Australian Government
Department of Climate Change, Energy, the Environment and Water

Ms Anna Collyer
Chair
Australian Energy Market Commission
PO Box A2449
SYDNEY NSW 1235

5 July 2024

Dear Ms Collyer

Rule change request: East Coast Gas System Supplier of Last Resort Mechanism

As you would be aware, on 8 December 2023, Energy Ministers agreed to progress Stage 2 of the East Coast Gas Market Reliability and Supply Adequacy Framework (RSA Framework) reforms through the Australian Energy Market Commission's (AEMC) standard rule change request process.

The proposed reforms, which are the subject of four separate but interrelated rule change requests, are intended to build on and supplement those elements of the RSA Framework that were implemented in May 2023 as part of Stage 1 of the reforms.

On behalf of Energy Senior Officials, I am submitting the third of the Stage 2 RSA Framework rule change requests and ask the AEMC to progress with its initiation.

This rule change request seeks to amend the National Gas Rules, including in Parts 15B, 27, and 19–20, to implement a supplier of last resort mechanism that provides greater guidance on when and how the Australian Energy Market Operator (AEMO) uses its trading function provisions, as well as more guardrails around, and greater accountability and transparency of AEMO's use of this tool. The proposed supplier of last resort mechanism is intended to both:

- facilitate more timely and efficient market-led responses to forecast and communicated breaches of the proposed gas reliability standard (see separate rule change request), and
- enable AEMO to respond to any forecast breaches the market fails to address (including through the use of storage, demand response or other reserves) in a timely, transparent and efficient manner.

This rule change request is also endorsed directly (see attached) by the Victorian Minister for Energy and Resources as an additional proponent for the purposes of section 295(3) of the National Gas Law.

I thank the AEMC for engaging with our officials to progress the RSA Framework reforms and look forward to sustaining our close collaborative relationship in future.

Yours sincerely,

Simon Duggan

Chair of the Energy Senior Officials Group
Deputy Secretary, Department of Climate Change, Energy, Environment and Water

encl.

Rule change request

East coast gas system
Supplier of Last Resort mechanism

Rule change proponent

Mr Simon Duggan
Chair of the Energy Senior Officials Group
Deputy Secretary, Department of Climate Change, Energy, Environment and Water

Address of rule change proponent

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
CANBERRA ACT 2601
02 5135 8105

Date

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Abbreviations

Term	Definition
ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Bulletin Board or BB	Gas Bulletin Board
C&I	Commercial and industrial
DAA	Day ahead auction of contracted but unnominated transportation capacity
DLNG last resort mechanism	The Dandenong LNG storage facility buyer and supplier of last resort mechanism that was implemented at the end of 2022 through changes to Part 19 of the NGR
DTS	Declared Transmission System in Victoria
DWGM	Declared Wholesale Gas Market in Victoria
ECGS	East Coast Gas System
ESOO	Electricity Statement of Opportunities
Facilitated market reliability settings	This term is used to refer to STTM and DWGM market price caps, market price floors, cumulative price thresholds, cumulative price horizon, administered price caps and triggers for administered market states
Forecast breach	Used to refer to both an actual and potential breach of the reliability standard
GJ	Gigajoules
GPG	Gas powered generator
GSH	Gas Supply Hub
GSOO	Gas Statement of Opportunities
LNG	Liquefied natural gas
LR	Low reserve
LOR	Lack of reserve
MJA	Marsden Jacob Associates
MT	Medium term
NEM	National Electricity Market
NER	National Electricity Rules
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
Northern jurisdictions	This term is used to jointly refer to the NT and Queensland
PASA	Projected assessment of system adequacy
PJ	Petajoules
Regulations	National Gas (South Australia) Regulations

Term	Definition
Relevant entity	Defined in s 91AF(8) of the NGL to mean the following (excluding small customers): (a) a Registered participant; (b) an exempted participant; (c) a producer that injects gas into the east coast gas system; (d) a person who buys or sells gas in the east coast gas system; (e) a GPG; (f) a storage provider whose facility is connected to the east coast gas system; (g) a person who provides pipeline, transport, compression or other related services in, into or out of the east coast gas system; (h) a person specified as a relevant entity by the NGR
RERT	Reliability and emergency reserve trader (tool used in the NEM)
RSA	Reliability and supply adequacy
SoLR	Supplier of last resort
STTM	Short Term Trading Market in Adelaide, Brisbane and Sydney
Southern jurisdictions	This term is used to jointly refer to the ACT, NSW, SA**,** Victoria and Tasmania
TJ	Terajoules
VGCR	Value of gas customer reliability
VGPR	Victorian Gas Planning Report

1 Introduction

On 8 December 2023, Energy Ministers agreed to progress Stage 2 of the reforms to the east coast gas system reliability and supply adequacy framework (**RSA framework**) through the Australian Energy Market Commission's (**AEMC**) standard rule change request process.[1]

The proposed reforms, which are the subject of four separate but interrelated rule change requests, are intended to build on and supplement those elements of the RSA framework that were implemented in May 2023 as part of Stage 1 of the RSA framework development. The four rule change requests are:

1. the Extension of the Bulletin Board Medium Term Capacity Reporting Requirements for Planned Supply & Delivery Infrastructure Closures rule change request
2. the Reliability Standard & Associated Settings rule change request
3. the Supplier of Last Resort Mechanism rule change request
4. the Projected Assessment of System Adequacy (**PASA**) rule change request.

This rule change request, which is the third of the requests listed above, relates to the proposed implementation of an east coast gas system Supplier of Last Resort (**SoLR**) mechanism.

Further detail on why Energy Ministers agreed to implement the RSA framework is provided below, along with an overview of the proposed SoLR mechanism, the changes that would need to be made to the rules to implement this mechanism, how those changes would contribute to the National Gas Objective (**NGO**) and the AEMC's power to make the proposed rule.

1.1 Why Energy Ministers agreed to implement an RSA framework

On 12 August 2022, Energy Ministers directed jurisdictional energy officials (**Officials**) to develop and progress a package of reforms, including an RSA framework that could be used to identify and respond to reliability and supply adequacy threats and better manage periods of volatility.[2] The direction was prompted by both:

- the significant challenges experienced in the east coast in 2022, which highlighted the growing susceptibility of the east coast gas system to reliability and supply adequacy threats (see Box 1.1) and inadequacy of the tools to monitor, communicate and manage the threats outside Victoria[3]
- analysis by the Australian Competition and Consumer Commission (**ACCC**) and Australian Energy Market Operator (**AEMO**), which indicated that conditions could deteriorate further in winter 2023, particularly in southern jurisdictions (i.e. the ACT, NSW, SA, Tasmania and Victoria).[4]

Given the risks identified by the ACCC and AEMO, Energy Ministers agreed to prioritise, as a matter of urgency, those framework elements required to enable AEMO to manage any potential supply shortfalls in 2023, while work was undertaken on other framework elements.[5]

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1 See Energy and Climate Change Ministerial Council website.
2 Energy Ministers, Priority reforms for a more secure, resilient and flexible east coast gas market, 12 August 2022.
3 As market and system operator in the Declared Wholesale Gas Market (DWGM), AEMO has a number of functions and powers that it does not have in other jurisdictions, including the ability to issue directions to address threats to system security if it considers the threat is unlikely to subside without intervention.
4 ACCC, Gas Inquiry interim report, July 2022 and AEMO, Gas Supply and System Adequacy Risks, July 2022.
5 Energy Ministers, Priority reforms for a more secure, resilient and flexible east coast gas market, 12 August 2022, p. 2.

Box 1.1: Reliability and supply adequacy risks facing the east coast gas system

As the demand-supply balance in the east coast gas system has tightened over the last five years, it has become more susceptible to reliability and supply adequacy risks.

This susceptibility was evident in winter 2022, when higher than expected demand for gas (particularly from gas powered generators (**GPG**)) and lower than expected supply, contributed to a significant amount of volatility in the market. This in turn triggered a chain of events that had a range of adverse effects on gas users and the market more generally. Prices in the facilitated gas markets, for example, reached record highs, with administered price caps also triggered in some markets.[6] One retailer also collapsed, which led to retailer of last resort arrangements being triggered in some jurisdictions.

The challenges experienced in winter 2022 highlighted the significant difficulties associated with maintaining reliability and supply adequacy in the east coast gas system and the inadequacy of the tools available to monitor, communicate and manage such threats outside Victoria.

It also highlighted the growing interrelationship between the east coast gas system and the National Electricity Market (**NEM**), which together with the energy market transition, has heightened the reliability and supply adequacy risks facing the market.

These reliability and supply adequacy risks are evident in the gas supply and demand forecasts prepared by both the ACCC and AEMO. For example, in its most recent Gas Inquiry interim report published in December 2023, the ACCC noted the potential for southern jurisdictions to:[7]

> *"…dip into a shortfall from 2024, and remain in a finely balanced surplus between 2025 and 2026 before declining into a shortfall from 2027 onwards".*

AEMO has pointed to similar risks in southern jurisdictions in its latest Gas Statement of Opportunities (**GSOO**), noting that if extreme winter weather conditions coincide with a high need for GPG in the NEM, peak day supply shortfalls could arise on some winter days in 2025,[8] with the potential for small seasonal supply gaps to also emerge in 2026 and 2027:[9]

> *"…gas shortfall risks are forecast to emerge on some days in winter 2025 under extreme peak day demand conditions…. From 2026 the southern supply-demand balance continues to tighten, and pipeline infrastructure becomes less able to deliver the volumes of gas required under extreme conditions, increasing the risks to peak day adequacy on the most extreme demand days. As Gippsland supply continues to decline and production facilities at the Longford Gas Plant are decommissioned, southern regions will be exposed to increased risk if unscheduled interruptions occur due to the reduced supply resilience in the southern region."*

In its latest GSOO, AEMO has also pointed to the increasing risk posed by GPG demand, with its latest projections suggesting peak day GPG gas demand could be close to three times higher in 10 years' time and annual GPG gas demand 1.5 times higher. The projections also suggest GPG demand will transition from summer to winter peaking, coincident with residential gas heating demand.[10] This is expected to occur against a backdrop of reduced system resilience,[11] particularly in the south with the Longford facility (historically the largest source of southern supply), to move from three to two gas plants from winter 2024.[12]

These projections bring to the fore both the:

- increasing exposure of the east coast gas system to NEM driven events, which is primarily being driven by the changing role GPG is expected to play in the NEM[13]

6 Administered price caps were triggered in the Sydney and Brisbane STTMs and the DWGM.
7 ACCC, Gas inquiry December 2023 interim report, 15 December 2023, p. 44.
8 AEMO, GSOO, March 2024, p. 4.
9 ibid, pp. 4-5 and 9.
10 ibid, Figure 2.
11 The term system resilience is used to refer to the ability of the system to limit the extent, severity and duration of any reliability or supply adequacy event.
12 AEMO, GSOO, March 2024, pp. 4-5 and 9.
13 GPG is, for example, expected to provide firming services to support variable renewable energy generation, the need for which is greater in winter. It is also expected to fill the gap left by an ageing coal generation fleet and the delayed development of new generation capacity.

- limited resilience in the east coast gas system to respond to unexpected demand or supply shocks, such as coincident peaks in residential and GPG demand, or failure of key infrastructure.

As the ACCC and AEMO have both observed, additional supply from LNG exporters could help reduce the threats facing the southern jurisdictions over the short- to medium-term. However, the tightness of the demand-supply balance, coupled with reduced system resilience and the increasing interrelationship with the NEM, means the southern jurisdictions will remain exposed to peak day shortfall risks for some time.

This risk is expected to be greatest during the winter period (i.e. 1 May–30 September) in southern jurisdictions, due to insufficient inter-seasonal storage and peak system deliverability capacity (jointly referred to as '**winter deliverability shortfalls')**. The term 'winter deliverability' is used in this context to refer to both:

- the amount of gas available to be supplied over the winter period from production facilities, LNG import terminals (if any are developed) and storage facilities; and
- the capacity of infrastructure used in the supply of gas to end-users (e.g. production, storage, pipeline and compression capacity (plus blend processing and/or LNG import facilities if any are developed)).

In a report prepared by Marsden Jacobs Associates (**MJA**) as part of the Stage 2 consultation process, MJA noted that while there is currently sufficient physical supply, more inter-seasonal storage and peak deliverability capacity is required in southern jurisdictions from 2023 to counter:

- the reduction in the Longford processing plant's capacity
- the increasing reliance on coal seam gas from Queensland, which offers less volume flexibility and takes considerably longer to transport to the southern jurisdictions
- the increasing risk of coincidental winter peaks in GPG and residential demand.

Without this, MJA noted that the conditions experienced in winter 2022 could recur with increasing frequency and severity.[14]

Setting the winter deliverability threats aside, both the ACCC and AEMO are projecting that from 2028 the east coast gas system could experience more structural shortfalls in supply, with forecast domestic gas production projected to be insufficient to meet demand.[15]

Although it is possible that jurisdictional policies to encourage energy efficiency and electrification[16] could reduce the scale of the projected supply shortfall, natural gas supply is expected to decline faster than demand.[17] There is also likely to be a range of gas users that will find it difficult to transition to alternative energy sources, including commercial and industrial users that use gas as a feedstock, or for high heat applications.

While historically, market participants have responded well to the investment signals provided by these types of projections, stakeholder interviews undertaken by MJA as part of the Stage 2 consultation process suggest they are more reluctant to do so now.[18] MJA identified a number of potential reasons for this, including information asymmetries, free rider and market power issues, market participants not facing the full economic costs of shortfalls, investment constraints and/or coordination failures.[19] MJA also noted that the reluctance may be a rational response to evolving and uncertain future conditions, where gas demand and supply needs to reduce to meet climate objectives.

Appendix A provides further detail on the factors contributing to the reliability and supply adequacy risks facing the east coast gas system.

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14 MJA, Adequacy of Gas Supply: Factors impacting retailer and generator contracting, March 2023, p. 7.

15 ACCC, Gas inquiry December 2023 interim report, 15 December 2023, p. 44 and AEMO, 2024 GSOO, March 2024, p. 4.

16 These policies include the ACT Government's Powering Canberra policy, which provides for the phasing out of natural gas use in Canberra by 2045 and includes a ban on new gas connections (see here). The Victorian Government's Gas Substitution Roadmap, which also includes a ban on new residential gas connections from 1 January 2024,

17 AEMO, GSOO, March 2024.

18 MJA, Adequacy of Gas Supply: Factors impacting retailer and generator contracting, March 2023.

19 ibid, pp. 59-61.

In keeping with Energy Ministers' direction and prioritisation, Officials have worked on the development of the RSA framework in two stages:

- **Stage 1**, which came into effect on 4 May 2023, focused on expanding AEMO's east coast gas system functions under the National Gas Law (**NGL**) and National Gas Rules (**NGR**) to be enable it to:[20]
  - monitor and communicate threats to the reliability or adequacy of supply
  - respond to any such threats by using its new directions and/or trading functions if AEMO is of the opinion that it is necessary to prevent, reduce or mitigate the threat.
- **Stage 2**, which is the subject of the four rule change requests set out above, has focused on those framework elements that are required to facilitate more timely and efficient market-led responses and to guide and frame how AEMO is to utilise its new functions.

Stage 2 of the RSA framework development

In June 2023, Officials released a consultation paper on the Stage 2 framework elements and undertook extensive stakeholder engagement, which included workshops and a number of meetings over a six-week period. In total, 27 submissions were received from stakeholders with interests across the gas supply chain, including producers, pipeline and storage facility operators, GPGs, retailers, gas users, other peak bodies, the Australian Energy Regulator (**AER**), and the ACCC.[21]

Informed by the feedback provided by stakeholders, Energy Ministers agreed on 8 December 2023 to progress the following measures as part of Stage 2 of the RSA framework development:

(1) A reliability standard that can be used to objectively identify reliability and supply adequacy threats and guide responses to such threats.

(2) Additional monitoring and communication tools that can be used to support more timely and efficient responses by market participants to any arising threats, including—

  (a) a short-term and medium-term PASA

  (b) an advance notice of closure requirement for gas supply and delivery infrastructure[22]

  (c) an objective threat signalling mechanism.

(3) Additional reliability and supply adequacy management tools, including a supplier of last resort and administered demand response mechanism (jointly referred to as a '**SoLR mechanism**'), that will leverage AEMO's existing trading function in s. 91AD(1)(f) of the NGL and enable it to manage any threats that are not addressed by the market more effectively.

(4) Improved alignment of the RSA framework with the GSOO and Victorian Gas Planning Report (**VGPR**) and, where appropriate, the NEM forecasting tools.

Together with the Stage 1 framework elements and existing mechanisms, the Stage 2 measures are expected to enhance the timeliness and efficiency with which market participants can respond to reliability and supply adequacy threats and only require AEMO to intervene as a last resort. They are expected to do so, by:

- providing market participants with greater visibility over intra-year reliability and supply adequacy (i.e. through the PASA) and allowing threats to be more objectively identified and communicated, which

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20 Further detail on Stage 1 of the RSA framework development can be found on the Energy and Climate Change Ministerial Council website.

21 Further detail on Stage 2 of the RSA framework development and the public submissions that were received in response to the consultation paper can be found on the Energy and Climate Change Ministerial Council website.

22 This has since been renamed 'Extension of Bulletin Board medium-term capacity reporting requirements for planned supply and delivery infrastructure closures', to better reflect the proposed obligations.

together will mean participants have a greater opportunity to respond to any such threats and potentially reduce or obviate the need for AEMO to use its last resort RSA management tools

- operating in a transparent and predictable manner through clear objectives, rules and guidance for AEMO, market participants and other market bodies, and
- providing an appropriate level of accountability for AEMO when exercising its reliability and supply adequacy functions.

Rule change requests

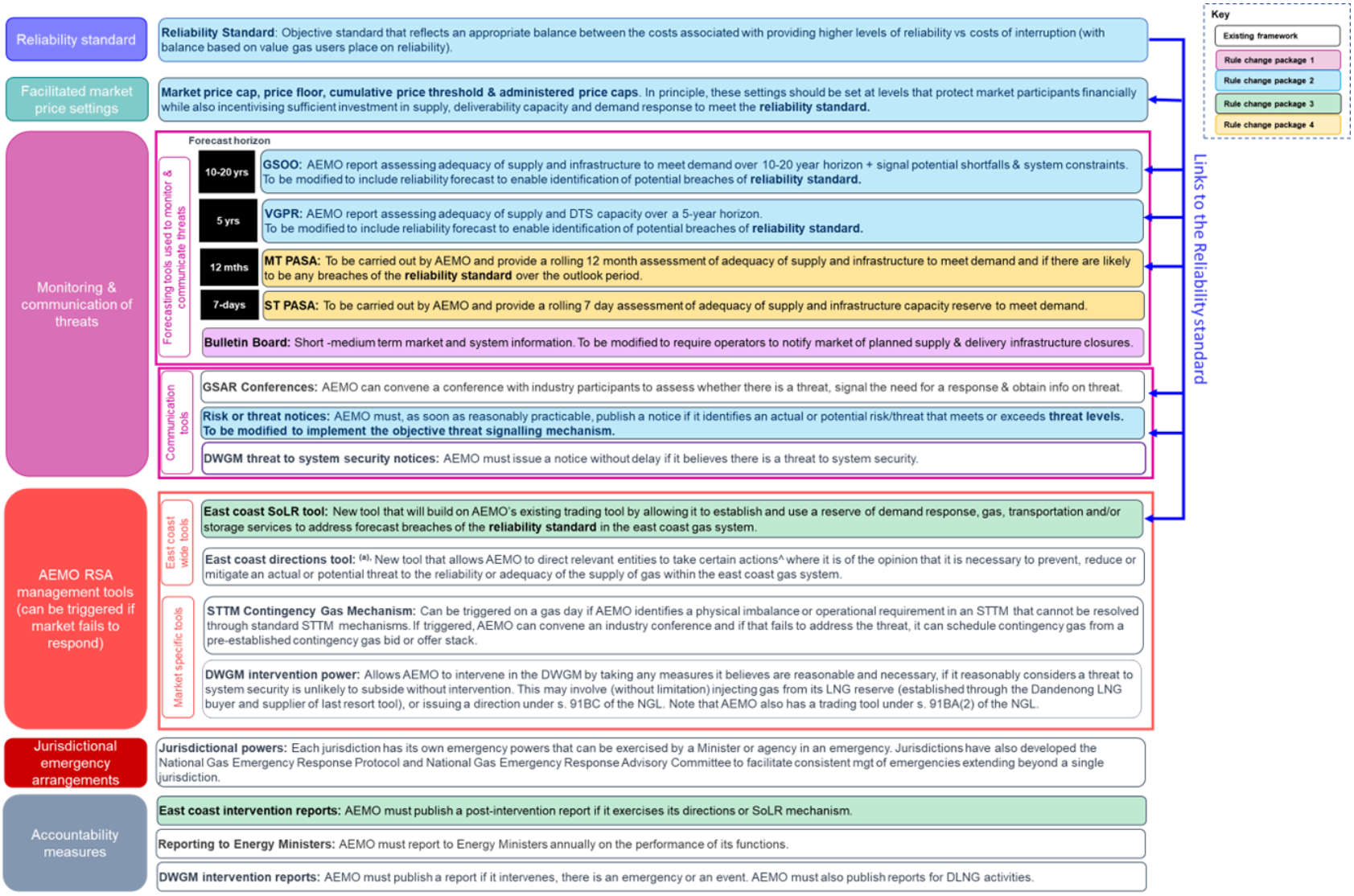
Figure 1.1 provides an overview of how the Stage 2 measures are intended to fit within the broader RSA framework. It also identifies the rule change requests that each of these measures form part of, with:

- the Extension of the Bulletin Board Medium Term Capacity Reporting Requirements for Planned Supply & Delivery Infrastructure Closures rule change request focusing on measure 2(b)
- the Reliability Standard & Associated Settings rule change request focusing on measures 1, 2(c) and 4
- the Supplier of Last Resort Mechanism rule change request focusing on measure 3
- the PASA rule change request focusing on measure 2(a).

While the Stage 2 measures are being dealt with in separate rule change requests, it is important to recognise that they are interrelated and will function most effectively if implemented as an integrated whole (although some staging may be possible). It is critical therefore that when considering any potential changes to the proposed rule changes, consideration is also given to the impact this could have on the other rule change requests.

Pending the outcome of the AEMC's rule change process, the reforms provided for in these rule changes could be progressively implemented between 2025 and 2026.

Figure 1.1: Proposed RSA Framework



Notes:
(a) The NGL identifies a number of potential directions that may be made, but notes that this list does not limit AEMO's directions power. The potential directions identified in the NGL include: (i) the operation, maintenance or use of any equipment or installation; (ii) the control of the flow of gas; (iii) any other matter that may affect the reliability or adequacy of the supply of gas. The NGR also states that AEMO must not give a direction in relation to natural gas owned or controlled by a relevant entity that exports LNG that is long-term contract gas within the meaning of the Customs (Prohibited Exports) Regulations 1958 (Commonwealth).

1.2 Focus of this rule change request

This is the third of four rule change requests to be submitted to the AEMC and relates to the proposed implementation of an east coast gas system SoLR mechanism.

Why is the rule change required?

As noted above, in Stage 1 of the RSA framework development, Energy Ministers agreed to prioritise the amendment of the NGL and NGR to provide AEMO with additional tools to address the threats to the reliability or adequacy of supply, which at the time were projected to occur in 2023. This included both the east coast gas system directions function and trading function.

Through the Stage 1 consultation process, stakeholders expressed a range of concerns about the proposed trading function. Stakeholders, for instance, pointed to the limited guidance provided in the NGR on when and how AEMO should use this function and the lack of equivalent guardrails to those employed in the Reliability and Emergency Reserve Trader (**RERT**) mechanism in the NEM.

While some steps were taken to address these concerns in Stage 1, it became clear through that process that a number of the framework elements that were to be considered in Stage 2, would need to be implemented to adequately address the concerns. This included the proposed implementation of a reliability standard, a measure of the value of gas customer reliability (**VGCR**) and a PASA. There was always an expectation therefore that further refinements to this function would need to be made in Stage 2.[23]

The need for these refinements has been reinforced over the last two years as the transition to lower emissions has continued to accelerate and the east coast gas system and NEM have become increasingly interrelated. It has, for example, become clearer that:

- participants in both the east coast gas system and the NEM require timely information on potential threats to the reliability or adequacy of supply, so that they have an opportunity to respond in a timely and efficient manner
- AEMO must have the appropriate tools in place to support reliability and supply adequacy in the east coast gas system (and potentially the NEM) where the market fails to do so, and a decision-making framework that supports its selection of the most cost-effective response.

The need for refinements has also been reinforced through the Stage 2 consultation process and the work undertaken by MJA during that consultation process. As outlined in Box 1.1, MJA found that market participants may be more reluctant to respond in the way they have done in the past. In doing so, MJA pointed to a number of potential market failures that may be[24] affecting the incentive and/or ability of market participants to contract and/or invest.[25] MJA also noted that the reluctance may be a rational response to evolving and uncertain future conditions, where gas demand and supply needs to reduce to meet climate objectives.[26]

It is against this backdrop that the proposed SoLR mechanism has been developed. Further detail on the problems that have been identified with the trading function provisions in Part 27 of the NGR and the options that were considered to address the problems can be found in **section 2**.

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23 See Extension of AEMO Functions and Powers to Manage Supply Adequacy in the East Coast Gas Market - Consultation Paper, September 2022, pp. 29-30.

24 As noted in Box 1.1, the potential market failures include information asymmetries, free rider issues, market power issues, market participants not facing the full economic costs of reliability and supply adequacy, investment constraints and/or coordination failures.

25 MJA, Adequacy of Gas Supply: Factors impacting retailer and generator contracting, March 2023, pp. 59-61.

26 ibid.

How was the proposed design of the SoLR mechanism developed?

The design of the proposed SoLR mechanism, which forms the basis for this rule change request, has been developed having regard to:

- the guiding principles that were established for the RSA framework (Box 1.2)
- the feedback that stakeholders provided in response to the Stage 2 consultation process
- the design of both the RERT in the NEM (see Appendix B) and the Dandenong LNG buyer and supplier of last resort mechanism (**DLNG last resort mechanism**) (see Appendix C).

It is worth noting that while consideration has been given to the RERT mechanism, there are a number of **important differences between the east coast gas system and NEM**. The proposed design of the SoLR mechanism is not therefore intended to simply replicate what applies in the NEM. Rather, it is intended to reflect the physical and operational characteristics of gas supply, and the market, regulatory and governance arrangements used in the east coast gas systems, all of which differ from what applies in the NEM. Further detail on these differences can be found in Box A.2 in Appendix A.

Box 1.2: Guiding principles for RSA framework

In keeping with the NGO, the RSA framework should be designed:

To promote efficient investment in, and efficient operation and use of, covered gas services for the long-term interests of consumers of covered gas with respect to:

(a) price, quality, safety, reliability and security of supply of covered gas; and
(b) the achievement of targets set by a participating jurisdiction—
(i) for reducing Australia's greenhouse gas emissions; or
(ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

The framework should also recognise that a market-led response will generally result in a more efficient outcome than intervention by AEMO. The framework should therefore only require AEMO to intervene as a last resort and encourage timely and efficient market responses by:

- providing market participants with greater visibility of the reliability and adequacy of supply over the short, medium and longer term, allowing threats to be objectively identified and communicated in a timely manner
- operating in a transparent and predictable manner through the adoption of clear objectives, rules and guidance for market participants and market bodies, and an appropriate level of accountability for AEMO.

Consistent with best practice regulation, the framework should also be:

- targeted, fit for purpose and proportionate to the issues it is intended to address
- as simple and well-integrated with existing market and regulatory arrangements as possible
- designed in a way that minimises administrative burdens and compliance costs
- flexible enough to adjust to changing market conditions.

What is the proposed design of the SoLR mechanism?

The proposed SoLR mechanism is intended to be a **last resort tool** that can be used by AEMO if it has identified an actual or potential breach (jointly a 'forecast breach') of the proposed **reliability standard**, communicated this to the market, but participant actions have failed to address the forecast breach.

If this occurs and AEMO considers the use of the SoLR mechanism, on its own, or in combination with other tools, to be **necessary to prevent, reduce or mitigate a forecast breach of the reliability standard**, having regard to a number of matters (including the cost and effectiveness of all the tools available to it, including those in the NEM), AEMO may:

- establish a storage reserve(s) and/or a reserve of any other gas supply, pipeline, compression, blend processing, storage and/or demand response services

- use the reserve if the latest available time for market participants to respond to the threat has been reached and other conditions for its use have been met.

The proposal to require AEMO to consider all the tools available to it (including those available to it in the NEM) before triggering this mechanism or using a reserve, is intended to recognise the increasing interrelationship between the gas and electricity markets and the need to manage reliability and supply adequacy in a more integrated way across the markets.

