
Declared Wholesale Gas Market – Intervention Report

May 2020

Notice of threat to system security

A report into the notice of threat to system security issued between 12-13 May 2020

IMPORTANT NOTICE

Purpose

AEMO has prepared this report pursuant to rule 351 of the National Gas Rules, using information available as at 15 May 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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Contents

1.	Introduction	4
2.	Event Summary	4
3.	Assessment of event	5
3.1	Adequacy of Part 19 of the NGR	5
3.1.1	Maintenance Approval	5
3.1.2	Notice of threat to system security	5
3.1.3	Intervention Report Timing	6
3.2	Appropriateness of actions taken by AEMO	7
3.3	Costs of intervention	7
4.	Conclusion	7
A1.	Chronology	8

1. Introduction

On the 12 and 13 May APA undertook planned maintenance work at the Brooklyn Compressor Station which limited the flow of gas on the South West Pipeline. Brooklyn Compressor Station is used to maintain gas pressure on the South West Pipeline from the north, and when on outage this can lead to a localised issue that can be resolved by injecting additional gas from the Iona Close Proximity Point.

If 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 will schedule out-of-merit-order injections, to maintain system security.

AEMO issued a notice of a threat to system security in the Victorian Declared Wholesale Gas Market (DWGM) for gas days 12-13 May 2020, due to the Brooklyn Compression Station outage. AEMO initially scheduled 30 TJ of out-of-merit-order Iona injections for the 6.00 am schedule on 12 May 2020 which was reduced to 0 TJ by the 6.00 pm schedule. There was no material impact on the market.

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

AEMO was contacted on 7 May 2020 by APA with a finalised schedule for an outage occurring at Brooklyn Compression Station (CS) from 7.00 am on 12 May 2020 to 5 pm on 13 May 2020.

On 9 May 2020, AEMO issued a System Wide Notice (SWN) to indicate the timing and duration of the outage at Brooklyn CS and advising participants that South West Pipeline (SWP) injections may be required to maintain system security.

To support the upcoming outage, AEMO constrained Iona Close Proximity Point (CPP) which would restrict the total withdrawal quantity to 0 GJ/h between 10.00 pm and 6.00 am for gas day 11 May 2020 via a market notice on 10 May 2020. Another market notice on 10 May was issued regarding the market response for 47 TJ of out-of-merit-order injection at Iona CPP required to support the outage for Day+2 schedule.

On 11 May 2020, AEMO issued three market notices regarding the market response out-of-merit-order injection (injection bids above the market price) at Iona CPP required to support the outage for Day+1 schedule. The first one at 07.47 hrs was for 47.4 TJ, the second at 15.24 hrs was for 43 TJ out-of-merit-order injection, and the third was for 29 TJ out-of-merit-order injection.

At 05.07 hrs on 12 May 2020, AEMO issued a notice of a threat to system security indicating a supply shortfall was expected to occur from 06.00 hrs on 12 May 2020 until 18.00 hrs on 13 May 2020. This notice indicated that 30 TJ of out-of-merit-order injections had been scheduled at Iona CPP for the 6.00 am schedule. Additional constraints were also applied to Iona CPP for gas day 13 May 2020 to achieve minimum required net injection by reducing controllable withdrawals and profiling injections for the Brooklyn CS outage.

At 13.50 hrs, AEMO issued a market notice indicating 14 TJ out-of-merit-order injection was scheduled at Iona CPP for the 2.00 pm schedule.

At 17.57 hrs AEMO removed out-of-merit-order injections at Iona CPP for the 6.00 pm schedule, and at 21.20 hrs AEMO removed the out-of-merit-order injections for the 10.00 pm schedule.

On 13 May 2020 at 14.30 hrs, APA returned Brooklyn CS to full service and at 14.45 hrs, AEMO issued a notice indicating an end to the threat to system security. No out-of-merit-order gas was scheduled on 13 May 2020.

A chronology of events is included in appendix A1.

3. Assessment of event

This event was a result of APA shut down of Brooklyn Compressor Station for maintenance, causing a supply and demand imbalance due to insufficient net injections at Iona CPP.

