



Declared Wholesale Gas Market – Intervention Report

July 2020

Notice of threat to system security

A report into the notice of threat to system security issued on 3 July 2020

IMPORTANT NOTICE

Purpose

AEMO has prepared this report pursuant to rule 351 of the National Gas Rules, using information available as at 13 July 2020, unless otherwise specified.

Disclaimer

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

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1. Introduction

AEMO issued a notice of a threat to system security in the Victorian Declared Wholesale Gas Market (DWGM) for gas day 3 July 2020. This event was due to actual gas demand during the day tracking higher than forecast indicating a potential breach of the minimum operating pressure at Dandenong City Gate.

When pressures within the Declared Transmission System are forecast to fall below minimum operating limits, AEMO will indicate to the market that there is a threat to system security and out-of-merit-order injections may be scheduled to maintain system security.

In the end no Dandenong LNG injections (in-merit or out-of-merit) were scheduled for the day, as updated modelling showed it was no longer required, due to updates in the demand forecast and increased injections. There was no market impact.

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:

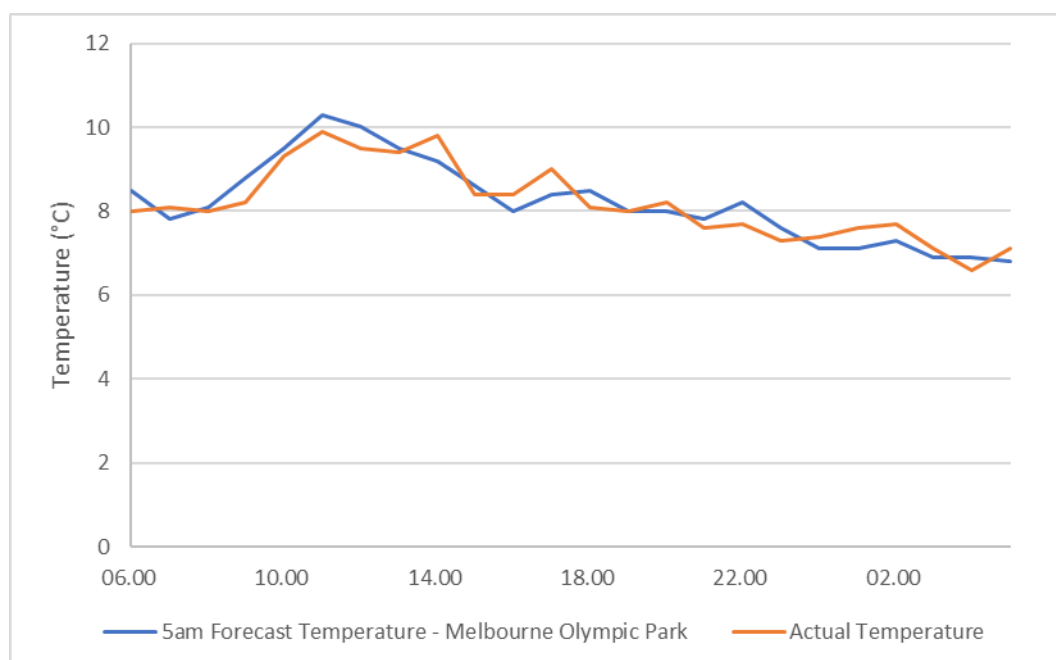
- the adequacy of the provisions of the NGR relevant to the event or events;
- the appropriateness of actions taken by AEMO in relation to the event or events; and
- the costs incurred by AEMO and Registered participants as a consequence of responding to the event or events.

This report is published in accordance with rule 351(2) of the NGR. All times used in this report are AEST.

2. Event Summary

Cold temperatures had been forecast for Victoria on 3 July 2020, with a maximum forecast of 10.3°C in Melbourne and the actual temperatures were in line with the forecast as can be seen in **Figure 1**.

