

**SPP TLR 5 Investigation Report
Flowgate 6007
(Gentleman – Red Willow 345 kV)
(GENTLMREDWIL)
TLR Level 5: August 13-14, 2010
Report Issued: December 13, 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 6007 on August 13-14, 2010. Flowgate 6007 is an SPP flowgate. This flowgate is used to monitor and control voltage and loading on several facilities in the area. The Level 5 TLR was in effect from 19:00 on August 13 until 1:00 CST on August 14 and again from 21:00 until 22:30 on August 14, 2010. Projected flows on the Gentleman – Red Willow 345 kV line were expected to exceed the SOL.

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

The rating of this flowgate is determined by periodic review by NPPD depending upon current and anticipated system conditions. At the time the Level 5A TLR was issued, the Limiting Element was rated at 445 MVA. Flow on the Limiting Element was 402 MVA at the first issuance and 436 MVA at the time of the second issuance.

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 3-9.

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 not enough non-firm transactions or market flows that impacted the flowgate by more than 5% to relieve the loading. 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 10. 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 pages 11-12.

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. Reconfiguration is sometimes a viable companion to TLR on this flowgate. However, it was not available at the time of this TLR.

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 3-9.

Event History

Issuing RC: SWPP
Flowgate: 6007 - GENTLMN3 345 REDWILO3 345 1
Event Begin: 2010-08-13 17:36
Event End: 2010-08-15 06:34
Event Duration: 37 Hours

TLR Level	TLR Date	TLR Confirm Time	Run Time	Requested Relief	Remaining Relief	Relief Provided	Total Cuts	
							Tags	MW
TLR Level 3B	08/13/2010 17:45	08/13/2010 17:36	08/13/2010 17:36:07	25.0	24.9	0.1	1	2
TLR Level 5A	08/13/2010 19:00	08/13/2010 18:32	08/13/2010 18:31:25	0.0	0.0	19.3	2	260
TLR Level 5A	08/13/2010 20:00	08/13/2010 19:29	08/13/2010 19:29:17	0.0	0.0	19.2	2	260
TLR Level 5A	08/13/2010 21:00	08/13/2010 20:27	08/13/2010 20:26:34	0.0	0.0	58.6	4	308
TLR Level 5A	08/13/2010 22:00	08/13/2010 21:27	08/13/2010 21:26:35	0.0	0.0	65.8	5	412
TLR Level 5A	08/13/2010 23:00	08/13/2010 22:27	08/13/2010 22:27:05	0.0	0.0	30.0	3	311
TLR Level 5A	08/14/2010 00:00	08/13/2010 23:36	08/13/2010 23:35:20	0.0	0.0	30.0	3	311
TLR Level 3A	08/14/2010 01:00	08/14/2010 00:37	08/14/2010 00:37:00	142.0	111.2	30.8	4	323
TLR Level 1	08/14/2010 01:30	08/14/2010 01:19	08/14/2010 01:19:24	0.0	0.0	0.0	0	0
TLR Level 3B	08/14/2010 06:45	08/14/2010 06:35	08/14/2010 06:34:48	50.0	8.0	42.0	0	0
TLR Level 3A	08/14/2010 08:00	08/14/2010 07:26	08/14/2010 07:26:04	149.0	56.5	92.5	5	507
TLR Level 3A	08/14/2010 09:00	08/14/2010 08:33	08/14/2010 08:32:53	109.0	28.2	80.8	5	411
TLR Level 3A	08/14/2010 10:00	08/14/2010 09:27	08/14/2010 09:27:18	99.0	18.1	80.9	5	413
TLR Level 3A	08/14/2010 11:00	08/14/2010 10:26	08/14/2010 10:25:55	144.0	63.7	80.3	4	403
TLR Level 3A	08/14/2010 12:00	08/14/2010 11:26	08/14/2010 11:25:52	131.0	50.7	80.3	4	403
TLR Level 3A	08/14/2010 13:00	08/14/2010 12:28	08/14/2010 12:28:06	122.0	41.7	80.3	4	403
TLR Level 3A	08/14/2010 14:00	08/14/2010 13:26	08/14/2010 13:26:30	100.0	19.7	80.3	4	403
TLR Level 3A	08/14/2010 15:00	08/14/2010 14:26	08/14/2010 14:26:04	92.0	11.7	80.3	4	403
TLR Level 3A	08/14/2010 16:00	08/14/2010 15:27	08/14/2010 15:26:41	74.0	0.0	74.1	4	391
TLR Level 3A	08/14/2010 17:00	08/14/2010 16:27	08/14/2010 16:26:43	77.0	0.0	77.1	4	388
TLR Level 3A	08/14/2010 18:00	08/14/2010 17:29	08/14/2010 17:28:38	190.0	109.6	80.4	4	404
TLR Level 3A	08/14/2010 19:00	08/14/2010 18:31	08/14/2010 18:30:23	157.0	75.9	81.1	6	415
TLR Level 3A	08/14/2010 20:00	08/14/2010 19:30	08/14/2010 19:30:14	133.0	43.2	89.8	6	518
TLR Level 5A	08/14/2010 21:00	08/14/2010 20:31	08/14/2010 20:31:02	0.0	0.0	104.2	6	624
TLR Level 5A	08/14/2010 22:00	08/14/2010 21:37	08/14/2010 21:36:42	0.0	0.0	104.7	7	630
TLR Level 1	08/14/2010 22:30	08/14/2010 22:19	08/14/2010 22:19:25	0.0	0.0	0.0	0	0
TLR Level 0	08/15/2010 06:45	08/15/2010 06:34	08/15/2010 06:33:56	0.0	0.0	0.0	0	0

