

POWER SYSTEM INCIDENT REPORT TREVALLYN POWER STATION TRIP 19 OCTOBER 2009

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1 INTRODUCTION

At 08:03 hours on 19 October 2009 all four generating units at the Trevallyn Hydro station in Tasmania tripped. The combined output of the units at the time was 88MW. The incident was caused by a loss of DC supplies during switching for battery maintenance at the power station.

This report has been prepared under clause 4.8.15 of the National Electricity Rules 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.

Information for this report has been supplied to AEMO by Hydro Tasmania and Transend. Data from AEMO’s Energy Management System has also been used in analysing the event.

All references to time in this report refer to Market time (Australian Eastern Standard Time).

2 SUMMARY OF EVENTS

On Monday, 19 October 2009, Hydro Tasmania was carrying out boost testing on the Trevallyn station “A” battery. DC supplies to the station distribution board D1 were interrupted during the restoration switching sequence on completion of the tests. This was due to an operational switching sequence being incorrectly followed, resulting in tripping all four units due to the loss of DC supplies to the station protection circuits. All protection systems operated as expected.

Figure 1 shows the status of all switchgear in the Trevallyn switchyard just prior to the trip while Figure 2 indicates the same immediately after the event.

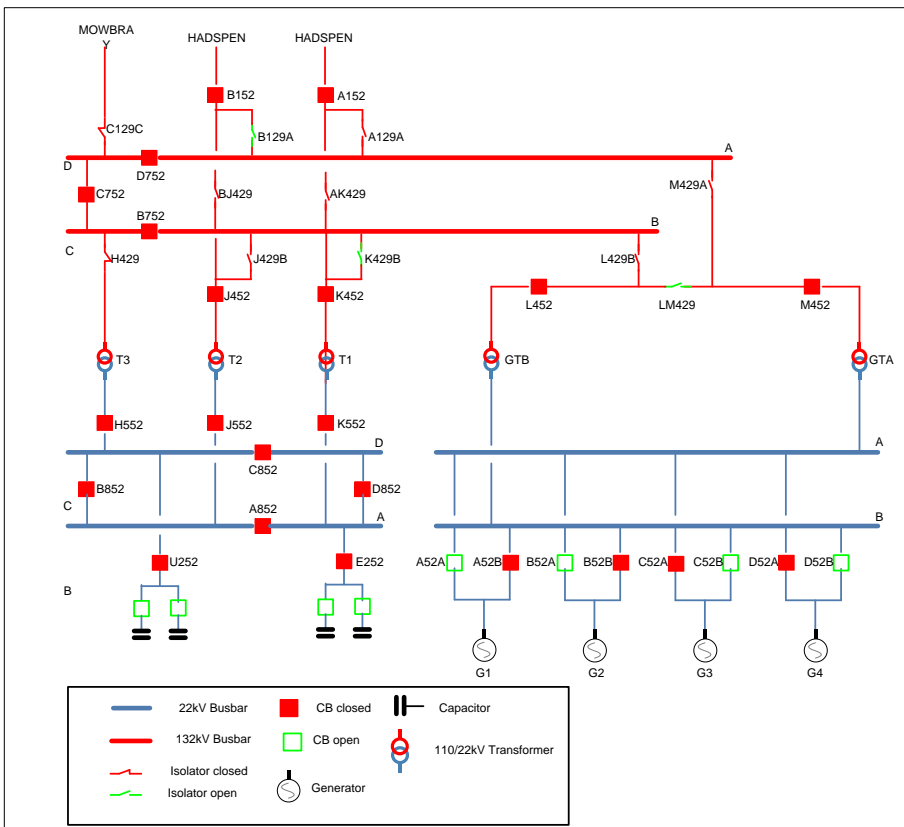


Figure 1: Trevallyn switchyard just before the incident

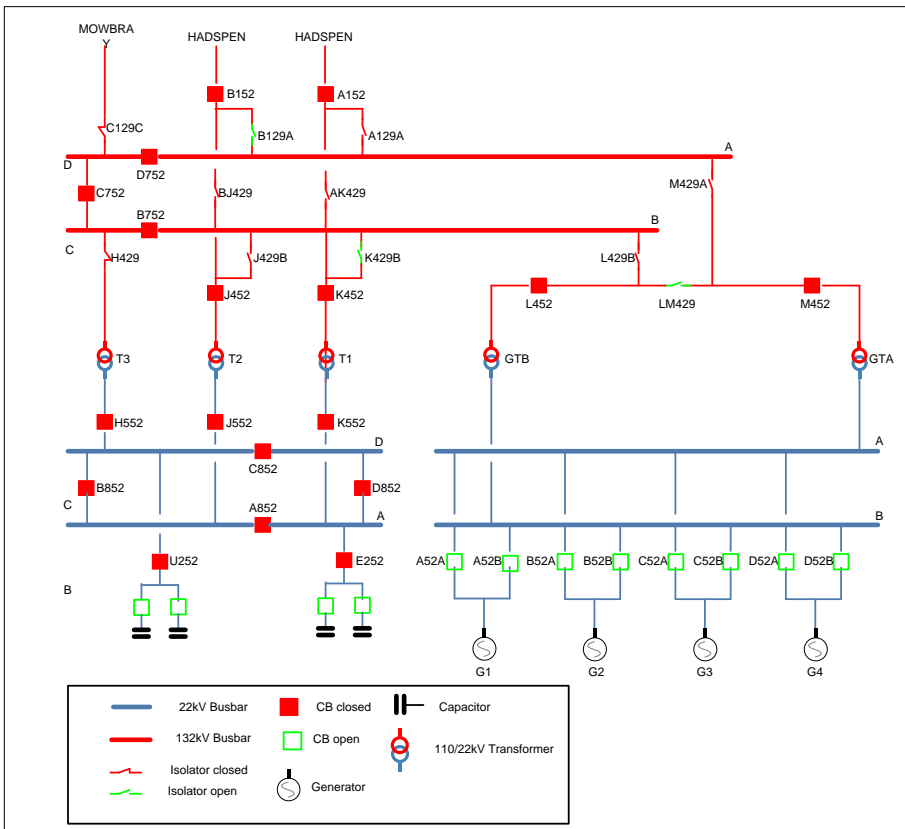