Figure 1 Forecast Temperature compared with Actual Temperature



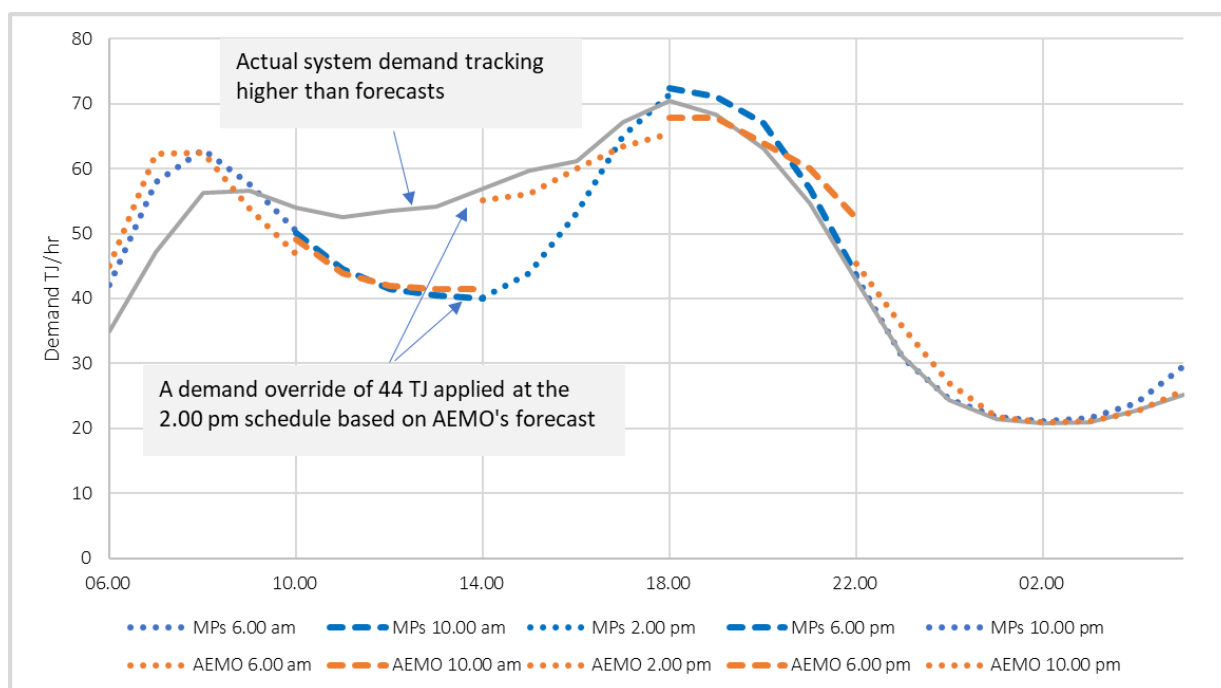
Since the emergence of COVID-19 AEMO has observed a trend of sustained higher demands throughout the day as a result of increased numbers of people working from home. Prior to COVID-19 restrictions, the demand profile on a typical cold day would consist of a high morning and high evening demand and a dip in demand in the middle of the day. This change in demand profile has been challenging to forecast for both AEMO and Market Participants given the limited data set available. This can be seen in **Figure 2** which shows a comparison of the hourly forecasts and actual demand, as updated at each scheduling interval. The 10.00 am scheduling interval forecasts highlight the deviation away from actual demand.

Market Participants had forecast, in aggregate, a daily system demand of 1081 TJ at the 6.00 am schedule and only minor updates to this aggregate forecast were made at subsequent scheduling intervals. AEMO's 6.00 am forecast for the day was 1070 TJ and was much more aligned to the final demand profile by the 2.00 pm scheduling interval. Actual demand on 3 July 2020 was approximately 1,120 TJ.

The cold weather across the day, combined with the COVID-19 adjusted demand profile, resulted in demand tracking higher than forecasts from around 10.00 hrs through to 18.00 hrs. The following chart highlights:

- The difficulties in correctly forecasting the demand profile on a very cold day with the forecasts more aligned to the typical cold day profile observed in previous years.
- That AEMO, with the benefit of real-time data was able to adjust the 2.00 pm forecast to be much closer to actuals than Market Participants (MPs) were able to.

Figure 2 Comparison of forecast system demand and actual system demand by schedule



Similar to the situation on 1 June 2020¹, at the 2.00 pm scheduling interval AEMO's modelling forecast that there could be system security issues if the demand continued to track above forecast, with system pressure potentially breaching limits at Dandenong City Gate (DCG) Inlet by 21.00 hrs.

Consequently, AEMO notified the market of a threat to system security at 14.31 hrs seeking a market response. In the notification, AEMO indicated that a market response may alleviate the threat to system security and that there was the potential for 20 TJ of out-of-merit-order injections to be scheduled from Dandenong LNG Facility at the 6.00 pm scheduling interval.

Subsequent modelling indicated that LNG would no longer be required for the 6.00 pm scheduling interval, as a result of a slight reduction in demand forecast and an increase in injections.

¹ AEMO. Declared Wholesale Gas Market – Intervention Report – 1 June 2020. Available at <https://aemo.com.au/-/media/files/gas/dwgm/2020/dwgm-er-20-002-1-jun-2020.pdf>

AEMO notified the market at 22.05 hrs that the threat to system security had ended.

A chronology of events is included in appendix A1.

3. Assessment of event

This event was triggered due to the demand being higher than forecast throughout the day. The decision to issue a notice of a threat to system security was made for the following reason:

- There was the potential for a pressure breach at DCG Inlet

3.1 Adequacy of Part 19 of the NGR

In respect of this event, AEMO has assessed the application and adequacy of the NGR, with a primary focus on the following provisions:

- NGR 341 Notice of threat to system security
- NGR 351 Intervention reports
- NGR 208 and 215 Demand forecasts

3.1.1 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, the details of that threat to system security.

