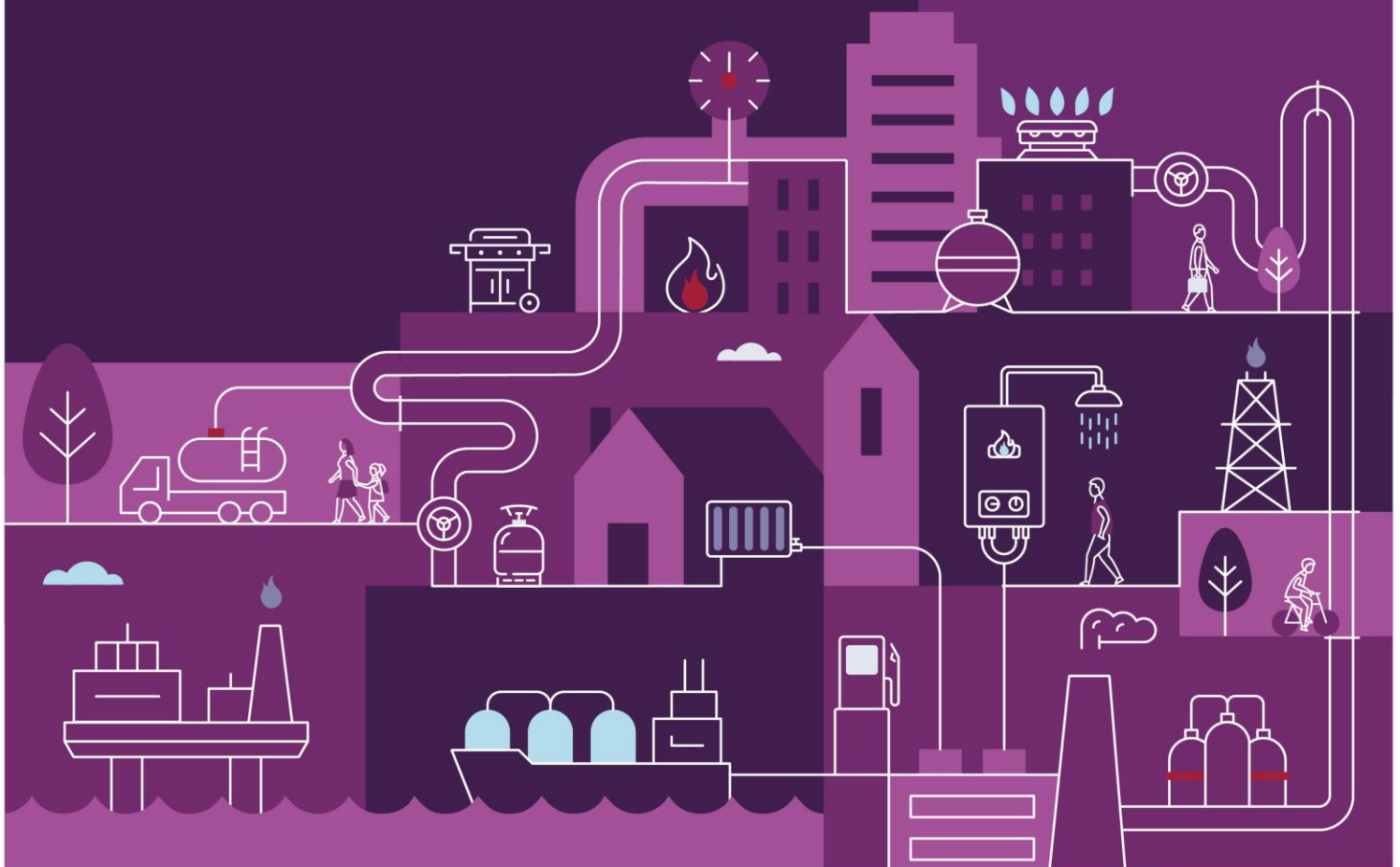


May 2024

A preliminary post-intervention report into the Queensland Gas Pipeline event from 5 March 2024.





