

SPP TLR 5 Investigation Report
Flowgate 5242
(Okmulgee – Henryetta 138 kV for loss of Okmulgee – Kelco 138 kV)
(OKMHENOKMKEL)
TLR Level 5: August 30, 2009
Report Issued: September 1, 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 5242 on August 30, 2009. Flowgate 5242 is an SPP flowgate. The Level 5 TLR was in effect from 13:00 until 22:00 CST on August 30, 2009. Projected post-contingent flows on the Okmulgee – Henryetta 138 kV line exceeded the SOL. The rating is based on a limit within the substation.

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 177 MVA. Flow on the Limiting Element was 106 MVA. Flow on the Contingent Element was 129 MVA. The LODF was approximately 54%. Post-contingent flow on the Limiting Element was approximately 175 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. Reconfiguration is sometimes a viable option 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 3-5.

TLR Event History 5242 - OKMHENOKMKEL

| Status | TLR Level | TLR Date (CST) | TLR Confirm Time (CST) | Run Time (CST) | Requested Relief | Remaining Relief | Relief Provided | Total Cuts | |
|----------------------------|-----------|------------------|------------------------|---------------------|------------------|------------------|-----------------|------------|----|
| | | | | | | | | Tags | MW |
| SUPERSEDED | 3A | 08/30/2009 12:00 | 08/30/2009 11:28 | 08/30/2009 11:28:14 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 13:00 | 08/30/2009 12:31 | 08/30/2009 12:31:23 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 14:00 | 08/30/2009 13:29 | 08/30/2009 13:29:07 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 15:00 | 08/30/2009 14:27 | 08/30/2009 14:27:03 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 16:00 | 08/30/2009 15:28 | 08/30/2009 15:27:50 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 17:00 | 08/30/2009 16:27 | 08/30/2009 16:26:32 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 18:00 | 08/30/2009 17:27 | 08/30/2009 17:27:10 | 10.0 | 0.0 | 10.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 19:00 | 08/30/2009 18:28 | 08/30/2009 18:28:21 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 20:00 | 08/30/2009 19:27 | 08/30/2009 19:27:28 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 5A | 08/30/2009 21:00 | 08/30/2009 20:32 | 08/30/2009 20:31:45 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| SUPERSEDED | 3A | 08/30/2009 22:00 | 08/30/2009 21:27 | 08/30/2009 21:26:54 | 0.0 | 0.0 | 0.0 | 0 | 0 |
| TERMINATED | 0 | 08/30/2009 22:25 | 08/30/2009 22:12 | 08/30/2009 22:11:42 | 0.0 | 0.0 | 0.0 | 0 | 0 |

09/01/2009 11:53:07 (CST)

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| | | | | | | | | | | | | |
|-----------------|--------|---------|------|------|---|------------------------------|--|--|-----|-----|-----|-----|
| Aug 30 18:28 | TLR 5A | NEXT | NONE | NONE | ED-2 ED-8 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 | 100 | 165 | 122 | N/A |
| Aug 30 19:27 | TLR 5A | NEXT | NONE | NONE | ED-2 ED-8 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 | 99 | 163 | 121 | N/A |
| Aug 30 20:32 | TLR 5A | NEXT | NONE | NONE | ED-2 ED-8 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 | 101 | 166 | 123 | N/A |
| Aug 30 21:27 | TLR 3A | NEXT | NONE | NONE | ED-2 ED-8 FIRM-7 Total | SWPP SWPP SWPP | 0.0 0.0 0.0 0.0 | 0.0 0.0 0.0 0.0 | 99 | 163 | 120 | N/A |
| Aug 30 22:12 | TLR 0 | CURRENT | NONE | NONE | NONE | | | | 85 | 141 | 106 | 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 |
| Total | 0 | 0 | 0 | 0 |

TLR Market Flow Totals

| Market | Type | Market Relief | |
|-----------------------|--------|---------------|------------------|
| | | IDC MW | RC Ackn MW |
| SWPP | ED-2 | 0.0 | 0.0 |
| | ED-8 | 0.0 | 0.0 |
| | FIRM-7 | 10.0 | 10.0 |
| Total for SWPP | | 10.0 | 10.0 |
| Total | | 10.0 | 10.0 |

| | A | B | C | D | E |
|----|---------------------------------------|----------|---|-------------|---|
| 1 | Reliability Log for August, 30 | | | 2009 | |
| 2 | Time | Initials | Comments | Sunday | |
| 3 | 1228 | RST | Issued TLR Level 3A on OkmHenOkmKel Flgt. 5242. | | |
| 4 | 1331 | RST | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 5 | 1429 | RST | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 6 | 1527 | RST | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 7 | 1627 | RST | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 8 | 1726 | RST | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 9 | 1827 | MRH | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 10 | 1928 | MRH | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 11 | 2027 | MRH | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 12 | 2131 | MRH | Re-issued TLR Level 5A on OkmHenOkmKel Flgt. 5242. For loading and feasibility. | | |
| 13 | 2226 | MRH | Re-issued TLR Level 3A on OkmHenOkmKel Flgt. 5242. | | |
| 14 | 2311 | MRH | Re-issued TLR Level 0 on OkmHenOkmKel Flgt. 5242. | | |
| 15 | | | | | |
| 16 | | | | | |

5242 - 8/30/09