Aug 13 20:27	TLR 5A	NEXT	6-NN Total	4 / 0 4 / 0	308 308	58.6 58.6	308 308	58.6 58.6	0 0	0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	397	N/A	N/A	N/A
Aug 13 21:27	TLR 5A	NEXT	2-NH 6-NN Total	1 / 0 4 / 0 5 / 0	104 308 412	7.2 58.6 65.8	104 308 412	7.2 58.6 65.8	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	420	N/A	N/A	N/A
Aug 13 22:27	TLR 5A	NEXT	3-ND 6-NN Total	1 / 0 2 / 0 3 / 0	280 51 311	18.1 11.9 30.0	280 51 311	18.1 11.9 30.0	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	415	N/A	N/A	N/A
Aug 13 23:36	TLR 5A	NEXT	3-ND 6-NN Total	1 / 0 2 / 0 3 / 0	280 51 311	18.0 11.9 30.0	280 51 311	18.0 11.9 30.0	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	413	N/A	N/A	N/A
Aug 14 00:37	TLR 3A	NEXT	2-NH 3-ND 6-NN Total	1 / 0 1 / 0 2 / 0 4 / 0	12 280 51 323	0.8 18.0 12.0 30.8	12 280 51 323	0.8 18.0 12.0 30.8	0 0 0 0	0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	420	N/A	N/A	N/A
Aug 14 01:19	TLR 1	CURRENT	NONE								NONE	NONE			371	N/A	N/A	N/A	