Important notice

Purpose

AEMO has prepared this report to provide information in relation AEMO's actions in response to the East Coast Gas System – Queensland Gas Pipeline (QGP) threat from 5 March 2024, using information available as of 1 May 2024, unless otherwise specified. At the time of writing this report, for the purpose of East Coast Gas System rules, the threat notice has not been revoked.

This report is a preliminary post-intervention report as per the ECGS Procedures which state that AEMO will endeavour to publish a preliminary post-intervention report.

In accordance with the National Gas Rules (NGR) clause 698, AEMO intends to publish a final post-intervention report following the end of the exercise of all direction functions AEMO considers relate to the identified threat.

Disclaimer

AEMO has made reasonable efforts 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:

- make no representation or warranty, express or implied, as to the currency, accuracy, reliability, or completeness of the information in this report; and
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1 Introduction

1.1 Description of the exercise of ECGS functions

On 5 March 2024, after being informed by Jemena Queensland Gas Pipeline (1) P/L (Jemena), AEMO notified relevant entities of an actual risk or threat to supply adequacy within the East Coast Gas System (ECGS). This threat resulted from the isolation of a section of the Queensland Gas Pipeline (QGP) between the Rolleston Compressor Station and Oombabeer due to a rupture of the pipeline. This disrupted the normal supply of gas to Gladstone, Bundaberg, and Maryborough.

In response to the threat, and in consultation with Jemena and the Queensland Government, AEMO determined that the exercise of directions under its ECGS functions were necessary to prevent, reduce or mitigate an actual or potential threat to the adequacy or reliability of supply of covered gas within the QGP and connected facilities and distribution systems (which are part of the east coast gas system).

Directions were given by AEMO to:

- facilitate gas supply into the QGP; and
- curtail supply to relevant entities that are supplied from QGP withdrawal connections downstream of Oombabeer, to match available supply necessary to mitigate the consequence of inadequate supply to as low as reasonably practicable (ALARP).

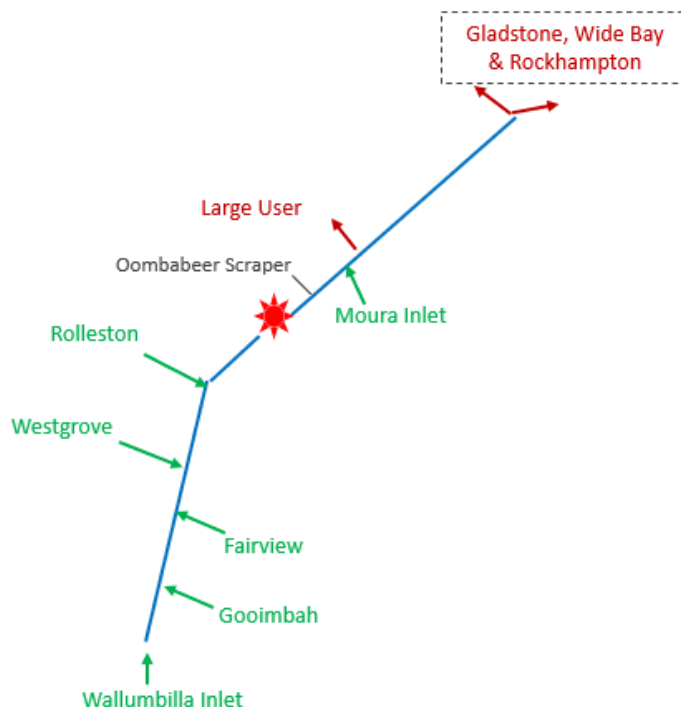


Figure 1 Simplified schematic illustration of the QGP event layout.

AEMO has prepared this report to provide relevant entities a summary of AEMO's response to the QGP event between 5 and 19 March 2024. The identified threat and directions remain active as at the time of writing.

AEMO acknowledges the Traditional Owners of country throughout Australia and recognises their continuing connection to land, waters and culture. We pay respect to Elders past, present and emerging.

This report is a preliminary post-intervention report as per the ECGS Procedures which state that AEMO will endeavour to publish a preliminary post-intervention report.