Figure 2: Trevallyn switchyard immediately after the incident

3 POWER SYSTEM SECURITY ASSESSMENT

At 08:03 hours on 19 October 2009 all four generators at the Trevallyn Hydro station in Tasmania tripped. The combine output of the units at the time was 88MW.

All protection operations were as expected. No other lines or equipment tripped and all voltages remained within limits. All affected equipment was returned to service within reasonable time after the incident and the power system remained in a secure operating state during the outage.

4 FOLLOW UP ACTION

Hydro Tasmania has investigated the incident and identified scope for improvement to address the immediate causes of the incident. These were identified as:

- Failure to follow procedures, and
- Inadequate warning systems.

5 RECOMMENDATIONS

The recommendations below followed from the Hydro Tasmania investigation:

- **Recommendation 1:** The procedure attached to the job ticket has been re-written/tested/reviewed and approved. *Complete*
- **Recommendation 2:** The job hazard analysis (JHA) has been updated and now clearly warns of the potential for tripping the station. *Complete*
- **Recommendation 3:** The re-labelling of components of this system is scheduled to be completed by end of January 2010.

6 CONCLUSIONS

All four generators at the Trevallyn Hydro station in Tasmania tripped on 19 October 2009 at approximately 08:03 hours due to a loss of DC supplies during switching for battery maintenance. The immediate causes of the incident were identified as being a failure to follow procedures and inadequate warning systems. Hydro Tasmania has taken action to minimise similar events in the future.