The proposed design is also intended to address the concerns that have been raised with the existing trading function provisions in Part 27 of the NGR, by providing:

- clearer guidance on when and how this last resort tool should be used
- more objective conditions to be met before triggering the SoLR mechanism and using any SoLR reserve
- the application of more guardrails around AEMO's use of the SoLR mechanism to manage the costs and risks that may otherwise be associated with this type of tool, while also supporting emissions reduction
- greater accountability and transparency of AEMO's SoLR related actions
- the removal of a number of unnecessary restrictions on the actions AEMO can take if this mechanism is triggered (including the current $35 million cap and the restriction to procuring supply products).

These elements of the proposed design can be seen in Table 1.1 (see also Figure 3.1).

Table 1.1: Key elements of the proposed design of the SoLR mechanism

Element	Description
Pre-conditions for triggering the SoLR mechanism	The proposed design is intended to provide for the SoLR mechanism to operate in a transparent and predictable manner by specifying clear and objective pre-conditions for triggering this mechanism. The proposed pre-conditions require AEMO to: ▪ have identified a forecast breach of the proposed reliability standard in the latest GSOO or proposed PASA ▪ have communicated the forecast breach to the market through a risk or threat notice ▪ be of the opinion that use of the SoLR mechanism, either alone or in combination with other tools available to it, is **necessary** to prevent, reduce or mitigate the forecast breach of the reliability standard, having regard to: – the nature and size of the forecast breach of the reliability standard and the adequacy or feasibility of any response (or likely response) to the forecast breach by market participants – the **RSA tool assessment criteria**, which require AEMO to: • consider the costs and effectiveness of all the tools available to it to address the forecast breach, including those available under the NGL/NGR and NEL/NER • use its reasonable endeavours to choose the tool, or combination of tools, that is effective in addressing the forecast breach, while minimising the cost of using the tool or tools – the NGO.

Element	Description
Establishment of the SoLR reserve	The proposed design is intended to provide greater guidance on how AEMO is to establish a SoLR reserve if the pre-conditions have been met, including by: ▪ requiring AEMO to notify the market and affected jurisdictions before starting to establish a reserve ▪ setting out: – the types of reserves AEMO could establish (i.e. a Storage SoLR reserve and/or an Other SoLR reserve) – the products and services it could procure (i.e. demand response, covered gas and infrastructure services) – how the risk of crowding out is to be addressed (i.e. through similar approaches to the DLNG last resort mechanism and RERT) – the constraints that would apply to the size, term and cost of any reserve that AEMO establishes and the principles and other matters it would be required to have regard to when establishing the reserve (including the requirement to have regard to the greenhouse gas emissions targets set out in the targets statement) the procurement process AEMO is to follow when entering into reserve contracts or using facilitated markets, which amongst other things, requires AEMO to use a competitive tender process, where there is sufficient time.
Use of the SoLR reserve	The proposed design is intended to provide clear guidance on when and how AEMO would be able to use a SoLR reserve that it has established by specifying: ▪ objective conditions for using the reserve, which, in short, require: – AEMO to have issued a notice advising the market of the latest time it would need to use the reserve – the latest time for using the reserve to address the forecast breach to have been reached – AEMO to be of the opinion that use of the SoLR reserve, either alone or in combination with other tools, is **necessary** to prevent, reduce or mitigate the forecast breach of the reliability standard, having used its reasonable endeavours to have regard to the **RSA tool assessment criteria** and the NGO – AEMO to have used its reasonable endeavours to notify affected jurisdictions ▪ the notices AEMO would be required to issue so market participants know when it is using the reserve ▪ the principles AEMO would be required to have regard to when using the reserve.
Cost recovery-proceeds distribution	The proposed design provides for the replacement of the trading fund with a more transparent and equitable cost recovery-proceeds distribution mechanism that mirrors the mechanisms used in the RERT and DLNG last resort mechanism and allows for some costs to be recovered from NEM participants, where appropriate.
Accountability measures	The proposed design is intended to provide for an appropriate level of accountability and transparency of AEMO's SoLR related activities by requiring AEMO to maintain separate financial accounts related to the SoLR mechanism and publish biannual reports on its SoLR activities. Consistent with the current rules, AEMO would also be required to publish post intervention reports and report to Energy Ministers on its east coast functions.

As Table 1.1 highlights, the proposed SoLR mechanism (with its mix of reserve and product/service levers, including storage and demand-response) is intended to enable AEMO to respond more effectively and efficiently to forecast breaches of the reliability standard the market fails to address, while also minimising conflicts of interest, distortionary market effects and costs to covered gas consumers.

The table also highlights the interlinkages between this rule change request and the other Stage 2 rule change requests, with a number of the measures proposed in the Reliability Standard & Associated Settings and PASA rule change requests being assumed to be in place when the SoLR mechanism commences. If, for some reason, the AEMC decides not to implement any of these measures, further consideration would need to be given to how to guide and frame how AEMO is to use the SoLR mechanism (or the existing trading function). Similarly, if the AEMC delays the implementation of these measures, it would need to consider what, if any, additional transitional arrangements may be required for the SoLR mechanism.

Further detail on the proposed design of the SoLR mechanism is provided in **section 3**.

What changes would need to be made to the NGR to give effect to the proposed SoLR mechanism?

To give effect to the proposed SoLR mechanism, the existing trading function provisions in Part 27 of the NGR would need to be replaced with a number of new provisions. Some modifications would also need to be made to existing rules that jointly deal with east coast gas system directions and trading functions.

Consequential changes may also be required in Parts 15B, 19 and 20 of the NGR. Transitional rules in Schedule 1 of the NGR may also be required.

Further detail on the changes that would need to be made to the NGR to implement the proposed SoLR mechanism is provided in **section** 4**.**

How is the proposed rule change expected to contribute to the NGO?

The proposed rule change is expected to contribute to the NGO by:

- maintaining or improving the reliability and security of supply of covered gas
- promoting efficient investment in and the efficient operation and use of covered gas services
- contributing indirectly to the achievement of jurisdictional greenhouse gas emissions targets,

all of which are in the long term interests of consumers of covered gas in the east coast gas system.

Consistent with best practice regulation, the proposed SoLR mechanism is also intended to provide for predictability, stability, transparency and accountability and to be:

- targeted, fit for purpose and proportionate to the issues it is intended to address
- as simple and well-integrated with existing market and regulatory arrangements as possible
- designed in a way that minimises administrative burdens and compliance costs
- flexible enough to adjust to changing market conditions.

Further detail on how the proposed rule change is expected to contribute to the NGO is provided in **section 5**, while **section 6** sets out its expected benefits, costs and potential impacts on affected parties.

What impact will the proposed rule change have on AEMO's other RSA management tools?

The proposed rule change is **not** intended to affect the operation or use of any of the other RSA management tools available to AEMO. It is **not**, for instance, intended to affect AEMO's ability to use:

- its directions function if it is of the opinion that it is necessary to prevent, reduce or mitigate an actual or potential threat to the reliability or adequacy of supply in the east coast gas system
- the market specific tools available to AEMO in the DWGM (i.e. the DWGM intervention power) and STTM (i.e. the Contingency Gas Mechanism).

1.3 AEMC's power to make the proposed rule

A number of the powers that the AEMC will require to make the proposed rules were implemented in Stage 1 of the RSA framework development and are set out in sections 74, 91AD(5) and 91AG, and Schedule 1 of the NGL. Of particular relevance to this rule change request are:

- Section 74(1) of the NGL, which allows the AEMC to make rules for, or with respect to:
  - AEMO's east coast gas system reliability and supply adequacy functions (s. 74(1)(ac))
  - the regulation of:
    - the reliability or adequacy of the supply of covered gas within the east coast gas system (s. 74(1)(a)(viia))
    - AEMO's declared system functions and the operation of a declared wholesale gas market (s. 74(1)(a)(v))
    - AEMO's STTM functions and the operation of a short term trading market of an adoptive jurisdiction (s. 74(1)(a)(va)).

- Section 91AD(5) of the NGL, which states that the Rules may specify:
  - the matters that AEMO may or must consider in determining there is or is not an actual or potential threat to the reliability or adequacy of the supply of covered gas within the east coast gas system (s. 91AD(5)(a))
  - the matters that AEMO may or must consider in determining whether to exercise the trading function specified in 91AD(1)(f) (s. 91AD(5)(c)).
- Section 91AG of the NGL, which states that the East Coast Gas System Procedures may deal with:
  - the matters specified by the Rules
  - any other matter relevant to AEMO's east coast gas system reliability and supply adequacy functions on which this Law or the Rules contemplate the making of Procedures.
- Section 74(2) and schedule 1 of the NGL, which allows the AEMC to make rules relating to:
  - the way in which AEMO must use or consider the reliability standards in the exercise of its east coast gas system reliability and supply adequacy functions (cl. 55V)
  - arrangements to enable AEMO to contract with other parties to reduce or curtail natural gas demand (cl. 55X)
  - arrangements to procure, by or on behalf of AEMO, the supply or storage of covered gas, transport capacity and other services for the purposes of AEMO's east coast gas system reliability and supply adequacy functions, including the terms and conditions of the procurement (cl. 55Z)
  - measures or mechanisms that must or may be implemented in response to actual or potential threats to the reliability or adequacy of the supply of covered gas within the east coast gas system (cl. 55ZA)
  - the payment of fees and charges under s. 91E to enable AEMO to recover costs relating to its east coast gas system reliability and supply adequacy functions (cl. 55ZD).

In accordance with s. 291(1) of the NGL, the AEMC may only make a rule if it is satisfied the rule will, or is likely to, contribute to the achievement of the NGO. Any request for the making of such a rule must also address the matters set out in regulation 13 of the National Gas (South Australia) Regulations (**Regulations**), including (amongst other things) setting out the expected benefits and costs of the proposed rule change and potential impacts it may have on other parties.

1.4 Structure of this rule change request

In keeping with the rule change requirements set out in the NGL and regulation 13 of the Regulations, the remainder of this rule change request is structured as follows:

- Section 2 outlines the nature and scope of the issues that have been identified with the current rules, the options that have been identified to address these issues and the preferred option.
- Section 3 provides an overview of the proposed design of the SoLR mechanism and how it would address the problems that have been identified.
- Section 4 contains a high level overview of the changes that would need to be made to the NGR to implement the proposed SoLR mechanism.
- Section 5 explains how the proposed rule change will or is likely to contribute to achieving the NGO.
- Section 6 sets out the expected costs and benefits of the proposed change and the potential impacts it may have on those parties that are likely to be affected by the rule change.

1.5 References to natural gas, covered gases and gas

The national gas regulatory framework has recently been extended to hydrogen and renewable gases

Following proclamation of the *Statutes Amendment (National Energy Laws) (Other Gases) Act 2023* on 7 March 2024, many references to 'natural gas' in the NGL have been changed to 'covered gas'. The term 'covered gas' is defined in s 2 of the NGL as a primary gas (i.e. natural gas, hydrogen, biomethane, synthetic methane, a substance prescribed by the Regulations or by a local regulation in a participating jurisdiction) or a gas blend (i.e. primary gases that have been blended together). For the purposes of this rule change request, all references to natural gas and gas can be taken to be a reference to 'covered gas'.

1.6 Dandenong LNG last resort mechanism

This rule change request does **not** seek to amend the DLNG last resort mechanism (an interim measure that is due to expire at end-2025) as it relates to AEMO's declared system functions. Any request to amend these rules, or to extend its operation can therefore be made only by the Victorian Minister or AEMO.[27]

[27] See section 295 of the NGL. The service provider of the DTS can also submit a rule change.

2 Statement of issues

This section provides an overview of the problems that have been identified with the current trading function arrangements in Part 27 of the NGR, the options that have been considered to address these problems and the preferred option, which forms the basis for this rule change.

2.1 Issues identified with the current rules

2.1.1 What do the rules currently provide for?

New functions provided for in Stage 1

As part of the Stage 1 RSA framework development, Energy Ministers agreed to amend the NGL and NGR to provide AEMO with two new RSA management tools that it could use to address threats to the reliability or adequacy of supply in the east coast gas system. As outlined in section 1.1, the implementation of these new tools was fast-tracked to ensure that AEMO could, if necessary, take action to address the reliability and supply adequacy threats that were projected to arise in winter 2023.

The two new tools, which in many cases may be substitutes for each other, are:

- an **east coast gas system trading function**, which AEMO can currently use to trade in gas or to purchase pipeline, compression or storage services (s. 91AD(1)(f) of the NGL)
- an **east coast gas system directions function**, which AEMO can use to direct relevant entities to take specific actions relating to the operation, maintenance or use any equipment or installation, the control of the flow of gas, or any matter that may affect the reliability or adequacy of the supply of gas (s. 91AD(1)(e) of the NGL).[28]

In keeping with ss. 91AD(2) and 91AF(2) of the NGL, AEMO can only exercise these functions where it is of the opinion that it is necessary to prevent, reduce or mitigate an actual or potential threat to the reliability or adequacy of supply in the east coast gas system that AEMO has identified and communicated to the market. That is, they can only be used as a last resort.

Part 27 of the NGR provides further detail on how AEMO is expected to exercise these new functions. Rule 699, for instance, requires AEMO to have regard to the following principles when determining whether to exercise its trading or direction functions, to the extent it considers appropriate given the nature, timing or circumstances of the identified risk or threat:[29]

- industry should be given a reasonable period of time to take action to mitigate the risk or threat
- engagement with affected jurisdictions should commence in a timely manner
- safety should not be compromised
- distortionary impacts on the east coast gas system and industry, and consumer costs on which AEMO has information, should be, to the extent reasonably practicable, minimised.

Part 27 of the NGR also sets out the process AEMO is to follow if it exercises either of these functions and the funding arrangements applicable to the trading function.

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[28] The only limitation on this power is that AEMO cannot issue a direction to an LNG exporter that relates to long-term contract gas as that term is defined in the *Customs (Prohibited Exports) Regulations 1958* (Commonwealth). See section 91AF(3) of the NGL and rule 701 of the NGR.

[29] See rule 699 of the NGR.

At a high level, the trading function specific rules in Part 27 of the NGR:[30]

- require AEMO to establish and maintain a trading fund, the total funding capacity of which has been capped at $35 million (real 30 June 2022)[31] for each financial year (rules 708-710)
- set out what the trading fund may be used for (i.e. to trade in gas or to purchase pipeline services or services provided by compression or storage providers) (rule 708)
- specify how the trading fund is to be funded (i.e. through participant fees, contributions by relevant entities identified by AEMO, funds from other sources, including a debt facility, interest on money held in the fund and or any money earned from trading in gas) (rule 709)
- require AEMO to publish a notice as soon as reasonably practicable after the exercise of the trading function and a post-intervention report within 4 months it exercises this function (rules 697-698).

In addition to these provisions in the NGR, s. 91AD(3) of the NGL requires AEMO to develop guidelines relating to the exercise of its trading and directions functions (the East Coast Gas System Guidelines **(ECGS Guidelines**)). These guidelines set out amongst other things how AEMO may exercise the trading function, the principles it will consider when performing the function and an overview of its procurement process.[32] AEMO's East Coast Gas System Procedures (**ECGS Procedures**) also provide further detail on the funding arrangements for the trading function and the notices AEMO is required to publish if it exercises this function.[33]

Further detail on the trading function provisions in the NGL, NGR, Regulations and other subordinate instruments can be found in Appendix E.

Market specific tools available to AEMO

In addition to the east coast-wide tools that were implemented in Stage 1 of the RSA framework development, AEMO may, depending on the nature and location of the threat, be able to have recourse to the following tools in the facilitated gas markets: [34]

- The **STTM contingency gas mechanism,** which can be used if AEMO identifies a physical imbalance or operational requirement in an STTM that cannot be resolved through standard mechanisms. If triggered, AEMO can convene an industry conference to try and resolve the threat. If this fails, AEMO can schedule contingency gas,[35] which, in the case of a projected gas shortfall, may be based on participant offers to increase supply and/or to reduce demand.[36]
- The **DWGM intervention power**, which can be used if AEMO reasonably considers a threat to system security is unlikely to subside without intervention.[37] This power allows AEMO to take any measures it

30 See rules 698 and 708-710 of the NGR. The participant fee provisions in Part 15A of the NGR and the Procedure provisions in Part 15B of the NGR also contain a number of provisions pertaining to the trading fund.

31 Provision has been made for this amount to be escalated annually by CPI.

32 AEMO, East Coast Gas System Guidelines, March 2023 (see here).

33 AEMO, East Coast Gas System Procedures, May 2023 (see here).

34 The NGL also allows AEMO to: trade in covered gas to the extent necessary or desirable: to provide market operator services (s. 91BRB of the NGL); trade in covered gas to the extent necessary or desirable for the efficient operation of a gas trading exchange (s. 91BRK); and/or trade in covered gas or purchase pipeline services or services provided by a compression service provider, blend processing service provider or a storage provider to the extent necessary or desirable for the safety, security or reliability of a DTS or in an emergency (s. 91BA of the NGL).

35 If AEMO determines that contingency gas is required, trading participants that have submitted contingency gas offers or bids must confirm their offers or bids. AEMO can then schedule contingency gas. If the contingency gas is for increased supply to the STTM, AEMO will create a contingency gas offer stack and schedule them in order of increasing price. If, on the other hand, contingency gas is for reduced supply to the STTM, AEMO will create a contingency gas bid stack and schedule them in order of decreasing price.

36 See Division 8 of Part 20 of the NGR.

37 See rule 343 of the NGR.

believes are reasonable and necessary to overcome such a threat, including (without limitation):

- injecting gas from its LNG reserve (established using the DLNG last resort mechanism[38] and AEMO's DWGM trading function in s. 91BA(2) of the NGL)[39]
- issuing directions under s. 91BC of the NGL (e.g. to curtail demand in accordance with the emergency curtailment list, inject more gas, or to do any reasonable act or thing AEMO believes necessary in the circumstances).[40]

2.1.2 What are the issues with the current rules?

Background

Through the Stage 1 consultation process, stakeholders expressed concerns with the proposed trading function and suggested a range of changes to the NGL and NGR to:

- make it clear that the trading function should only be used as a last resort
- provide clear and objective guidance to AEMO and market participants on when and how this function should be exercised
- apply similar guardrails to those applying to the RERT in the NEM.[41]

While steps were taken in Stage 1 to address some of these concerns,[42] it became clear through that process that many of the framework elements that were to be considered in Stage 2, such as a reliability standard and the associated settings, would need to be implemented before the trading function could be subject to similar constraints as those applying to the RERT. For example, in the NEM:

- the procurement and use of reserves under the RERT is linked to forecast breaches of the reliability standard (as identified in the Electricity Statement of Opportunities and PASA, and signalled through the Low Reserve (**LR**) or Lack of Reserve (**LOR**) threat signalling mechanism)
- the value of customer reliability is intended to place some constraint on how much AEMO pays for reserves.

It was not therefore possible to address all of the concerns stakeholders raised in Stage 1. It was, however, made clear through the Stage 1 consultation process that further refinements were likely to be made to this function through Stage 2 of the framework development, including to, amongst other things:[43]

- implement a reliability standard that would establish a threshold for action by AEMO, including the use of the trading function
- enable AEMO to contract unused storage capacity through a RERT-style framework, or by providing AEMO powers to purchase gas storage for reliability and supply adequacy purposes

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38 This tool was implemented in December 2022 and allows AEMO to act as both buyer and supplier of last resort for the DLNG facility between 2023 and 2025. See AEMC, National Gas Amendment (DWGM interim LNG storage measures) Rule 2022, 15 December 2022.

39 Section 91BA(2) of the NGL allows AEMO to trade in gas or to purchase pipeline, compression or storage services to the extent necessary or desirable for the safety, security or reliability of a declared transmission system (DTS) or in an emergency.

40 Section 91BC of the NGL allows AEMO to give written directions to registered participants (or exempted participants) with respect to a DTS or a declared distribution system (DDS) (s. 91BC): to maintain and improve the reliability of the supply of gas; to maintain and improve the security of a DTS or DDS; and/or in the interests of public safety.

41 See Energy Ministers, Information Paper: Extending AEMO's functions and powers to manage east coast gas system reliability & supply adequacy, February 2023, for more detail.

42 For example, sections 91AD and 91AF in the draft Bill were amended to limit the circumstances in which AEMO can exercise its trading or directions tools. That is, to limit it from being able to use the tools to maintain or improve the reliability or adequacy of supply, to only be able to use the tools where AEMO is of the opinion that it is necessary to prevent, reduce or mitigate an actual or potential threat that it has identified in the exercise of its east coast gas system identification and communication function. The NGR were also amended to specify a set of principles AEMO must have regard to when deciding to exercise this function and require AEMO to issue a notice as soon as reasonably practicable after exercising this function and a post-intervention report, within 4 months of the exercise of the function.

43 Extension of AEMO Functions and Powers to Manage Supply Adequacy in the East Coast Gas Market - Consultation Paper, September 2022, pp. 29-30.

- enable AEMO to tender for demand response through a RERT-style framework.

Issues identified with the current rules

The key issues that have been identified with the existing trading function provisions in Part 27 of the NGR are that they **do not**:

(a) provide clear and objective guidance to AEMO or market participants on when and how this function should be exercised

(b) impose appropriate guardrails around the use of this function, particularly given its *potential* to:
   - impose unnecessary costs on gas users
   - give rise to a perceived conflict of interest for AEMO in the facilitated markets if AEMO is competing with market participants to procure gas or other services
   - have a range of distortionary market impacts, including potentially crowding out market participants and reducing their incentive to address the threats.

This is in direct contrast to the RERT in the NEM and the DLNG last resort mechanism, both of which provide clear and objective guidance on when and how the mechanisms should be used and impose a number of constraints on the use of these tools (see Table 2.1 and Appendix B and Appendix C).

Some of the other limitations that have been identified with the trading function provisions are that:

- the funding arrangements in Part 27 of the NGR:
  - provide no guidance to AEMO on how it should allocate costs, or distribute proceeds
  - do not currently recognise AEMO's ability to recover any costs it incurs from NEM participants, even in those cases where the trading function is used to address a reliability or supply adequacy threat brought about by an event in the NEM (e.g. a coal fired generator outage)
- pose a $35 million (real June 2022) per annum (p.a.) cap on AEMO's use of this function,[44] which may unnecessarily restrict the actions AEMO can take
- the rules do not currently specify how AEMO is to manage any potential conflict of interest it may face if it participates in the facilitated markets (i.e. the DWGM, STTM, Gas Supply Hub (**GSH**) and/or the Day-Ahead Auction (**DAA**) of contracted but unnominated transportation capacity)[45]
- the rules do not currently allow AEMO to procure demand response,[46] even where demand response would be a lower cost option than increasing supply.

[44] See rule 709 of the NGR.

[45] Note that AEMO has sought to address this to some extent in its East Coast Gas System Guidelines.

[46] For example, sections 91AD(f) of the NGL and rule 708(2) of the NGR currently only allow AEMO to procure gas, pipeline services, compression services and storage services.

Table 2.1: Guardrails employed in the RERT and DLNG last resort mechanism

	RERT (NER)	DLNG last resort Mechanism (NGR)
Constraints on the establishment of a reserve and the use of that reserve	▪ Rules 3.20.3 and 11.128.4(f) of the NER only allow AEMO to enter into a reserve contract if it has declared a low reserve (LR) or lack of reserve (LOR) condition, or if the AER has made a T-1 instrument under the Retailer Reliability Obligation. ▪ Rule 3.20.2 of the NER requires AEMO to have regard to the RERT Principles when contracting or using RERT. In conditions of supply scarcity, rule 3.8.14 requires AEMO to use reasonable endeavours to choose the supply scarcity tool (i.e. RERT or directions and instructions power) (or combination) that is effective in addressing the condition, while minimising costs. ▪ Rule 3.20.7 of the NER allows AEMO to use the reserve to ensure the reliability standard is met in a region, or where practicable, to maintain power system security, if it considers the latest time for exercising RERT has arrived.	▪ Rule 343 of the NGR only allows AEMO to use the LNG reserve if it reasonably considers that a threat to system security is unlikely to subside without intervention. ▪ Rule 285 sets out how AEMO is to utilise the LNG reserve, including how it is to be reflected in market schedules and prices at which this can occur.
Constraints on the reserve size and costs	▪ Rule 3.20.3 of the NER requires AEMO to use its reasonable endeavours to ensure that the amount and term of the reserve it contracts is no more than what it considers is reasonably necessary to address the LR or LOR condition. ▪ The RERT Principles in rule 3.20.2(b) of the NER require AEMO to have regard to the principle that the average amount payable under reserve contracts for each MWh should not exceed the estimated average value of customer reliability for the relevant region.	▪ Rules 282(3)-(7) sets out how much storage capacity AEMO can procure.
Measures to address conflicts of interest	▪ Rule 3.20.3 only allows AEMO to procure 'out of the market' reserves. ▪ Rule 3.9.3 sets out how prices are to be determined in the NEM if AEMO is intervening in the market (including through the dispatch or activation of its reserve).	▪ Rule 285 sets out how AEMO is to interact with the market if the LNG reserve is to be used (including requiring all other market participants' LNG injection bids to have been scheduled and specifying the price at which AEMO's LNG reserve is to be bid in (i.e. at the Value of Lost Load (VoLL)).
Risk of crowding out market participants	▪ Rule 3.20.3 only allows AEMO to procure 'out of the market' reserves.	▪ Rule 286 of the NGR requires AEMO to relinquish LNG storage capacity to the storage provider if it is required to satisfy a request by a market participant.
Cost recovery-proceeds distribution arrangements	▪ Rules 3.15.9-3.15.9A of the NER set out how AEMO is to recover net liabilities or distribute net profits associated with the RERT. At a high level, this mechanism provides for net liabilities/net profits to be allocated to Market Customers based on their gross energy usage in the region that the reserve was established for. If the RRO mechanism has been triggered, then it also allows a share of costs identified as Procurer of Last Resort (PoLR) costs to be allocated to entities that have not entered into sufficient contracts (PoLR liable entities).	▪ Rule 286B of the NER sets out how AEMO is to recover its costs and distribute any proceeds it receives.
Accountability measures	▪ AEMO is required by rules 3.20.5 and 3.20.6 of the NER to: – maintain separate books for RERT functions – publish post-dispatch or activation reports if it uses the reserve – publish quarterly and end of financial year RERT reports outlining its RERT related activities.	▪ AEMO is required by rules 351 and 286C of the NGR to publish: – an intervention report if it uses the LNG reserve – biannual reports on its use of the LNG reserve in the preceding 6 months (by 1 May and 1 November).

The inability of AEMO to use its trading function to procure demand response is a more general deficiency in the NGR, with no administered demand response mechanism currently provided for in the rules. To get a better understanding of the potential benefits of providing for such a mechanism in the RSA framework, Officials retained ACIL Allen in 2023 to undertake a study on the potential for demand response in the east coast gas system and any potential barriers to this occurring. The results of this study are summarised in Appendix D.[47] In short, ACIL Allen found that:

- While residential, small commercial customers and GPGs in the east coast were unlikely to be able to offer a material amount of demand response on a commercial basis, there were some commercial and industrial (**C&I**) users that could do so.
- C&I users can face significant operational and commercial barriers when using existing market and commercial demand response mechanisms and that there are some C&I users that are not in a position to respond. For those that may be able to respond, ACIL Allen found the main barriers to doing so were:
  - the time it can take these users to respond, which may mean they cannot respond within the time windows provided by the facilitated markets
  - the locational aspects of demand response (i.e. because gas is a physical commodity any response will be located in the relevant part of the gas system)
  - the financial incentive provided by the existing market mechanisms.

To overcome these barriers, ACIL Allen suggested that consideration be given to implementing an administered demand response mechanism, which could operate on either a stand-alone basis, or as part of a broader SoLR mechanism.

In this regard, it is worth noting that while the trading function provisions in the NGL and NGR do not currently allow AEMO to procure demand response, provision was made in Stage 1 of the RSA framework development for rules to be made to enable "AEMO to contract with other parties to reduce or curtail their gas demand".[48] No such rules have yet been made.

2.2 Options considered to address the identified issues

Through the Stage 2 consultation process, the following options were identified to address the issues with the trading function provisions outlined above:

- **Option 1:** Retain the existing trading function arrangements in Part 27 of the NGR (**do nothing option**).
- **Option 2:** Replace the trading function arrangements in Part 27 of the NGR with a SoLR tool that can be used to address either:
  - southern jurisdiction winter deliverability threats (see Box 1.1 for more detail on these threats) (**Option 2A**), or
  - east-coast-wide threats to the reliability or adequacy of supply (**Option 2B**).
- **Option 3:** Implement an administered demand response mechanism that operates on either a stand-alone basis, or as part of a SoLR tool (if implemented).

Further detail on these options and the feedback stakeholders provided is set out below.