In accordance with the National Gas Rules (NGR) 698, AEMO intends to publish a final post-intervention report related to the directions described herein, following the end of the threat and the revoking of all directions that AEMO considers as relating to the identified threat.

2 Event Summary

A chronology of events is provided in Appendix A1 of this report.

2.1 Events occurring before the exercise of ECGS functions

At approximately 09:25 AEST on 5 March 2024, AEMO was made aware of the QGP gas supply disruption by the pipeline operator, Jemena, who submitted a Red linepack/capacity adequacy indicator to AEMO Gas Bulletin Board in accordance with NGR 179 (3). In accordance with the AEMO Bulletin Board (BB) Procedures, a Red flag indicates one of the following conditions are met:

- involuntary curtailment of 'firm' capacity is likely or happening; or
- linepack has, or is forecast to, drop below minimum operating levels.

AEMO immediately contacted the pipeline operator to ascertain details of the potential threat and was informed that there had been an uncontrolled release of gas from the QGP and that the pipeline was shut-in. The shut-in disconnected all receipt connections on the QGP from the pipeline's delivery connections, except for the Moura Inlet. The Moura Inlet would be the only available source of supply into the pipeline to meet demand for the duration of the shut-in.

The Moura Inlet receipt connection is connected to the Meridian Gas Plant, which on gas day 5 March 2024 had a reported supply capacity of 38 TJ/d. The forecast gas demand on the QGP from the remaining withdrawal connections (not disconnected by the pipeline shut-in) was estimated to be approximately 128 TJ for gas day 5 March 2024. The potential shortfall in supply, if all supply was redirected into the QGP from the Meridian Gas Plant on gas day 5 March 2024, was estimated to be approximately 90 TJ.

AEMO determined the forecast shortfall satisfied the criteria for publication of an ECGS risk or threat notice in section 3.1.1. of the ECGS Procedures¹, being the supply of gas in all or part of the east coast gas system may be inadequate to meet demand. Directions issued by AEMO between 5 and 19 March 2024 related to this threat are outlined in section A1 of this preliminary post-intervention report.

On gas day 17 March 2024, Jemena advised AEMO that the damaged section of the pipeline was repaired, and necessary changes had been implemented to allow the pipeline to re-commence end-to-end operation at a reduced operating pressure. This enabled supply into the QGP from receipt connections that had been disconnected in

¹ AEMO, East Coast Gas system Procedures, at https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/gas_consultations/2023/implementation-of-east-coast-gas-system-procedures/notice-of-decision/east-coast-gas-system-procedures.pdf?la=en

response to the failure event. The reduced pressure limits the delivery capacity of the pipeline and AEMO determined that there was insufficient supply to meet demand and that there remained a threat to supply adequacy.

AEMO intends to maintain the QGP ECGS supply threat status as active until the criteria specified in the ECGS Procedures is no longer satisfied.

2.2 Reasons for the exercise of ECGS functions

2.2.1 Directions to facilitate supply

Industry stakeholders (including Westside Corporation Limited and GLNG Operations Pty Ltd) responded to the threat by facilitating supply into the QGP at the Moura Inlet, up to the maximum quantity that could be transferred to the QGP at this location. AEMO consulted the Queensland Government and industry stakeholders, and determined that:

- there was a reasonable possibility that this response could change and supply into the QGP could be reduced; and
- any reduction in supply was likely to have an immediate and severe consequence to gas users withdrawing from the pipeline (e.g. plant damage, safety etc.).

In determining whether to exercise a direction function, AEMO considered the principles listed in NGR 699, and determined that the giving of directions may have distortionary impacts on consumer costs and industry. AEMO concluded that the directions were necessary to reduce and mitigate the threat and, given the nature, timing and circumstances, the risks of these distortionary impacts were as low as reasonably practicable.

On this basis, AEMO determined that directions to maintain and improve the adequacy of supply into the QGP were necessary to mitigate the threat within the ECGS.

A total of six directions were issued to a total of six relevant entities to facilitate supply into the QGP at the Moura Inlet between gas day 5 March and 17 March. Of the six directions, AEMO received one formal notice from a relevant entity of their inability to comply with a direction as permitted under NGR 702(1). AEMO subsequently consulted with the relevant entity and a direction was re-issued to achieve the intent of the original direction.

