



Gas Supply Hub – Event Report

November 2020

Suspension Due to IT Issues

A report into the GSH market suspension on 13 August 2020

IMPORTANT NOTICE

Purpose

AEMO has prepared this report in response to its suspending access to and use of the Trading System for all Members, in accordance with 11.2 of the Gas Supply Hub Exchange Agreement, for Gas Day 13 August 2020. Although there are no Rule or Procedure requirements to issue this report, AEMO has prepared this report to ensure participants are aware of the event and AEMO's response.

Any term with a defined meaning in Part 22 of the National Gas Rules (NGR), the Gas Supply Hub (GSH) Exchange Agreement or the Membership Agreement has the same meanings when used in this report.

All times are in Australian Eastern Standard Time (AEST).

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.

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

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1. Introduction

On 13 August 2020 an incident in AEMO's IT communications network resulted in participants being intermittently unable to trade on the Gas Supply Hub (GSH) for a period of four hours. AEMO moved orders from open to withdrawn status due to participants experiencing being disconnected from the GSH for brief periods of time. The issue was first raised by a participant at 11.00 hrs on 13 August 2020, followed by several other participants raising the issue such that an incident was declared at 11.20 hrs. This led to an investigation by AEMO to identify the cause but this was hampered by the random nature of the disconnections and the low level of activity on the GSH. At 14.04 hrs a participant identified that the issue had reoccurred and given the ongoing intermittent problem and no clear resolution timeframe, AEMO made the decision to suspend access to and use of the Trading System for all Members from 14.58 hrs.

During the period of suspension, the cause of the disconnections was identified as the Brisbane MarketNet¹ firewall not operating correctly. The firewall was taken out of service, and traffic was transferred to the back-up Brisbane firewall.

Following confirmation that there were no further network connectivity issues and dropouts, the GSH reopened at 17.00 hrs, with trading able to commence at 17.30 hrs after the required pre-open period.

AEMO notified the affected participants, and the issue was resolved before on-market trading closed thus allowing participants to execute trades on the day. The GSH is a voluntary market and it is expected that the impact to participants was minimal given the relatively short time-frame of the suspension. A chronology of events is included in appendix A1.

2. Event Summary

AEMO has primary firewalls in Brisbane and Sydney, both of which handle around 50% of the traffic load, with each being designed to temporarily manage full load should the need arise (each firewall also has backup). AEMO's MarketNet Firewall A in Brisbane had been performing poorly in the morning of 13 August 2020, with intermittent degradation to some network traffic flows. As part of a routine change request additional load was temporarily placed on the Brisbane firewall which was beyond the threshold of the underperforming firewall. This transfer of load caused the performance of the Brisbane MarketNet firewall A to fall to a level where an impact on GSH participants was experienced due to temporary connectivity losses.

The Electronic Trading System (ETS) participants use to trade in the GSH is configured by default to automatically withdraw any open orders on the screen if participants are disconnected from the server for more than 60 seconds. This is a safety net in the event a participant is unable to log back in and remove a open order they no longer want to trade. While the software permits participants to switch this feature off, AEMO does not recommend participants do this².

AEMO was first informed of the issue by a call to AEMO's Support Hub from a participant at 11.00 hrs alerting of the dropouts and subsequent withdrawal of open orders. Subsequent calls from other participants were also received, and as such an incident was declared at 11.20 hrs. AEMO notified the affected participants directly by phone or email that investigations were underway, as well as placing a notice in the News Feed of the ETS.

¹ Any access to AEMO's market systems requires a data network connection to AEMO's private data network connection, MarketNet.

² AEMO. GSH Trader User Guide, Section 2.14 Connection Options. Available at https://aemo.com.au/-/media/files/gas/gas_supply_hubs/market_operations/2016/gsh-trader-user-guide.pdf

While investigations were underway, AEMO continued to monitor the situation closely. It was observed on multiple occasions over the next few hours that dropouts were resulting in the withdrawal of orders from the ETS. AEMO made the decision to suspend access to and use of the Trading System for all Members until the issue could be resolved and rectified. The suspension began at 14.58 hrs.

Following the suspension, the cause of the dropouts was identified as a faulty firewall in Brisbane. This firewall was taken out of service, and traffic redirected to the backup firewall in Brisbane. After this change came into effect, no further dropouts were observed. The decision was made to commence the required 30-minute pre-open period for the GSH at 17.00 hrs. The market re-opened for trading at 17.30 hrs. As a precaution, a heightened level of monitoring for dropouts was installed, however no further dropouts were experienced and this monitoring was closed.

3. Assessment of event

To protect and restore the security of the Trading System, AEMO suspended access to and use of the Trading System for all Members for gas day 13 August 2020 between 14.58 hrs and 17.00 hrs. The root cause of this incident was identified as being due to a refurbished firewall supplied to AEMO on 23 July 2020. This firewall has since been replaced by the vendor and the new drives have been verified.

The dropouts affected participants ability to keep their open orders on the ETS, thus impacting their ability to trade effectively. The suspension from 14.58 hrs to 17.00 hrs resulted in no participants being able to trade during this period. Participants were notified of the suspension and lifting of the suspension. Participants were able to trade on the day prior to the market closing time of 19.00 hrs. It is expected that there were no material impact to participants.

The ETS disconnection feature, that will automatically withdraw any open orders on the screen, currently has a setting of 60 seconds before orders are withdrawn. This default setting can be changed and AEMO will raise this with GSH participants at a future Gas Supply Hub Reference Group meeting.

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

A1. Chronology

Date/Time (AEST)	Event/ Action	Details
13 August 2020 11.00 hrs	Participant call	AEMO receives a call from a participant indicating that there are problems with the GSH.
13 August 2020 11.07 hrs	AEMO Support Hub	AEMO Support Hub indicates multiple calls being received relating to connectivity, impacting on other AEMO markets as well as GSH.
13 August 2020 11.20 hrs	Incident created	AEMO creates an internal incident regarding GSH connection issues.
13 August 2020 14.04 hrs	Participant call	AEMO notified that the issue has reoccurred.
13 August 2020 14.21 hrs	Trayport contacted	AEMO contacts Trayport (vendor for ETS support).
13 August 2020 14.45 hrs	Cause identified	Brisbane MarketNet firewall identified as possible source of problem.
13 August 2020 14.58 hrs	GSH suspended	AEMO suspends access to and use of the Trading System for all Members.
13 August 2020 15.08 hrs	AEMO notification	AEMO notifies GSH participants that access to and use of the Trading System for all Members is suspended.
13 August 2020 15.11 hrs	AEMO firewall failover	Failover was performed on Brisbane MarketNet firewalls. All outstanding incidents begin to normalise.
13 August 2020 15.18 hrs	Trayport confirm	Trayport confirms that the orders are being withdrawn due to connectivity issues.
13 August 2020 16.54 hrs	AEMO notification	Participants notified of lifting of the suspension at 17.00 hrs
13 August 2020 17.00 hrs	GSH suspension lifted	GSH placed into to pre-open state, followed by open at 17.30 hrs.