47 ACIL Allen, Gas demand management, March 2023.
48 See clause 55X in Schedule 1 of the NGR.

2.2.1 Option 1: Retain the existing trading function arrangements (do nothing option)

Description of the option

Under this option, the existing trading function provisions set out in Part 27 would be maintained.

AEMO would therefore be able to continue to use the trading function to trade in gas and to procure pipeline, compression and/or storage services up to a cap of $35 million (real June 2022) p.a., if it is of the opinion that it is necessary to prevent, reduce or mitigate an actual or potential threat that it has identified and communicated to the market. AEMO's use of this function would not be subject to any other constraints. The problems that have been identified with these arrangements (see section 2.1.2) would therefore remain under this option.

Stakeholder feedback on the option

This option was not expressly consulted on in the Stage 2 Consultation Paper. A small number of stakeholders did, however, reiterate the concerns that they raised with the trading function through the Stage 1 consultation process.[49]

Some also raised concerns about the potential risks associated with the SoLR tool if not properly designed, which are equally applicable to this option (see section 2.2.2 for more detail). This includes the risks that the exercise of the trading function:

- imposes significant and potentially unnecessary costs on gas users
- gives rise to a conflict of interest for AEMO
- crowds out market participants and reduces their incentive to address threats.

Analysis of option

Given the problems that have been identified with the current trading function provisions and the fact that these provisions were always expected to require further refinement in Stage 2 (see section 2.1.2), the maintenance of the existing arrangements is not considered a credible option.

2.2.2 Option 2: Replace the trading function arrangements in the NGR with a SoLR tool

Description of the option

To address the concerns raised with the current trading function arrangements in Part 27 of the NGR, this option provides for the implementation of a SoLR tool. Like the current trading function arrangements in Part 27 of the NGR, the SoLR tool would utilise the east coast gas system trading function set out in s. 91AD of the NGL. AEMO's use of this tool would, however, be subject to more guardrails, with changes to the NGR made to ensure that it also operates in a more transparent, objective and predictable manner.

The two design options that were tested with stakeholders in the Stage 2 consultation process, were:

A. A SoLR tool that targets winter deliverability threats in the southern jurisdictions (Option 2A)[50]

Under this option, AEMO would be able to establish a storage reserve[51] ahead of time for winter and to procure and use any other gas supply, pipeline and/or compression reserves that may be required to address a forecast winter deliverability reliability gap in the south.

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49 See here for the submissions received to the Stage 2 Consultation Paper and here for submissions to the Stage 1 consultation process.

50 Further detail on this option can be found in section 4.3.3 of the Stage 2 Consultation Paper.

51 The storage reserve could be held in underground storage, LNG storage, pipeline storage and/or an LNG import facility (if any are developed).

The size of the reserve that AEMO could hold would be based on the forecast winter deliverability reliability gap (calculated using the reliability standard), with the maximum price payable for reserves subject to the principle that it should not exceed the average VGCR for the relevant location.

In a similar manner to the RERT, AEMO would only be able to use the reserve if it has notified the market of its intention to do so and the last available time for doing so has been reached. AEMO would also be required to:

- consider the relative cost and effectiveness of using this tool *vis-à-vis* other tools
- only take actions it reasonably expects to have the least distortionary effect on the market and maximise the effectiveness of reserve contracts at least cost.

The use of this tool could also be subject to similar cost recovery arrangements and accountability measures as those applying to the RERT and/or DLNG last resort mechanism (see Table 2.1).

B. An east coast wide SoLR tool (**Option 2B**).

This option builds on Option 2A, by allowing AEMO to establish a storage reserve and to procure any other gas supply, pipeline, compression and/or storage reserves required to address a forecast reliability gap that it identifies across the east coast gas system.

In a similar manner to the RERT, the maximum size of the reserve could be based on the forecast breach of the reliability standard in the relevant location and the maximum amount AEMO could pay for reserves could be subject to the principle that it should not exceed the average VGCR for that location. The establishment and use of the reserve could also be subject to similar constraints, cost recovery arrangements and accountability measures as those applying to the RERT and/or DLNG last resort mechanism (see Table 2.1).

The key difference between these two sub-options is that under Option 2A, the SoLR tool could only be used to address winter deliverability issues in southern jurisdictions, while under Option 2B it could be used to address a broader range of threats in the east coast gas system.

Stakeholder feedback on the options

Most stakeholders that responded to the Stage 2 Consultation Paper were either opposed to the implementation of a SoLR tool, or expressed significant concerns about the impact that it could have on the market if not properly designed. [52] AFMA, for example, noted that while it "welcomes moves to develop a framework that provides greater clarity about how these [trading] powers will be used", it would be important to ensure that the framework minimises the impact on the market.[53]

The keys concerns that stakeholders raised about the proposed SoLR tool were that it could:

- give rise to higher and potentially unnecessary costs and risks for market participants
- result in a potential conflict of interest for AEMO if it participates in the facilitated markets
- have a range of other distortionary impacts, including:
  - AEMO competing with and crowding out market participants, which most noted was a significant risk in a market that is already supply and infrastructure capacity constrained
  - reducing the incentive market participants have to address threats (including through investment) because they know AEMO will step in if required and the costs will be socialised, which some noted could exacerbate the risks in the market (some also noted that this risk could be greater if AEMO holds a gas position for a relatively long period of time, e.g. 6 months)

[52] See here for the submissions received to the Stage 2 Consultation Paper.
[53] AFMA, Submission to Reliability and supply adequacy framework – Stage 2 consultation, 17 July 2023.

- producers or infrastructure providers withholding supply from market participants because they believe AEMO will pay more for reserves.

While few stakeholders commented on the two design options, those that did supported the adoption of an east coast wide SoLR tool (Option 2B) and noted the importance of employing similar guardrails to those used in the RERT.

The ACCC also noted that if such a mechanism was to be implemented, then given the increasing interrelationship between the east coast gas system and the NEM, AEMO should be required to consider the options available to it in both markets and choose the tool that ensures that reliability is achieved at the lowest cost to energy users. The ACCC also suggested that if the SoLR is used to address reliability issues in the NEM, then consideration should be given to appropriately apportioning the costs between gas and electricity market participants.[54]

Analysis of option

As a number of stakeholders have pointed out, a SoLR tool can introduce a range of risks into the market if it is not appropriately designed. It is important, however, to recognise that:

- the risks identified by stakeholders are already present in the trading function arrangements set out in Part 27 of the NGR (see section 2.1.2)
- the proposed SoLR tool is intended to address those risks by employing similar guardrails to those employed in the RERT and the DLNG last resort mechanism (see Table 2.1).[55]

As the AEMC's DLNG last resort mechanism rule change process highlighted, with careful design and consultation, the concerns that stakeholders have raised can be addressed. It may, for example, be possible to address the concerns raised about:

- costs by requiring AEMO to consider the relative costs and effectiveness of the tools it has available to it before deciding to use the SoLR tool and imposing a cap on the size and cost of any reserve AEMO establishes
- potential conflicts of interest by codifying how AEMO is to use the facilitated markets and/or through the use of competitive tender processes, intermediary and/or ring fencing arrangements
- crowding out market participants by restricting AEMO to procuring 'out of the market' services, or, as was done in the DLNG last resort mechanism, requiring AEMO to relinquish its position if a market participant wants to procure it
- the reduction in market participant incentives to address threats through the cost recovery-proceeds distribution arrangements.

2.2.3 Option 3: Implement an administered demand response mechanism, either on a stand-alone basis, or as part of a SoLR tool (if implemented)

Description of the option

As outlined in section 2.1.2:

- the trading function provisions do not currently allow AEMO to procure demand response even where it may be a lower cost option to address a reliability or supply adequacy threat

[54] ACCC, Submission to Reliability and supply adequacy framework – Stage 2 consultation, 17 July 2023.
[55] AEMC, National Gas Amendment (DWGM Interim LNG Storage Measures) Rule 2022 – Rule Determination, 15 December 2022.

- gas users that may be capable of offering demand response can face operational and commercial barriers when using existing market and commercial mechanisms and so may not respond by reducing demand, even where it would be more efficient for the market as a whole for them to do so.

To overcome these limitations in the current arrangements and unlock the efficiencies that may be associated with demand response, this option provides for the introduction of an administered demand response mechanism that AEMO could use to help address breaches of the reliability standard that the market fails to address, particularly on critical peak days.

Under the proposed design of this mechanism, AEMO would be responsible for establishing and administering a panel of demand response providers. The panel could be established through a competitive tender process that would be open to large gas users and other demand response providers (e.g. retailers) in the east coast, with panel members paid for reducing consumption if the tool is triggered. In a similar manner to the RERT, any such payment could be subject to the principle that it should not exceed the average VGCR for that location, so that AEMO does not spend more than what customers are willing to pay for reliability and supply adequacy.

This mechanism could operate on a stand-alone basis, or if a decision is made to implement a SoLR mechanism, it could form part of that mechanism.

Stakeholder feedback on the option

Most stakeholders that responded to the Stage 2 consultation paper supported the inclusion of an administered demand response mechanism in the RSA framework.[56]

Elaborating further on the potential benefits of such an option, one stakeholder noted that it had observed "significant potential for fuel switching across the market" and supported a process to "unlock access to this resource which is often hindered by non-price factors".[57]

Other stakeholders, on the other hand, noted that there was unlikely to be a large volume of demand response in the east coast gas system. Some also noted that providers of demand response could be geographically dispersed and so may only be capable of addressing localised threats. While pointing out these potential limitations, these stakeholders nevertheless supported the inclusion of a demand response mechanism in the RSA framework, noting that it could still help to reduce threats on peak demand days. One such stakeholder, for example, noted that it "could be a low regrets approach to mitigating peak demand constraints" and that it "carries the least risk of adverse consequences".[58]

As to the design of such a mechanism, some stakeholders suggested that before using this mechanism, AEMO should be required to consider the relative costs of both demand response and increased supply. Stakeholders also agreed that the panel should be established through a voluntary tender process that would be open to large C&I users and retailers, with a small number of stakeholders also suggesting that it be open to GPGs and gas producers.[59] Stakeholders also noted that any payments made for demand response should be capped at the VGCR.

Analysis of option

Although potentially only capable of being used on peak days and on a localised basis, an administered demand response mechanism would be a useful additional tool for AEMO to be able to have recourse to on peak days, where the market fails to respond, or where the response is insufficient to address the threat.

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56 See here for the submissions received to the Stage 2 Consultation Paper.
57 Shell, Submission to Reliability and supply adequacy framework – Stage 2 consultation, 13 July 2023.
58 Engie, Submission to Reliability and supply adequacy framework – Stage 2 consultation, undated.
59 One stakeholder noted that producers may be able to provide demand response by using the flexibility in their gas supply contracts to curtail their customer's demand.

While it is possible that the same benefits could potentially be achieved through a direction to gas users to curtail their demand, there is always a risk that curtailment will have unintended consequences for those gas users (e.g. a direction to a glass manufacturer to curtail demand with limited notice could have significant consequences for the operation of the manufacturer's plant and equipment).

Allowing those gas users that are able to reduce their demand to elect to be on a panel that can be called upon when required, is intended to address this risk by enabling any reduction in demand to occur in a more orderly manner and in accordance with any conditions that may be specified by the gas user. That is not to say that curtailment may not still be required in some circumstances, but even in these circumstances, there is likely to be value in allowing those that elect to be part of a demand response panel to do so first.

While this mechanism could operate on a stand-alone basis, it would be more efficient for it to form part of a SoLR tool, if such a tool is implemented. This is because both mechanisms would be subject to the same constraints, cost recovery and accountability measures. Its inclusion in a SoLR tool would also mean that AEMO can more effectively consider the relative costs and effectiveness of reducing demand versus increasing supply, as stakeholders suggested.

2.3 Preferred option

Of the options set out above, the preferred option is a **hybrid of Options 2B and 3**. That is, an east coast wide SoLR tool that allows AEMO to procure demand response (jointly referred to in this rule change as the '**SoLR mechanism**').

This option is preferred because it will allow the problems that have been identified with the current trading function arrangements in Part 27 of the NGR to be addressed. That is through the inclusion of clearer and more objective guidance in the NGR on when and how the SoLR mechanism could be used and the adoption of similar guardrails to those employed in the RERT and DLNG last resort mechanism (see Table 2.1).

It would also mean that AEMO is better positioned to respond to any reliability or supply adequacy threats that the market fails to address. It would also be able to do so in a more timely and efficient manner, because it would be able to have recourse to both supply and demand-side options and would not be unnecessarily restricted by the trading fund cap. It could also help to overcome some of the factors that MJA found may be affecting the incentive and/or ability market participants have to contract and/or invest (see Box 1.1), which may otherwise leave the market exposed to reliability or supply adequacy threats.

Section 3 provides further detail on the design of this preferred option.

3 Proposed design of the SoLR mechanism

This section outlines the proposed design of the SoLR mechanism, which has been developed having regard to the guiding principles in Box 1.2. It has also been informed by the feedback provided by stakeholders on the Stage 2 Consultation Paper and the design of both the RERT and the DLNG last resort mechanism (see Appendix B and Appendix C). The changes that would need to be made to the NGR to give effect to this proposed design are set out in Section 4.

3.1 Overview of the proposed design of the SoLR mechanism

Figure 3.1 on the following page provides an overview of the key elements of the proposed design of the SoLR mechanism.

At a high level, the proposed design of the SoLR mechanism is intended to enable AEMO to use this **last resort tool** if, having communicated forecast breaches of the reliability standard to the market, market participant actions fail to address the forecast breaches of the reliability standard.

If this occurs and AEMO considers the use of this tool, on its own or in conjunction with other tools, to be **necessary to prevent, reduce or mitigate a forecast breach of the reliability standard**, having regard to, amongst other things, the cost and effectiveness of all the tools available to it, AEMO may:

- establish a storage reserve(s) (**Storage SoLR reserve**) and/or a reserve of any other gas supply, pipeline, compression, blend processing, storage and/or demand response services (**Other SoLR reserve**) if the pre-conditions for triggering the SoLR mechanism have been met
- use the reserve if the latest available time for market participants to respond to the threat has been reached and other conditions for its use have been met.

The proposed design also provides for more guidance on when the SoLR mechanism could be triggered through the use of clear and objective pre-conditions for its use. It also provides for the application of similar guardrails to those employed in the RERT and DLNG last resort mechanism, in terms of:

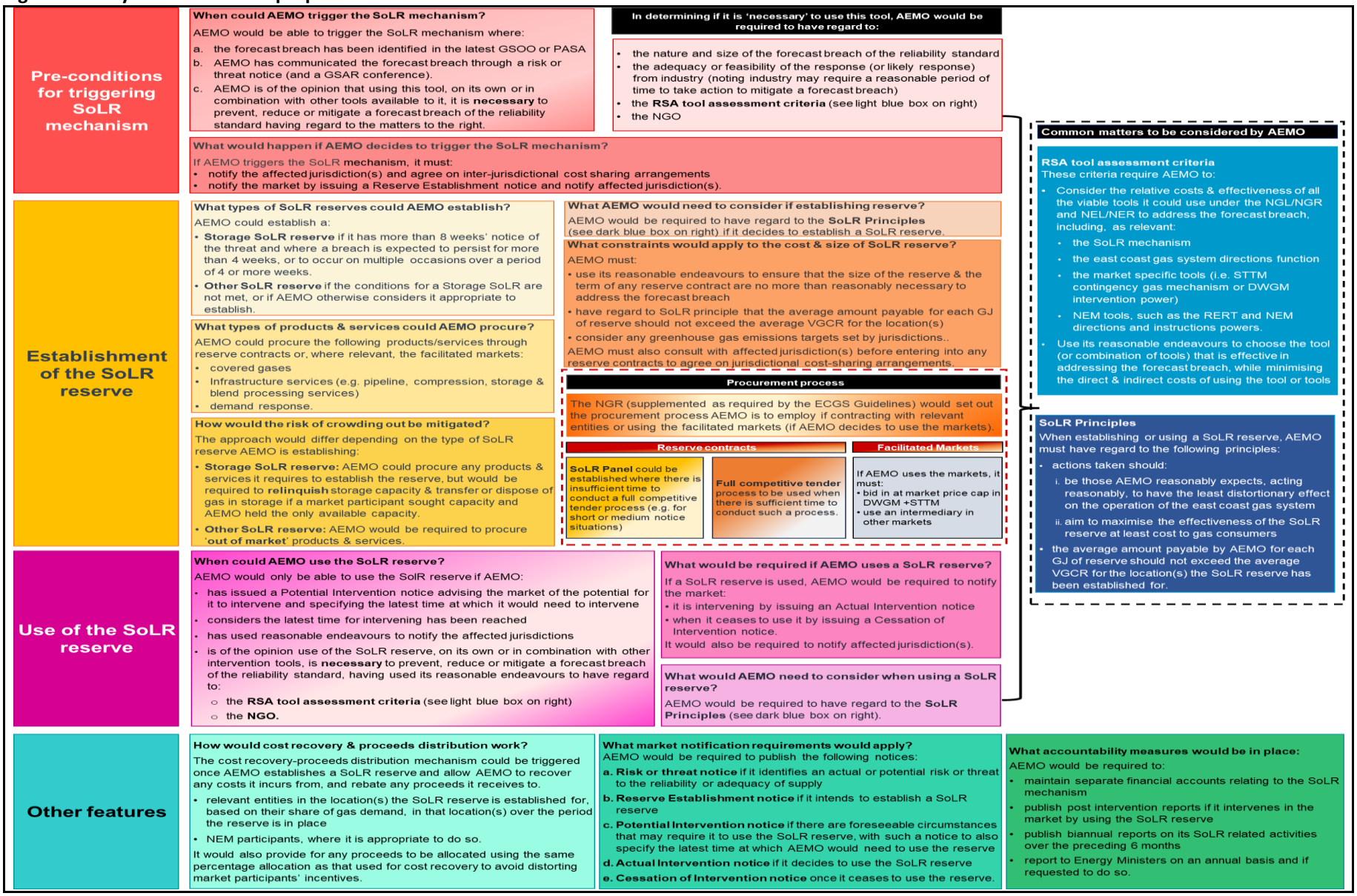
- the establishment and use of a SoLR reserve
- the cost recovery-proceeds distribution mechanism
- the market notification requirements
- the accountability measures.

The proposed design also includes a number of measures to address the concerns that stakeholders have raised about the risk that:

- AEMO may compete with, and crowd out, market participants when using this mechanism
- AEMO may have a conflict of interest (or an unfair advantage), acting as both the operator of, and potential participant in, the facilitated markets (i.e. STTM, DWGM, Gas Supply Hub (GSH) and Day-Ahead Auction (DAA) of transportation capacity).

The adoption of these design elements is intended to address the problems that have been identified with the current trading function arrangements in Part 27 of the NGR and to provide market participants, participating jurisdictions, market bodies and other interested parties greater confidence in the operation of this mechanism.

Figure 3.1: Key elements of the proposed SoLR mechanism



While not shown in Figure 3.1, it is important to recognise that the SoLR mechanism is not the only tool that AEMO could have recourse to in the event that market participants fail to respond to an identified threat to the reliability or adequacy of supply, or their response is insufficient to address the threat. Rather, as noted in section 2.1.1, AEMO would also be able to have recourse to its east coast gas system directions function and, where relevant, the market specific tools (e.g. the DWGM intervention power or STTM contingency gas mechanism).

Depending on the source of the threat, AEMO may also have recourse to the tools available to it in the NEM (i.e. the RERT and/or AEMO's NEM directions and instructions powers). For example, if the threat to the reliability or adequacy of supply in the east coast gas system stems from an increase in projected demand by GPGs to address an outage of coal powered generation in the NEM, then AEMO may be able to use the RERT and/or its NEM directions and instructions power to require other sources of generation to be used (or other fuels to be used by those GPGs that can fuel switch) and, in so doing, avoid the need to trigger the east coast gas system tools.

Given the potential substitutability of some of these tools, the proposed design requires AEMO to consider the relative costs and effectiveness of the tools it has available to it in both the east coast gas system and the NEM (**RSA tool assessment criteria**) as a pre-condition to triggering the SoLR mechanism and establishing a SoLR reserve. It also requires AEMO to consider these criteria before intervening in the market by using any SoLR reserve it has established. The proposed design also provides for costs to be allocated to NEM participants if the SoLR mechanism is in some way used to support the NEM.[60]

The proposal to provide for these linkages in the SoLR mechanism reflects the increasing interdependencies between the NEM and east coast gas system, as outlined in Box 1.1. While this rule change request only provides for the linkages through the NGR, it may be relevant for the AEMC to consider whether equivalent changes need to be made to the NER to reflect these interdependencies.

Further detail on the key features of the proposed SoLR mechanism is provided below.

3.2 Pre-conditions for triggering the SoLR mechanism

Objective of design feature: To enable the SoLR mechanism to operate in a transparent and predictable manner through the specification of clear and objective pre-conditions for triggering the SoLR mechanism in the NGR and the specification of matters to be considered by AEMO before deciding to trigger this mechanism.

Proposed design

One of the main concerns that stakeholders have raised with the current trading function provisions in Part 27 of the NGR is that they do not provide sufficient guidance to AEMO or market participants on the circumstance in which this function could be triggered.

The proposed design of the SoLR mechanism is intended to address this concern by:

- making it clear that, in keeping with the existing constraint in s. 91AD(2) of the NGL, AEMO would only be able to trigger the SoLR mechanism if it is of the opinion it is "**necessary to prevent, reduce or mitigate an actual or potential threat**" that AEMO has **identified** and **communicated** to the market
- providing AEMO and market participants with greater guidance in the NGR on:
  - what constitutes an actual or potential threat in the context of the SoLR mechanism

[60] For example, if there is an outage of coal powered generation and the increase in demand for GPG in the NEM leads to a forecast breach of the gas reliability standard, which the SoLR mechanism is then used to address.

- how the threat is to be identified and communicated to the market, so that market participants have an opportunity to respond before AEMO has to consider using its last resort functions
- the matters AEMO would be required to consider to satisfy itself that triggering the SoLR mechanism is "necessary to prevent, reduce or mitigate an actual or potential threat", including the extent to which it should consider the costs and effectiveness of other intervention tools that may be available to it under the NGL/NGR and, where relevant, the NEL/NER
- what is to occur if AEMO decides to trigger the SoLR mechanism, in terms of notifying market participants and any affected jurisdiction(s).

Table 3.1 sets out the proposed design of each of these elements, which has been informed by stakeholder feedback, existing NGL and NGR provisions and the design of the RERT and DLNG last resort mechanism.

Table 3.1: Proposed design of the pre-conditions for triggering the SoLR mechanism

Element	Description
What constitutes an actual or potential threat in the context of the SoLR?	For the purposes of the SoLR mechanism only, an actual or potential threat would be defined as an actual or potential breach of the proposed reliability standard. For ease of reference, the term '**forecast breach'** is used to jointly refer to an actual or potential breach of the reliability standard.
How should a threat be identified & communicated?	To be able to consider triggering the SoLR mechanism, AEMO would need to have: ▪ identified the forecast breach of the reliability standard in the latest GSOO or PASA (if implemented) ▪ communicated the forecast breach of the reliability standard to the market by publishing a risk or threat notice (issued under rule 695 of the NGR). As outlined in the Reliability Standard & Associated Settings proposed rule change, AEMO would also be expected to convene a Gas Supply Adequacy and Reliability (**GSAR**) conference under rule 692 of the NGR to communicate the forecast breach to relevant entities and signal the need for an industry response.
What matters would AEMO be required to consider to determine if triggering the SoLR mechanism is "necessary'?	AEMO would only be able to trigger the SoLR mechanism if it is of the opinion that this tool, either alone or in combination with any other tool available to it, is necessary to prevent, reduce or mitigate a forecast breach of the reliability standard, having regard to: ▪ the nature and size of the forecast breach of the reliability standard ▪ the adequacy or feasibility of the response (or likely response) from market participants at the time the assessment is undertaken, noting the principle that market participants should be given a reasonable period of time to take action to mitigate a forecast breach[61] ▪ the **RSA tool assessment criteria** (see next row) ▪ the NGO.[62]
What are the RSA tool assessment criteria?	The RSA tool assessment criteria would require AEMO to: ▪ Consider the costs (both direct and indirect) and effectiveness of all the tools that it could use under the NGL/NGR and NEL/NGR to address the forecast breach of the reliability standard, including: – the SoLR mechanism (proposed in this rule change) – the east coast gas system directions function (see s. 91AD(1)(e) of the NGL) – market specific tools (i.e. STTM contingency gas mechanism (Part 20 Division 8 of the NGR), DWGM intervention power (rule 343 of the NGR) and other powers in ss. 91BA and 91BRB of the NGL) – tools available to it in the NEM (i.e. the RERT (see rule 3.20 of the NER) and NEM directions and instructions powers (see rule 4.8.9 of the NER)). ▪ Use its reasonable endeavours to choose the tool, or combination of tools, that is effective in addressing the forecast breach, while minimising the direct and indirect costs of using the tool or tools. Without limitation, examples of the types of direct and indirect costs to be considered, include the following: ▪ Direct costs: The costs of using the alternative tools (e.g. payments that would need to be made under reserve contracts in the case of the RERT or SoLR mechanism, or compensation payments in the case of the directions tools).

[61] See existing rule 699(a) of the NGR.

[62] As section 91A(2) of the NGL requires AEMO to have regard to the NGO when carrying out its functions, it may not be necessary to expressly refer to the NGO in the relevant rules.

Element	Description
	▪ Indirect costs: Distortionary effects on the operation of the east coast gas system (or if relevant the NEM) and the implied value of lost load, if there is a risk of curtailment. *As part of this consideration, AEMO could, for example, consider what portion of the forecast breach could be addressed by directing off GPG and directing those with fuel-switching capability to run on another fuel if these are lower cost options, before resorting to potentially more costly tools, such as the SoLR mechanism.*
What happens if AEMO determines that it is necessary to trigger the SoLR mechanism?	If AEMO determines it is necessary to trigger the SoLR mechanism, then it must: ▪ notify the affected jurisdiction(s) (i.e. the jurisdiction(s) for which the SoLR reserve will be established and any other affected jurisdictions) that it intends to establish a SoLR reserve and agree inter-jurisdictional cost sharing arrangements with those jurisdictions ▪ publish a Reserve Establishment notice to notify market participants and other interested parties of its intention to establish a SoLR reserve and the form the reserve will take (see section 3.6 for more detail on this notice).

Together the pre-conditions described in Table 3.1 are intended to provide for clearer and more objective triggers than are currently provided for under Part 27 of the NGR. They are also intended to:

- Enable the SoLR mechanism to operate in a more transparent, predictable and efficient manner, including by linking the trigger for the SoLR mechanism to the reliability standard.
- Support market-led responses to an identified threat, by making market participants aware of the potential breach of the reliability standard and providing them time to respond before AEMO considers triggering this mechanism. As noted in Box 1.2, market-led response will generally result in a more efficient outcome than intervention by AEMO and so should be facilitated where possible.
- Recognise that there may be other tools available to AEMO (including those available in the NEM) that could address a potential breach of the reliability standard more efficiently, which should be considered before AEMO decides to trigger this last resort mechanism.

If, based on these pre-conditions, AEMO determines that the SoLR mechanism should be triggered, then it could commence the process of establishing a SoLR reserve and, if necessary, to utilise the reserve. Further detail on these elements of the proposed SoLR mechanism is provided below.

3.3 Establishment of a SoLR reserve

3.3.1 Principles AEMO would be required to consider when establishing a SoLR reserve

Objective of design feature: To provide clear principles to guide AEMO's decision-making when establishing a SoLR reserve.

Proposed design

In a similar manner to the RERT principles that are used to guide AEMO's RERT decision-making in the NEM, the proposed SoLR mechanism requires AEMO to have regard to the following principles (**SoLR principles**) when establishing a SoLR reserve:

- actions taken should:
  - be those AEMO reasonably expects, acting reasonably, to have the least distortionary effect on the operation of the east coast gas system
  - aim to maximise the effectiveness of the SoLR reserve at least cost to gas consumers
- the average amount payable by AEMO for each GJ should not exceed the estimated average VGCR for the location the SoLR reserve has been established for.

Jointly, these principles are intended to help guide AEMO's decision-making when establishing a SoLR reserve. Under the proposed design, AEMO would be required to have regard to the same principles if it decides to use the SoLR reserve (see section 3.4 for more detail).

3.3.2 Types of SoLR reserves could AEMO establish

Objective of design feature: To provide clear guidance on the alternative types of SoLR reserves that AEMO would be able to establish and the circumstances in which it would be able to do so.

Proposed design

The proposed design of the SoLR mechanism provides for AEMO to establish either, or both, of the following types of reserves:

- A **Storage SoLR reserve**, which would involve placing gas into storage and being able to use this if required. A Storage SoLR reserve could be used where:
  - a forecast breach of the reliability standard is identified with at least 8 weeks' notice, and
  - the breach is forecast to persist for more than 4 weeks, or to occur on multiple occasions over a period of 4 or more weeks.
- An **Other SoLR reserve**, which could involve contracting to procure a range of other types of products and services, including demand response (see section 3.3.3 for more detail). An Other SoLR reserve could be established if the conditions for establishing a Storage SoLR reserve were not met, or if AEMO otherwise elected to establish this type of reserve.

