

**SPP TLR 5 Investigation Report  
Flowgate 16966  
(Cooper- St Joe 345 kV)  
TLR Level 5: March 2, 2011**

**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 16966 on March 2, 2011. Flowgate 16966 is an SPP flowgate. The Level 5 TLR was in effect from 20:55 until 21:35 CST on March 2, 2011. Projected post-contingent flows on the Cooper – St Joe 345kV line did not 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 610 MVA. Flow on the Limiting Element was 584 MVA. This flowgate does not have a Contingent Element.

**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.

**4. Transmission and generation outages or changes from prediction that may have contributed.**

High external impacts in combination with Iatan 2 being offline for maintenance. Cooper – Fairport was in a planned outage.

**5. Procedures implemented prior to hold/curtailment.**

Curtailed non-firm transactions. Next hour flows predicted that not enough non-firm could be curtailed 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. 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.**

In the next day process, we did 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 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.

**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 an outage. 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 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.

| Event History                |                  |                                |                     |                  |                  |                 |            |    |
|------------------------------|------------------|--------------------------------|---------------------|------------------|------------------|-----------------|------------|----|
| Issuing RC:                  |                  | SWPP                           |                     |                  |                  |                 |            |    |
| Flowgate:                    |                  | 16966 - Cooper - St. Joe 345kV |                     |                  |                  |                 |            |    |
| Event Begin:                 |                  | 2011-03-02 20:55               |                     |                  |                  |                 |            |    |
| Event End:                   |                  | 2011-03-02 21:35               |                     |                  |                  |                 |            |    |
| Event Duration:              |                  | 1 Hour                         |                     |                  |                  |                 |            |    |
| TLR Level                    | TLR Date         | TLR Confirm Time               | Run Time            | Requested Relief | Remaining Relief | Relief Provided | Total Cuts |    |
|                              |                  |                                |                     |                  |                  |                 | Tags       | MW |
| <a href="#">TLR Level 5B</a> | 03/02/2011 20:55 | 03/02/2011 20:30               | 03/02/2011 20:29:28 | 100.0            | 0.0              | 340.9           | 2          | 70 |
| <a href="#">TLR Level 0</a>  | 03/02/2011 21:35 | 03/02/2011 21:23               | 03/02/2011 21:23:08 | 0.0              | 0.0              | 0.0             | 0          | 0  |

## Event Summary

FILE SAVED AS: SWPP\_16966\_20110302\_1955.htm

|  |                                     |                               |
|--|-------------------------------------|-------------------------------|
| Incident: SWPP_16966_20110302_1955       | Date: 03/02/2011                    | Reliability Coordinator: SWPP |
| Initial Conditions: increasing load      |                                     |                               |
| Flowgate: 16966 - Cooper - St. Joe 345kV | Rating: 610                         | LODF: N/A                     |
| TLR Direction: Normal                    |                                     |                               |
| Effective StartTime: 03/02/2011 20:55    | Effective EndTime: 03/02/2011 21:35 | TLR Duration: 40 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     | MW           | Relief |              |           |             |               |     |        |            |         |             |            |                     |      |        |      |      |      |        |      |     |
| Mar 02<br>20:30 | TLR 5B | CURRENT        | 6-NN         | 2 / 0                 | 70          | 16.2      | 70          | 16.2               | 0          | 0.0          | NONE   | ED-2         | MISO      | 58.9        | 58.9          | 584 | N/A    | N/A        | N/A     |             |            |                     |      |        |      |      |      |        |      |     |
|                 |        | <b>Total</b>   | <b>2 / 0</b> | <b>70</b>             | <b>16.2</b> | <b>70</b> | <b>16.2</b> | <b>0</b>           | <b>0.0</b> | ED-6         |        |              | MISO      | 125.0       | 125.0         |     |        |            |         | ED-6        | MISO       | 72.8                | 72.8 | FIRM-7 | MISO | 68.0 | 68.0 | FIRM-7 | MISO | 0.0 |
| Mar 02<br>21:23 | TLR 0  | NEXT           | 6-NN         | 1 / 0                 | 50          | 13.4      | 50          | 13.4               | 0          | 0.0          | NONE   | NONE         |           |             |               | 320 | N/A    | N/A        | N/A     |             |            |                     |      |        |      |      |      |        |      |     |
|                 |        | 7-F            | 4 / 0        | 14                    | 2.2         | 14        | 2.2         | 0                  | 0.0        | <b>Total</b> |        | <b>5 / 0</b> | <b>70</b> | <b>15.6</b> | <b>64</b>     |     |        |            |         | <b>15.6</b> | <b>0</b>   | <b>0.0</b>          |      |        |      |      |      |        |      |     |

### TLR Schedule Totals

| Priority     | Schedule              |            |                       |          |
|--------------|-----------------------|------------|-----------------------|----------|
|              | Total Tags Cut / Hold | IDC Cut MV | RC Cut Acknowledge MV | Hold MV  |
| 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            | 3                     | 120        | 120                   | 0        |
| 7            | 4                     | 14         | 14                    | 0        |
| <b>Total</b> | <b>7</b>              | <b>134</b> | <b>134</b>            | <b>0</b> |

### TLR Market Flow Totals

| Market                | Type   | Market Relief |              |
|-----------------------|--------|---------------|--------------|
|                       |        | IDC MV        | RC Ackn MV   |
| MISO                  | ED-2   | 58.9          | 58.9         |
|                       | ED-6   | 72.8          | 72.8         |
|                       | FIRM-7 | 0.0           | 0.0          |
| <b>Total MISO</b>     |        | <b>131.7</b>  | <b>131.7</b> |
| SWPP                  | ED-2   | 125.0         | 125.0        |
|                       | ED-6   | 68.0          | 68.0         |
|                       | FIRM-7 | 0.0           | 0.0          |
| <b>Total for SWPP</b> |        | <b>193.0</b>  | <b>193.0</b> |
| <b>Total</b>          |        | <b>324.7</b>  | <b>324.7</b> |

| Date     | Time  | Category         | Issue                     |
|----------|-------|------------------|---------------------------|
| 3/2/2011 | 19:29 | TLR - 5b Initial |                           |
| 3/2/2011 | 20:23 | TLR - 0          | this FG does not work2239 |