The types of relevant entities given a direction to facilitate supply during this period include:

- Producer;
- Facility Operator;
- Supplier; and
- Shipper.

Once Jemena had advised on gas day 17 March 2024 that the pipeline could re-enter full service at a reduced operating pressure, AEMO determined that a reduction in supply at Moura Inlet could be met by an increase in supply through the restoration of flows at other QGP receipt connections, and on this basis that directions to facilitate maximum supply quantities at Moura Inlet were no longer necessary to mitigate the threat. AEMO revoked all outstanding directions related to facilitating supply into the QGP on gas day 17 March 2024. A direction for Jemena to maintain minimum supply quantities to end users supplied from the QGP remains in place as discussed in section 2.2.2.

2.2.2 Curtail supply

AEMO were advised that if the pipeline operator curtailment regime, an outcome of individually agreed Gas Transportation Contracts, was implemented it would likely result in severe and major consequences for some gas users that are supplied from the pipeline. If Jemena deviated from what was agreed with its customers, it would have been a breach of contract.

On request by the pipeline operator to consider giving directions related to curtailment of supply, AEMO consulted with the Queensland Government and industry stakeholders, and determined that:

- after receipt connections received maximum quantities, there would be inadequate supply to meet demand;
- in the current circumstances the pipeline operator curtailment regime had the potential to increase risk above an as low as reasonably practicable level;
- an alternate, risk informed supply allocation methodology could allocate supply in a manner that managed risk to as low as reasonably practicable; and
- there was insufficient time for the Queensland Government to implement curtailment via emergency powers.

AEMO concluded that given the nature, timing and circumstances of the threat, and the principles considered under NGR 699, that directions related to the implementation of curtailment of supply were necessary to mitigate the threat.

A total of twenty-five (25) directions were issued to a total of six relevant entities between gas day 5 and 8 March 2024 to either cease all gas withdrawals until advised by AEMO, or to reduce withdrawals to the minimum quantity possible without causing major damage to plant and equipment or threaten health and safety.

The type of relevant entities that were given directions related to the implementation of curtailment over this period were:

- Registered participant – Large User.

On gas day 6 March 2024, a connection was established at Moura Inlet and supply into the QGP was increased in stages through to gas day 8 March. In consultation with participants and the Queensland Government, having regard to the principles in NGR 699, AEMO minimised its intervention by replacing directions to Large Users, with a direction to the pipeline operator that ensured a minimum quantity of supply to withdrawal connections to mitigate the threat while also providing a pathway for existing market mechanisms and agreements to determine the allocation of available supply above a minimum allocation quantity.

AEMO gave a total of three directions to the pipeline operator between gas day 8 and 19 March 2024 related to the implementation of curtailment. During this period AEMO and participants undertook efforts to remove AEMO's curtailment related directions in their entirety, however it was determined this could not be achieved without significant risk to some gas users withdrawing from the QGP.

As of 1 May 2024, an AEMO direction related to the maintenance of minimum supply quantities remains in place. For the avoidance of doubt, AEMO has not exercised its trading function to prevent, reduce or mitigate this threat.

3 Assessment of ECGS functions

AEMO's assessment of the extent to which the exercise of the ECGS direction functions mitigated the identified threat is ongoing, as relevant information is collected and considered. This section provides the preliminary findings based on information available at the time.

3.1 Facilitate supply direction outcomes

In consultation with industry stakeholders, AEMO determined there was a threat to the adequacy of supply into the QGP and that threat was likely to have immediate and severe consequence to gas users withdrawing from the pipeline. AEMO gave directions to maintain and improve the adequacy of supply.

Initial post direction assessment indicates the directions mitigated the threat by achieving their purpose. This preliminary finding is based on the following:

- it was uncertain whether supply into the QGP via the Moura Inlet would be maintained at maximum rates for the duration of the direction.
- supply into the QGP at the Moura Inlet was not interrupted or reduced while the directions remained in place.
- sufficient gas supply from the QGP was maintained to end users that would otherwise have suffered severe consequences if there was a reduction or interruption in the supply of gas from the Moura Inlet.

