

POWER SYSTEM OPERATING INCIDENT REPORT – TRIPPING OF LISMORE 132KV BUS SECTION 1 ON 31 OCTOBER 2012.

PREPARED BY: System Performance and Commercial

DATE: 21 January 2013

FINAL

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Abbreviations and Symbols

Abbreviation	Term
CB	Circuit Breaker
DI	Dispatch Interval
EMMS	Electricity Market Management System
EMS	Energy Management System
FCAS	Frequency Control Ancillary Service
kV	Kilovolt
MW	Megawatt
MWh	Megawatt hour
NEM	National Electricity Market
NEMDE	National Electricity Market Dispatch Engine
NOS	Network Outage Schedule
PTP	Permission to Proceed

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Incident summary

Date and time of incident	31 October 2012 @ 1218 hrs
Region of incident	NSW
Affected regions	NSW
Event type	BB - Busbar trip
Primary cause	PTN and CTR – Protection and Control
Impact	NIL
Associated reports	NIL

1 Introduction

At 1218 hrs on Wednesday 31 October 2012, the 132kV Bus Section 1 at Lismore substation tripped. There was no loss of load or generation as a result of this incident.

This report has been prepared under clause 4.8.15 (c) of the National Electricity Rules (NER) to assess the adequacy of the provision and response of facilities and services and the appropriateness of actions taken to restore or maintain power system security.

This report is largely based upon information provided by Transgrid. Data from AEMO's Energy Management System (EMS) and Electricity Market Management System (EMMS) has also been used in analysing the incident.

All references to time in this report are to National Electricity Market time (Australian Eastern Standard Time).

2 Pre-Contingent System Conditions

Prior to the incident the No 1 330/132kV Transformer at Lismore was out of service for planned protection maintenance. It was during this work that the 132kV Bus Section 1 at Lismore was inadvertently tripped.

The status of the power system prior to the incident is shown in Figure 1. For clarity only equipment relevant to this incident has been included in the diagram.

Figure 1 - Status of the power system prior to the incident

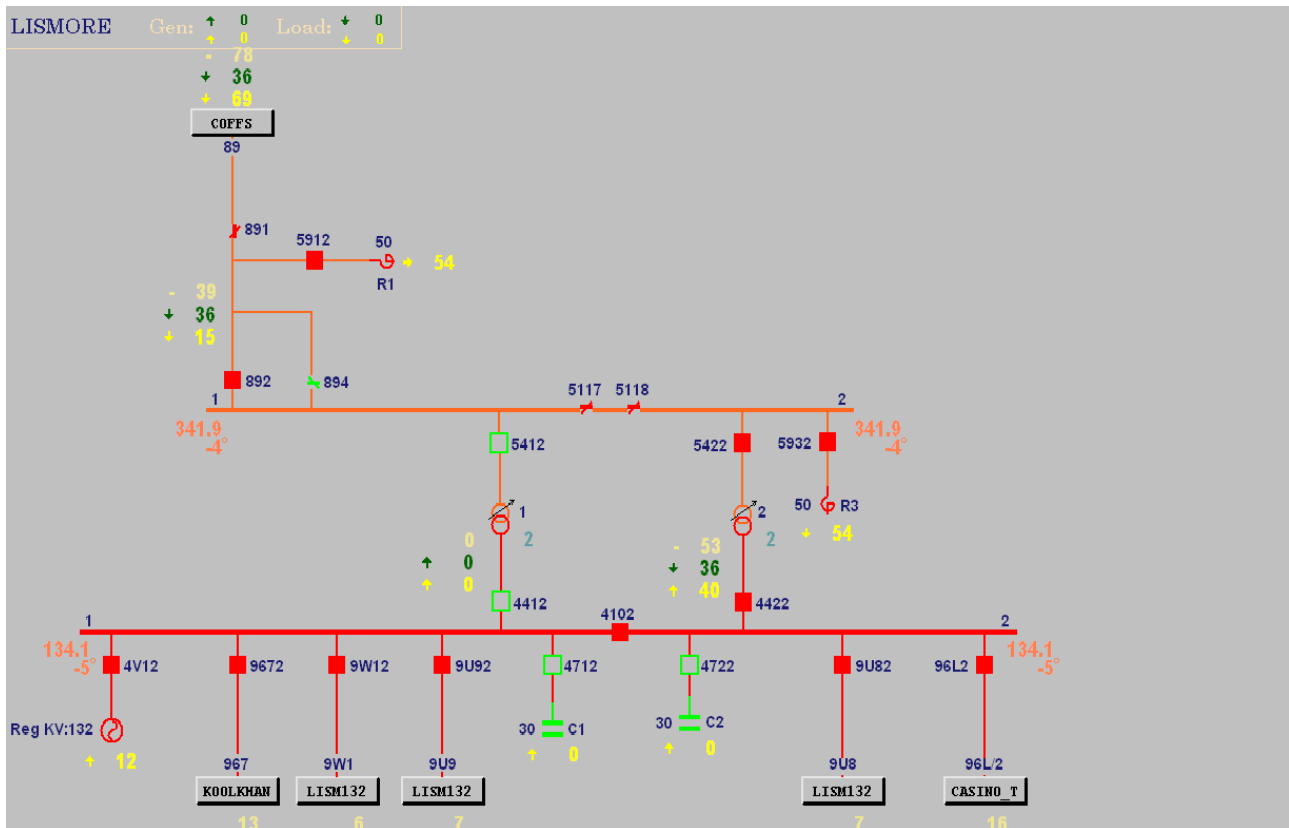


Figure 1

3 Post -Contingent System Conditions

During the planned protection maintenance on the No 1 330/132kV Transformer at Lismore substation Transgrid protection staff inadvertently tripped the 132kV Bus Section 1.

