



OFFLOADING OF THE SOUTH MORANG – SYDENHAM 500 KV No.1 & No.2 LINES ON 31 JANUARY 2018

REVIEWABLE OPERATING INCIDENT REPORT UNDER THE
NATIONAL ELECTRICITY RULES

Published: **21 March 2018**





INCIDENT CLASSIFICATIONS

Classification	Detail
Time and date of incident	1530 hrs on Wednesday 31 January 2018
Region of incident	Victoria
Affected regions	Victoria
Event type	Operator error
Generation impact	Nil
Customer load impact	Nil
Associated reports	Nil



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.

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1. OVERVIEW

This report relates to a reviewable operating incident¹ that occurred on 31 January 2018 in Victoria. This incident involved the simultaneous trip of the South Morang – Sydenham No.1 & No.2 500 kV lines (SMTS-SYTS 1 & 2 lines) at the South Morang end only.

There was no loss of generation or customer load as a result of this incident.

As this was a reviewable operating incident, AEMO is required to assess power system security over the course of this incident, and assess the adequacy of the provision and response of facilities and services and the appropriateness of actions taken to restore or maintain power system security².

AEMO has concluded that:

- The root cause of the incident was a failure to follow documented procedures by AusNet Services field staff.
- The power system remained in a secure operating state.

This report is prepared in accordance with clause 4.8.15(c) of the National Electricity Rules (NER). It is based on information provided by AusNet Services (AusNet)³ and from AEMO Energy Management Systems.

National Electricity Market (NEM) time (Australian Eastern Standard Time) is used in this report. Local time in Victoria at the time of this incident is AEST plus one hour.

2. THE INCIDENT

At 1530 hrs on 31 January 2018, the SMTS-SYTS 1 & 2 lines tripped at the SMTS end only, resulting in the offloading of these lines. Both lines remained energised from the SYTS end.

The SMTS-SYTS 1 & 2 lines were returned to service at 1531 hrs and 1532 hrs respectively on 31 January 2018.

As the simultaneous trip of multiple transmission elements is not an expected event, this is a non-credible contingency and hence a reviewable operating incident. In accordance with clause 4.8.15 of the NER, AEMO is required to review and report on any reviewable operating incident.

3. AUSNET INVESTIGATION

The following is based on information provided by AusNet as transmission network service provider (TNSP) of the area in question.

At approximately 1343 hrs on 31 January 2018, AusNet received alarms indicating a protection system fault at SMTS on the SMTS-SYTS No.2 line. Field staff were called to the site to investigate the fault. During testing involving the use of a multimeter to determine the cause of this fault, the multimeter probe inadvertently contacted a protection and control system panel terminal, resulting in the trip of the circuit breakers associated with the SMTS-SYTS 1 & 2 lines at 1530 hrs.

The root cause of the outage was that field staff had not followed established procedures to isolate the protection schemes before commencing testing/fault finding work. The requirement to follow correct procedures has been reiterated with all relevant field staff. Had the protection system been correctly isolated prior to testing, this incident would not have occurred.

¹ See NER clause 4.8.15(a)(3), and the AEMC Reliability Panel Guidelines for Identifying Reviewable Operating Incidents.

² See NER clause 4.8.15(b).

³ AusNet Services is the transmission network service provider (TNSP) in the Victoria region. "Information provided by AusNet Services has been provided on a without prejudice basis and nothing in this report is intended to constitute, or may be taken by any person as constituting, an admission of fault, liability, wrongdoing, negligence, bad faith or the like on behalf of AusNet Services (or its respective associated companies, businesses, partners, directors, officers or employees)."



4. POWER SYSTEM SECURITY

AEMO is responsible for power system security in the NEM. This means AEMO is required to operate the power system in a secure operating state to the extent practicable, and take all reasonable actions to return the power system to a secure state following a contingency event, in accordance with the NER⁴.

This section assesses how AEMO managed power system security over the course of this incident.

The power system was in a secure operating state prior to this incident and remained in a secure operating state immediately after the SMTS-SYTS 1 & 2 lines were offloaded. AEMO was not required to take any action to restore or maintain the power system in a secure operating state.

4.1 Reclassification

After this incident, AEMO considered whether to reclassify the offloading of the SMTS-SYTS 1 & 2 lines as a credible contingency. Based on advice from AusNet that the cause of the incident had been identified and was unlikely to happen again, AEMO did not reclassify the offloading of the SMTS-SYTS 1 & 2 lines as a credible contingency

5. MARKET INFORMATION

AEMO is required by the NER and operating procedures to inform the market about incidents as they progress. This section assesses how AEMO informed the market⁵ over the course of this incident.

For this incident AEMO was required to inform the market on the following matters:

- A non-credible contingency event – notify within two hours of the event⁶.
 - AEMO issued Market Notice 61057 at 1543 hrs on 31 January 2018, 13 minutes after the incident.

6. CONCLUSIONS

AEMO has assessed this incident in accordance with clause 4.8.15(b) of the NER. In particular, AEMO has assessed the adequacy of the provision and response of facilities or services, and the appropriateness of actions taken to restore or maintain power system security.

AEMO has concluded that:

- The root cause of the incident was a failure to follow documented procedures by AusNet Services field staff.
- The power system remained in a secure operating state.

⁴ Refer to AEMO's functions in section 49 of the National Electricity Law and the power system security principles in clause 4.2.6 of the NER.

⁵ AEMO generally informs the market about operating incidents as they progress by issuing Market Notices – see AEMO website: <http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Market-notices-and-events>.

⁶ AEMO is required to notify the market of a non-credible contingency event within two hours of the event – AEMO, *Power System Security Guidelines*, Section 10.3.