Aug 14 13:28	TLR 3A	NEXT	1-NS 2-NH 3-ND 6-NN Total	1 / 0 1 / 0 1 / 0 1 / 0 4 / 0	8 31 280 104 403	0.8 3.0 21.6 13.0 38.3	8 31 280 104 403	0.8 3.0 21.6 13.0 38.3	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 40.0 0.0 0.0 42.0	0.0 2.0 0.0 40.0 0.0 0.0 42.0	401	N/A	N/A	N/A
Aug 14 14:28	TLR 3A	NEXT	1-NS 2-NH 3-ND 6-NN Total	1 / 0 1 / 0 1 / 0 1 / 0 4 / 0	8 31 280 104 403	0.8 3.0 21.6 13.0 38.3	8 31 280 104 403	0.8 3.0 21.6 13.0 38.3	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 40.0 0.0 0.0 42.0	0.0 2.0 0.0 40.0 0.0 0.0 42.0	401	N/A	N/A	N/A
Aug 14 15:27	TLR 3A	NEXT	1-NS 2-NH 3-ND 6-NN Total	1 / 0 1 / 0 1 / 0 1 / 0 4 / 0	8 31 280 92 391	0.8 3.0 21.6 11.5 36.8	8 31 280 92 391	0.8 3.0 21.6 11.5 36.8	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 35.3 0.0 0.0 37.3	0.0 2.0 0.0 35.3 0.0 0.0 37.3	399	N/A	N/A	N/A
Aug 14 16:27	TLR 3A	NEXT	1-NS 2-NH 3-ND 6-NN Total	1 / 0 1 / 0 1 / 0 1 / 0 4 / 0	8 31 280 89 388	0.8 3.0 21.4 11.1 36.3	8 31 280 89 388	0.8 3.0 21.4 11.1 36.3	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 38.8 0.0 0.0 40.8	0.0 2.0 0.0 38.8 0.0 0.0 40.8	398	N/A	N/A	N/A
Aug 14 17:29	TLR 3A	NEXT	1-NS 2-NH 3-ND 6-NN Total	1 / 0 1 / 0 1 / 0 1 / 0 4 / 0	8 32 280 104 404	0.8 3.1 21.6 13.0 38.4	8 32 280 104 404	0.8 3.1 21.6 13.0 38.4	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 40.0 0.0 0.0 42.0	0.0 2.0 0.0 40.0 0.0 0.0 42.0	428	N/A	N/A	N/A
Aug 14 18:31	TLR 3A	NEXT	1-NS 2-NH 3-ND 6-NN Total	1 / 0 2 / 0 1 / 0 1 / 0 5 / 0	8 42 280 104 414	0.8 3.9 21.5 12.9 39.1	8 42 280 104 414	0.8 3.9 21.5 12.9 39.1	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 40.0 0.0 0.0 42.0	0.0 2.0 0.0 40.0 0.0 0.0 42.0	419	N/A	N/A	N/A
Aug 14 19:30	TLR 3A	NEXT	1-NS 2-NH 3-ND 6-NN Total	1 / 0 3 / 0 1 / 0 1 / 0 6 / 0	8 146 280 104 518	0.8 12.5 21.6 13.0 47.8	8 146 280 104 518	0.8 12.5 21.6 13.0 47.8	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 Total	MISO SWPP MISO SWPP MISO SWPP	0.0 2.0 0.0 40.0 0.0 0.0 42.0	0.0 2.0 0.0 40.0 0.0 0.0 42.0	429	N/A	N/A	N/A

Aug 14 20:31	TLR 5A	NEXT	2-NH 3-ND 6-NN Total	3 / 0 1 / 0 2 / 0 6 / 0	312 280 52 624	25.9 21.6 14.8 62.2	312 280 52 624	25.9 21.6 14.8 62.2	0 0 0 0	0.0 0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP MISO SWPP 42.0	0.0 2.0 0.0 40.0 0.0 0.0 0.0 0.0 42.0	0.0 2.0 0.0 40.0 0.0 0.0 0.0 0.0 42.0	438	N/A	N/A	N/A
Aug 14 21:37	TLR 5A	NEXT	2-NH 3-ND Total	4 / 0 1 / 0 5 / 0	318 280 578	26.4 21.6 47.9	318 280 578	26.4 21.6 47.9	0 0 0	0.0 0.0 0.0	NONE	ED-2 ED-6 FIRM-7 FIRM-CREDIT Total	MISO SWPP MISO SWPP MISO SWPP 42.0	0.0 1.0 0.0 41.0 0.0 0.0 42.0	0.0 1.0 0.0 41.0 0.0 0.0 42.0	432	N/A	N/A	N/A
Aug 14 22:19	TLR 1	CURRENT	NONE				NONE		NONE		NONE		NONE		405	N/A	N/A	N/A	
Aug 15 06:34	TLR 0	CURRENT	NONE				NONE		NONE		NONE		NONE		515	N/A	N/A	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	11	88	88	0
2	31	1910	1910	0
3	17	4420	4420	0
4	0	0	0	0
5	0	0	0	0
6	28	2042	2042	0
7	0	0	0	0
Total	87	8460	8460	0

