
Declared Wholesale Gas Market – Intervention Report

September 2019

Notice of Threat to System Security

A report into the threat to system security at the Warragul custody transfer meter

Important notice

Purpose

AEMO has prepared this report pursuant to rule 351 of the National Gas Rules, using information available as at August 2019, unless otherwise specified.

Disclaimer

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Contents

1.	Introduction	4
2.	Event Summary	4
3.	Assessment of event	5
3.1	Adequacy of Part 19 of the NGR	5
3.2	Appropriateness of actions taken by AEMO	7
3.3	Costs of intervention	7
4.	Conclusion	7
A1.	Chronology	8

Figures

Figure 1	Location of Warragul	5
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1. Introduction

On 10 March 2017 AEMO issued a notice of a threat to system security in the Victorian Declared Wholesale Gas Market (DWGM) in relation to the risk of pressure breaches at the Warragul Custody Transfer Meter (CTM). The work required to remediate this risk has now been completed by APA and so AEMO is withdrawing the notice of a threat to system security.

Rule 351 of the National Gas Rules (NGR) requires that AEMO investigate and prepare a report following an event which is or may be a threat to system security. Rule 351 also requires that AEMO assess and advise on:

- the adequacy of the provisions of Part 19 of the NGR relevant to the event or events;
- the appropriateness of actions taken by AEMO in relation to the event or events; and
- the costs incurred by AEMO and Registered participants as a consequence of responding to the event or events.

This report is published in accordance with rule 351(2) of the NGR.

2. Event Summary

The Warragul CTM is supplied via a low diameter (100mm) 4.7 km lateral connected to the Lurgi Pipeline, located 67 km east of the Dandenong City Gate (DCG), as shown in Figure 1. During periods of high demand, the pressure drop along the Warragul Lateral increases quickly, resulting in a large pressure decrease at the Warragul CTM.

AEMO's forecasts, for the 2017 Victorian Gas Planning Report (VGPR)¹, indicated that an expansion of the Declared Transmission System (DTS) was required to support increased demand in Warragul. The modelling found that on a peak system demand day, it may not be possible to maintain the required pressure at the Warragul Custody Transfer Meter (CTM) from winter 2019 onwards.

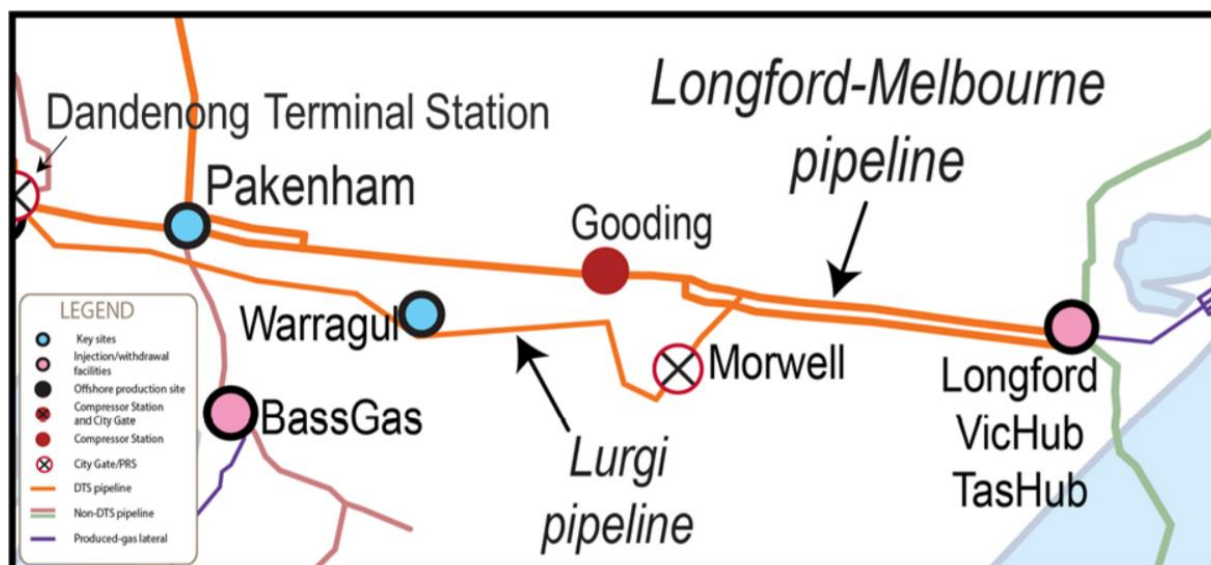
Such an event would lead to the curtailment of a large customer if the peak demand was forecast before the gas day, or that the Warragul minimum supply pressure would be breached, creating potential public safety issues due to air ingress into the distribution network, if the peak demand was not forecasted (e.g. due to weather forecast inaccuracy).

