Trip of Muswellbrook – Tamworth 88 330 kV line at Tamworth end only on 13 July 2021

September 2021

Reviewable Operating Incident Report under the National Electricity Rules

Important notice

PURPOSE

AEMO has prepared this report in accordance with clause 4.8.15(c) of the National Electricity Rules, using information available as at the date of publication, unless otherwise specified.

DISCLAIMER

AEMO has made every reasonable effort to ensure the quality of the information in this report but cannot guarantee its accuracy or completeness. Any views expressed in this report may be based on information given to AEMO by other persons.

Accordingly, to the maximum extent permitted by law, AEMO and its officers, employees and consultants involved in the preparation of this report:

- make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information in this document; and
- are not liable (whether by reason of negligence or otherwise) for any statements or representations in this document, or any omissions from it, or for any use or reliance on the information in it.

COPYRIGHT

CONTACT

If you have any questions or comments in relation to this report, please contact AEMO at system.incident@aemo.com.au.

The NEM operates on Australian Eastern Standard Time (AEST). All times in this report are in AEST.

Abbreviations

Abbreviation	Term
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AEST	Australian Eastern Standard Time
CB	Circuit Breaker
kV	Kilovolt
NEM	National Electricity Market
NER	National Electricity Rules
VT	Voltage Transformer

Incident review

This reviewable operating incident[1] report is prepared in accordance with clause 4.8.15(c) of the National Electricity Rules (NER). It has been prepared using information provided by TransGrid[2] and from AEMO systems.

Table 1 Summary of event

	Details
Reviewable operating incident type	Non-credible contingency event impacting critical transmission elements.
Incident details	This report relates to a reviewable operating incident that occurred on 13 July 2021 in New South Wales. The incident involved the opening of Muswellbrook – Tamworth 88 330 kilovolt (kV) line at the Tamworth end only.
Incident classification	Other Causes - human error.
Generation impact	Nil
Customer load impact	Nil
Pre-incident conditions	Immediately prior to the event, the Muswellbrook – Tamworth 88 330 kV (MUS – TAM) line was carrying around 56 MW towards Muswellbrook, and Tamworth – Liddell 84 330 kV was carrying around 39 MW towards Liddell.
Incident key events	At 1642 hrs on the 13 July 2021, the MUS - TAM 88 330 KV line opened at the Tamworth end only. The MUS - TAM 88 330 KV line returned to service at 1644 hrs on 13 July 2021.
Incident cause	TransGrid has confirmed the cause of opening of the MUS - TAM 88 330 KV line at the Tamworth end as human error.
Power system response (facilities and services)	At 1642 hrs on 13 July 2021, MUS - TAM 88 330 KV line opened at Tamworth end only while TransGrid technicians were working on site. The Voltage Transformer (VT) of MUS - TAM 88 330 KV line was being used as a reference input for VT Phase Out commissioning activities on the adjacent Tamworth - Armidale 86 330 kV line. During these commissioning activities, site personnel unintentionally shorted the VT secondaries of the MUS - TAM 88 330 KV line to earth, which resulted in the No. 2 protection VT Fuses operating and tripping CB 882 at the Tamworth end only. The MUS - TAM 88 330 KV line returned to service at 1644 hrs on 13 July 2021.
Rectification	TransGrid advised AEMO that the No. 2 Protection of MUS - TAM 88 330 KV line was isolated and VT fuses were replaced before returning the line to service. TransGrid advised AEMO that they reviewed the procedures for VT Phase Outs and found that the procedures were correct. TransGrid confirmed that the cause of this incident was human error in implementing the procedure
Power system security	The power system remained in a secure operating state throughout this incident.
Reclassification	AEMO assessed whether to reclassify this incident as a credible contingency event[3].

[1] Reviewable operating incidents are defined by NER clause 4.8.15(a) and the AEMC Reliability Panel Guidelines for Identifying Reviewable Operating Incidents.

[2] TransGrid is the transmission asset owner in New South Wales.

[3] AEMO is required to assess whether or not to reclassify a non-credible contingency event as a credible contingency event – NER clause 4.2.3A(c) – and to report how the reclassification criteria were applied – NER clause 4.8.15(ca).

	Details
	The cause of this non credible contingency event was not known to AEMO at the time of the event. AEMO therefore considered the single end trip of the MUS - TAM 88 330 KV line was reasonably possible to reoccur. AEMO correctly reclassified this event as a credible contingency at 1716 hrs on 13 July 2021. At around 2030 hrs on 13 July 2021, TransGrid advised AEMO that the reoccurrence of the trip was not reasonably possible. AEMO responded and correctly cancelled the reclassification this event as a credible contingency.
Market information	For this incident, AEMO issued the following market notices (all market notices for this incident were issued in accordance with NER requirements): • At 1706 hrs on 13 July 2021, AEMO issued Market Notice 818125 to advise of the non-credible contingency event. • At 1716 hrs on 13 July 2021, AEMO issued Market 818126 to advise on reclassification of a non-credible contingency event as a credible contingency event. • At 2052 hrs on 13 July 2021, AEMO issued Market Notice 818128 to advise on the cancellation of reclassification of a non-credible contingency event as a credible contingency event.
Recommendations	Nil