These two types of reserve are not intended to be mutually exclusive. AEMO would therefore be able to establish both a Storage SoLR reserve and an Other SoLR reserve (e.g. to access both gas in storage and demand response), if it considers it appropriate to do so, having regard to the **SoLR principles** set out in section 3.3.1.

Table 3.2 provides further detail on the circumstances in which AEMO would be able to establish these two types of SoLR reserves.

Table 3.2: Proposed design of the types of SoLR reserves AEMO could establish

Element	Description
Storage SoLR reserve	AEMO would be able to establish a Storage SoLR reserve, where: ▪ a forecast breach of the reliability standard in a location(s) is identified with at least 8 weeks' notice, and ▪ the breach is projected to persist for 4 or more weeks, or projected to occur on multiple occasions over a period of 4 or more weeks. If these conditions are met, AEMO would be able (but not required) to establish a Storage SoLR reserve. The Storage SoLR reserve could be held in one or more storage facilities, including underground storage facilities, LNG storage facilities and/or longer term pipeline storage.
Other SoLR Reserve	An Other SoLR reserve could be established if the conditions for establishing a Storage SoLR reserve are not met, or AEMO otherwise elects to establish this type of reserve. Such a reserve could comprise covered gas, infrastructure services (including shorter term pipeline storage services), demand response services, or a combination of these products and services.

Further detail on the rationale for these two types of SoLR reserves is provided below.

Storage SoLR reserve

As outlined in Box 1.1, constraints on winter deliverability in southern jurisdictions pose the most immediate threat to the reliability and adequacy of supply in the east coast gas system. This threat was evident in 2022 and is expected to recur with increasing frequency and severity, largely as a result of:[63]

- the reduction in the Longford processing plant's capacity
- the increased reliance on coal seam gas from Queensland (which offers less volume flexibility and has to be transported longer distances)
- the risk of coincidental winter peaks in GPG and residential demand in southern jurisdictions.

A storage reserve located in close proximity to where the threat is expected to emerge represents the most effective way to try and address this type of risk, because it allows gas to be placed into storage during lower demand periods and to then be injected back into the market during peak periods. The establishment of this type of reserve is common in the European Union[64] and was also implemented in Victoria in late 2022 as part of the DLNG last resort mechanism.[65]

While market participants will often hold their own storage reserves to manage these types of risks, this may not always be the case, as the AEMC found in the DLNG last resort mechanism rule change. The analysis contained in that rule change showed that while AEMO had issued a series of threat to system security notices in relation to the low levels of stock held in the DLNG facility in 2021 and 2022, market participants failed to respond to those threats, which left the market exposed.[66]

The findings of the work undertaken by MJA as part of the Stage 2 consultation process are also apposite. As outlined in Box 1.1, MJA found that while historically market participants have responded well to market signals, they are more reluctant to do so now. Some of the factors MJA noted may be contributing to this include information asymmetries, free rider and market power issues, market participants not facing the full economic costs of shortfalls, investment constraints and/or coordination failures.[67] MJA also noted that the reluctance may be a rational response to evolving and uncertain future conditions. [68]

The proposed design of the SoLR mechanism is intended to overcome these issues, by allowing AEMO to establish a Storage SoLR reserve to address winter deliverability threats that market participants either fail to respond to, or fail to completely address the threat.

There is, of course, a risk that such a reserve may not only be required in winter, particularly through the energy transition. The proposed design therefore enables AEMO to establish a Storage SoLR reserve if it identifies a breach of the reliability standard in a location(s) that is either projected to persist for 4 or more weeks, or to occur on multiple occasions over a period of 4 or more weeks.

If these conditions are met, then AEMO would be able (but not required) to establish a Storage SoLR

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63 MJA, Adequacy of Gas Supply: Factors impacting retailer and generator contracting, March 2023, pp. 7 and 55.

64 For example, in Italy and Sweden a storage reserve must be maintained as part of their emergency plans to address security of supply concerns. In other member states, market participants may be required hold a specified amount of gas in storage for winter. For example, in Belgium, storage contact holders must fill at least 90% of the volume by 1 November and maintain their storage above 30% of the contracted volume until mid-February. In Portugal, on the other hand, all suppliers must maintain a storage reserve equal to 30 days of 'exceptionally high demand by protected customers and non-dual fired GPG, while in Spain shippers and self-supplied users must maintain a reserve equal to 20 days of firm sales or consumption during the preceding calendar year with additional stock held in winter. See Reliability and supply adequacy framework for the east coast gas market - Stage 2 of framework development, Consultation Paper, June 2023, p. 47.

65 AEMC, Rule determination: National Gas Amendment (DWGM Interim LNG Storage Measures) Rule 2022, 15 December 2022.

66 ibid, pp. 3-5 and 9-10.

67 MJA, Adequacy of Gas Supply: Factors impacting retailer and generator contracting, March 2023, pp. 59-61.

68 ibid.

reserve. It could do so by procuring:

- covered gas, storage services, and any other services required to establish or use the Storage SoLR reserve, including pipeline, compression and/or blend processing services from the individual suppliers of these products and services, or
- a combination of these products and services from an industry participant(s) (e.g. AEMO could enter into a contract with a retailer to provide it with gas in a storage facility rather than having to separately contract with a producer, storage provider, pipeline operator etc).

Such a reserve could be established in an underground storage facility, LNG storage facility, longer term pipeline storage, or a combination of one or more of these facilities.[69]

It is important to recognise that while the conditions outlined above may be met, AEMO may not consider it appropriate to establish a SoLR reserve. This could, for instance, occur if:

- there was no uncontracted storage capacity available in the locations where it would likely be required
- there were more cost effective ways to address the forecast breaches of the reliability standard
- there was insufficient time to establish a storage reserve.

The latter of these points is of particular importance in the context of a storage reserve, because it can take some time to place the required volume of gas in storage reserve.[70] AEMO is therefore only likely to be able to use the Storage SoLR reserve option where there is at least 8 weeks' notice of a forecast breach. This is reflected in the proposed design of the SoLR mechanism.

The other important point to note about a Storage SoLR reserve is that AEMO would start to incur costs as soon as it started to place gas into storage. This is in direct contrast to some of the other types of products and services that AEMO could hold as part of an Other SoLR reserve, where it may not incur any costs until the reserve is used. For example, if AEMO entered into a reserve contract with a demand response provider, then it may not have to pay the provider until it decides to use the reserve (i.e. by instructing a demand response provider to cease or reduce their gas consumption or instructing a biomethane producer panel member to supply biomethane into a pipeline).

Under the proposed design, it would be up to AEMO to decide whether or not to establish a Storage SoLR reserve if the conditions for doing so have been met, guided by the principles set out in 3.3.1.

Other SoLR reserve

In addition to being able to establish a Storage SoLR reserve, the proposed design of the SoLR mechanism allows AEMO to establish an Other SoLR reserve, which could comprise demand response, covered gas, pipeline, compression, blend processing and/or shorter term storage services (e.g. pipeline storage).

Like the Storage SoLR reserve, it would be up to AEMO to determine whether or not to establish this type of reserve, guided by the principles set out in section 3.3.1. It would also be open to AEMO to procure these products and services from individual suppliers, or to procure a combination of products and services from an industry participant(s).

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69 If, for example, AEMO identified a projected breach in the southern region that was expected to affect all jurisdictions and the pre-conditions for using the SoLR mechanism and establishing a Storage SoLR reserve were met, then AEMO could establish a Storage SoLR reserve in multiple storage facilities (e.g. the Iona, DLNG, Newcastle LNG and TGP storage facilities).

70 The AEMC, for example, estimated it could take 60 days for AEMO to place 473 TJ of gas in the DLNG facility in the DLNG rule change, because the injection rate for the DLNG facility is quite low. While the injection rate for other storage facilities is higher than the DLNG facility, they are all much lower than the withdrawal rates. AEMC, Rule determination: National Gas Amendment (DWGM Interim LNG Storage Measures) Rule 2022, 15 December 2022, p. 26.

The inclusion of this type of SoLR reserve in the proposed design, recognises that not all breaches of the reliability standard would be capable of being addressed through a storage reserve. Its inclusion is therefore intended to provide AEMO with the flexibility to address any type of threat that may emerge in the east coast gas system, if the pre-conditions for using the SoLR mechanism have been met.

3.3.3 Products and services that AEMO could procure for the SoLR reserve

Objective of design feature: To provide clarity on the types of products and services AEMO could procure for the SoLR reserve and the potential suppliers of those products and services.

Proposed design

The list of products and services that AEMO can currently procure under s. 91AD(1)(f) of the NGL include covered gases, pipeline services, and services provided by compression, blend processing and storage providers. In addition to these products and services, the proposed design of the SoLR mechanism provides for AEMO to procure demand response. While this is not currently provided for in s. 91AD(1)(f) of the NGL, provision has been made in Schedule 1 of the NGL for rules to be made to enable this to occur. Part 27 of the NGR could therefore be amended to enable this to occur.

Table 3.3 sets out the full list of products and services that AEMO would be able to procure when establishing a SoLR reserve under the proposed design of the SoLR mechanism. It also sets out who AEMO would be able to procure these products and services from.

On the supply side, the list of potential suppliers includes:

- covered gas producers
- infrastructure service providers (i.e. pipeline, compression, blend processing and storage providers)
- other industry participants, including retailers and self-contracting gas users, some of whom may be able to offer a bundle of products and services (e.g. gas supplied to the Sydney STTM).

On the demand side, the list of potential demand response suppliers includes self-contracting C&I users and demand response providers (e.g. retailers). The list could also potentially include GPGs but only if they would otherwise have been generating using gas during the period the reserve is used. Noting that GPGs tend now to run relatively infrequently and when they do run, it is because they are required to meet demand in the NEM, their inclusion in a demand response panel could pose a number of challenges for AEMO. It could also lead to some gaming by GPGs, who may seek payment for reducing demand when they never expected to be generating.

Rather than exclude GPGs from the list of potential suppliers in the NGR, the proposed design provides for AEMO to specify the types of relevant entities that could supply demand response and any other products and services listed above in guidelines that it would be required to publish (the ECGS Guidelines).

Table 3.3: Proposed design for the products and services that AEMO could procure

Element	Description
What products and services could AEMO procure?	AEMO would be able to establish a Storage SoLR reserve or Other SoLR reserve by procuring the following types of products and services: (a) demand response (b) covered gases (i.e. natural gas, biomethane, synthetic methane, hydrogen and any other prescribed substances that are defined as covered gases, and gas blends) that are suitable for consumption and can be supplied via the required infrastructure (c) pipeline services (including pipeline storage services) (d) compression services (e) blend processing services (f) storage services (including those provided by underground and LNG storage facilities).
Who could the products and services be procured from?	AEMO would be able to procure the products and services listed above by either: ▪ entering into reserve contracts (or varying existing contracts), which it would be able to enter into with any relevant entity that is capable of their supply and that are specified in AEMO's ECGS Guidelines ▪ using the facilitated gas markets (i.e. the STTM, DWGM, GSH and DAA). See section 3.3.6 for more detail on the constraints that would apply to procurement.

3.3.4 Reducing the risk of crowding out market participants

Objective of design feature: To reduce the risk that in procuring any products and services, AEMO competes with and crowds out market participants.

Proposed design

As outlined in section 2.2.2, one of the key concerns that stakeholders raised about a SoLR tool (which also applies more generally to the existing trading function), is that AEMO will compete with and crowd out other market participants. To some extent this risk is reduced by the pre-conditions for triggering the SoLR mechanism (see section 3.2), which are intended to provide market participants sufficient opportunity to respond to an identified threat before AEMO has to consider using this mechanism and intervening in the market to establish and, potentially use, a SoLR reserve.

In the RERT, the risk has been further reduced by only allowing AEMO to procure 'out of market' reserves. The DLNG last resort mechanism, on the other hand, does not restrict AEMO to 'out of market' reserves. Rather, it allows AEMO to procure any uncontracted storage capacity in the DLNG facility (as well as 'in market' gas and transportation services required to inject and withdraw the gas from storage). However, if a market participant approaches the storage provider seeking any storage capacity, AEMO must relinquish the capacity to the storage provider.[71] AEMO must also dispose of the LNG in storage, which it may do by transferring it to the market participant, or by injecting it into the market.

The difference in approach employed in the DLNG last resort mechanism, recognises the challenges associated with trying to establish a gas storage reserve using out of market products and services in the location the storage reserve is required.[72]

Having regard to the different approaches employed in both the RERT and DLNG last resort mechanism and the different types of SoLR reserves that AEMO would be able to establish (i.e. a Storage SoLR reserve and an Other SoLR reserve), the proposed design provides for a hybrid approach. Specifically, it provides for an

[71] The only exception to this is if relinquishment would result in AEMO breaching its safety plan or any other applicable legislative or regulatory instrument. See rule 286(2) of the NGR.

[72] The location of a storage facility is important because it can take a number of days to transport gas from Queensland to Victoria.

equivalent approach to that used in the:

- **DLNG last resort mechanism** for the **Storage SoLR reserve:** In this case AEMO would be able to procure the products and services (either separately or on a bundled basis) it requires to establish and use a Storage SoLR reserve, but could be required to do the following if a market participant seeks storage capacity and there is no other available capacity:[73]
  - relinquish the storage capacity to the storage provider, and
  - either transfer the gas that was in storage to the market participant that acquires the storage capacity, or otherwise dispose of that gas, in accordance with AEMO's ECGS Procedures.
- **RERT** for the **Other SoLR reserve:** In this case, AEMO would only be able to procure 'out of the market' products and services if it is establishing an Other SoLR reserve.

This hybrid approach is intended to reduce the risk that AEMO's establishment of either a Storage or Other SoLR reserve crowds out market participants, while also recognising the challenges associated with establishing a gas storage reserve using out of market products and services in the location it is required.

Further detail on the proposed approach is provided in Table 3.4.

Table 3.4: Proposed measures to reduce the risk of crowding out

Element	Description
Storage SoLR reserve	If AEMO is establishing a Storage SoLR reserve, it will be able to procure any combination of the following products and services: ▪ covered gas ▪ storage services ▪ any associated services that may be required to establish and use the SoLR reserve, including pipeline, compression and/or blend processing services. AEMO could also be required to do the following if a market participant wanted to procure storage capacity and the only available capacity was that held by AEMO: ▪ relinquish storage capacity to the storage provider ▪ transfer the gas that was in storage to the entity acquiring the capacity, or otherwise dispose of the gas, in accordance with AEMO's ECGS Procedures. The ECGS Procedures should specify how the transfer or disposal is to be conducted, including the price and other terms and conditions on which any transfer or disposal is to occur.
Other SoLR reserve	If AEMO establishes an Other SoLR reserve, it would be required to procure 'out of the market' reserves, which could include procuring any combination of the following products: ▪ covered gas on an as available, interruptible or other out of market basis ▪ pipeline, compression, blend processing and/or storage services procured on an as available, interruptible or other out of market basis (including in the case of pipeline and compression services, through the DAA) ▪ demand response services.

3.3.5 Constraints on the size, term, cost and other aspects of the SoLR reserve

Objective of design feature: To recognise that covered gas consumers will ultimately bear the costs of any SoLR reserve that is established, so appropriate constraints should apply to the size, term, cost and other aspects of any such reserve.

[73] Note that there is one minor difference between what has been proposed here and the DLNG last resort mechanism, which is that AEMO would only need to relinquish capacity where it is required to meet the market participant's request. In the DLNG last resort mechanism, AEMO is required to procure all of the uncontracted capacity, so any request for capacity would need to come from AEMO's holdings. In this case, AEMO may not be procuring all of the uncontracted capacity, so it is possible that a market participant's request for capacity may be able to be fulfilled from uncontracted capacity. If that is insufficient, then AEMO could be required to relinquish the amount of capacity required to meet the market participant's request.

Proposed design

The proposed design of the SoLR mechanism provides for the application of similar constraints on the size, term and cost of the reserve as those used in the RERT (see Table 3.5). It is worth noting that while these are not binding constraints, they are intended to act in this way in most cases. This is reinforced by the accountability measures outlined in section 3.7, which require AEMO to report on any cases where the following has occurred and why:

- AEMO procured more under its reserve contracts than is required to address the forecast breach of the reliability standard
- the average amount payable by AEMO exceeded the estimated average VGCR for the relevant location.

In addition to these constraints, the proposed design also requires AEMO to consider, when establishing a reserve, the targets statement for greenhouse gas emissions targets published by the AEMC. As outlined in section 3.2, AEMO would also be required to consult with the relevant participating jurisdictions before deciding to enter into any reserve contracts to agree on cost-sharing arrangements between jurisdictions.

Table 3.5: Constraints on the size, term, cost and other aspects of the SoLR reserve

Element	Description
Constraints on size and term	AEMO must use its reasonable endeavours to ensure that: ▪ the amount of reserve procured is no more than AEMO considers reasonably necessary to address the forecast breach of the reliability standard ▪ the term of any reserve contract AEMO enters into is no longer in duration than AEMO considers reasonably necessary to address the forecast breach of the reliability standard
Constraint on the cost of the reserve	AEMO must have regard to the SoLR principle that the average amount payable under reserve contracts for each GJ of reserves for a location should not exceed the estimated average VGCR for the location that the SoLR reserve is being established for. AEMO's ECGS Procedures should specify how the average VGCR is to be calculated using the AER's VGCR estimates.[74]
Other relevant constraints	**Emissions targets** AEMO must have regard to the AEMC's targets statement for greenhouse gas emissions targets.
	Cost sharing AEMO must consult with the relevant participating jurisdictions before deciding to enter into any reserve contracts to agree on cost-sharing arrangements between jurisdictions.

Together these constraints are intended to reinforce that any costs AEMO incurs in using the SoLR mechanism will ultimately be borne by consumers, so some care should be taken to ensure that it spends no more than is necessary to address the forecast breach and no more than the value gas customers place on reliability and supply adequacy. It should also take into account any emissions related targets set by a participating jurisdiction.

Other cost related risks

Another potential cost related risk with the SoLR mechanism, which is also a potential risk under the current trading function arrangements in Part 27 of the NGR, is that relevant entities may try and exercise market power when contracting with AEMO, either in terms of the setting of prices, or, in the case of some

[74] Further detail on the AER's role in estimating the VGCR is provided in the Reliability Standard & Associated Settings proposed rule change.

infrastructure, not offering access to their services. This could occur, for instance, if:

- there is insufficient competition amongst relevant entities for the provision of products and services to AEMO, or
- in the case of infrastructure providers, there is no third party access regime in place to constrain service providers' market power.[75]

While this is a risk, it is worth noting that AEMO would also have the option to direct market participants to take certain actions. If this occurred, then, under the compensation framework set out in Part 27 of the NGR, directed parties would only be able to seek compensation for their direct costs. AEMO's ability to use this function should, in principle, pose a constraint on the behaviour of relevant entities when offering products and services to AEMO. The AEMC may, however, wish to consult on this further as part of the rule change process, particularly given that any costs that AEMO does incur (including as a result of an exercise of market power), would be passed through to consumers.

3.3.6 Procurement requirements

Objective of design feature: To provide greater guidance on the procurement process AEMO is to employ when procuring products and services and to address the potential conflict of interest that the SoLR role may otherwise pose for AEMO in the facilitated markets.

Proposed design

The trading function arrangements in Part 27 of the NGR provide no guidance on the process AEMO is to follow when procuring products or services. This has instead been left to AEMO to determine through the ECGS Guidelines.[76]

While the approach that AEMO has described in the ECGS Guidelines is similar in many ways to the approach used in the RERT, there would be value in providing more guidance in the NGR (supplemented where necessary by AEMO's ECGS Guidelines) on:

- the alternative ways in which AEMO would be able to procure products and services, which include:
  - entering into reserve contracts (or varying existing contracts) with relevant entities
  - using the facilitated markets (i.e. the STTM, DWGM, GSH and DAA)
- the procurement processes to be employed by AEMO when using these procurement options
- how any actual or perceived conflicts of interest that AEMO may have as a result of operating the facilitated markets and potentially participating in these markets are to be addressed.

Table 3.6 sets out the proposed design of these procurement requirements, which have largely been modelled on the RERT requirements, but have also been informed by stakeholder feedback, the DLNG last resort mechanism procurement requirements, and the existing ECGS Guidelines.

Before examining this table, it is worth noting that in the case of the RERT, a lot of this detail is contained in guidelines prepared by the Reliability Panel. There is, however, no equivalent governance arrangement in the NGL/NGR. So the proposed design assumes that key elements of the procurement process will need to be specified in the NGR, which will then be supplemented by AEMO's ECGS Guidelines.

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75 There is currently a third party access regime in place for gas pipelines, but no such regime in place for storage or compression facilities. In this regard, it is worth noting that Energy Ministers have directed Officials to investigate options to extend a third party access regime to storage facilities. So it is possible that any market power risks associated with storage facilities will be addressed in the future. See Energy Ministers, Meeting communique, 12 August 2022, p. 1.

76 See s. 91AD(3) of the NGL.

Table 3.6: Proposed design of the procurement requirements

Element	Description
How AEMO could procure reserves	The rules would make clear that AEMO would be able to establish a SoLR reserve by: ▪ entering into one or more reserve contracts with relevant entities, or varying existing contracts ▪ using the facilitated gas markets, subject to the measures set out below to address any actual or perceived conflict of interest that AEMO may have and the crowding out risk mitigation measures set out in Table 3.4.
Procurement process for reserve contracts	**AEMO's power to enter into or vary reserve contracts** The rules would make clear that AEMO could negotiate the terms and conditions of a reserve contract (or variation) at any time, but would only be able to enter into new reserve contracts (or vary existing reserve contracts), if it has issued a Reserve establishment notice.[77] The rules would also require AEMO to conduct a competitive tender where there is sufficient time to do so.
	Relevant entities' obligations The rules would require relevant entities to negotiate with AEMO in good faith as to the terms and conditions of any reserve contract.
	Payment to be on a panel The rules would clarify that relevant entities are **not** to be paid to be on the SoLR Panel.
	ECGS Guidelines The rules would require AEMO prepare ECGS Guidelines (using the standard consultative procedure) that set out the process it will use when entering into reserve contracts, including the circumstances in which a full competitive tender process will be conducted, or a panel of providers (**SoLR Panel**) will be established. The process could be modelled on the process employed under the RERT.[78] It could, for example,: ▪ require a full competitive tender process to be conducted for long notice situations (i.e. where there is sufficient time to conduct a full tender) ▪ allow a SoLR Panel (that would operate on a continuous basis and periodically open to new members), to be developed for both short notice and medium notice situations. The ECGS Guidelines should also: ▪ provide further detail on the types of payments that could be made, which in a similar manner to the RERT could include pre-activation fees and/or a usage charges ▪ set out any evidence that AEMO would require to demonstrate in the case of the Other SoLR reserve that the reserves are 'out of market'.
Procurement process for facilitated markets and management of potential conflicts of interest	If AEMO decides to procure any products or services from the facilitated markets then to avoid any actual or perceived conflict of interest (or unfair advantage), the rules would require it to do the following, depending on the market it is seeking to use: ▪ **STTM and DWGM:** In these two markets, which have a market price cap, AEMO would be required to submit any bids to withdraw gas at the market price cap. ▪ **GSH and DAA:** In these two markets, there is no price cap so if AEMO wanted to use either of these markets, it would be required to engage an intermediary (e.g. a broker) to act on its behalf. It would also be prohibited from disclosing any market or commercially sensitive information to the intermediary and from favouring the intermediary when carrying out its market functions.
Subordinate instruments	Under the proposed design, AEMO would be required to publish: ▪ standard form reserve contracts ▪ ECGS Guidelines that contain more information on: – the procurement processes to be followed if AEMO decides to enter into reserve contracts (see above) and/or to use the facilitated markets – the circumstances in which it is likely to use reserve contracts (including by contracting directly with suppliers or with industry participants) or the facilitated markets.

Together, the measures set out in Table 3.6 are intended to provide AEMO with greater guidance on its SoLR procurement options and the processes it would be required to follow if it decided to use either reserve contracts or trading on the facilitated markets. It is also intended to address the potential conflicts

[77] See equivalent rule 3.20.7(f) in the NER.
[78] Reliability Panel, RERT Guidelines, August 2020.

of interest that AEMO may otherwise have if it uses the facilitated markets, in an effective, yet proportionate, manner.

In relation to the conflict of interest (or unfair advantage) measures, it is worth noting that while there may be other ways that this risk could be addressed, there can often be significant costs associated with doing so. A requirement for AEMO to put in place ring-fencing arrangements, for instance, would be costly to implement and maintain for a function that AEMO is unlikely to perform very often. The proposed approach therefore provides for a more mechanistic approach to be used in those facilitated markets where there is a market price cap, and the use of an intermediary if AEMO chooses to use any of the other facilitated markets. This approach is expected to effectively mitigate any real or perceived conflicts of interest AEMO may face, in a relatively low cost manner.

3.4 Use of a SoLR reserve

Even if AEMO decides to establish a SoLR reserve, it may not be necessary to actually use the reserve. This could, for instance, occur if demand and supply conditions change in a manner that means the forecast breach of the reliability standard does not eventuate. Recognising this, the proposed design of the SoLR mechanism provides more guidance on:

- when AEMO could use a SoLR reserve
- how AEMO is to interact with the facilitated markets when using a SoLR reserve
- what is to happen if there is any gas in a Storage SoLR reserve once the forecast breach has passed.

3.4.1 When AEMO could use a SoLR reserve

Objective of design feature: To provide greater guidance to AEMO and market participants on when AEMO would be able to use a SoLR reserve that it has established and the matters it would be required to have regard to before doing so.

Proposed design

The proposed design of the SoLR mechanism is intended to provide more guidance on when AEMO could use a SoLR reserve, by setting out:

- the circumstances in which AEMO would be able to use any SoLR reserve that it has established
- the matters that AEMO would be required to consider before using the SoLR reserve
- the principles that AEMO would be required to consider when using the SoLR reserve
- the notices that AEMO would be required to issue if decides to use the SoLR reserve.

Table 3.7 sets out the proposed design of these elements of the SoLR mechanism, which have been informed by the existing requirements in the NGL and NGR, stakeholder feedback and the design of the equivalent elements in the RERT and DLNG last resort mechanism.

Table 3.7: Proposed design of when AEMO could use the SoLR reserve

Element	Description
Circumstances in which AEMO could use a SoLR reserve	Under the proposed design, AEMO would be able to use a SoLR reserve if AEMO: ▪ has published a **Potential Intervention** notice (see section 3.6 for more detail), advising the market of the potential for it to use the SoLR reserve and specifying the latest time by which AEMO would need to use the reserve to address the forecast breach if the market fails to do so ▪ considers the latest time for using the reserve to address the forecast breach has been reached ▪ has used its reasonable endeavours to notify the affected jurisdictions that it will use the reserve ▪ is of the opinion that using the SoLR reserve, either on its own, or in combination with any other intervention tool available to it, is necessary to prevent, reduce or mitigate a forecast breach of the reliability standard,[79] having used its reasonable endeavours[80] to have regard to: – the RSA tool assessment criteria (see Table 3.1) – the NGO.[81]
Principles to be considered when using the SoLR reserve	If AEMO decides to use the SoLR reserve, it would be required to have regard to the **SoLR principles** when doing so (see section 3.3.1).
Notices AEMO would be required to issue	If AEMO decides to use a SoLR reserve, it would be required to notify the market: ▪ it is intervening in the market by issuing an **Actual Intervention** notice ▪ when it has ceased to use the SoLR reserve by publishing a **Cessation of Intervention** notice. Section 3.6 provides more detail on these market notification requirements. AEMO would also be required to notify the affected participating jurisdictions.

In a similar manner to the pre-conditions for triggering the SoLR mechanism, these elements are intended to provide AEMO and market participants with greater guidance on when the SoLR reserve could be used, while also recognising that there may be limited time available to AEMO in some situations. These design elements are also intended to:

- support market-led responses to an identified threat, by only allowing AEMO to use the SoLR reserve if it has notified market participants of the potential for it to intervene and the latest available time for it to do so has been reached, and
- recognise that there may be other tools available to AEMO that could address a potential breach of the reliability standard more efficiently than the SoLR reserve, or in conjunction with the SoLR reserve.

3.4.2 Interactions with the facilitated markets when using the SoLR reserve

Objective of design feature: To provide clear guidance in the rules on how AEMO is to schedule any gas from a SoLR reserve into a facilitated market.