At 14.31 hrs AEMO notified the market of the threat to system security, seeking a market response to the threat as per NGR 342.

If AEMO reasonably considers that a threat to system security is unlikely to subside without intervention (NGR 343), AEMO must intervene in the market by taking any measures it believes are reasonable and necessary to overcome the threat to system security. The Dandenong LNG facility had been notified earlier in the day that there was a possibility of LNG being scheduled in response to the threat to system security.

The issue of a potential pressure breach at DCG Inlet could be resolved by scheduling out-of-merit-order (injection bids above the market price) gas from Dandenong LNG². In this event, the forecasts leading into the 6.00 pm scheduling indicated that LNG injections would not be required and as such no out-of-merit-order gas was required.

3.1.2 Intervention Report Timing

NGR 351 places an obligation on AEMO to publish an Intervention Report within 10 business days after the event. AEMO has previously raised this as concern given the limited time this placed on AEMO to conduct a thorough investigation, given the requirement to assess:

- the adequacy of the Rules;
- the appropriateness of actions taken by AEMO; and
- the costs incurred by AEMO and Registered participants as a consequence of responding to the event or events.

AEMO has reviewed this and AEMO intends to adopt the following approach to reporting on these events, wherever possible:

² The bids at Dandenong LNG are scheduled in merit order, however, they are not in merit order when considering the market-wide bids.

- Investigate and publish a report based on immediately available data within 10 business days of the relevant event.
- Where not all information necessary to complete the required assessment is available, that report will be flagged as preliminary, with a final report to be published once the additional information is received and analysed.

For the purposes of this report, AEMO believes it has all necessary information and does not intend to publish a subsequent report.

3.1.3 Demand Forecasts

NGR 208 requires Market Participants to submit demand forecasts for the amount of gas that they expect to withdraw in each hour of the gas day, updated for each scheduling interval. For the purposes of producing operating schedules, as per NGR 215, AEMO must use these demand forecasts with the exception that AEMO can make a demand forecast override. A demand forecast override is an adjustment made by AEMO, in accordance with the gas scheduling procedures, for the purpose of ensuring system security in the preparation of operating schedules. On 3 July 2020 AEMO made a demand override of 44 TJ at the 2.00 pm scheduling interval and this action helped avoid the need to inject out-of-merit-order gas at the 6.00 pm scheduling interval.

3.2 Appropriateness of actions taken by AEMO

AEMO's objectives during this event were to:

- Operate in accordance with the NGR and the Wholesale Market Procedures;
- Limit the risk of involuntary curtailment to customers including Gas-fired Power Generation;
- Alleviate the threat to system security and return the DTS to normal operating conditions.

NGR 206 requires that AEMO schedule injections into and withdrawals from the DTS in accordance with bids and must:

- Comply with the gas scheduling procedures; and
- Use its reasonable endeavours to operate within the system security procedures.

AEMO's modelling indicated a potential breach of pressures could occur after the 6.00 pm scheduling interval as a result of the higher demands that had occurred throughout the day.

In this event, AEMO took all reasonable steps to assess the forecasts and notify the market, seeking a market response and later updating the forecasts and removing the need to schedule out-of-merit-order gas. AEMO has also subsequently made some minor updates to its demand forecasting system, noting that the sample of demand profiles is limited given the recent changes in demand profile as a result of COVID-19.

4. Costs of intervention

There was no market impact resulting from this event as no out-of-merit-order LNG was required to be injected.

5. Conclusion

AEMO issued a notice of threat to system security in the Victorian Declared Wholesale Gas Market for gas day 3 July 2020, seeking a market response.

For the 6.00 pm schedule, the modelling indicated that there was adequate supply and that out-of-merit-order LNG was not required. There was no market impact.

AEMO has assessed the application and adequacy of associated NGR provisions and finds that these provisions were applied correctly.

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

A1. Chronology

Date/Time (AEST)	Event/ Action	Details
3 July 2020 13.05 hrs	AEMO forecast	AEMO demand forecast revised up following higher than anticipated demand from 10.00 hrs. Modelling using the revised forecast indicated a potential pressure breach at DCG Inlet at 21.00 hrs. AEMO determined 20 TJ of LNG would be required to avert the threat.
3 July 2020 14.31 hrs	AEMO market notice	AEMO issues market notice of the threat to system security
3 July 2020 17.00 hrs	AEMO forecast	AEMO demand forecast updated and further adjusted for actuals. Model using 6.00 pm schedule quantities indicates that DCG pressures will not breach minimum.
3 July 2020 17.48 hrs	AEMO market notice	AEMO issued market notice that LNG is not required for the 6.00 pm schedule
3 July 2020 22.06 hrs	AEMO market notice	AEMO sends market notice indicating the threat to system security for gas day 3 July 2020 has ended