TLR Market Flow Totals

Market	Type	Market Relief	
		IDC MV	RC Ackn MV
MISO	ED-2	0.0	0.0
	ED-6	0.0	0.0
	FIRM-7	0.0	0.0
Total MISO		0.0	0.0
SWPP	ED-2	27.0	27.0
	ED-6	639.1	639.1
	FIRM-7	0.0	0.0
Total for SWPP		666.1	666.1
Total		666.1	666.1

Reliability Log for August, 13

2010

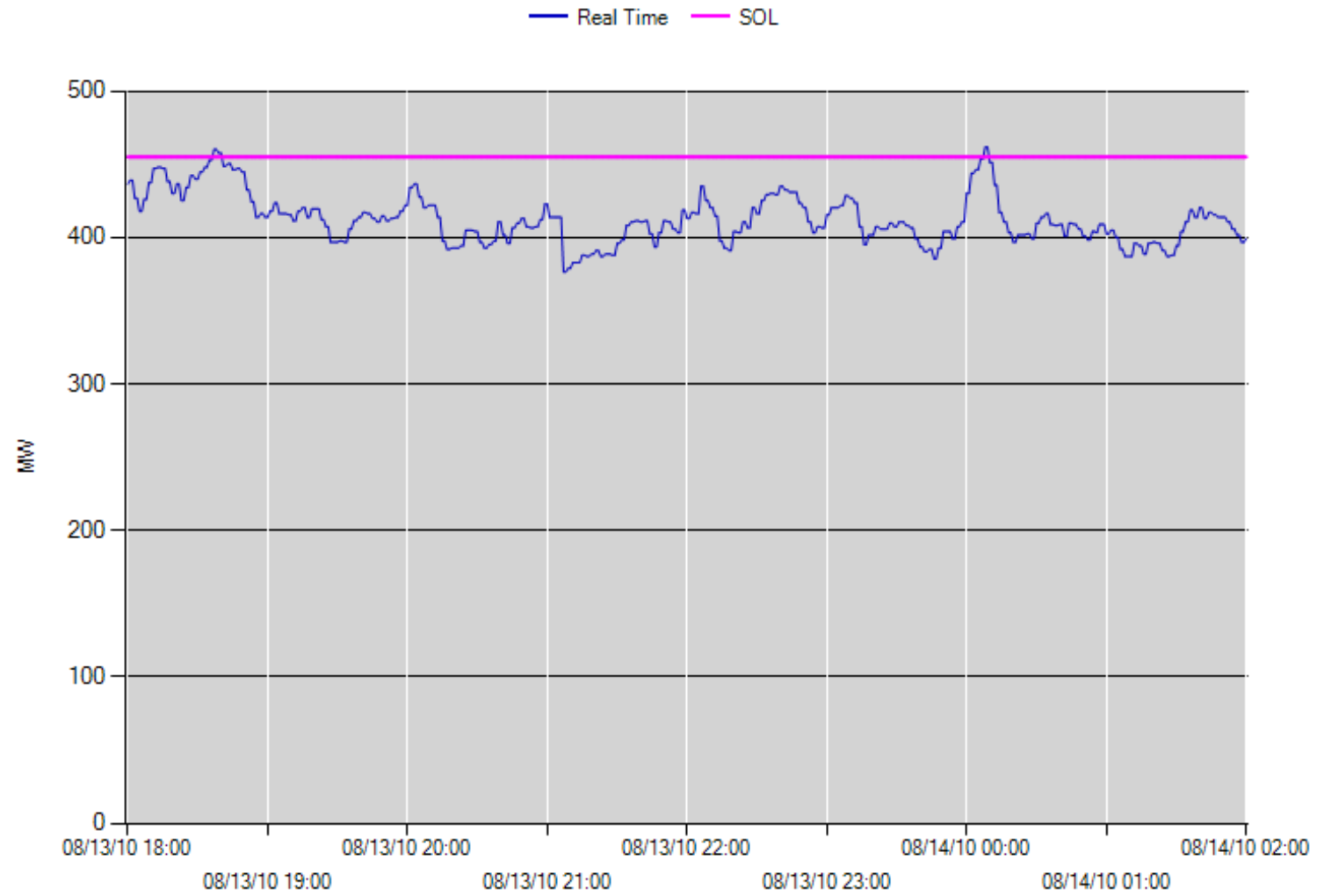
Time	Initials	Comments
1836	LWB	Issued TLR level 3B on GENTLMREDDWL flgt #6007--curtailments.
1931	LWB	Issued TLR level 5A on GENTLMREDDWL flgt #6007--curtailments---feasibility.
2029	LWB	Re-issued TLR level 5A on GENTLMREDDWL flgt #6007--curtailments---feasibility.
2126	LWB	Re-issued TLR level 5A on GENTLMREDDWL flgt #6007--curtailments---feasibility.
2226	LWB	Re-issued TLR level 5A on GENTLMREDDWL flgt #6007--curtailments---feasibility.
2327	LWB	Re-issued TLR level 5A on GENTLMREDDWL flgt #6007--curtailments---feasibility.