Essential Energy advised that there was no loss of supply.

At 1223 hrs after discussions between AEMO and Transgrid, the 132kV Bus Section 1 was returned to service.

Figure 2 - Status of the power system immediately after the incident.

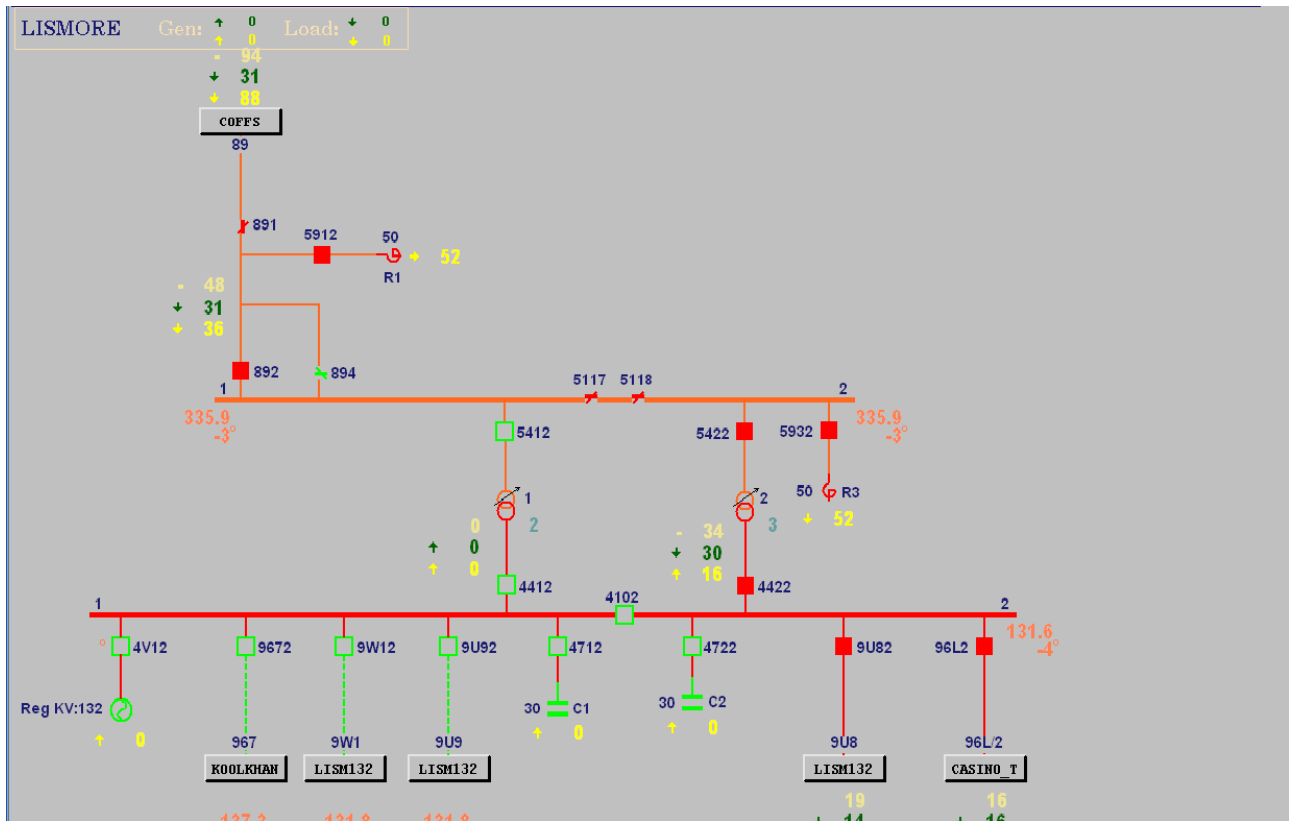


Figure 2

4 Summary of Events

Time	Events
31/10/2012 0646 hrs	PTP given to Transgrid to commence protection works associated with the No 1 330/132kV Transformer at Lismore. Constraints N-DLETS_OS and N-LS_TX invoked as part of this outage.
31/10/2012 1218 hrs	132kV Bus Section 1 trips at Lismore.
31/10/2012 1223.hrs	132kV Bus Section 1 returned to service.
31/10/2012 1233 hrs	AEMO issues Market Notice No 40158 advising the market of a non-credible contingency.

5 Immediate Actions Taken

At 1233 hrs, AEMO issued Electricity Market Notice No.40158 advising that a non-credible contingency event had occurred at Lismore substation and that the event would not be reclassified as a credible contingency. This was because AEMO had identified that human error was the cause of the incident and was satisfied that the event would not re-occur under similar conditions.

6 Follow-up Actions

After the trip Transgrid completed an equipment inspection and performed a protection retest and cleared the 132kV Bus Section 1 at Lismore substation to be returned to service.

7 Power System Security Assessment

The power system voltages and frequencies remained within the normal operating bands and the power system remained in a secure operating state throughout the incident.

8 Conclusions

The trip of the 132 Bus Section 1 at Lismore that occurred on 31 October 2012 was caused by human error during protection maintenance on No 1 330/132kV Transformer at Lismore substation.

AEMO is satisfied that Transgrid have appropriate procedures in place to mitigate the risk of a similar incident occurring in the future.

AEMO correctly applied the criteria published in section 12 of its Power System Security Guidelines in assessing that the circumstances of this incident did not warrant reclassifying similar incidents as a credible contingency event.

9 Recommendations

There are no recommendations arising from this incident.