AEMO identified this as a threat to system security and issued a notice on 10 March 2017² following the publication of the 2017 VGPR.

¹ AEMO. 2017 Victorian Gas Planning Report, March 2017. Available at https://aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/VGPR/2017/2017-VICTORIAN-GAS-PLANNING-REPORT.pdf.

² AEMO. Notice of Threat to System Security, 10 March 2017. Available at <https://www.aemo.com.au/-/media/Files/Gas/DWGM/2017/Threat-to-System-Security-Notice---Warragul.pdf>.

Figure 1 Location of Warragul



The required augmentation of the Warragul Lateral was officially completed in August 2019 by APA Group and AEMO has now rescinded the threat accordingly.

3. Assessment of event

The threat to system security was triggered by the 2017 VGPR and a market response was not expected to be able to alleviate the issue. In the absence of DTS expansion AEMO forecasted that if a peak system demand day occurred in 2019 then supply would not be able to be maintained to Warragul. AEMO indicated that should the minimum pressure at Warragul CTM be breached (or forecast to be breached), Tariff D load in Warragul would be curtailed to maintain system security.

AEMO’s ability to respond to threats to system security under Part 19 is limited to operational responses, such as curtailment of load in accordance with the *Gas Load Curtailment and Gas Rationing and Recovery Guidelines*³. AEMO notes that curtailment directions are only issued as an absolute last resort after due consideration of alternate sources of gas supply. Such responses are limited to the extent required to maintain or restore system security as defined in the AEMO System Security Procedures.

3.1 Adequacy of Part 19 of the NGR

AEMO has assessed the application and adequacy of Part 19 of the NGR, with a primary focus on the following provisions:

- NGR 323 Planning reviews
- NGR 341 Notice of threat to system security

3.1.1 Planning reviews

NGR 323 requires AEMO to prepare and publish a planning review (i.e. the VGPR) and to include forecasts for the DTS. This planning review also includes system adequacy and future development analysis. If AEMO becomes aware of any information that materially alters the most recently published planning review, AEMO must update that planning review as soon as practicable.

³ AEMO. Guidelines. Available at <https://www.aemo.com.au/-/media/Files/PDF/0990-0005-pdf.pdf>.

The threat to system security for which this report has been prepared was triggered by the risk of pressure breaches at the Warragul CTM, and therefore gas supply to customers in Warragul, that was identified in the 2017 VGPR.

AEMO considers NGR 323 to be adequate as it relates to AEMO's preparation of the planning review. Where AEMO has identified a potential reliability or safety issue as a result of the planning review, there is no express requirement for the DTS service provider to specify how it will respond to the identified issue or make pipeline investments consistent with these planning reviews.

AEMO highlighted this issue in its response⁴ to the Victorian Government Review of Victoria's Electricity and Gas Network Safety Framework⁵ (the "Grimes Review").

AEMO is supportive of Recommendation 22⁶ in the Grimes Review's Final Report that the "ESV should, in consultation with regulated network operators and the AER, evaluate its requirements for safety cases to ensure that all safety-related elements that have been factored into AER determinations, are identified and supported by clear implementation plans".

AEMO considers that Part 19 of the National Gas Rules could be amended to specify how the DTS service provider should respond to AEMO planning reviews and what action should be taken if this response does not occur within the time frames identified.

3.1.2 Notice of threat to system security

NGR 341 requires that if AEMO believes there is a potential threat to system security, it must notify Registered Participants, without delay, providing the details of that threat to system security.

In NGR 341(1)(a), it requires that when AEMO believes a threat to system security is indicated by the VGPR, it must notify registered participants as soon as practicable. This includes AEMO's estimate of the nature and location of the potential threat, whether AEMO will need to intervene, and the system withdrawal zones that are likely to be impacted.