A threat to system security was issued to:

- maintain system security for the South West Pipeline
- limit the risk of involuntary curtailment to customers, including the Laverton North Power Station
- support the out-of-merit-order injections scheduled

3.1 Adequacy of Part 19 of the NGR

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

- NGR 326 Maintenance Approval
- NGR 341 Notice of threat to system security
- NGR 351 Intervention Reports

3.1.1 Maintenance Approval

The NGR 326(1) requires AEMO to coordinate maintenance schedules in order to ensure that system security is not threatened. AEMO and service providers under NGR 326(4) are required to cooperate when there is proposed maintenance activities to minimise any potential threat to system security.

For this event, AEMO had approved the planned maintenance to go ahead between 12-13 May. AEMO had considered that demand from Gas Powered Generation (GPG) was unlikely to be high for these days and that Laverton North Power Station was unlikely to operate as cooler weather had been forecast for Victoria.

AEMO finds that these NGR provisions were applied correctly, however NGR 326(1) could be better clarified to acknowledge that even with coordination between AEMO and the service providers, this may not be enough to remove all threats to system security associated with planned maintenance activities¹.

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, the details of that threat to system security.

¹ AEMO has raised this previously with industry. Gas Wholesale Consultative Forum, 12 June 2018. Paper 5 - Maintenance Rule Change Proposal
https://aemo.com.au/-/media/files/stakeholder_consultation/working_groups/wholesale/gwcf/2018/gwcf-meeting-21---meeting-pack---12-june-2018.zip

AEMO notified the market of the threat to system security at 05.07 hrs on 12 May 2020. AEMO also issued market notices to indicate:

- constraints had been applied to Iona CPP to achieve minimum required net injection by profiling withdrawals and injections for Brooklyn CS outage;
- scheduling out-of-merit-order injections at Iona CPP;
- removing the out-of-merit-order injections at Iona CPP;
- the return to service of Brooklyn CS and the end to the threat to system security.

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.

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.

In this event, the issue was maintaining system security for the SWP. This was resolved by scheduling out-of-merit-order (injection bids above the market price) gas from Iona CPP. This is gas that has already been bid into the market.

Within the NGR provisions 213, 214 and 215, AEMO notes that it may be possible to constrain on gas that has already been bid in without needing to notify the market of a threat to system security. However, this would need to consider existing constraints and system security.

AEMO finds that the NGR provisions are adequate and considers that further review and consultation should be undertaken with regards to:

- The need to issue a threat to system security to constrain on gas that has already been bid into the market

As identified in previous Intervention Reports, further consideration of the NGR provisions would require, on initial assessment, minor changes to the following AEMO Market Procedures:

- Wholesale Market System Security Procedures (Victoria)
- Wholesale Market Gas Scheduling Procedures (Victoria)

3.1.3 Intervention Report Timing

NGR 351 places an obligation on AEMO to publish a report within 10 business days after a threat to system security event. AEMO has adopted the following approach to reporting on these events, wherever possible:

- 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.

3.2 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 any GPG;
- Alleviate the threat to system security and return the Declared Transmission System (DTS) to normal operating conditions.

In this event, AEMO took all reasonable steps to coordinate the maintenance activities with the service provider, assess the forecasts and notify the market accordingly.

APA returned Brooklyn CS to full service at 14.30 hrs on 13 May 2020 and AEMO issued a notice at 14.45 hrs, indicating that the threat to system security had ended.

3.3 Costs of intervention

In response to the notice of a threat to system security issued for gas day 12-13 May 2020, AEMO scheduled 30 TJ of out-of-merit-order Iona injections for the 6 am schedule on 12 May which was deemed not required by the end of the 2 pm schedule. As a result, there was an immaterial market impact, estimated to be approximately \$1,000.

4. Conclusion

AEMO issued a notice of a threat to system security in the Victorian DWGM for gas days 12-13 May 2020. AEMO initially scheduled 30 TJ of out-of-merit-order Iona injections for the 6.00 am schedule on 12 May 2020 which was reduced to zero by the 6.00 pm schedule and had an immaterial impact on the market.

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.