Proposed design

For those cases where a SoLR reserve is to be used to address a forecast breach of the reliability standard within an STTM (i.e. the Adelaide, Brisbane and/or Sydney STTM) or the DWGM, the rules will need to specify how AEMO is to do so. There are two potential ways in which gas from a SoLR reserve could be supplied into these markets:

- AEMO could direct the gas into the market, or
- AEMO could include it in the market pricing and/or operating schedules (jointly 'market schedules').

[79] This is consistent with section 91AD(2) of the NGL.

[80] Note that the use of the term 'reasonable endeavours' in this context is consistent with the approach used in the RERT (see rule 3.8.14 of the NER) and recognises that some reliability or supply adequacy threats may arise relatively quickly and leave AEMO with insufficient time to consider these matters.

[81] As section 91A(2) of the NGL requires AEMO to have regard to the NGO when carrying out its functions, it may not be necessary to expressly refer to the NGO in this rule.

The AEMC considered these two options in the context of the DLNG last resort mechanism. In short, the AEMC concluded that directing gas in from the LNG reserve into the DWGM would not be transparent and could have a range of unintended consequences on the operation of the market. The AEMC also noted that directing the gas in could undermine the incentive market participants have to take steps to address the threat themselves, because, in the absence of a compensation claim (which is restricted to direct costs only) it would result in gas from AEMO's reserve being supplied at $0/GJ.[82]

While recognising the limitations of the directions option, the AEMC noted that there may be some circumstances in which a direction would be required (e.g. if a safe system shutdown was required). The AEMC decided therefore to allow (but not require), AEMO to include gas from the LNG reserve in the operating and, where applicable, pricing schedules, in accordance with the rules set out in Box 3.1. These rules, which are set out in Part 19 of the NGR, are intended to minimise the risk of AEMO competing with other market participants for the supply of gas, while acting in its supplier of last resort capacity.[83]

Box 3.1: Rules relating to AEMO's inclusion of the DLNG reserve in market schedules

The AEMC's final determination on the DLNG last resort rule change provided for the NGR to be amended to:[84,85]

1. Allow AEMO, where gas is to be injected from the LNG reserve under rule 343(1) of the NGR to:
   - include the quantity in the applicable operating schedule and, where applicable, pricing schedule
   - use other means available to it to inject the gas.
2. Only allow AEMO to include gas from its LNG reserve in:
   - a pricing schedule if:
     - all available market participant bids have already been scheduled (but allowing for rounding to whole gigajoules), and
     - the market price in the pricing schedule would otherwise have been at VoLL
   - an operating schedule if:
     - the gas is already included in the relevant pricing schedule, or
     - all market participant LNG injection bids have already been scheduled (but allowing for accredited constraints and rounding to whole GJs).
3. Requiring any gas that is placed in a pricing or operating schedule to be included at VoLL.
4. Requiring gas scheduling procedures to set out the procedures relating to injections from the LNG reserve and:
   - requiring the procedures to explain what steps AEMO will take to ensure that gas from its LNG reserve will be scheduled last as provided for in rule 285(2)
   - enabling the procedures to allow AEMO to:
     - use LNG injection bids and accreditation as a means by which gas from the LNG reserve is incorporated into a market schedule
     - impose conditions in relation to the scheduling of gas from the LNG reserve.

Employing a similar approach under the proposed SoLR mechanism is *likely* to yield similar benefits to those identified by the AEMC in the DLNG last resort mechanism rule change, including:

- providing for greater transparency of AEMO's actions when using a SoLR reserve in these markets
- ensuring that AEMO does not compete with market participants when supplying gas from a SoLR reserve into these markets

82 AEMC, Rule determination: National Gas Amendment (DWGM Interim LNG Storage Measures) Rule 2022, 15 December 2022, p. 38.
83 ibid.
84 ibid, pp. 41-42.
85 See rule 285 of the NGR.

- avoiding any unintended consequences that other approaches may otherwise have on the operation of these markets, or the incentive participants have to take their own actions to mitigate the threats.

The term 'likely' has been italicised above, because further consultation with stakeholders and AEMO would be required to form a definitive view on this design feature given the differences in the design of both the STTM and DWGM. The AEMC may therefore wish to consult on this further as part of the rule change process.

3.4.3 What happens if there is anything left in a Storage SoLR reserve once the forecast breach has passed

Objective of design feature: To recognise that there may be instances where it is not efficient to dispose of a storage reserve once the forecast breach has passed, by providing AEMO with some flexibility in this area (subject to the constraints set out in section 3.3.5).

In the case of the Storage SoLR reserve, there is a risk that either the reserve may not be used (e.g. if demand and supply conditions change), or that there may be some gas left in storage once use of the reserve has ceased. It is relevant therefore to consider what is to happen to that gas.

The same issue arose during the AEMC's consideration of the DLNG last resort mechanism rule change, with some stakeholders suggesting that AEMO should dispose of its reserve at the end of winter. In that case, the AEMC found that whether or not it would be efficient to dispose of the reserve at the end of winter would depend on whether it is expected to be required to address other threats (noting both the costs and time associated with refilling storage).[86] The AEMC decided therefore not to hard wire into the rules a requirement for AEMO to dispose of the reserve at the end of winter. Rather, it decided to provide flexibility in the rules for AEMO to dispose of its reserve where it has a contractual obligation (e.g. if its contract ends or it has to relinquish capacity), or an obligation under a regulatory instrument to do so.[87]

The concerns that the AEMC raised about hard wiring in a requirement for AEMO to dispose of a storage reserve are equally applicable in this context. The proposed design of the SoLR mechanism does not therefore require AEMO to dispose of gas in storage once the threat has passed. Rather, it leaves that decision to AEMO, because it may be more efficient to retain gas in storage if another forecast breach of the reliability standard is expected to occur in the near future. AEMO would therefore have the discretion to determine whether to dispose of, or retain, the storage reserve. It would also be able to dispose of the storage reserve if it has a contractual or regulatory obligation to do so.

While the proposed design does not require AEMO to dispose of its storage reserve once the forecast breach has passed, it is worth noting that AEMO would still be subject to the constraints outlined in section 3.3.5. It would, for instance, still be subject to the requirement to use its reasonable endeavours to ensure:

- the amount of reserve procured is no more than AEMO considers reasonably necessary to address a forecast breach of the reliability standard
- the term of any reserve contract AEMO enters into is no longer in duration than AEMO considers reasonably necessary to address a forecast breach of the reliability standard.

It would also be required to report on any gas held in storage through the bi-annual SoLR activity reports (see section 3.7). Together, these design features are intended to impose some discipline on AEMO while also providing it the flexibility required to make the most efficient use of gas in storage.

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86 AEMC, Rule determination: National Gas Amendment (DWGM Interim LNG Storage Measures) Rule 2022, 15 December 2022, p. 43.
87 ibid, p. 44.

3.5 Cost recovery-proceeds distribution mechanism

Objective of design feature: To provide for a transparent and equitable cost recovery-proceeds distribution mechanism that does not unduly restrict any actions AEMO may take and allows for the sharing of costs with NEM participants, where appropriate.

Proposed design

As outlined in section 2.1.2, the current trading fund arrangements in Part 27 of the NGR are less transparent than the equivalent mechanisms employed in the RERT and DLNG last resort mechanism and provide no guidance on who AEMO should seek funding from. The $35 million (real 30 June 2022) cap may also unnecessarily impede the actions AEMO can take using the SoLR mechanism.

To address these deficiencies in the current arrangements, the proposed design of the SoLR mechanism provides for:

- the replacement of the trading fund with a more standard cost recovery-proceeds distribution mechanism, the design of which has been informed by the mechanisms employed in both the RERT[88] and DLNG last resort mechanism,[89] and the recently revised compensation arrangements in Part 27 of the NGR[90]
- more clarity on AEMO's ability to recover costs from NEM participants, in circumstances where the SoLR mechanism is used to support the NEM (e.g. if there is an outage of coal powered generation and the increase in demand for GPG in the NEM leads to a reliability or supply adequacy threat in the east coast gas system, which the SoLR mechanism is then used to address).

Table 3.8 sets out how the proposed cost recovery-proceeds distribution mechanism is intended to operate.

Table 3.8: Proposed cost recovery-proceeds distribution mechanism

Element	Description
When could it be triggered?	The cost recovery-proceeds distribution mechanism could be triggered as soon as AEMO establishes a SoLR reserve and operate on a monthly basis until the reserve ceases to be used and the associated costs have been recovered and proceeds distributed. Note that this approach would enable AEMO to recover costs in a more timely manner than if it was only able to recover net costs once the reserve has been used.
Who could be subject to the mechanism?	The following entities could be subject to the cost recovery-proceeds distribution mechanism: ▪ relevant entities ▪ NEM participants, if use of the SoLR reserve benefits the NEM.
How could costs be allocated?	The costs that AEMO incurs in establishing and using the SoLR reserve could be recovered from: ▪ relevant entities located in the location(s) that the SoLR reserve was established for, based on their share of gas demand in the location(s) in each month that the reserve is in place ▪ NEM participants in the location(s) that benefit from the use of the SoLR reserve, based on their share of adjusted gross energy amounts[91] in the relevant NEM region(s) in each month the reserve is in place.
How could proceeds be distributed?	To the extent that there are any proceeds arising from the use of the reserve, they should be distributed back to relevant entities using the same percentage allocation used for cost recovery (i.e. based on the relevant entity's weighted average share of gas demand over the period costs are recovered).[92]

88 See rule 3.15.9 of the NER.
89 See rule 286B of the NGR.
90 National Gas Amendment (Compensation and dispute resolution frameworks) Rule 2024 No. 2.
91 This is consistent with the way in which the RERT cost recovery-proceeds distribution mechanism operates.
92 For example, if a relevant entity's share of withdrawals over the period that a reserve was in place resulted in it being required to pay 5% of the costs on a weighted average basis (i.e. weighted by its share of withdrawals in each month the reserve is in place), then it should be rebated 5% of the proceeds.

Element	Description
What subordinate instruments may be required?	While most of the proposed cost recovery-proceeds distribution mechanism would be expected to be specified in the NGR, there would be value in requiring AEMO to provide more detail in the ECGS Procedures on: ▪ how AEMO will identify liable relevant entities and NEM participants ▪ how AEMO will calculate aggregate gas demand in a location and a liable entity's share of gas demand in that location (including how it will deal with the share of gas demand of a retailer or other person that sells gas). This is akin to what the AEMC provided for in its recent gas market compensation and dispute resolution final rule determination.

At a high level, this mechanism is intended to enable AEMO to recover any costs that it incurs from, and rebate any proceeds it receives to:

- relevant entities[93] in those locations that are expected to benefit from the establishment and use of the SoLR reserve based on their share of gas demand in the period the SoLR reserve is in place
- NEM participants, where the SoLR mechanism is used to support the NEM.

Some examples of the way in which this mechanism could operate can be found in Box 3.2.

It is worth noting in this context that during the development of this mechanism, consideration was given to employing more of a causer or beneficiary pays approach (i.e. beyond allocating costs and proceeds to those in the location the reserve is established for and/or to NEM participants). However, it became clear through this process that there would be significant challenges associated with doing so, with the main challenge being the identification of who 'caused' or 'benefited' from the SoLR reserve.

The AEMC experienced similar challenges when considering the design of the equivalent mechanism in the DLNG last resort rule change. In this case, the AEMC decided to treat the DLNG reserve as an 'insurance policy', with all gas users in the DWGM required to contribute to the costs based on their share of gas withdrawals, and proceeds returned on the same basis.[94] A similar approach has also been adopted by the AEMC in the gas market compensation and dispute resolution final rule determination (i.e. with compensation to be recovered on the basis of a relevant entity's aggregate gas demand in the location of the identified risk or threat).[95,96]

Like the approach employed by the AEMC in the DLNG rule change, the proposed cost recovery-proceeds distribution mechanism treats the SoLR reserve as an insurance policy. It therefore provides for costs to be recovered from relevant entities in the location(s) that the reserve is established for, based on their share of withdrawals or gas demand. It also provides for proceeds to be distributed back to these entities using the same percentage allocation used for cost recovery (i.e. based on the relevant entity's weighted average share of withdrawals (or gas demand) over the period costs are recovered). The use of the same allocation factor to distribute costs and proceeds, which is consistent with the approach used in both the RERT and the DLNG last resort mechanism, is intended to avoid any adverse incentive that proceeds distribution may otherwise give rise to.[97]

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93 The term 'relevant entity' is defined in s. 91AF(8) as a Registered participant, an exempted participant, a producer who injects gas into the east coast gas system, a person who buys or sells natural gas in the east coast gas system, a GPG, a storage provider whose storage facility is connected to the east coast gas system, a person who provides pipeline, transport, compression or other related services in, into or out of the east coast gas system, and a person specified as a relevant entity by the NGR.

94 AEMC, Rule determination: National Gas Amendment (DWGM Interim LNG Storage Measures) Rule 2022, 15 December 2022, pp. 57-59.

95 National Gas Amendment (Compensation and dispute resolution frameworks) Rule 2024 No. 2.

96 A similar approach is also used under the RERT, although provision has been made where the RRO has been triggered, for a portion of costs (procurer of last resort costs) to be allocated to entities that have not entered into sufficient contracts. It is not possible to employ a similar approach here, because there is no RRO in the east coast gas system.

97 For instance, if proceeds were distributed using the share of withdrawals in the period the reserve is used, it could encourage entities to withdraw more gas at the same time that AEMO is using the reserve to address a reliability or supply adequacy threat. This would place the east coast gas system under more pressure and result in those that contributed to the threat being rewarded for doing so.

Box 3.2: Examples of operation of the cost recovery-proceeds distribution mechanism

In the following examples, AEMO is assumed to establish a SoLR reserve in Queensland.

Example 1

If the SoLR reserve was established to address a reliability or supply adequacy threat in the Brisbane STTM related solely to the gas market, then under the proposed mechanism the costs and proceeds would be allocated to relevant entities located in, or servicing the Brisbane STTM, based on their share of gas demand in the Brisbane STTM over the period the SoLR reserve is in place.

Example 2

If the SoLR reserve is established to address a reliability or supply adequacy threat in southern jurisdictions, then under the proposed mechanism the costs and proceeds would be allocated to relevant entities located in, or servicing the southern jurisdictions.

Example 3

If the SoLR reserve is established to address a reliability or supply adequacy threat in Queensland related to a NEM event (e.g. an outage of coal fired generators), then under the proposed mechanism, some or all the costs and proceeds could be allocated to Queensland GPGs (which are relevant entities under the NGL) and potentially other NEM participants.

Overall, the proposed cost recovery-proceeds distribution mechanism is expected to provide for a more transparent and equitable allocation of costs and proceeds than the current trading fund arrangements in Part 27 of the NGR. The removal of the $35 million cap will also ensure the funding arrangements do not unduly restrict any actions AEMO may take (noting that the proposed design provides for a range of other constraints on AEMO's use of the SoLR mechanism). Allowing the cost recovery-proceeds distribution mechanism to be switched on when the SoLR reserve is established, will also enable AEMO to recover its costs in a timely manner and mean that it won't require other arrangements to fund the expenditure.

3.6 Market notifications

Objective of design feature: To provide market participants with greater visibility of, and timely information on, the reliability or supply adequacy threats facing the east coast gas system and AEMO's SoLR related actions, so that they have sufficient opportunity to respond (noting that market-led responses will generally result in a more efficient outcome than intervention by AEMO).

Proposed design

The proposed design of the SoLR mechanism provides for AEMO to publish a number of different action based notices, the majority of which would need to be capable of being varied or revoked if required (e.g. if there is a material change in circumstances).[98]

The proposed notices, (see Table 3.9), have been informed by the notice requirements in the RERT and DLNG last resort mechanism, and are intended to build on the existing notice requirements in:

- rule 695 of the NGR, which requires AEMO to publish risk or threat notices if it identifies an actual or potential risk or threat to the reliability or adequacy of the supply of gas (with rule 696 also allowing AEMO to vary or revoke these notices)
- rule 697 of the NGR, which requires AEMO to publish a notice if it exercises its trading function.

[98] The only exception to this is the Cessation of Intervention Notice, which should not need to be varied or revoked.

Table 3.9: Proposed market notification requirements

Notice	When would it be published?	What would it contain?
Risk or threat notice (existing rules 695-696 – no proposed changes to these rules)	As soon as reasonably practicable if AEMO identifies an actual or potential risk or threat to the reliability or adequacy of the supply of gas within the east coast gas system that meets or exceeds the criteria specified in the Procedures.	Description of: ▪ the identified risk or threat ▪ the nature and magnitude, location and likely duration of the identified risk or threat ▪ the market response, if any, that AEMO considers necessary to prevent or mitigate the identified risk or threat, including the duration of the response.
Reserve Establishment notice	As soon as practicable if AEMO decides to establish a SoLR reserve, or it considers it necessary to procure additional SoLR reserves.	Description of: ▪ why it intends to establish a SoLR reserve ▪ the form the reserve will take (i.e. Storage SoLR reserve or Other SoLR reserve) ▪ the location(s) that the SoLR reserve is being established for ▪ the likely size and duration of the SoLR reserve.
Potential Intervention notice	As soon as reasonably practicable if there are any foreseeable circumstances that may require AEMO to intervene in the east coast gas system, by using the SoLR mechanism.	Description of: ▪ the nature and magnitude, location and likely duration of the forecast breach of the reliability standard ▪ the market response that AEMO considers necessary to prevent or mitigate the forecast breach ▪ the circumstances that may require AEMO to use the SoLR reserve ▪ the latest time by which AEMO would need to use the SoLR reserve if the market fails to address the forecast breach. AEMO would also be required to regularly review the latest time estimate and publish any revisions to the estimate in a variation to the notice.
Actual Intervention notice	Immediately if the latest practicable time for AEMO to intervene has been reached and the risk or threat to the reliability or adequacy of supply has not been alleviated.	Description of: ▪ the circumstances that have required AEMO to use the reserve ▪ the location(s) the reserve is being used for ▪ the likely duration of the use of the reserve.
Cessation of Intervention notice (based on rule 697 – changes to this rule required)	As soon as reasonably practicable after AEMO has ceased to intervene in the east coast gas system.	Description of: ▪ the circumstances that required AEMO to use the reserve ▪ the location(s) for which the reserve was used ▪ how long the reserve was used for.

As this table highlights, the proposed design provides for a number of new notices, including:

- a Reserve Establishment notice, which AEMO would need to issue if it decides to establish a SoLR reserve
- a Potential Intervention notice, which AEMO would need to issue if there are any foreseeable circumstances that may require AEMO to intervene by using the SoLR reserve
- an Actual Intervention Notice, which AEMO would need to issue if it uses the SoLR reserve.

Together, the market notice requirements are intended to provide for an appropriate level of transparency and timely information on the reliability or supply adequacy threats facing the east coast gas system and AEMO's SoLR related actions, which market participants can then respond to.

While it is possible the same outcome could be achieved by using a single notice (e.g. the existing risk or threat notice), there is a risk that using the same notice to advise market participants of the risk or threat, as well as when AEMO may intervene, when it does intervene and when it ceases to intervene, may cause confusion and/or result in market participants failing to be aware of the escalation of actions. The proposed use of 'action based notices' is intended to overcome this risk, by providing market participants with as much clarity and transparency about AEMO's actions as practicable.

3.7 Accountability measures

Objective of design feature: To provide for an appropriate level of accountability and transparency of AEMO's SoLR-related activities, so market participants, participating jurisdictions, market bodies and other interested parties have confidence in AEMO's actions.

Proposed design

The proposed SoLR mechanism contains a number of accountability measures. These measures, which are set out in Table 3.10, have been developed having regard to the measures employed in both the RERT and DLNG last resort mechanism. They also build on the existing accountability measures set out in both the NGL and NGR, which require AEMO to publish post-intervention reports, if it exercises its trading function and report on their activities to Energy Ministers.

The two new accountability measures provided for under the proposed design include a requirement for AEMO to:

- Maintain separate financial accounts relating to its SoLR activities: This accountability measure, which mirrors what applies under the RERT in the NEM,[99] is intended to impose additional discipline on AEMO in terms of the costs it incurs and provide market participants and other interested parties greater confidence in those costs.
- Publish biannual reports on its SoLR related activities: This accountability measure, which is broadly consistent with what applies in the DLNG last resort mechanism and the RERT, is intended to provide market participants and other interested parties with greater transparency of AEMO's SoLR activities. It is also intended to impose additional discipline on AEMO in terms of the costs it incurs and the efficiency with which it uses any reserves it has established.

Table 3.10: Proposed accountability measures

Measure	Description
Financial accounts	AEMO would be required to maintain separate financial accounts relating to its SoLR related activities.
Post intervention reports	In keeping with the existing requirements in rule 698 of the NGR, AEMO would be required to publish a post-intervention report if it exercises the SoLR mechanism. Such a report would: ▪ describe the events leading up to the exercise of the SoLR mechanism, including the reasons the SoLR mechanism was exercised and the matters AEMO considered before deciding to do so ▪ explain how the SoLR mechanism was used ▪ set out AEMO's estimated expenditure on the exercise of the SoLR mechanism ▪ contain AEMO's assessment of the extent to which the exercise of the SoLR mechanism mitigated the identified risk or threat ▪ contain any other material AEMO considers appropriate.

[99] This is consistent with the RERT related requirements in rule 3.20.5(b) of the NER.

Measure	Description
Biannual SoLR activity reports	In a similar manner to the DLNG last resort mechanism[100] and RERT,[101] AEMO would be required to report on its SoLR activities over the preceding 6 months (if there are any such activities). Such a report, which would ideally be published prior to winter and summer (on 1 May and 1 November respectively), and would be required to include information on: ▪ any products or services procured under reserve contracts or through the facilitated markets in the preceding 6 months ▪ the reserves held by AEMO and any changes in its holdings over the preceding 6 months ▪ the total costs and proceeds associated with AEMO's SoLR activities over the preceding 6 months and how they have been recovered or distributed ▪ any exercises of the SoLR reserve over the preceding 6 months ▪ any instances in the preceding 6 months where: – the size of the reserve procured by AEMO exceeded the forecast breach of the reliability standard and, if so, why – the average amount payable by AEMO per GJ of reserve exceeded the estimated average VGCR for the relevant location and, if so, why.
Reporting to Energy Ministers and affected jurisdictions	In keeping with the existing requirements in rule 711 of the NGR and s. 91AE of the NGL, AEMO would be required to: ▪ report to Energy Ministers annually on the exercise of their east coast gas system reliability and supply adequacy functions (rule 711) ▪ at the written request of Energy Ministers or a Minister of a participating jurisdiction, to provide information about the performance of its east coast gas system reliability and supply adequacy functions (s. 91AE of the NGL). AEMO would also be required to inform affected participating jurisdictions of its decision to trigger the SoLR mechanism and to establish a SoLR reserve. It would also be required to use its reasonable endeavours to inform them before using a SoLR reserve (see sections 3.2 and 3.4).

Together, the accountability measures set out in Table 3.10 are intended to impose an appropriate level of discipline on AEMO. They are intended to do so by providing market participants, jurisdictions, the AER, AEMC and other interested parties with sufficient transparency of AEMO's SoLR related activities, while also minimising administrative burden and compliance costs.

While not provided for in the proposed design, another way in which accountability could potentially be enhanced is by reducing the amount of time AEMO has to publish any post-intervention report from the current allowance of 4 months to 1-2 months. This has not been proposed in the SoLR design, because rule 698 applies to exercises of both the directions and trading functions.

3.8 Transitional arrangements

Under the proposed design of the SoLR mechanism, transitional arrangements are likely to be required to set out:

- what is to occur if AEMO is in the process of exercising its trading function at the time the new rules are implemented
- what is to occur with any amounts of money that may be held in the trading fund established under rules 708-709 of the NGR
- the process to be followed by AEMO when amending its ECGS Guidelines and ECGS Procedures to deal with the various matters set out above.

[100] See rule 286C of the NGR, which requires AEMO to publish reports by 1 May and 1 November on its Dandenong LNG last resort related activities.

[101] See rule 3.20.6 of the NER, which requires AEMO to publish quarterly and end of financial year reports on its RERT related activities.

Transitional arrangements are also likely to be required to accommodate the 18 month period that the AER is proposed to have to prepare the initial VGCR estimates under the Reliability Standard & Associated Settings rule change request.

The proposed transitional arrangements are set out in the table below.

Table 3.11: Proposed transitional arrangements

Area	Description
What will occur if AEMO is exercising its trading function when the new rules are implemented?	If at the time the rules are implemented, AEMO is in the process of exercising its trading function, then the new rules will not apply. AEMO would instead be required to continue to act in the manner required under the 'old rules' until such time as it ceases to exercise the function.
What will occur if there is any money held in the trading fund when the new rules are implemented?	If at the time the rules are implemented, the trading fund includes any amounts that have been contributed by relevant entities (as opposed to being funded by an AEMO debt facility), AEMO would be required to refund the contributions to the relevant entities (i.e. with relevant entities being refunded in proportion to their contributions).
What process is to be followed to amend the ECGS Guidelines and ECGS Procedures?	The proposed transitional arrangements provide for AEMO to publish the following within 6 months of commencement of the proposed rules: ▪ amended ECGS Guidelines, dealing with the matters set out in section 3.3 (i.e. specifying the relevant entities that can supply products and services, providing more detail on the procurement process and other relevant matters) ▪ amended ECGS Procedures, dealing with the matters set out in sections 3.3–3.5 (i.e. setting out how transfers or disposals of gas from a Storage SoLR reserve are to occur, aspects of the cost recovery-proceeds distribution mechanism and any other relevant matters) ▪ standard form agreements for reserve contracts.
What is to occur while the AER carries out is work estimating the VGCR?	The proposed transitional arrangements provide for: ▪ AEMO to amend the ECGS Procedures to set out how the average VGCR is to be calculated within 6 months of the AER publishing the first VGCR estimates ▪ the VGCR related constraints set out in sections 3.3.1 and 3.3.5 and reporting against the VGCR in section 3.7 not to apply until such time as AEMO has published the revised ECGS Procedures.

3.9 Reliance of the proposed design on other rule change requests

As the preceding discussion highlights, most of the guardrails that are intended to form part of the proposed SoLR mechanism assume that the measures proposed in the Reliability Standard & Associated Settings and PASA rule change requests are implemented.

The proposed design of the SoLR mechanism, for instance, assumes that the following measures proposed in the Reliability Standard & Associated Settings rule change request are in place (or will be in place in either a final or transitional form) when the SoLR mechanism commences:

- a reliability standard
- a VGCR
- a reliability forecast in the GSOO, which will identify any forecast breaches of the reliability standard in the east coast gas system over the GSOO forecast horizon.

The proposed design also assumes that the proposed PASA is in place (or will be in place in either a final or transitional form when the SoLR mechanism commences), and, like the GSOO, will include a reliability and supply adequacy assessment, based on the application of the reliability standard.

If, for some reason, the AEMC decides not to implement any of these measures, then further consideration will need to be given to how to guide and frame how AEMO uses the SoLR mechanism (or the existing trading function). Similarly, if the AEMC decides to delay the implementation of these measures, it will

need to consider what, if any, additional transitional arrangements may be required for the SoLR mechanism.

3.10 How the proposed design of the SoLR mechanism addresses the identified issues

As the preceding discussion highlights, the proposed design of the SoLR mechanism is intended to address the concerns that have been raised about the existing trading function provisions in Part 27 of the NGR (see section 2.1), by providing for:

- clearer guidance to AEMO and market participants on when and how this last resort tool should be triggered and used (see sections 3.2–3.4)
- more objective conditions to be met before triggering the SoLR mechanism and using any SoLR reserve that is established (see sections 3.2 and 3.4)
- the application of more guardrails around AEMO's establishment and use of a SoLR reserve (see sections 3.3–3.5) and specific measures to address the concerns that have been raised about the potential for such a tool to:
  - impose unnecessary costs on gas consumers
  - give rise to a potential conflict of interest for AEMO
  - crowd out market participants, or otherwise affect their incentive to respond to forecast breaches of the reliability standard
- greater accountability and transparency of AEMO's SoLR related actions (see sections 3.6–3.7).

It is also intended to overcome the limitations that have been identified with:

- the current funding arrangements, by replacing the $35 million (30 June 2022) trading fund with a more transparent and equitable cost recovery-proceeds distribution mechanism (see section 3.5), and
- the current supply related focus of the products and services that can be procured, by also allowing AEMO to procure demand response services (see section 3.3.3).

While the preceding discussion has focused on the SoLR mechanism, it has become clear in the course of developing this rule change request, that some of the changes that have been proposed as part of the SoLR mechanism would be beneficial to employ in the context of AEMO's east coast gas system directions function. This includes the market notification, accountability measures and RSA tool assessment criteria set out in section 3.2 and sections 3.6–3.7, all of which appear directly relevant to the directions function.[102] This is an area that the AEMC may wish to consult with stakeholders on and consider as part of a more preferable rule.