3.2 Curtailment direction outcomes

In consultation with participants, AEMO determined that there was inadequate supply to meet demand and that if the pipeline operator curtailment regime was implemented to address the shortfall, it was likely to increase risk above an as low as reasonably practicable level. AEMO gave directions necessary to mitigate the impact of this threat.

An initial assessment of these directions indicates that the directions achieved their purpose. This preliminary finding is based on the following:

- supply was inadequate to meet demand.
- the pipeline operator curtailment regime in the circumstances had the potential to increase risk above an as low as reasonably practicable level.
- AEMO gave curtailment related directions based on the information available to it at the time; and
- there have been no reports of major equipment damage as a result of the QGP pipeline failure event and gas users were able to return to a minimum safe operating state consistent with an as low ALARP risk profile. AEMO has been advised that the ALARP risk state has, and continues to have, severe economic impact on some users.

A1. AEMO event response timeline

All times are in AEST.

Date	Time	Event/Action	Details
5 March 2024	09:25	QGP LCA Red	Jemena submitted an LCA Red Flag for QGP.
	13:08	Supply direction issued	AEMO issued a direction to a relevant entity to maintain and improve supply adequacy to facilitate supply into the QGP.
	14:12	Notice of identified threat and AEMO exercising the ECGS direction function	AEMO published a notice of an identified a risk or threat to adequacy or reliability of supply within the East Coast Gas System, and a notice that the direction function has been exercised.
	16:30	Industry teleconference	AEMO held an industry teleconference to provide an overview and update to industry.
	19:20-19:31	Curtailment directions issued	AEMO issued curtailment directions to relevant entities to maintain and improve supply adequacy to reduce risk to ALARP.
6 March 2024	Various	Curtailment direction variations issued	AEMO issued direction variations to relevant entities to maintain and improve supply adequacy to reduce risk to ALARP.
	18:23	Supply direction issued	AEMO issued a direction to a relevant entity to facilitate supply into the QGP.
	19:09	Direction notice issued	AEMO issued a direction notice that the direction function has been exercised.
	21:17	Direction notice issued	AEMO issued a direction notice that the direction function has been exercised.
7 March 2024	9:00	Industry teleconference	AEMO held an industry teleconference to provide an overview and update to industry.
	Various	Curtailment direction variations issued	AEMO issued direction variations to relevant entities to reduce risk to ALARP.
	15:06	AEMO notified of direction non-compliance	AEMO was notified by a relevant entity under NGR 702(1) that it could not comply with a direction.
8 March 2024	14:30	Industry teleconference	AEMO held an industry teleconference to provide an overview and update to industry.
	Various	Curtailment direction and direction variations issued	AEMO issued a direction and direction variations to relevant entities to maintain and improve supply adequacy to reduce risk to ALARP.
	Various	Supply directions issued	AEMO issued a direction to a relevant entity to maintain and improve supply adequacy to facilitate supply into the QGP.
	20:00	Supply direction revocation issued	AEMO revoked a direction to a relevant entity that related to facilitating supply into the QGP.
	20:03	Direction notice issued	AEMO issued a direction notice that the direction function has been exercised.
16 March 2024	Various	Curtailment direction variation issued	AEMO issued a direction variation to relevant entities to maintain and improve supply adequacy to reduce risk to ALARP.
	20:03	Direction notice issued	AEMO issued a direction notice that the direction function has been exercised.
17 March 2024	Various	Supply directions revoked	AEMO revoked directions to relevant entities that relate to facilitating supply into the QGP.

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Date	Time	Event/Action	Details
	16:06	Direction revocation notice issued	AEMO issued a direction notice that previously issued directions have been revoked.
19 March 2024	15:42	Curtailement direction variation issued	AEMO issued a direction variation to a relevant entity to maintain and improve supply adequacy to reduce risk to ALARP.
	20:03	Direction notice issued	AEMO issued a direction notice that the direction function has been exercised.