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
7 May 2020 13.10 hrs	APA contact AEMO	APA provided AEMO with a finalised schedule for the Brooklyn CS outage occurring from 7.00 am on 12 May 2020 until 13 May 2020 5.00 pm on 13 May 2020.
9 May 2020 13.18 hrs	Market Notice	AEMO issued a SWN indicating a full Brooklyn CS outage scheduled on 12 and 13 May 2020. Participants were advised that SWP net injections may be required to maintain system security.
10 May 2020 07.09 hrs	Market Notice	AEMO issued a market notice indicating a constraint was applied to Iona CPP to restrict total withdrawal quantity to 0 GJ/h between 10.00 pm and 6.00 am for gas day 11 May 2020, to support the Brooklyn CS outage.
10 May 2020 11.31 hrs	Market Notice	AEMO issued a market notice indicating that 47 TJ of out-of-merit-order injections was scheduled (Day+2 schedule) at Iona CPP for gas day 12 May 2020 and that AEMO was seeking a market response to support the Brooklyn CS outage.
11 May 2020 07.47 hrs	Market Notice	AEMO issued a market notice indicating that 47.4 TJ of out-of-merit-order injections was scheduled (Day+1 schedule) at Iona CPP for gas day 12 May 2020 and that AEMO was seeking a market response to support the Brooklyn CS outage.
11 May 2020 11.50 hrs	Market Notice	AEMO issued a market notice indicating constraints were applied to Iona CPP for gas day 13 May 2020 to achieve minimum required net injection by profiling withdrawals and injections for the Brooklyn CS outage.
11 May 2020 15.24 hrs	Market Notice	AEMO issued a market notice indicating that 43 TJ of out-of-merit-order injections was scheduled (Day+1 schedule) at Iona CPP for gas day 12 May 2020 and that AEMO was seeking a market response to support the Brooklyn CS outage.
11 May 2020 22.41 hrs	Market Notice	AEMO issued a market notice indicating that 29 TJ of out-of-merit-order injections was scheduled (Day+1 schedule) at Iona CPP for gas day 12 May 2020 and that AEMO was seeking a market response to support the Brooklyn CS outage.
12 May 2020 05.07 hrs	Market Notice	AEMO issued a market notice indicating a threat to system security and that 30 TJ of out-of-merit-order injections was scheduled at Iona CPP for gas day 12 May 2020 (6.00 am schedule).
12 May 2020 07.58 hrs	Market Notice	AEMO issued a market notice indicating constraints were applied to Iona CPP for gas day 13 May 2020 to achieve minimum required net injection by reducing controllable withdrawals and profiling injections for the Brooklyn CS outage.
12 May 2020 10.00 hrs	Brooklyn CS Outage	APA advised AEMO that the maintenance of compressors commenced.
12 May 2020 13.50 hrs	Market Notice	AEMO issued a market notice indicating that 14 TJ of out-of-merit-order injections was scheduled at Iona CPP for gas day 12 May 2020 (2.00 pm schedule). Threat to system security for the Brooklyn CS outage remains in effect.
12 May 2020 15.37 hrs	Market Notice	AEMO issued a market notice indicating constraints were applied to Iona CPP for gas day 13 May 2020 to achieve minimum required net injection by profiling withdrawals and injections for the Brooklyn CS outage.
12 May 2020 17.57 hrs	Market Notice	AEMO issued a market notice indicating that out-of-merit-order injections have been removed at Iona CPP for gas day 12 May 2020 (6.00 pm schedule). Threat to system security for the Brooklyn CS outage remains in effect.
12 May 2020 21.20 hrs	Market Notice	AEMO issued a market notice indicating that out-of-merit-order injections have been removed at Iona CPP for gas day 12 May 2020 (10.00 pm schedule). Threat to system security for the Brooklyn CS outage remains in effect.
13 May 2020 05.11 hrs	Market Notice	AEMO issued a market notice indicating constraints were applied to Iona CPP for gas day 13 May 2020 to achieve minimum required net injection by profiling withdrawals and injections for the Brooklyn CS outage.
13 May 2020 14.45 hrs	Brooklyn CS Outage	APA returned Brooklyn CS to service at 14.30 hrs on 13 May 2020. Threat to system security for Brooklyn CS outage ended.