[102] A similar approach is employed in the NER, with the RERT and NEM directions and instructions powers being classified as supply scarcity tools and requiring AEMO to use its reasonable endeavours to choose the supply scarcity tool (i.e. RERT or directions and instructions power) (or combination) that is effective in addressing the condition, while minimising costs. See rule 3.8.14 of the NER.

4 Proposed rule change

This section provides an overview of the changes that would need to be made to replace the existing trading function provisions in Part 27 of the NGR[103] with the proposed SoLR mechanism.

4.1 Overview of the proposed rule

To give effect to the proposed SoLR mechanism:

- changes will need to be made to Part 27 of the NGR to amend or replace the existing trading function provisions with new provisions that give effect to the proposed design set out in sections 3.2–3.7
- changes will need to be made to rule 135EA(7) in Part 15B of the NGR to include the additional subject matter for the East Coast Gas System Procedures set out in sections 3.2–3.7
- transitional rules will be required in Schedule 1 of the NGR to deal with the matters set out in section 3.8

In addition to these changes, consequential changes may also need to be made to:

- Parts 19–20 of the NGR, to set out how gas from a SoLR reserve is to be dealt with in the DWGM or a STTM. As outlined in section 3.4.2, further consultation will be required on these aspects of the proposed rule change, so it has not been possible to specify what these changes would involve in section 4.2.
- The NER to enable cost recovery from NEM participants and to potentially provide for similar linkages between the intervention tools. This is another area where further consultation will be required, so no provision has been made for these consequential changes in section 4.2.

Further detail on the proposed changes to the NGR is provided below.

4.2 Proposed changes to the NGR

Table 4.1 below provides an overview of the existing rules that would need to be amended and the new rules that would need to be made to implement the proposed SoLR mechanism.

It is worth noting that in developing the proposed changes, consideration has, where relevant, been given to the relevant RERT provisions in the NER and the DLNG last resort mechanism provisions in Part 19 of the NGR. Consideration has also been given to the proposed Reliability Standard & Associated Settings and PASA rule change requests, which are intended to be read together with this rule change request.

[103] Note that AEMO will still need to exercise the more general trading function set out in s. 91AD(1)(f) when using the SoLR mechanism. The proposed rule change is therefore solely focused on amending the trading function provisions in Part 27 of the NGR.

Table 4.1: Proposed changes to the NGR

New or existing	Existing Rule no.	Description of existing rule or focus of new rule	Proposed change
		Part 15B	
Existing rule	135EA(7)	Specifies matters that the East Coast Gas System Procedures may deal with	This rule would be amended to provide that the East Coast Gas System Procedures may deal with: ▪ how the estimated average VGCR for a location will be calculated ▪ how gas in a Storage SoLR reserve will be disposed of if AEMO is required to relinquish storage capacity ▪ for the purposes of the cost recovery/proceeds distribution mechanism: – how AEMO will identify liable relevant entities and NEM participants; and – how AEMO will calculate aggregate gas demand in a location and a liable entity's share of gas demand in that location (including how it will deal with the share of gas demand of a retailer or other person that sells gas) ▪ any other matter that is required to be dealt with in the Procedures under the amendments
		Part 27	
Existing rule	680	Contains definitions of terms used in Part 27	This rule would be amended to: ▪ make appropriate consequential amendments to the definitions of 'direction or trading function' and 'direction or trading notice', to reflect the proposed decoupling of references to these functions in rules 695-699; ▪ make appropriate amendments to the definition of 'trading function', including by renaming it 'SoLR function' (or the like), and so that it refers to the functions of establishing or using a SoLR reserve ▪ insert appropriate new definitions for the SoLR mechanism, including definitions of: – 'available intervention tools under the NEL/NER and NGL/NGR,' which include, but are not limited to those set out in clauses 3.20 and 4.8.9 of the NER, sections 91AD, 91BA and 91BRB of the NGL and Parts 19, 20 and 27 of the NGR – 'direct and indirect costs' of an intervention tool, for which examples include: • in the case of direct costs – the costs payable under reserve contracts and any compensation payments that would be payable if a direction function is exercised; • in the case of indirect costs – distortionary effects on the operation of the east coast gas system (or, if relevant, the NEM) and the implied value of lost load if there is a risk of curtailment – 'facilitated gas market', which refers to a market for covered gas services that is operated and administered by AEMO and includes the STTM, DWGM, GSH and DAA

New or existing	Existing Rule no.	Description of existing rule or focus of new rule	Proposed change
Existing rule	695	Rule 695(1) requires AEMO to publish a notice (a risk or threat notice) as soon as reasonably practicable if it identifies an actual or potential risk or threat to the reliability or adequacy of the supply of natural gas within the east coast gas system and considers that the identified risk or threat meets or exceeds the criteria specified in the Procedures The Reliability Standard & Associated Settings rule change request proposes that AEMO would only issue a risk or threat notice where a breach of the proposed reliability standard is first identified or the level of the breach materially changes Rule 695(3) provides that AEMO is not required to publish a risk or threat notice if it considers there is insufficient time to do so before exercising a direction or trading function	Rule 695(3) would be amended to delete the reference to the trading function. This reflects the fact that one of the preconditions for establishing or using a SoLR reserve is that an actual or potential breach of the proposed reliability standard has been communicated in a risk or threat notice
Existing rule	697	Requires AEMO to publish a notice (a direction or trading notice) as soon as reasonably practicable after exercising a direction or trading function. The notice must include details of the relevant risk and how AEMO exercised the function	Rule 697 would be amended so that it only applies in relation to the direction function. Consideration should also be given to relocating the amended rule into Division 5 (East coast gas system directions). The proposed Cessation of Intervention notice would replace the role of this rule in relation to the use of a SoLR reserve and should be located in Division 7 (see below)
Existing rule	698	Requires AEMO to publish a report on the exercise of direction or trading functions within 4 months of exercising the function	This rule would be amended so that it applies in relation to the exercise of a direction function or the function of using a SoLR reserve
Existing rule	699	Requires AEMO to consider various principles when determining whether to exercise a direction or trading function, including the principles that industry should be given a reasonable period of time to respond to an identified risk, engagement with affected jurisdictions should commence in a timely fashion, distortionary market impacts and costs should be minimised and safety should not be compromised	This rule would be amended so that it only applies in relation to the direction function. Consideration should also be given to relocating the amended rule into Division 5 (East coast gas system directions). The proposed preconditions for the exercise of the SoLR functions and SoLR principles would replace the role of this rule
Existing rule	Division 7	Exercise of trading functions	The existing rules in Division 7 (rules 708-710) would be deleted[104] and replaced with new rules dealing with the rules below.
New rule		Pre-conditions for triggering the use of the SoLR mechanism	These rules would provide that: (1) AEMO may only trigger the use of the SoLR tool if:

[104] Note that rule 709(4) is a civil penalty provision, and consequential amendments may need to be made to the Regulations if the rule is deleted.

New or existing	Existing Rule no.	Description of existing rule or focus of new rule	Proposed change
			(a) AEMO is of the opinion that the use of this tool, either alone or in combination with any other intervention tool available to it under the NEL/NER and NGL/NGR, is necessary to prevent, reduce or mitigate an actual or potential breach of the reliability standard (a forecast breach), having regard to: i. the nature and size of the forecast breach; ii. the adequacy or feasibility of the response (or likely response) from industry at the time the assessment is made, noting that industry may require a reasonable period of time to take action to mitigate a forecast breach; iii. the RSA tool assessment criteria in (2); iv. the NGO;[105] (b) the forecast breach has been identified in the most recent GSOO or in a PASA; (c) the forecast breach has been communicated in a risk or threat notice. (2) The RSA tool assessment criteria require AEMO to: (a) consider the direct and indirect costs and the effectiveness of all the intervention tools available to AEMO to address the forecast breach; and (b) use its reasonable endeavours to choose the tool, or combination of tools, that is effective in addressing the forecast breach, while minimising the direct and indirect costs of using such a tool or tools.
New rule		Establishment of SoLR reserves	These rules would provide that: (1) AEMO may only establish a SoLR reserve if: (a) AEMO has notified nominated persons of affected participating jurisdictions that it intends to establish the reserve and has agreed inter-jurisdictional cost sharing arrangements with those persons; (b) AEMO has published a notice (a Reserve Establishment notice) advising the market: (i) that it intends to establish one or more reserves and why; (ii) the form the reserve will take; (iii) the location the reserve is being established for; and (iv) the likely size and duration of the reserve. (2) The Reserve Establishment notice must be published as soon as practicable after AEMO decides to establish a reserve or procure additional reserves, and varied or revoked if circumstances change. (3) When establishing a SoLR reserve, AEMO must have regard to the following principles (the SoLR principles): (a) actions taken should be those which AEMO reasonably expects, acting reasonably, to have the least distortionary effect on the operation of the east coast gas system; (b) actions taken should aim to maximise the effectiveness of reserve contracts at the least cost to consumers of covered gas; (c) the average amount payable by AEMO under reserve contracts for each GJ of reserve for the location(s) for which the reserve is being established should not exceed the estimated average VGCR for that location(s) (calculated in accordance with the Procedures and having regard to any estimate developed by the AER).

[105] As section 91A(2) of the NGL requires AEMO to have regard to the NGO when carrying out its functions, it may not be necessary to expressly refer to the NGO in this rule.

New or existing	Existing Rule no.	Description of existing rule or focus of new rule	Proposed change
			(4) A SoLR reserve may consist of either or both: (a) where the forecast breach is identified with at least 8 weeks' notice and the breach is forecast to persist for more than 4 weeks, or to occur on multiple occasions over a period of at least 4 weeks – a Storage SoLR Reserve, consisting of any combination of the following products and services: (i) covered gas; (ii) storage services; (iii) any other associated services that may be required to establish or use the Storage SoLR Reserve, including pipeline, compression or blend processing services; (b) otherwise – an Other SoLR Reserve, consisting of any combination of the following products and services: (i) covered gas on an as available, interruptible or other out of market basis; (ii) pipeline, compression, blend processing and/or storage services, on an as available, interruptible or other out of market basis; (iii) demand response services. (5) AEMO may procure these products or services by: (a) entering into reserve contracts (or varying existing contracts) with relevant entities of a type specified in the ECGS Guidelines; (b) using a facilitated gas market. (6) In the case of reserve contracts: (a) if the circumstances permit, a full competitive tender process should be used to select the relevant entities with whom AEMO will enter into reserve contracts; (b) relevant entities must negotiate with AEMO in good faith as to the terms and conditions of the contract; (c) AEMO must: (i) use reasonable endeavours to ensure that: A. the amount of reserve procured is no more than AEMO considers is reasonably necessary to address the forecast breach; B. the term of any reserve contract is no longer than AEMO considers is reasonably necessary to address the forecast breach; and C. if it is establishing an Other SoLR reserve – the products and services procured would not otherwise be made available to the market; (ii) have regard to the targets set out in the targets statement for greenhouse gas emissions targets;[106] (d) if a panel of service providers is established, panellists must not be paid to be on the panel; (e) AEMO may negotiate the terms and conditions of a reserve contract or a variation of a reserve contract at any time, but can only enter into a new reserve contract or vary a contract if the conditions in (1) above are satisfied.

[106] It may not be necessary to expressly refer to the targets statement in this rule, given that section 91A(2) of the NGL requires AEMO to have regard to the NGO when carrying out its functions, and s 72A(5) provides that a person or body, in having regard to the matters mentioned in paragraph (b) of the NGO (that is, the achievement of emissions reduction targets), must at a minimum consider the targets set out in this statement.

New or existing	Existing Rule no.	Description of existing rule or focus of new rule	Proposed change
			(7) AEMO must develop, in accordance with the standard consultative procedure, publish and keep under review ECGS Guidelines dealing with: (a) the process it will use when entering into reserve contracts, including the circumstances in which a full competitive tender process will be used or a panel of service providers established; (b) the evidence it will accept to demonstrate that products and services procured as part of an Other SoLR reserve would not otherwise be made available to the market; (c) the types of payments that could be made under reserve contracts. (8) The ECGS Guidelines may also deal with the circumstances in which AEMO is likely to use reserve contracts. (9) For procurements through a facilitated gas market: (a) AEMO's bids to withdraw gas from a STTM or the DWGM must be at the market price cap; (b) AEMO must engage an intermediary to act on its behalf in the GSH and DAA. It must not disclose any market or commercially sensitive information to the intermediary and must not favour the intermediary when carrying out its functions in those markets. (10) If a person wishes to procure storage capacity and the only available storage capacity is held by AEMO in a Storage SoLR reserve, then AEMO must relinquish the capacity to the relevant storage provider, and transfer the stored gas to the relevant person, or otherwise dispose of the gas in accordance with the Procedures. The Procedures must specify how the transfer or disposal is to be conducted, including the terms and conditions on which any transfer or disposal will occur.
New rule		Use of SoLR reserves	These rules would provide that: (1) AEMO may only use a SoLR reserve if: (a) AEMO is of the opinion that using the SoLR reserve, either alone or in combination with any other intervention tool available to it under the NEL/NER and NGL/NGR, is necessary to prevent, reduce or mitigate a forecast breach, having used its reasonable endeavours to have regard to the RSA tool assessment criteria and the NGO;[107] (b) AEMO has published a notice (a Potential Intervention notice) advising the market of: (i) the nature and magnitude, location and likely duration, of the forecast breach; (ii) the industry response that AEMO considers necessary to prevent or mitigate the forecast breach; (iii) the circumstances that may require AEMO to use the reserve; (iv) the latest time by which AEMO would need to use the reserve if the market fails to address the forecast breach; (c) AEMO considers that the latest time for using the reserve to address the forecast breach has been reached; (d) AEMO has used reasonable endeavours to notify nominated persons of affected participating jurisdictions that it intends to use the reserve. (2) A Potential Intervention notice must be published as soon as reasonably practicable after AEMO forms the view that there are foreseeable circumstances that may require AEMO to use a SoLR reserve, and must be varied or revoked if circumstances change, including if the latest time by which AEMO would need to use the reserve changes.

[107] As section 91A(2) of the NGL requires AEMO to have regard to the NGO when carrying out its functions, it may not be necessary to expressly refer to the NGO in this rule.

New or existing	Existing Rule no.	Description of existing rule or focus of new rule	Proposed change
			(3) If AEMO decides to use a SoLR reserve, it must notify nominated persons of affected participating jurisdictions and publish a notice (an Actual Intervention notice) advising the market of: (a) the circumstances that have required AEMO to use the reserve; (b) the location the reserve is being used for; (c) the likely duration of the use of the reserve. (4) An Actual Intervention notice must be published as soon as possible after AEMO decides to use a SoLR reserve, and must be varied or revoked if circumstances change. (5) AEMO must have regard to the SoLR principles when using a reserve. (6) AEMO must publish a notice (a Cessation of Intervention notice) as soon as reasonably practicable after ceasing to use a reserve advising the market of: (a) the circumstances that required AEMO to use the reserve; (b) the location for which the reserve was used; (c) how long the reserve was used for. (7) Subject to any contractual or regulatory requirements, AEMO may dispose of any covered gas remaining in a Storage SoLR reserve after it has issued a Cessation of Intervention notice at its discretion.
New rule		Cost recovery-proceeds distribution	These rules would provide that: (1) AEMO must maintain separate financial accounts relating to its functions under Division 7. (2) The cost recovery/proceeds distribution mechanism is triggered upon establishing a SoLR reserve and operates on a monthly basis until the reserve ceases to be used and the associated costs have been recovered and proceeds distributed. (3) The costs incurred in establishing and using a reserve are to be recovered from: (a) relevant entities located in or servicing the location that the reserve was established for, based on their share of aggregate gas demand in the location in each month that the reserve is in place; (b) if use of the reserve benefits the NEM – NEM participants in the NEM regions that benefit from use of the reserve, based on their share of adjusted gross energy amounts in the NEM region in each month the reserve is in place. (4) For the purposes of (3), liable relevant entities and NEM participants, aggregate gas demand in a location and a relevant entity's share of that demand, are to be determined in accordance with the Procedures. (5) Any proceeds from using a reserve must be rebated to relevant entities and NEM participants using the same percentage allocation that was used to recover the costs of establishing and using the reserve.

New or existing	Existing Rule no.	Description of existing rule or focus of new rule	Proposed change
New rule		Reporting (accountability) requirements	These rules would provide that AEMO must publish a report on its activities (if any) under Division 7 over the preceding 6 months by 1 May and 1 November each year. The report must include information about: (a) any products or services procured under reserve contracts or through the facilitated gas markets during the reporting period; (b) the reserves held by AEMO and any changes in its holdings during the reporting period; (c) the total costs and proceeds associated with performing its functions under Division 7 during the reporting period and how they have been recovered or distributed; (d) any use of a SoLR reserve during the reporting period; (e) any instances during the reporting period where: (i) the size of the reserve exceeded the forecast breach at the relevant time, and why; (ii) the average amount payable by AEMO per GJ of reserve exceeded the estimated average VGCR for the relevant location at the relevant time, and why.
Schedule 1 Transitional provisions			
New rule	n.a.	Contains transitional provisions related to particular rule changes	Transitional provisions would provide that: (a) The amendments do not apply to the exercise of a trading function that began before the amendments commence (b) If at the commencement of the amendments the trading fund consists of any amounts contributed by relevant entities, those amounts must be refunded to those entities in proportion to their contribution (c) AEMO must publish amended ECGS Guidelines, Procedures and a standard form reserve contract within 6 months of the commencement of the amendments. Amended ECGS Guidelines and Procedures published within this timeframe are deemed to have been developed in accordance with the standard consultative procedure (amended ECGS Guidelines) and rule 135EE (amended Procedures) (d) AEMO must amend the ECGS Procedures to set out how the average VGCR is to be calculated within 6 months of the AER publishing the first VGCR estimates. (e) The following aspects of the rule change that rely on a VGCR being in place would not apply until such time as AEMO has published the amended ECGS Procedures in accordance with (d): – the VGCR cost constraints (see section 3.3.1 and 3.3.5) – the requirement for AEMO to report on whether its actual expenditure on SoLR reserves exceeded the average VGCR for that location in the biannual SoLR report (see section 3.7).

5 Consistency of the proposed rule change with NGO

In keeping with s. 291 of the NGL, the AEMC may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the NGO. The NGO is set out in s. 23 of the NGL, and states:

> *The objective of this Law is to promote efficient investment in, and efficient operation and use of, covered gas services for the long-term interests of consumers of covered gas with respect to—*
>
> *(a) price, quality, safety, reliability and security of supply of covered gas; and*
>
> *(b) the achievement of targets set by a participating jurisdiction—*
>
> *(i) for reducing Australia's greenhouse gas emissions; or*
>
> *(ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.*

In contrast to the other Stage 2 proposed rule changes, which involve the introduction of new framework elements, this rule change request provides for the replacement of the existing trading function provisions in Part 27 of the NGR with the proposed SoLR mechanism. The starting point, or counterfactual, used for the assessment of whether this proposed rule change will, or is likely to, contribute to the NGO differs therefore from these other proposed rule changes.

The implications of this for the assessment of the proposed rule change are set out below, followed by an explanation of how the proposed rule change will, or is likely to, contribute to the NGO.

5.1 Counterfactual used for the assessment

Unlike the other Stage 2 rule change requests, the counterfactual to be used for the assessment of whether this proposed rule change will, or is likely to, contribute to the NGO is **not** AEMO having no ability to perform a supplier of last resort style function. Rather, the counterfactual is AEMO continuing to be able to use the east coast gas system trading function in s. 91AD(1)(f) of the NGL in accordance with s. 91AD(2) of the NGL and the trading function provisions in Part 27 of the NGR.

The assessment of whether the proposed rule change will, or is likely to, contribute to the NGO is therefore more **incremental** in nature. Put simply, it requires an assessment of the changes provided for by the proposed SoLR mechanism *vis-à-vis* the existing trading function provisions in the NGR.

Some insight into the changes provided for by the proposed SoLR mechanism can be found in Table 5.1, which compares key elements of the existing trading function provisions (the counterfactual) with the proposed SoLR mechanism (the factual). As it shows, there are a number of important differences between the existing trading function provisions and the proposed SoLR mechanism that must be taken into account when considering the merits of the proposed rule change. That is, when considering:

- whether the proposed rule change will, or is likely to, contribute to the NGO (see section 5.2)
- the expected benefits, costs and potential impacts of the proposed rule change (see section 6).

Table 5.1: Comparison of the existing trading function provisions with proposed SoLR mechanism

Area	Maintain existing trading function provisions (Counterfactual)	Proposed SoLR mechanism (Factual)
Conditions for triggering & using	In keeping with ss. 91AD(1)(f) and 91AD(2) of the NGL, AEMO can only exercise the function if it is of the opinion that the trade or purchase is necessary to prevent, reduce or mitigate an actual or potential threat identified by AEMO.[108]	
	AEMO must also, to the extent it considers appropriate given the nature, timing or circumstances of the identified risk or threat, have regard to the following principles in the NGR:[109] ▪ the industry should be given a reasonable period of time to take action to mitigate the identified risk or threat ▪ engagement with affected jurisdictions should commence in a timely manner ▪ distortionary impacts on the east coast gas system and industry and consumer costs on which AEMO has available information should be, to the extent reasonably practicable, minimised ▪ safety should not be compromised.	The proposed rule change provides for the further restriction of the conditions for triggering or using the proposed SoLR mechanism to where there is a forecast breach of the reliability standard and where the following pre-conditions for triggering the SoLR mechanism and conditions for using a SoLR reserve have been met. ▪ **Pre-conditions for triggering SoLR mechanism** (see section 3.2): AEMO must have: – identified and communicated a projected breach of the reliability standard to the market in the latest GSOO or PASA (if implemented) – formed the opinion that triggering the SoLR mechanism is necessary to prevent, reduce or mitigate a forecast breach of the reliability standard, having regard to: • the nature and size of the breach • the adequacy or feasibility of the response (or likely response) from market participants (noting the principle that industry should be given a reasonable period of time to respond) • the RSA tool assessment criteria • the NGO. ▪ **Conditions for use of SoLR reserve** (see section 3.4.1): AEMO must have: – notified the market of the potential for it to intervene (including the latest time by which it would need to intervene) and the latest time to address the forecast breach must have been reached – used reasonable endeavours to notify affected jurisdictions – formed the opinion that use of the SoLR reserve is necessary to prevent, reduce or mitigate a forecast breach of the reliability standard, having used its reasonable endeavours to have regard to: • the RSA tool assessment criteria • the NGO.
Guardrails on use	Other than the conditions listed above, there are no other guardrails applying to the use of the trading function in the NGR.	The proposed rule change provides for the NGR to employ similar guardrails to those employed in the RERT and DLNG last resort mechanism, in terms of the proposed pre-conditions and conditions listed above, as well as the proposed: ▪ constraints on the establishment and use of a SoLR reserve (see sections 3.3–3.4) ▪ constraints on the SoLR reserve term, size and cost and a requirement for AEMO to consider any greenhouse gas emissions targets set by a jurisdiction (see section 3.3.5) ▪ procurement requirements (see section 3.3.6) ▪ cost recovery-proceeds distribution arrangements (see section 3.5) ▪ accountability measures (see 3.7).

[108] Sections 91AD(1)(f) and 91AD(2) of the NGL.
[109] Rule 699 of the NGR.

Area		Maintain existing trading function provisions (Counterfactual)	Proposed SoLR mechanism (Factual)
Measures to address: the risks of	Imposing unnecessary costs on gas users	The only effective constraint on costs in the NGR is the $35 million p.a. (real 30 June 2022) trading fund cap.[110]	The proposed rule change provides for the NGR to: ▪ restrict AEMO's use of the mechanism to addressing forecast breaches of the reliability standard (i.e. rather than any risk or threat) (see section 3.2) ▪ require AEMO to have regard to the SoLR principles when establishing and using a SoLR reserve (see section 3.3.1) ▪ impose equivalent constraints on the term, size and cost of a SoLR reserve to those applying under RERT and require AEMO to consider greenhouse gas emissions targets set by a jurisdiction (see section 3.3.5) ▪ impose more discipline on the costs AEMO incurs when using this mechanism by providing for greater accountability of AEMO's actions to impose more discipline on costs (see section 3.7).
	Crowding out market participants	Not dealt with in the NGR.	The proposed rule change provides for the NGR to include following measures (see section 3.3.4): ▪ Storage SoLR reserve: AEMO must relinquish storage capacity and transfer or dispose of the gas in storage if a market participant wants storage capacity and there is no other available capacity ▪ Other SoLR reserve: AEMO must procure 'out of market' products and services
	Potential conflicts of interest for AEMO	Not dealt with in the NGR.	The proposed rule change provides for the NGR to specify how AEMO is to use the facilitated markets if it is buying or selling products and services through those markets (see sections 3.3.6 and 3.4.2).
Products/services		Part 27 currently limits to supply related products and services[111]	The proposed rule change provides for AEMO to procure supply related and demand-response products and services (see section 3.3.3).
Funding arrangements & cost recovery-proceeds distribution		Part 27 of the NGR provides for the use of a trading fund, which:[112] ▪ Is subject to a $35 million p.a. (real 30 June 2022) cap ▪ provides no guidance on cost recovery or proceeds distribution ▪ only allows costs to be recovered from relevant entities.	Subject to a more transparent and equitable cost recovery-proceeds distribution framework that: ▪ does **not** impose an overall cap on funding (i.e. the VGCR is instead intended to place a constraint on how much AEMO should on average to spend on each GJ of reserve) ▪ provides clear guidance on how costs are to be recovered and proceeds distributed ▪ allows for costs to be recovered from relevant entities and, where relevant, NEM participants.
Market notification requirements		Part 27 of the NGR requires AEMO to publish risk or threat notices and trading notices once AEMO has exercised a trading function. [113]	The proposed rule change requires AEMO to publish risk or threat notices and a range of other notices (see section 3.6) to advise market participants of when AEMO: ▪ is establishing a SoLR reserve and what it will involve ▪ is considering potentially using the SoLR reserve ▪ is intervening by using the SoLR reserve ▪ has ceased to intervene by using the SoLR reserve.
Accountability measures		Part 27 of the NGR requires AEMO to:[114] ▪ publish post-intervention reports ▪ report to Energy Minsters ▪ have regard to the principle that engagement with affected jurisdictions should commence in a timely manner.	The proposed rule change provides for AEMO to (see section 3.7): ▪ publish post-intervention reports ▪ report to Energy Minsters. ▪ maintain separate accounts for SoLR activities ▪ publish bi-annual reports on SoLR activities ▪ advise affected participating jurisdictions at various stages of the mechanisms use.

110 Rule 709 of the NGR.
111 Rule 708(2) of the NGR.
112 Rules 709-710 of the NGR.
113 Rules 695 and 697 of the NGR.
114 Rules 698, 699(b) and 711 of the NGR.

5.2 Contribution to the NGO

As Table 5.1 highlights, the proposed SoLR mechanism is intended to operate in a more transparent, objective and predictable manner than the existing trading function, through changes to the NGR that provide for:

- clearer guidance on when and how this last resort tool should be used
- the use of more objective conditions for triggering the SoLR mechanism and using a SoLR reserve
- the application of more guardrails around AEMO's use of this mechanism
- a greater level of transparency and accountability for AEMO's actions in relation to this mechanism.

The proposed SoLR mechanism is also intended to:

- facilitate more timely and efficient market-led responses to forecast breaches of the reliability standard, which could reduce or obviate the need for AEMO to use this RSA management tool
- recognise the increasing interrelationship between the east coast gas system and the NEM and the potential for tools available to AEMO in the NEM, to help address forecast breaches of the reliability standard in the east coast gas system
- address the concerns that have been raised about the potential for the existing trading function to impose unnecessary costs on gas users, crowd out market participants (or otherwise affect their incentive to react to forecast breaches) and/or to give rise to a potential conflict of interest for AEMO
- remove unnecessary restrictions on the actions AEMO can take if this mechanism is triggered.

Together, these aspects of the proposed SoLR mechanism (as part of the broader suite of Stage 2 rule change requests) are expected to contribute to the NGO by:

- maintaining or improving the reliability and security of supply of covered gas,
- promoting efficient investment in and the efficient operation and use of covered gas services, and
- contributing indirectly to the achievement of jurisdictional greenhouse gas emissions targets;

all of which are in the long term interests of consumers of covered gas in the east coast gas system.

Consistent with the principles of best practice regulation, the proposed SoLR mechanism is also intended to be:

- targeted, fit for purpose and proportionate to the issues it is intended to address
- as simple and well-integrated with existing market and regulatory arrangements as possible
- designed in a way that minimises administrative burdens and compliance costs
- flexible enough to adjust to changing market conditions.

Further detail on how the proposed rule change is expected to contributed to the NGO is provided below.