On 10 March 2017, AEMO published the 2017 VGPR stating that augmentation would be required to support forecast increases in Warragul demand. AEMO's forecasts showed that if investment was not implemented by winter 2019, there was a threat to gas supply, either through pre-emptive curtailment of a large user or the disruption to residential customers, on a peak system demand day.

AEMO notes that NGR 343 specifies some of the options available to AEMO when intervening in the market are:

- Curtailment in accordance with the emergency curtailment list
- Increasing withdrawals
- Requiring gas to be injected which is available but not bid into the market
- Injecting off-specification gas
- Requiring Registered participants to do any reasonable act or thing that AEMO believes necessary in the circumstances.

For this threat to system security, a market response was not expected to be able to alleviate the issue and AEMO could only intervene in the market through curtailment prior to a high demand day, and only if the

⁴ Victorian government. AEMO's submission to the Review of Victoria's Electricity and Gas Network Safety Framework, June 2017. Available at https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/3414/9843/7535/AEMO_Submission_on_Victorias_gas_network_safety_framework_review.pdf .

⁵ Victorian government. Review. Available at <https://engage.vic.gov.au/electricity-network-safety-review>
Viewed: 11 September 2019.

⁶ Victorian Government. Independent Review of Victoria's Electricity and Gas Network Safety Framework Final Report, December 2017. Page 159. Available at https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/1915/3267/1332/Review_of_Victorias_Electricity_and_Gas_Network_Safety_Framework- Final_Report.pdf

weather forecast was for a very low overnight and morning temperature (which is when the gas demand forecast for the large commercial customer was at its highest).

AEMO notes that NGR 343 is adequate although in this event AEMO was limited in its available actions and views the use of curtailment as an absolute last resort in maintaining system security.

3.2 Appropriateness of actions taken by AEMO

AEMO's objectives during this event were to:

- Operate the DTS in accordance with the NGR and the Wholesale Market Procedures;
- Limit the risk of involuntary curtailment to customers.

AEMO developed several mitigation strategies to minimise possible pressure breaches at the Warragul CTM and considers these to be appropriate in the circumstances.

The augmentation, the Warragul Loop, was officially completed in August 2019. As a result, AEMO is satisfied that the threat to system security has subsided and rescinded the notice accordingly.

3.3 Costs of intervention

AEMO did not intervene to maintain Warragul supply and no costs were incurred by Registered participants as a consequence of this event.

This issue resulted in AEMO's Gas Operations resources being diverted away from other activities.

4. Conclusion

AEMO issued a notice of a threat to system security in the Victorian DWGM on 10 March 2017. The threat to system security was issued due to the potential risk of the DTS being incapable of meeting forecast gas demand at the Warragul CTM as identified by AEMO in the 2017 VGPR. The section of pipe supplying the Warragul CTM has been duplicated and AEMO reasonably considers that this threat to system security has ended.

AEMO has assessed the application and adequacy of associated NGR provisions and finds that these provisions were applied correctly, noting the limitation in actions that AEMO could take under Part 19 for this issue. AEMO considers that Part 19 of the National Gas Rules could be amended to specify how the DTS service provider should respond to AEMO planning reviews.

Please direct any feedback or questions regarding this report to GasMarket.Monitoring@aemo.com.au.

A1. Chronology

Date/Time (AEST)	Event/ Action	Details
March 2017	AEMO publishes the 2017 Victorian Gas Planning Report	The VGPR indicated a high likelihood of localised curtailment on high demand days as operational measures become less efficient.
10 March 2017	AEMO issue notice	AEMO issued a notice of a threat to system security in the Victorian Declared Wholesale Gas Market (DWGM).
November 2017	AER issues final decision for APA VTS Access Arrangement 2018-2022	Warragul expenditure of \$7.6 million is determined to be conforming capex and is included.
30 August 2019	APA Group hand-over of Warragul loop to AEMO	AEMO and APA both sign-off on the Warragul Looping Project Handover Certificate marking operational completion..
9 September 2019	AEMO ends the threat to system security	AEMO issued a notice indicating the end of the threat to system security.