Reliability Log for August, 14

2010

Time	Initials	Comments
0035	LWB	Re-issued TLR level 5A on GENTLMREDDWL flgt #6007--curtailments---feasibility.
0137	LWB	Issued TLR level 3A on GENTLMREDDWL flgt #6007--curtailments---feasibility.
0218	LWB	NPPD opened Red Willow PCB 1110 per OP Guide
0219	LWB	Issued TLR level 1 on GENTLMREDDWL flgt #6007--curtailments---feasibility.
0734	LRG	Issued TLR level 3B on GENTLMREDDWL flgt #6007
0806	LRG	NPPD closed Red Willow PCB 1110 per OP Guide
0932	LRG	Issued TLR level 3A on GENTLMREDDWL flgt #6007
1027	LRG	Issued TLR level 3A on GENTLMREDDWL flgt #6007
1125	LRG	Issued TLR level 3A on GENTLMREDDWL flgt #6007
1225	LRG	Issued TLR level 3A on GENTLMREDDWL flgt #6007
1328	LRG	Issued TLR level 3A on GENTLMREDDWL flgt #6007
1426	LRG	Issued TLR level 3A on GENTLMREDDWL flgt #6007
1526	LRG	Issued TLR level 3A on GENTLMREDDWL flgt #6007
1626	LRG	Issued TLR level 3A on GENTLMREDDWL flgt #6007
1828	LWB	Re-issued TLR level 3A on GENTLMREDDWL flgt #6007
1930	LWB	Re-issued TLR level 3A on GENTLMREDDWL flgt #6007
2030	LWB	Re-issued TLR level 3A on GENTLMREDDWL flgt #6007
2131	LWB	Issued TLR level 5A on GENTLMREDDWL flgt #6007--FEASIBILITY
2236	LWB	Re-issued TLR level 5A on GENTLMREDDWL flgt #6007--FEASIBILITY
2318	LWB	NPPD OPENED Red Willow PCB 1110 per OP Guide
2319	LWB	Issued TLR level 1 on GENTLMREDDWL flgt #6007.

GENTLMREDWIL - 6007



GENTLMREDWIL - 6007

