368	N/A
			6-NH	4/0	147	16.8	147	16.8	0	0.0	SOCC	17.0	17.0	ED-4	SWPP	20.0	20.0				
				<b>7 / 0</b>	<b>359</b>	<b>38.0</b>	<b>359</b>	<b>38.0</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>	<b>58.0</b>	<b>58.0</b>	<b>Total</b>		<b>20.0</b>	<b>20.0</b>				
Aug 19 20:30	TLR SA	NDT	2-NH	2/0	212	21.2	212	21.2	0	0.0	NONE			ED-2	SWPP	0.0	0.0	1040	1607	1304	N/A
			6-NH	1/0	140	7.3	140	7.3	0	0.0	ED-4			SWPP	0.0	0.0					
				<b>3 / 0</b>	<b>352</b>	<b>28.5</b>	<b>352</b>	<b>28.5</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>			<b>Total</b>		<b>0.0</b>	<b>0.0</b>				
Aug 19 21:29	TLR SA	NDT	1-N1	2/0	131	19.9	131	19.9	0	0.0	NONE			ED-2	SWPP	0.0	0.0	1066	1662	1400	N/A
			2-NH	3/0	402	36.2	402	36.2	0	0.0	ED-4			SWPP	33.0	33.0					
				<b>5 / 0</b>	<b>533</b>	<b>56.1</b>	<b>533</b>	<b>56.1</b>	<b>0</b>	<b>0.0</b>	<b>Total</b>			<b>Total</b>		<b>33.0</b>	<b>33.0</b>				
Aug 19 22:28	TLR 0	CURRENT								NONE				NONE			953	1446	1405	N/A	

### TLR Schedule Totals

Priority	Total Taps Ckt / MW	IDC Ckt MW	RC Ckt Admittance MW	Hold MW
0	0	0	0	0
1	3	181	181	0
2	16	1022	1022	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	58	2405	2405	182
7	841	4039	4039	0
<b>Total</b>	<b>918</b>	<b>10268</b>	<b>10268</b>	<b>182</b>

### TLR NHL Totals

CA	IDC MW	RC Admittance MW
EE5	589.0	589.0
SOCC	272.0	338.0
SFA	18.0	18.0
TVA	182.0	182.0
<b>Total</b>	<b>1027.0</b>	<b>1093.0</b>

### TLR Market Flow Totals

Market	Type	IDC MW	RC Admittance MW
SWPP	ED-2	0.0	0.0
	ED-4	0.0	0.0
	FIRM47	17.8	17.8
<b>Total for SWPP</b>		<b>17.8</b>	<b>17.8</b>
<b>Total</b>		<b>517.2</b>	<b>517.1</b>

### TLR Market Flow Totals

Market	Type	IDC MW	RC Admittance MW
SWPP	ED-2	0.0	0.0
	ED-4	779.7	779.6
	FIRM47	356.4	356.4
<b>Total for SWPP</b>		<b>1136.1</b>	<b>1136.0</b>
<b>Total</b>		<b>1136.1</b>	<b>1136.0</b>

8/19/10	0821	Assessed as ICP, PC 91%	Flow Gate Assessment
8/19/10	0928	Issued TLR 5A, PC 103%, Ref 279546, No NNL, no redispatch options available per Derwood at EES, AFCs zeroed out till 16:00, no internal non-firm schedules available	TLR - 5a Initial
8/19/10	1027	Reissued TLR 5A, PC 99%, No NNL, AFCs zeroed out till 16:00, no internal non-firm schedules available	TLR - 5a Reissue
8/19/10	1127	Reissued TLR 5A, PC 101%, NNL: EES 29, SOCO 15.5, TVA 7.4, AFCs zeroed out till 16:00, no internal non-firm schedules available	TLR - 5a Reissue
8/19/10	1133	Talked with Charlie at MISO about Columbia CEC units. They are not online and no plans to run today. Told Charlie we would exclude them from TLR 5.	NNL
8/19/10	1233	Reissued TLR 5A, PC 95%, NNL: EES 82.8, SOCO 41.2, SPA 1.9, TVA 20.9, AFCs zeroed out till 16:00, no internal non-firm schedules available	TLR - 5a Reissue
8/19/10	1335	Reissued TLR 5A, PC 93%, NNL: EES 85.2, SOCO 40.6, SPA 2, TVA 22.1, AFCs zeroed out till 16:00, no internal non-firm schedules available	TLR - 5a Reissue
8/19/10	1431	Reissued TLR 5A, PC 94%, NNL: EES 81.5, SOCO 38.5, SPA 1.9, TVA 21.5, SOCO holding NNL at 44.9, AFCs zeroed out till 16:00, no internal non-firm schedules available	TLR - 5a Reissue
8/19/10	1527	Reissued TLR 5A, PC 90%, NNL: EES 76.2, SOCO 36.3, SPA 1.8, TVA 20.8, SOCO holding NNL at 44.9, AFCs zeroed out till 22:00, no internal non-firm schedules available	TLR - 5a Reissue
8/19/10	1626	Reissued TLR 5A, PC 90%, NNL: EES 76.4, SOCO 32.7, SPA 1.7, TVA 19.1, SOCO holding NNL at 44.9, AFCs zeroed out till 22:00, no internal non-firm schedules available	TLR - 5a Reissue
8/19/10	1729	Reissued TLR 5A, PC 90%, NNL: EES 76.4, SOCO 32.8, SPA 1.7, TVA 19.5, SOCO holding NNL at 44.9, AFCs zeroed out till 22:00, no internal non-firm schedules available	TLR - 5a Reissue
8/19/10	1830	Reissued TLR 5A, PC 83%, NNL: EES 39.8, SOCO 17.2, SPA 0.8, TVA 10.0, , AFCs zeroed out till 22:00, no internal non-firm schedules available Oasis REF # 279546.	TLR - 5a Reissue
8/19/10	1930	Reissued TLR 5A, PC 91%, NNL: EES 41.0, SOCO 17.4, SPA 0.8, TVA 10.0, AFCs zeroed out till 22:00, no internal non-firm schedules available Oasis REF # 279546.	TLR - 5a Reissue
8/19/10	2032	Reissued TLR 5A, PC 93%, NNL: EES 0, SOCO 0, SPA 0, TVA 0, AFCs zeroed out till 22:00, no internal non-firm schedules available Oasis REF # 279546.	TLR - 5a Reissue
8/19/10	2132	Reissued TLR 5A, PC 95%, NNL: EES 0, SOCO 0, SPA 0, TVA 0, AFCs zeroed out till 22:00, no internal non-firm schedules available Oasis REF # 279546.	TLR - 5a Reissue
8/19/10	2223	Reissued TLR 0, PC 83%, Oasis REF # 279546.	TLR - 0