5.2.1 Maintaining or improving the reliability and security of supply

The proposed rule change is expected to maintain or improve the reliability and security of supply of

covered gas to consumers of covered gas in the east coast gas system by:

- Facilitating more efficient market led responses to forecast breaches of the reliability standard. That is, by:
  - providing for more timely and effective communication of information on forecast breaches to the market, what is likely to be required by market participants to address the forecast breach and how much time is available to do so
  - providing market participants with greater confidence that the SoLR mechanism is a last resort tool only and putting in place measures to address the risk that AEMO's use of this tool may crowd out market participants, or otherwise affect their incentive to take action to address a forecast breach.
- Ensuring that if market participant actions fail to address a forecast breach, AEMO considers the cost and effectiveness of all of the tools available to it, including, where relevant, tools that may be available to it in the NEM that could help to maintain or improve the reliability and security of supply.
- Allowing AEMO to better respond to forecast breaches of the reliability standard that could otherwise result in the curtailment of gas users, or have other adverse effects on the market, by:
  - enabling AEMO to establish and use a SoLR reserve, including a Storage SoLR reserve, which as AEMO's most recent GSOO highlights (see Box 1.1), could become increasingly important if market actions fail to address breaches that are expected to persist for some time
  - removing any unnecessary restrictions on the actions AEMO could take to address forecast breaches of the reliability standard if the SoLR mechanism is triggered, including by:
    - removing the $35 million p.a. (real 30 June 2022) cap on AEMO's actions
    - allowing AEMO to procure and use demand-response services, where such services could help to address the forecast breach.

Consistent with the NGO, the principal beneficiaries of maintaining or improving the reliability and security of supply of covered gas, will be consumers of covered gas in the east coast gas system.

5.2.2 Promoting economic efficiency

The proposed rule change is expected to promote economic efficiency by supporting more informed and efficient market-led responses to forecast breaches of the reliability standard in the first instance. This feature of the SoLR mechanism should, in principle, encourage more timely and efficient investment in, operation and use of covered gas services. It should also support more informed and efficient planning and policy decisions in both the east coast gas system and across the NEM.

While market-led responses will generally be more efficient than intervention by AEMO, if the proposed SoLR mechanism is triggered then it could also promote more efficient outcomes by helping to:

- overcome some of the potential market failures that MJA noted may be affecting the incentive and/or ability market participants have to address forecast breaches of the reliability standard (see Box 1.1)[115]
- address unexpected breaches of the reliability standard where market participants are unable to respond.

The following features of the proposed SoLR mechanism are also intended to promote economic efficiency:

[115] The list of potential market failures identified by MJA include information asymmetries, free rider and market power issues, market participants not facing the full economic costs of supply shortfalls, investment constraints and/or coordination failures. See MJA, Adequacy of Gas Supply: Factors impacting retailer and generator contracting, March 2023, pp. 59-61.

- The restriction of AEMO's use of this tool to addressing forecast breaches of the reliability standard, which as outlined in the Reliability Standard & Associated Settings rule change request, should reflect the value that gas customers place on reliable supply.
- The requirement for AEMO to consider the relative cost and effectiveness of all the tools available to it when deciding whether to trigger the SoLR mechanism and whether to use a SoLR reserve
- The requirement for AEMO to have regard to the SoLR principles, when establishing and using a SoLR reserve, which require:
  (a) any actions taken by AEMO to be those it reasonably expects, acting reasonably, to have the least distortionary effect on the operation of the east coast gas system and to aim to maximise the effectiveness of the SoLR reserve at least cost to gas consumers
  (b) AEMO to have regard to the principle that the amount payable for each GJ should not exceed the estimated average VGCR for the location the SoLR reserve has been established for.
- The application of equivalent constraints on the cost, size and term of any SoLR reserve as those used in the RERT, which in addition to the principle in (b) above require AEMO to use its reasonable endeavours to ensure that:
  - the amount of reserve procured is no more than AEMO considers reasonably necessary to address the projected breach of the reliability standard
  - the term of any reserve contract is no longer in duration than AEMO considers reasonably necessary to address the projected breach of the reliability standard.
- The requirement for AEMO to procure out of market products and services when establishing an Other SoLR reserve, and to relinquish storage capacity if required when establishing a Storage SoLR reserve, which together should mitigate the risk that AEMO crowds out other more efficient uses of covered gas services in the east coast gas system.
- The ability for AEMO to procure demand-response services, which may be a more efficient and lower cost option than using supply options in some instances.
- The requirement for AEMO to conduct a competitive tender process when establishing a SoLR reserve, where there is sufficient time to do so. When coupled with the expansion of the list of potential reserve providers, this could result in greater competition for the provision of reserves and result in the tool being a lower cost option than others available to AEMO, including directions.
- The accountability measures, which are intended to impose additional discipline on AEMO in terms of the actions it takes and the costs it incurs.

Together these features of the proposed SoLR mechanism are intended to promote efficient investment in, operation and use of covered gas services. They are also intended to minimise the costs associated with this tool, both of which are in the long term interests of consumers of covered gas in the east coast gas system.

5.2.3 Contributing to the achievement of jurisdictional greenhouse gas emissions targets

The proposed rule change is expected to contribute indirectly to the achievement of jurisdictional greenhouse gas emissions targets, by:

- requiring AEMO to consider the greenhouse gas emission targets set by participating jurisdictions when establishing a SoLR reserve
- requiring AEMO to consider all the tools available to it when triggering the SoLR mechanism or using a SoLR reserve, including those available to it in the NEM, which could involve the use of less emissions intensive responses (e.g. through electricity demand-response or the use of renewable generation)

- allowing AEMO to use demand-response to help address forecast breaches of the reliability standard, which would contribute to lower emissions than a supply option.

The principal beneficiaries of any contribution to the attainment of greenhouse gases will be consumers of covered gas in the east coast gas system, and the Australian and global population more generally.

5.2.4 Potential contribution to the NEO

This rule change request is being submitted to the AEMC for assessment under the NGO, and thus the preceding discussion has focused on clearly demonstrating how the proposed rule change will contribute to the NGO.

However, it is worth noting that due to the proposed rule change's potential impact on the NEM (e.g. via GPGs), it may also contribute to aspects of the National Electricity Objective (NEO). The proposed SoLR mechanism could, for example:

- help to maintain or improve the reliability and security of supply of electricity and/or the reliability, safety and security of the national electricity system (e.g. this could occur if the SoLR reserve is used to address a forecast breach of the gas reliability standard and enables GPGs to continue to operate when the NEM is also facing a potential breach of the electricity reliability standard)
- contribute to the achievement of the greenhouse emissions aspects of the NEO (e.g. this could occur if use of the SoLR mechanism results in the displacement of a more emissions intensive form of generation in the NEM).

Finally, it is worth noting that while some consideration has been given to the linkages between the east coast gas system and the NEM when developing the proposed rule change, it has not been possible to propose a fully integrated approach across the two markets, given the separate legislative and regulatory frameworks applying to both gas and electricity. This may be an area for further reform, given the increasing interrelationship between the two markets (see Box 1.1) and the need to develop a more integrated reliability and supply adequacy framework that is in the long term interests of all energy consumers.

6 Expected costs, benefits and impacts of the proposed rule change

This section outlines the expected costs and benefits of the proposed rule change, as well as the potential impacts on affected parties. In a similar manner to section 5, the assessment of these matters has focused on the changes provided for by the proposed SoLR mechanism *vis-à-vis* the existing trading function provisions in the NGR (see section 5.1 for more detail).

6.1 Expected costs

While the proposed design of the SoLR mechanism is intended to facilitate more efficient market-led responses to forecast breaches of the reliability standard in the first instance, there may still be instances where this last resort tool is required to address a forecast breach. Steps have therefore been taken to minimise the costs that may otherwise be associated with the use of this type of tool (see Table 5.1).

While these steps have been taken, there are still expected to be some **incremental** costs associated with replacing the existing trading function provisions with this mechanism. The incremental costs include both the implementation and ongoing costs associated with the proposed SoLR mechanism, the majority of which are expected to be borne by AEMO in the first instance, before being passed onto gas users.

The **implementation costs** include the costs associated with AEMO updating the ECGS Guidelines and Procedures, and the development of standard form reserve contracts. They could also include the cost of developing the proposed cost recovery-proceeds distribution mechanism and making any other changes that may be required to AEMO's systems.[116]

The **ongoing costs** include both administrative costs and the costs associated with AEMO:

- establishing and potentially using a SoLR reserve, which include:
  - the costs of carrying out the procurement process required to establish a SoLR reserve and complying with any rules relating to the establishment of a SoLR reserve (see section 3.3)
  - payments made under any reserve contracts that AEMO enters into, some of which may only be incurred if the SoLR reserve is used, while others may be incurred even if it is not used[117]
  - any costs AEMO incurs procuring or selling products or services through the facilitated markets
- issuing the proposed market notices, some of which will only be incurred if:
  - the SoLR mechanism is triggered (i.e. Reserve Establishment and Potential Intervention notices)
  - the SoLR reserve is used (i.e. the Actual Intervention and Cessation of Intervention notices)
- complying with the proposed accountability measures, some of which will:
  - be incurred irrespective of whether the SoLR mechanism is triggered (e.g. the requirements to maintain separate accounts, publish biannual reports and report to Energy Ministers, the latter of which is an existing requirement in Part 27 of the NGR)
  - only be incurred if the SoLR reserve is used (e.g. the requirement to publish post-intervention reports, which is also an existing requirement in Part 27 of the NGR).

The term 'ongoing costs' is a bit of a misnomer in this context, because as a last resort tool, the SoLR mechanism is expected to be used relatively infrequently, with most of the costs listed above only

[116] Note that AEMO should be able to treat these costs as a 'major gas project' for the purposes of determining participant fees under rule 135CB of the NGR.

[117] For example, if a Storage SoLR reserve is established, or if AEMO decides to make availability payments to reserve contract holders.

expected to be incurred if it is triggered and, in some cases, only if the SoLR reserve is actually used. The only exception to this is some of the accountability related costs, which as noted above, AEMO would still incur even if it doesn't use the SoLR mechanism.

Apart from the costs incurred by AEMO, those market participants that decide to offer their products or services to AEMO through a competitive tender or panel process, are also likely to incur some administrative costs. They would also incur the costs associated with supplying products and services (including in the case of demand-response, by foregoing consumption), which they would be expected to be compensated for under the terms of any reserve contract.

While it may be possible to quantify some of the costs listed above (e.g. AEMO implementation costs), others are likely to be very difficult to quantity. This is because there is a significant degree of uncertainty surrounding:

- how frequently the SoLR mechanism may be triggered and the SoLR reserve used (particularly given the measures that have been included to facilitate market-led responses and to require AEMO to consider the cost and effectiveness of all the tools available to it)
- whether AEMO may need to establish a Storage SoLR reserve, which would result in costs being incurred irrespective of whether it is used or not, or if it may only need to establish an Other SoLR reserve that results in costs only being incurred if the reserve is used
- the size, term, cost and location of any SoLR reserve(s) that AEMO may establish if it does trigger the SoLR mechanism, all of which will depend on the nature and scale of the projected breaches of the reliability standard, the reserve options available to AEMO at the time and the value that gas customers place on reliable supply
- what, if any, proceeds AEMO may generate if it does use the SoLR reserve.

While it has not been possible to quantify the incremental costs associated with the proposed rule change, it is worth noting that they are likely to be outweighed by the benefits listed in section 6.2, particularly once proceeds and the value of avoided curtailment are taken into account.

In relation to indirect costs, it is worth noting that while there may be some such costs, they are expected to be lower than what they are under the exiting trading function provisions. For example, even though steps have been taken to try and address the risk of AEMO crowding out market participants, or otherwise distorting their incentive to respond to forecast breaches of the reliability standard, it is possible that this risk could still arise. It is, however, important to recognise that this is a risk in the existing trading function provisions and the proposed design of the SoLR mechanism is intended to reduce this risk.

6.2 Expected benefits

The primary **incremental** benefits of the proposed rule change are the same as those set out in section 5.2. That is, the benefits associated with:

- the maintenance or improvement of the reliability and security of supply of gas in the east coast gas system and in some instances, the supply of electricity in the NEM
- the promotion of efficient investment in and the efficient operation and use of covered gas services in the east coast gas system
- the indirect contribution to the achievement of jurisdictional greenhouse gas emissions targets.

The parties that will primarily benefit from these incremental benefits are users of covered gas in the east coast gas system (and potentially electricity users in the NEM), because it will help to reduce the risk of curtailment in a more cost-effective manner than the current trading function provisions and yield a

number of other economic efficiency and consumer related benefits. The removal of both the $35 million p.a. (30 June 2022) cap on what AEMO can spend and the restriction on products and services it can procure, will also mean that AEMO can use this tool to address forecast breaches of the reliability standard in a more efficient manner.

Participants in the east coast gas system and the NEM are also expected to benefit from the proposed rule change, through improved information provision and greater confidence in when and how AEMO may use this tool, which together should support more timely, informed and efficient market-led responses to forecast breaches of the reliability standard. The proposed SoLR mechanism would also provide more market participants with an opportunity to compete to supply out of market reserves, which could result in this tool being a lower cost option than some other tools available to AEMO, including its east coast directions function.

AEMO could also benefit from the proposed rule change by having more guidance on when and how to use this last resort tool, which could provide it with greater confidence to use this tool if the pre-conditions for its use are met.

Elements of the proposed rule change are also expected to enable jurisdictional Ministers to make more informed and efficient policy decisions (including as they relate to their own emergency powers) and to monitor the overall effectiveness of the RSA framework.

Another benefit that was not listed in section 5.2 because it is effectively a wealth transfer, is the potential for AEMO to generate some proceeds if it does use the SoLR reserve, particularly if it supplies gas into the facilitated markets. These proceeds would be expected to offset some of the expected costs outlined below.

In a similar manner to expected costs, it is likely to be very difficult to quantify the benefits listed above. It is, however, worth noting that in the DLNG last resort mechanism rule change, the AEMC found that the value of avoided curtailment, which is the principal benefit associated with the maintenance or improvement in the reliability and security of supply, can be significant.

For instance, in that rule change, the AEMC found that a curtailment in the gas market would only have to occur once every 28 years (or in the NEM, once every 45-125 years) for the costs associated with that rule change to be recovered. While not directly referable to this rule change request, the AEMC's findings in that rule change provides some insight into the benefits associated with avoiding curtailment in both the gas and electricity markets, which as noted above is one of the main benefits of this proposed rule change.

6.3 Potential impacts on affected parties

For the reasons set out in section 5.2 and sections 6.1-6.2, the proposed rule change is expected to have a **positive impact on consumers of covered gas in the east coast gas system**, with the reliability, economic efficiency, emissions and other benefits associated with the proposed SoLR mechanism expected to outweigh its costs.

Table 6.1 sets out the likely impacts on other parties potentially affected by the proposed rule change.

Table 6.1: Impacts on other potentially affected parties

Potentially affected party	Impact	Reason for impact
AEMO	**Mixed impact**	AEMO would be provided with more guidance on when and how the SoLR mechanism should be used and its use of this mechanism would be subject to more guardrails and greater transparency and accountability. The proposed rule change is therefore expected to impose some costs on AEMO, while also providing it with greater confidence to use this last resort tool if it is required (including to establish a Storage SoLR reserve). It is therefore expected to have a **mixed impact** on AEMO.
East coast gas system market participants (or relevant entities)	**Positive impact**	East coast gas system market participants (or relevant entities) will benefit from: ▪ having more timely information on forecast breaches of the reliability standard and greater confidence in how AEMO is to use this last resort tool, which should enable them to respond in a more timely, informed and efficient manner to any such breaches ▪ the proposed SoLR mechanism being triggered and a SoLR reserve being used if market actions are insufficient to address a forecast breach and its use results in curtailment or other more costly or distortionary interventions being avoided, or reduced. Demand-response providers, and other potential providers of products and services, could also benefit from being able to supply reserves that may not otherwise be used or offered to the market, which could benefit the market, if the use of these reserves reduces or obviates the need for curtailment, or other more costly or distortionary interventions. While the proposed SoLR mechanism also provides for the costs of establishing and using a SoLR mechanism to be recovered from relevant entities, this should only occur in those locations where the relevant entities are expected to benefit from its use. Any such costs would also be subject to the constraints set out in Table 5.1 and would likely to be outweighed if they result in curtailment being avoided. The overall impact on this group is expected to be **positive**.
NEM participants and electricity users	**Positive impact**	NEM participants and electricity users could benefit from the proposed rule change if: ▪ the SoLR mechanism helps to maintain or improve the reliability and security of supply of electricity and/or the reliability, safety and security of the national electricity system ▪ having more timely information on forecast breaches of the gas reliability standard and potential actions by AEMO enables GPG and other NEM participants to make more informed and efficient decisions about the operation and use of electricity services and investment decisions. While the proposed SoLR mechanism also provides for a share of the costs associated with using the SoLR mechanism to be allocated to NEM participants, this would only occur where NEM participants are expected to benefit from its use. Any such costs would also be subject to the constraints set out in Table 5.1 and would likely to be outweighed if they result in curtailment being avoided in the NEM. The overall impact on this group is expected to be **positive**.
Jurisdictions	**Positive impact**	Jurisdictions would benefit from both a planning and policy perspective from having greater transparency of forecast breaches of the reliability standard in the east coast gas system and when AEMO is considering triggering the SoLR mechanism and potentially using a SoLR reserve. This is particularly the case outside Victoria, where the relevant jurisdictional Minister is responsible for exercising the jurisdiction's emergency powers (including curtailment powers), which could be triggered if AEMO is unable to address the forecast breach. Having greater time to consider how to exercise those powers in an orderly manner should have a **positive impact** on these jurisdictions.

Appendix A Factors contributing to reliability and supply adequacy risks in east coast gas system

Box A.1 provides an overview of the factors contributing to the reliability and supply adequacy risks facing the east coast gas market. It is worth noting that while many of these factors have posed a risk for some time, their potential impact has become more acute as the demand-supply balance has tightened, the interrelationship with the NEM has strengthened, system resilience has reduced and market participants have become more reluctant or less able to respond to investment signals.

Box A.1: Factors contributing to the reliability and supply adequacy risks

The factors potentially contributing to the reliability and supply adequacy risks facing the east coast gas system can broadly be categorised as follows:

(a) **Reduction in supply and production capacity in the domestic market:** Factors that may be contributing to this risk include:

- declining production from legacy gas fields in the Gippsland, Bass and Sydney basins and the uncertain rate and duration of production as reservoirs approach the end of their life;
- an increased reliance on coal seam gas (**CSG**) from Queensland, with CSG supply unable to provide the same level of supply flexibility provided by conventional natural gas;
- investment in new sources of supply (including potentially LNG import terminals) not occurring in sufficient time to address constraints (see below);
- a reduction in peak day and seasonal deliverability, particularly in southern jurisdictions following the retirement of Gas Plant 1 inlet section of the Longford processing facility; and
- insufficient gas being held in storage[118] to manage peak day and seasonal demand in southern jurisdictions (including as a result of a rapid draw down in storage early in winter).

(b) **Peakier demand with increased risk of coincidental peaks in winter**: Factors that may be contributing to this risk on the demand side of the market include:

- The changing nature of the demand for gas by GPG, which as noted above is increasingly being called upon in winter, which is when residential gas demand is also at its peak in southern jurisdictions.
- Cold weather events in southern jurisdictions, which can trigger higher than expected residential and/or GPG demand and a rapid drawdown of gas in storage, which can be difficult to restore in winter and leave the market susceptible to demand-supply imbalances.
- C&I demand that relies on gas for heat, residential and small commercial demand is forecast to decline over time in line with emission reduction objectives, but there is significant uncertainty surrounding how quickly this transition will occur. There is also a significant degree of uncertainty surrounding GPG demand, which is expected to operate as a transition fuel in the NEM until other solutions are developed.

High international demand for LNG exports is another key demand side risk facing the market.

(c) **Supply infrastructure constraints**: Factors that may be contributing to this risk include:

- physical or contractual constraints in existing pipelines and storage, some of which may be reduced by expansions underway,[119] while others will remain in place until a decision is made to expand them, and
- new investment in storage, pipelines and LNG import terminals either not proceeding, or not occurring in sufficient time to address the threats.[120]

The sunk cost nature of this infrastructure means that these constraints are likely to remain in place until market participants are willing to contract to underwrite the expansion (see item (d)).

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118 While there are other storage facilities in northern South Australia and in Queensland, their capacity to assist during peak periods in the south are limited somewhat by the time it can take to transport gas from these locations.

119 For example, the Moomba to Sydney Pipeline and South West Queensland Pipeline are currently undergoing a staged expansion. See ACCC, Gas Inquiry 2017-2030, December 2024, Table 3.7.

120 For example, a final investment decision to develop the Heytesbury Underground Gas Storage Expansion Project, the Golden Beach Energy Storage Project and the five proposed LNG import terminals is yet to be made. See ACCC, Gas Inquiry 2017-2030, December 2023, Chapter 3.

(d) **Insufficient forward contracting and investment in demand- and supply-side measures:** Factors that may be contributing to this risk include:

- **Market uncertainty**, which reflects a general uncertainty about the price of gas, the most efficient source of future supply and uncertainty around future demand.
- **Energy transition uncertainty**, which includes the uncertainty associated with the pace of the transition, the potential role to be played by renewable gases, the feasibility and timing of widespread electrification and the role to be played by GPG in the NEM, all of which are contributing to a significant degree of uncertainty around future demand.
- **Investment coordination failures** and/or a reluctance on the part of investors/financiers to underwrite gas infrastructure with depreciation periods greater than 15 years given the uncertain outlook for gas demand and the risk of asset stranding.
- **Other potential market and regulatory factors** including:
  - information deficiencies;
  - possible free rider issues and market participants not facing the full cost of shortfalls;
  - supplier and/or infrastructure service provider market power; and/or
  - facilitated market parameters (i.e. market price caps, price floors, cumulative price thresholds and administered price caps) not providing sufficient investment incentives.

Box A.2 outlines some of the notable differences between the way in which the east coast gas system and the NEM operate.

Box A.2: Key differences between the east coast gas system and NEM

As noted in section 1.2, there are some important differences between the way in which the east coast gas system and the NEM operate, which mean that the reliability and supply adequacy approaches employed in the NER cannot just be replicated in the NGR. For example:

(a) In the NEM, the wholesale spot market operates on a mandatory gross pool basis and covers the entire east coast, while in the east coast gas system there is no single spot market. Rather, there are mandatory gross pool balancing markets in key demand centres only (i.e. the DWGM in Victoria and the STTM in Adelaide, Brisbane and Sydney) and a voluntary Gas Supply Hub that parties can use to procure gas on a spot basis. Other areas of the east coast gas market are not covered by any type of facilitated gas market.

(b) In the NEM, electricity networks operate under an open access model, while in the east coast gas system all pipelines, compression and storage facilities, with the exception of the DTS in Victoria, operate under the contract carriage model. Under the open access model, users are unable to obtain firm access rights to the infrastructure, while under the contract carriage model they can. The inability to obtain firm access rights under the open access model means that planning and investment decisions are more centralised and regulatory driven (i.e. to overcome the free rider effect). Planning and investment decisions under the contract carriage model, on the other hand, are more market-driven with those requiring the capacity underwriting the investment through bilateral contracts.

(c) In the NEM, AEMO is responsible for the operation of the entire power system and the wholesale and retail electricity markets, while in the east coast gas system it is only responsible for the operation of the facilitated gas markets (i.e. DWGM, STTM and Gas Supply Hub), the regulated retail gas markets and DTS.

(d) In the NEM, the AER is responsible for the economic regulation of all electricity networks, while in the east coast gas system it is only responsible for the economic regulation of pipelines subject to full regulation. There are currently only two transmission pipelines and five distribution pipelines subject to full regulation in the east coast gas market. The remainder are subject to a lighter handed form of regulation.

Appendix B RERT mechanism in the NEM

The RERT mechanism in the NEM is one of two supply scarcity mechanisms that AEMO can use to ensure the reliability standard is met in a region or, where practicable, to maintain power system security, where the market fails to do so. The other mechanism is the directions and instructions power. At a high level, the RERT allows AEMO to:

- procure emergency reserves in a region that would not otherwise be available to the market if the reliability standard is forecast to be breached within 12 months and AEMO has declared a Low Reserve (**LR**) or Lack of Reserve (**LOR**) condition under rule 4.8.4 of the NER, or the AER has made a T-1 instrument under the Retailer Reliability Obligation (**RRO**)
- exercise the RERT by dispatching/activating reserves to ensure that supply in a region(s) meets the reliability standard or, where practicable, to maintain power system security, if it considers the latest time for exercising the RERT has arrived (note that the exercise of the RERT is considered an **intervention event** under the NER and so is subject to a number of intervention event related provisions in the NER).

Further detail on the RERT and relevant provisions in the NER can be found in Table B.1.

Table B.1: RERT provisions in the NER

Design feature		Detail	NER
A. AEMO obligations		AEMO must take all reasonable actions to ensure reliability of supply (i.e. supply in a region meets the regional reliability standard) by negotiating and entering into contracts to secure the availability of reserves under reserve contracts in accordance with the relevant rules, principles and guidelines.	3.20.2, RERT Guidelines[121] RERT Principles[122]
B. Establishment of the reserve	**(a) Types of reserves that can be procured**	AEMO may enter into one or more contracts (or vary existing contracts) with any person in relation to: ▪ **'scheduled reserves'** (i.e. scheduled generating units, wholesale demand response units, scheduled network services and/or scheduled loads) ▪ **'unscheduled reserves'** (i.e. unscheduled load or unscheduled generating units, such as standby diesel). AEMO may also enter into insurance arrangements to minimise potential financial losses in respect of its RERT activities.	3.20.3(a)-(b), 3.20.5
		To mitigate the risk that AEMO crowds out market participants or affects their incentive to manage their own exposure to threats, AEMO is required to procure reserves that are not otherwise available to the market ('**out of market**'). The restriction to 'out of market' reserves, is reinforced by provisions that: ▪ prohibit a person from entering into: – a scheduled reserve contract if at any time in the preceding 12 months, dispatch offers or bids were submitted, or otherwise available for dispatch – an unscheduled reserve contract if the person is party to another contract or arrangement under which it is required to offer the unscheduled reserves to the market for trading intervals to which the contract relates ▪ require any reserve contracts that are entered into to contain a provision that the other party has not and will not otherwise offer the capacity to the market (either from the date of execution of the contract until the end of its term for scheduled reserve contracts, or during the trading intervals to which the contract relates for unscheduled reserves).	3.20.3(g)-(i), (k)-(l)

[121] See 3.20.8 of the NER for RERT Guidelines.
[122] See 3.20.2(b) of the NER for RERT Principles.

Design feature		Detail	NER
B Establishment of the reserve	**(b) Trigger for reserve procurement**	AEMO can only enter into a reserve contract for a region if: ▪ it has declared a LR or LOR condition in that region under rule 4.8.4 and reserves are expected to be required within 12 months ▪ the AER has made a T-1 instrument under the RRO As part of the interim reliability measures implemented in March 2020, Energy Ministers agreed to allow AEMO to hold an interim reliability reserve to improve the reliability of the power system to mid-2025. This interim arrangement allows AEMO (subject to some caveats), to enter into multi-year contracts (up to 3 years long) to address an enduring reliability shortfall identified in the ESOO if the contract is entered into no more than 12 months prior to the first occurrence of exceedance.	3.20.3(f) & 11.128.4(f)
		According to the RERT Guidelines, when deciding whether to enter into reserve contracts for: ▪ **medium-notice** and **long-notice** situations AEMO must take into account the latest declared LR condition ▪ **short-notice** situations AEMO must take into account the LOR condition that has been declared. According to AEMO's RERT Procedures this will occur when either: ▪ In the case of **long-notice** and **medium-notice situations**, a region's forecast USE exceeds the reliability standard as assessed in accordance with the reliability standard implementation guidelines (LR condition) ▪ In the case of **short-notice situations**, the probability of load shedding (other than the reduction or disconnection of interruptible load) is, or is forecast to be, more than remote (LOR condition)	RERT Guidelines RERT Principles RERT Procedures[123]
	(c) Matters to be considered by AEMO when establishing and using the reserve	When **contracting or exercising** the RERT, AEMO must also have regard to the following **RERT principles**, the Reliability Panel's RERT Guidelines and AEMO's RERT Procedures: ▪ actions taken should be those AEMO reasonably expects to have the least distortionary effect [both in relation to the short term impact on spot prices and the long term impact on investment signals – RERT Guidelines] ▪ actions taken should aim to maximise the effectiveness of reserve contracts at least cost [must be carried out in consultation with participating jurisdictions and consider the reserve contract costs, what extra payment is required if they are dispatched/activated, any penalty costs, the nature of the reserves being offered, the duration, size and likelihood of the projected shortfall – RERT Guidelines] ▪ the average amount payable for each MWh should not exceed the average VCR for that region [in setting the estimated average VCR, AEMO should consider jurisdictional load shedding schedules and VCR values calculated by the AER – RERT Guidelines].	3.20.2(b) & RERT Guidelines
	(d) Constraints on size and cost of reserve	▪ **Reserve size:** AEMO must use its reasonable endeavours to ensure the amount and term of the reserve it contracts is no more than what AEMO considers is reasonably necessary to address the LR or LOR condition. ▪ **Cost**: AEMO is required to have regard to the RERT Principles, one of which is that the average amount payable under reserve contracts for each MWh should not exceed the average VCR for that region.	3.20.3(m) 3.20.2
	(e) Procurement requirements	While AEMO can only enter into reserve contracts if the procurement trigger is reached, it can negotiate with potential tenderers at any time. Before commencing contract negotiations, AEMO must publish a notice of its intention to do so and must also consult with jurisdictions in relation to cost sharing arrangements.	3.20.3(c)-(f).
		If AEMO seeks to enter into a reserve contract with a registered participant, the registered participant must negotiate in good faith as to the terms and conditions of the contract. Rule 3.20.3(k)-(l) also set out a number of terms that must be in any contract AEMO enters into.	3.20.3(j)-(l)
		The RERT Guidelines set out the process AEMO is expected to employ when contracting for reserves, including the process for tendering for reserve contracts. In short, the Guidelines state that: ▪ AEMO may form a RERT panel that may be called upon to make offers and enter into contracts for:	RERT Guidelines

[123] Under 3.20.7(e) of the NER AEMO must develop, publish and may amend procedures for the exercise of the RERT.

Design feature		Detail	NER
		– short-notice situations (3 hours -7 days); and – medium-notice situations (7 days -10 weeks). Short-notice RERT prices are agreed when panel members are appointed, while medium-notice RERT prices are negotiated if and when the reserve is required ▪ AEMO is expected to conduct a full tender process for longer notice situations (10 weeks – 12 months). The RERT Guidelines also state that reserve contracts can provide for the payment of an availability fee, a pre-activation fee, a usage fee and/or early termination fees.	
C. Use of reserve	**(a) When the reserve can be used**	AEMO may dispatch/activate its reserves to ensure the reliability standard is met in a region or, where practicable, to maintain power system security if it considers the **latest time** for exercising RERT has arrived. AEMO must follow the relevant procedures in rule 3.20 prior to dispatch/activation. **Use of reserves for power system security events:** AEMO may dispatch or activate RERT for power system security purposes if emergency reserves have already been procured, but may not procure RERT for the purposes of meeting power system security requirements.	3.20.7(e)-(f), RERT Procedures RERT Guidelines RERT Guidelines
	(b) Matters AEMO must consider	See RERT principles in item B(c) above. Rule 3.8.14 also sets out a number of matters AEMO must consider when dispatching under conditions of supply scarcity. Amongst other things, this rule requires AEMO to use its reasonable endeavours to choose the supply scarcity mechanism (i.e. RERT or directions/instructions) (or combination of mechanisms), that is effective in addressing supply scarcity, while minimising direct and indirect costs.	3.20.2(b) & 3.8.14
	(c) Interaction with market	The NER allow AEMO to do the following when dispatching/activating reserves: ▪ submit, update or vary dispatch bids or offers in relation to all or part of the scheduled reserve contract ▪ change other inputs to the dispatch process to give effect to the dispatch of scheduled reserves or the activation of unscheduled reserves. See also rules 3.8.1, 3.8.14, 3.9.3, 3.12 & 3.15.6.	3.20.7(d)
D. Market notification requirements		▪ AEMO must as soon as reasonably practicable publish any LR or LOR declaration made under clause 4.8.4, which must include information on the nature and extent of the condition and the time period over which it applies. AEMO must also use its reasonable endeavours to follow the processes set out in 4.8.5A-4.8.5B (see below). **4.8.5A Determination of latest time for AEMO intervention** ▪ AEMO must immediately publish a notice of any foreseeable circumstances that may require it to intervene, including by using the reserve, including the circumstances giving rise to the need. ▪ After publishing the notice, AEMO must as soon as reasonably practicable, estimate and publish the latest time at which it would need to intervene should the response from the market not obviate the need for intervention. This may be informed by information requested by AEMO from market participants. ▪ AEMO must regularly review its estimate of the latest time at which it would intervene and publish any revisions to the estimate. **4.8.5B Notification of last time of AEMO intervention** ▪ If the latest practicable time for AEMO to intervene has been reached and circumstances have not been alleviated, AEMO must: – to the extent reasonably practicable immediately publish a notice that AEMO considers the time for negotiation of further reserve contracts has elapsed and that it intends to intervene – publish a notice that it has pre-activated a reserve contract as soon as practicable following pre-activation	4.8.5, 4.8.5A-4.8.5B
E. Cost recovery- proceeds distribution		AEMO's costs (net of any proceeds) must be met by fees calculated in accordance with rule 3.15.9 (adjusted if necessary if the procurer of last resort cost allocation provisions (related to RRO) are triggered). This rule requires AEMO to recover its net liabilities or distribute its net profits under the terms of its reserve contracts and recovery any net amount determined as payable by AEMO, from or to the Market Customers in that region in accordance with the formula set	3.15.9, 3.15.9A and 3.12.3

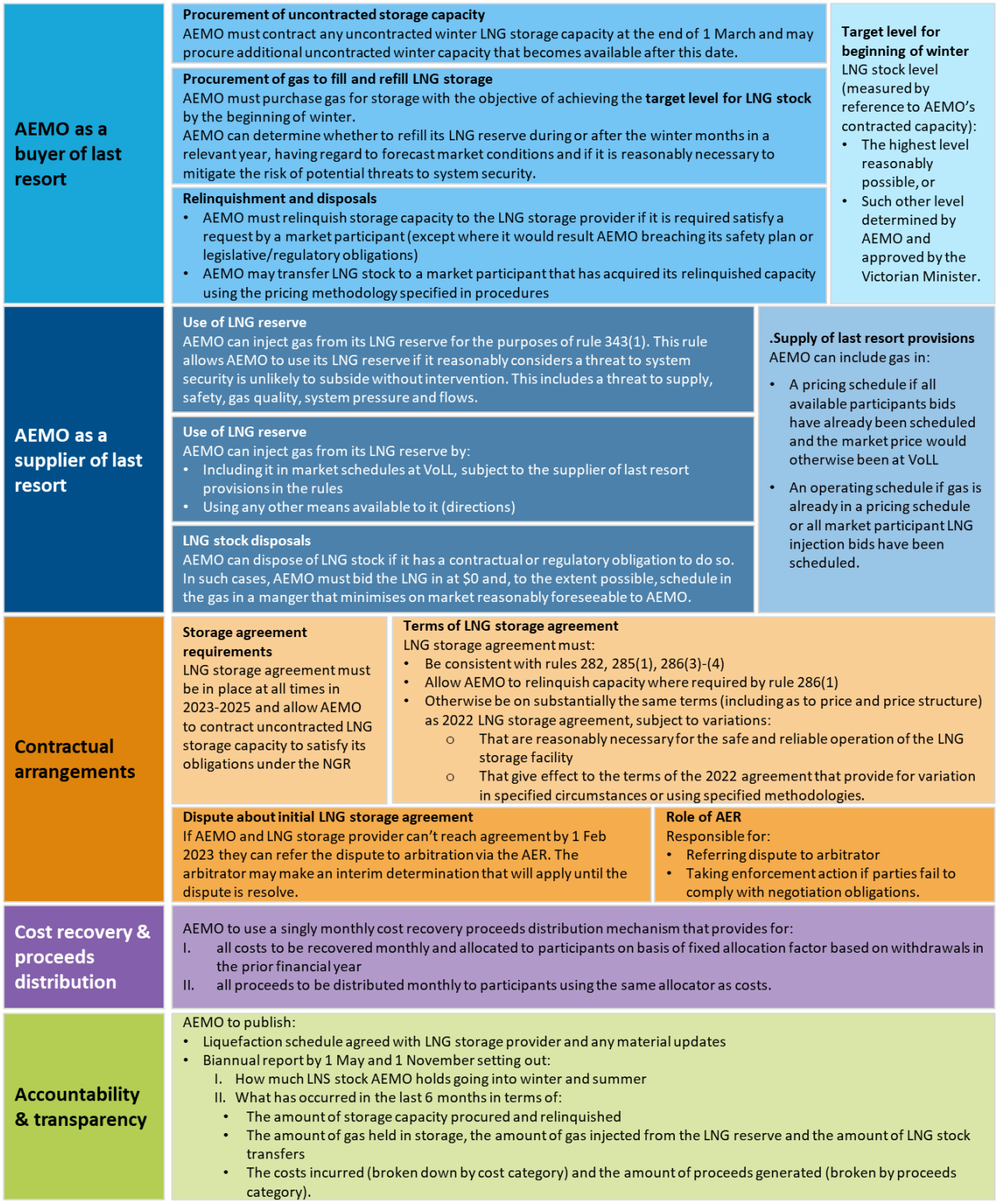
Design feature	Detail	NER
	out in rule 3.15.9(e) (i.e. based on their share of the adjusted gross energy amts in the relevant region during the relevant period).	
F. Accountability measures	▪ AEMO must maintain separate accounts relating to the RERT function. ▪ AEMO must publish the following: – **Post-dispatch or activation report:** Must be published within 5 business days of dispatch or activation of the RERT (or if a multi-day event, within 5 business days of the end of the event) and set out the total estimated payments made under contracts, the total estimated volume of reserves dispatched/activated and the basis on which AEMO decided to use this mechanism (or combination) and if it complied with supply scarcity mechanism rules and procedures. – **Quarterly RERT reports**: Must include information on the reserve contracts AEMO has entered into and AEMO's exercise of RERT, including the circumstances leading to the need for its exercise, changes in dispatch outcomes, reserves used and the estimated cost of avoided load shedding; the impact on reliability, or power system security; the costs associated with exercising and a breakdown of cost recovery by customer. – **End of financial year RERT report**: This report must include information on each occasion AEMO entered into a reserve contract and exercised RERT, the costs and finances associated with the RERT activities in the year.	3.20.5(b) 3.20.6
G. Relevant subordinate instruments	▪ **RERT Guidelines:** Must be developed by the Reliability Panel and set out: – what information AEMO must take into account when deciding whether to exercise the RERT – the relevance of the RERT principles to the exercise of the RERT – the actions AEMO may take to be satisfied that the reserve is not available to the market through any other arrangement – the processes AEMO should undertake in: ○ contracting for reserves including the process for tendering for contracts for such reserves ○ contracting for reserves for different notice situations specified in the guidelines to ensure reliability of supply ○ contracting for reserves in relation to the different types of declarations made under clause 4.8.4 – any specific or additional assumptions about key parameters AEMO must take into account in assessing the cost effectiveness of exercising RERT – the information, assumptions and parameters AEMO must take into account when determining the estimated average VCRs, and application for the purposes of the RERT principle in 3.20.2(b)(3) – matters relevant to AEMO managing a portfolio of reserve contracts – additional forecasts AEMO should take into account prior to exercising RERT. ▪ **RERT procedures** (Procedure for the Exercise of the RERT): Must be developed by AEMO taking into account the RERT principles and RERT Guidelines and set out: – the methodology, information and assumptions AEMO uses to satisfy itself that reserves are out of market – the measures AEMO will adopt to reduce the probability of unscheduled reserve contracts being activated if they are otherwise engaged at the time – the method to be used by AEMO to determine the appropriate term of the reserve contract and amount of reserve to procure – the basis on which AEMO determines estimated average VCRs for RERT ▪ **Standardised reserve contracts:** AEMO may develop standardised forms of reserve contracts and if it does, it must publish and maintain this on its website ▪ **Supply scarcity procedures** (Short Term Reserve Management procedures)**:** AEMO must develop procedures that set out its approach to determining its choice of supply scarcity mechanism (i.e. RERT or directions/instructions). Note that the RERT rules also refer to the Reliability standard implementation guidelines that AEMO is required to develop.	3.20.8, 3.20.7(e)-(e1) and 3.8.14A

Note that this summary is based on Chapters 3 and 4 of the NER and do not necessarily reflect all of the interim rules in rule 11.128 that were implemented by Energy Ministers as part of the interim reliability measure.

Appendix C DLNG last resort mechanism

In December 2022, the AEMC made the DWGM interim LNG storage measures rule, which was to apply between 2023 and 2025.[124] The key elements of this rule are set out in Figure C.1.

Figure C.1: Dandenong LNG buyer and supplier of last resort interim rule



Source: AEMC, National Gas Amendment (DWGM interim LNG storage measures) Rule 2022, 15 December 2022; Figure 2.1.

[124] AEMC, National Gas Amendment (DWGM interim LNG storage measures) Rule 2022, 15 December 2022.

At a high level, this rule requires AEMO to act as both:

- **Buyer of last resort** for Dandenong LNG by procuring all the uncontracted storage capacity available for winter on 1 March each year and purchasing gas with the objective of achieving a target LNG stock level prior to winter. To mitigate the risk of crowding out, AEMO must relinquish capacity to the LNG storage provider if required to satisfy a market participant request.
- **Supplier of last resort** for Dandenong LNG by injecting gas from its LNG reserve into the market if it reasonably considers a threat to system security is unlikely to subside without intervention. The rules allow AEMO to include gas from its LNG reserve in the operating schedule and, where applicable, pricing schedule at the value of lost load, subject to provisions in the NGR.

Appendix D Demand response study

To get a better understanding of the potential for demand response in the east coast gas system, Officials retained ACIL Allen to undertake a demand response study. [125] As part of its study, ACIL Allen conducted a survey with a number of retailers, GPGs and C&I users and asked them about:

- the potential for demand response in the east coast gas market; and
- the sufficiency of incentives to offer demand response provided by existing market mechanisms.

The results of this survey revealed the following:

- **Residential and small commercial demand** (accounting for approximately 60% of peak demand in southern jurisdictions): This customer segment is unlikely to be able to offer a material amount of flexible demand that could be called upon commercially and there are also likely to be significant challenges[126] and costs associated with doing so.[127]
- **GPG demand** (accounting for approximately 15% of peak demand in southern jurisdictions): GPGs have the technical capability to rapidly reduce or cease their consumption of gas, but their incentive to do so will depend on:
  - conditions in the NEM, with ACIL Allen noting that there is often a correlation between periods of high gas and electricity prices, which means GPG may have a strong incentive to use gas even if gas prices are at the market price cap [128]
  - if they are able to switch to an alternative lower cost fuel.
- **C&I demand** (accounting for approximately 25% of peak demand in southern jurisdictions): The ability of individual C&I users to reduce or cease their consumption of gas will depend on what they use gas for (energy or feedstock), the industrial processes employed, the ability to switch to alternative fuels and other commercial and operational factors that may act as a barrier to a commercial demand response, including:
  - the opportunity cost of lost production and the impact on their supply chain, particularly where downstream customers have time-sensitive and critical uses;
  - environmental factors where turndown or shutdown would result in additional emissions due to changing of feedstock and operational processes;
  - safety and operational issues involved in cutting back or shutting down production;
  - operational factors that determine when maintenance must be scheduled; and
  - additional investment to create greater flexibility in energy supply to the plant.

  Notwithstanding these barriers, ACIL Allen found that of the C&I users that it sampled (accounting for ~82 TJ/day of demand):
  - 28% of the demand could be turned down or shutdown in less than 6 hours and face relatively low operational risk in re-starting their operational processes; and
  - 15% of the demand could be turned down or shutdown within 6-12 hours and could return to normal operations within 24 hours with moderate process complexity.

  The remaining 56% was found to be constrained in its ability to be turned down or shutdown, because of the operational and commercial risks associated with doing so.

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125 ACIL Allen, Gas demand management, March 2023.

126 For example, metering equipment required to measure demand response is not in place and appliances are not suited to load control.

127 ACIL Allen noted that the difficulty of unlocking a demand response on a commercial basis from this customer segment does not mean it could not play an important role in supporting emergency management, such as through a voluntary call to reduce demand.

128 For example, the NEM market price cap is $15,000/MWh, which translates to a gas price of $1,200-$1,500/GJ, depending on the heat rate assumed. This is substantially higher than the DWGM market price cap of $800/GJ and the STTM market price cap of $400/GJ.

Appendix E Trading function provisions

The table below contains a summary of all the trading function provisions in the NGL, NGR, Regulations and other subordinate instruments.

Table E.1: Trading function provisions in the NGL, NGR, Regulations and other subordinate instruments

Provision no.	Detail
NGL (AEMO's east coast gas system reliability and supply adequacy functions are set out in Chapter 2, Part 6, Division 1A of the NGL, with the trading function provisions set out in s. 91AD)	
s. 91AD	(1) AEMO's east coast gas system reliability and supply adequacy functions are as follows: … (f) to trade in covered gas or to purchase pipeline services or services provided by a compression service provider, blend processing service provider or a storage provider to the extent AEMO considers necessary to maintain and improve the reliability or adequacy of the supply of covered gas within the east coast gas system … (h) to make, amend or revoke Procedures (***East Coast Gas System Procedures***) relating to a function specified in paragraphs (a) to (g). (2) AEMO must not exercise the function specified in subsection (1)(f) unless AEMO is of the opinion that the trade or purchase is necessary to prevent, reduce or mitigate an actual or potential threat identified by AEMO in the exercise of the function specified in subsection (1)(b). (3) AEMO must, within 3 months after the commencement of this section— (a) prepare, in accordance with the Rules, guidelines relating to the exercise or performance of the functions specified in subsection (1)(e) and (f); and (b) publish the guidelines on its website …. (5) The Rules may specify the following: (a) the matters that AEMO may or must consider in determining there is or is not an actual or potential threat to the reliability or adequacy of the supply of covered gas within the east coast gas system; … (c) the matters that AEMO may or must consider in determining whether to exercise a function specified in subsection (1)(e) or (f).
NGR (The rules relating to AEMO's east coast gas system reliability and supply adequacy functions are set out in Part 27 of the NGR, with relevant provisions set out in Divisions 3, 4 and 7)	
Rule 680	**trading function** means a function specified in section 91AD(1)(f) of the *NGL*.
Rule 692	**692 AEMO may convene conferences in certain circumstances** (1) AEMO may convene a conference of relevant entities for 1 or more of the following purposes in relation to the reliability or adequacy of the supply of natural gas within the east coast gas system: (a) to assess whether there is or is not an actual or potential threat, including the likelihood of the threat occurring; (b) to signal the need for an industry response to an actual or potential threat; (c) to obtain information on the nature and extent of an actual or potential threat. (2) If AEMO decides to convene a conference under subrule (1), AEMO: (a) may publish a notice to that effect (a **conference notice**) in accordance with the Procedures; and (b) must give a conference notice to each relevant entity who is required to attend the conference; and (c) must give a conference notice to each other person or body AEMO considers appropriate, including jurisdictional representatives and the ACCC. (3) The notice must specify the following: (a) the date and time of the conference; (b) details of the purpose of the conference; (c) the relevant entities or class of relevant entities invited to attend the conference; (d) the relevant entities or class of relevant entities required to attend the conference; (e) other information required to be included by the Procedures. (4) Jurisdictional representatives and employees or officers of the ACCC may attend conferences convened under this rule. (5) AEMO may make Procedures in relation to the following: (a) the information to be included in conference notices; (b) requirements for giving notice of conferences; (c) requirements particular to conferences convened for specified purposes, for example, to address specific types of threats.

Provision no.	Detail
	(6) AEMO may prepare guidelines, not inconsistent with this Division, about conferences convened under this Division. (7) In addition to the consultation otherwise required by these rules or the Procedures, AEMO must consult the following on the making of Procedures and the preparation of guidelines under this rule: (a) the ACCC; (b) the AER.
Rule 695	**695 Publication of risk or threat notices** (1) AEMO must, as soon as reasonably practicable, publish a notice (a **risk or threat notice**) in accordance with the Procedures if AEMO: (a) identifies an actual or potential risk or threat to the reliability or adequacy of the supply of natural gas within the east coast gas system (an identified risk or threat);and (b) considers that the identified risk or threat meets or exceeds the criteria specified in the Procedures. (2) A risk or threat notice must contain information AEMO considers necessary or convenient, including, but not limited to, the following: (a) the identified risk or threat; (b) the nature and magnitude of the identified risk or threat; (c) the likely duration of the identified risk or threat; (d) the location of the identified risk or threat; (e) the industry response, if any, that AEMO considers necessary to prevent or mitigate the identified risk or threat, including the duration of the response. (3) AEMO is not required to publish a risk or threat notice under this rule if AEMO considers that in the circumstances there is insufficient time to publish the notice before exercising a direction or trading function.
Rule 696	**696 Variation or revocation of risk or threat notices** (1) AEMO must, as soon as reasonably practicable, publish notice of a variation or revocation of a risk or threat notice in accordance with the Procedures if AEMO considers that: (a) there is a material change in the nature or circumstances of the identified risk or threat specified in the notice; or (b) it is necessary to publish further information relating to the nature or circumstances of the identified risk or threat or the industry response specified in the notice; or (c) the identified risk or threat specified in the notice is unlikely to be resolved or mitigated if AEMO does not exercise a direction or trading function within a further period specified in the variation; or (d) the identified risk or threat specified in the notice no longer meets or exceeds the criteria specified in the Procedures. (2) AEMO may, at any time, publish notice of a variation or revocation of a risk or threat notice for another reason AEMO considers appropriate. (3) A notice published under this rule may: (a) revoke the risk or threat notice; or (b) substitute the risk or threat notice; or (c) vary the risk or threat notice; or (d) add a further notice to the risk or threat notice.
Rule 697	**697 Publication of direction or trading notices** (1) AEMO must, as soon as reasonably practicable after the exercise of a direction or trading function, publish a notice (a direction or trading notice) in accordance with the Procedures. (2) A direction or trading notice must contain the following information: (a) if a risk or threat notice has been published by AEMO in relation to the exercise of the function: (i) details of the risk or threat notice, including where the notice is available; and (ii) a statement that the function has been exercised in relation to the identified risk or threat specified in the risk or threat notice; (b) if a risk or threat notice has not been published by AEMO in relation to the exercise of the function: (i) details of the identified risk or threat; and (ii) the nature and magnitude of the identified risk or threat; and (iii) the likely duration of the identified risk or threat; and (iv) the location of the identified risk or threat; and (v) the industry response, if any, that AEMO considers necessary to prevent or mitigate the identified risk or threat, including the duration of the response; (c) details of the way in which AEMO has exercised the function, including the period during which the function was or is likely to be exercised; (d) other information AEMO considers necessary. (3) AEMO must, as soon as reasonably practicable, publish notice of a variation or revocation of a direction or trading notice, including the reasons for the variation or revocation, if:

Provision no.	Detail
	(a) AEMO considers there is a material change in the exercise of the function described in the notice; or (b) the period during which the function will be exercised has changed; or (c) an east coast gas system direction relating to the notice is revoked. (4) AEMO is not required to include commercially sensitive information, including details about relevant entities, in a notice published under this rule.
Rule 698	**698 Publication of post-intervention reports** (1) AEMO must publish, in accordance with the Procedures, a report on the exercise of direction or trading functions (a **post-intervention report**) within 4 months of: (a) the end of the exercise of a single direction or trading function; or (b) the end of the exercise of all direction or trading functions AEMO considers relate to the same identified risk or threat. (2) A post-intervention report must contain the following information in relation to the exercise of the single function or all functions: (a) a description of the exercise of the function or functions; (b) details of the events occurring before the exercise of the function or functions; (c) the reasons for the exercise of the function or functions, including the matters AEMO considered in deciding whether to exercise the function or functions; (d) if the report relates to the exercise of a trading function or functions, AEMO's estimated expenditure in the exercise of the function or functions; (e) AEMO's assessment of the extent to which the exercise of the function or functions mitigated the identified risk or threat; (f) any other matter AEMO considers appropriate.
Rule 699	**699 Matters AEMO must consider in determining whether to exercise direction or trading functions** In determining whether to exercise a direction or trading function, AEMO must, to the extent AEMO considers appropriate given the nature, timing or circumstances of the identified risk or threat, have regard to the following principles: (a) the industry should be given a reasonable period of time to take action to mitigate the identified risk or threat; (b) engagement with affected jurisdictions should commence in a timely manner; (c) distortionary impacts on the east coast gas system and industry and consumer costs on which AEMO has available information should be, to the extent reasonably practicable, minimised; (d) safety should not be compromised.
Rule 708	**708 Establishment of trading fund** (1) AEMO must establish and maintain a rule fund, to be called a trading fund, to exercise a trading function. (2) The trading fund may be used for the following purposes, to the extent AEMO considers necessary or desirable: (a) to trade in natural gas; (b) to purchase pipeline services or services provided by a compression service provider or a storage provider.
Rule 709	**709 Funding the trading fund** (1) The total funding capacity for the trading fund each financial year is $35,000,000, as adjusted under rule 710 (the **adjusted trading amount**). (2) No later than the commencement of each financial year, AEMO must publish the adjusted trading amount and the contribution rate for the trading fund for that financial year. (3) A contribution rate for a financial year must be specified by AEMO in a notice published by AEMO. (4) Each relevant entity identified by AEMO in the notice must, in accordance with the Procedures, pay to AEMO the amount specified in the notice. **Note:** This subrule is classified as a tier 2 civil penalty provision under the *National Gas (South Australia) Regulations*. (See clause 6 and Schedule 3 of the *National Gas (South Australia) Regulations*.) (5) The Procedures may specify the manner and timing of payments required to be made by relevant entities under subrule (4). (6) AEMO may pay the following into the trading fund: (a) fees received under rule 135CF(2)(cc); (b) amounts received under subrule (4); (c) funds paid to AEMO from other sources, including a debt facility. (7) A relevant entity is not entitled to a refund of any contributions made to the trading fund. However, AEMO may, in accordance with a methodology set out in the Procedures, refund to a relevant entity a contribution made to the trading fund, but only if money held in the trading fund exceeds the adjusted total funding capacity amount for that financial year. (8) The following accrues to and forms part of the trading fund: (a) any interest on money held in the fund; (b) any money earned from trading in natural gas for the purposes of the exercise of a trading function. (9) AEMO must pay from the trading fund:

Provision no.	Detail
	(a) all income tax on interest earned by the trading fund; and (b) any fees, taxes or charges payable in relation to the trading fund; and (c) any costs associated with the exercise or performance of a trading function; and (d) refunds determined to be made under subrule (7). (10) Nothing in this rule requires AEMO to hold an amount of money equal to the adjusted trading amount in the trading fund if AEMO is able to access, for the purposes of this rule, the adjusted trading amount or an amount equal to the difference between the adjusted trading amount and the money held in the trading fund. **Example:** By way of a debt facility, line of credit or otherwise.
Rule 710	**710 Adjustment of amounts for CPI** The amount referred to in rule 709(1) must be adjusted by multiplying the amount by the number determined using the following formula: CPIn/CPIo where: **CPIn** is the Consumer Price Index number (All Groups, weighted average of eight capital cities) published by the Australian Bureau of Statistics for the quarter immediately preceding the quarter in which the amount is calculated; and **CPIo** is the Consumer Price Index number (All Groups, weighted average of eight capital cities) published by the Australian Bureau of Statistics for the quarter ended 30 June 2022.
Rule 711	**711 AEMO must report to the MCE on certain functions** (1) AEMO must, each calendar year, report to the MCE on the exercise of east coast gas system reliability and supply adequacy functions. (2) A report under this rule must be made in the manner and form, and contain the information, determined or approved by the MCE.
National Gas Regulations (There are no specific provisions in the National Gas Regulations relating to the trading function, but there is one rule that has been classified as a civil penalty provision)	
Schedule 3	Rule 709(4) is currently classified as a Tier 2 penalty.
East Coast Gas System Guidelines[129] (made under s. 91AD(3) of the NGL) (The trading function related guidelines are set out in section 5 of the East Coast Gas System Guidelines)	
Section 5	This section of the Guideline sets out: ▪ how AEMO may exercise its trading function, which it notes include purchasing gas and other services directly from providers on a bilateral basis, using the regulated gas markets and procuring services from industry participants ▪ the principles AEMO will consider when performing its trading function and the information it may take into account when deciding to exercise this function ▪ the processes AEMO will employ when tendering for services from industry, entering into bilateral contracts for gas or services and when using the regulated gas markets. ▪ the process AEMO will employ when issuing trading notices.
East Coast Gas System Procedures[130] **(made under s. 91AD(3) of the NGL)** (The trading fund related procedures are set out in section 5 of the East Coast Gas System Procedures)	
Section 5	▪ Section 5.1 (Payments for trading fund) sets out the process AEMO will follow to identify and notify relevant entities about the payments to be made for the trading fund and how those payments are to be made (see rule 709(5) for the power to make this procedure).. ▪ Section 5.2 (Refunds from trading fund) sets out the process AEMO will follow to make refunds from the trading fund if there is excess money in the trading fund (see rule 709(7) for the power to make this procedure).

129 AEMO, East Coast Gas System Guidelines, June 2023 (see here).
130 AEMO, East Coast Gas System Procedures, June 2023 (see here).