Hon Lily D'Ambrosio MP

Minister for Energy
Minister for Environment and Climate Action
Minister for Solar Homes

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Ref: MBR047926

Ms Anna Collyer
Chair
Australian Energy Market Commission
PO Box A2449
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Dear Ms Collyer

RULE CHANGE PROPOSAL – ENHANCED UTILISATION OF THE DANDENONG LNG FACILITY

Please find attached a proposal to amend the National Gas Rules to create a framework for how the declared Liquified Natural Gas (LNG) facility (Dandenong LNG facility) is to be managed to improve system security and reliability within the Victorian Declared Wholesale Gas Market (DWGM).

On 8 June 2022, a meeting was held with all Energy Ministers in which the importance of gas storage facilities was acknowledged, particularly in light of the current challenges facing the east-coast energy market. One of the actions endorsed at this meeting was for Energy Senior Officials 'to prepare and submit an urgent rule change to assist AEMO to manage peak day gas supply shortfalls by enabling them to better utilise storage'.[1] This rule change request reflects the implementation of this agreed outcome.

This rule change request is intended to ensure there is adequate inventory within the declared LNG facility to minimise risks to system security and public safety and improve gas supply reliability. It also addresses how this can be achieved in a cost-effective manner. In doing so, it supports both the immediate and the long-term interests of consumers. This is in the context of upwards pressure on wholesale gas prices, a tightening domestic supply-demand balance for southern states, increased pressure in international energy markets following the conflict in Ukraine, and an overall reduction in system resilience as flagged by the Australian Energy Market Operator (AEMO) in its 2022 Victorian Gas Planning Report (VGPR).

This rule change request also aligns with ongoing efforts to move to more sustainable sources of energy to reduce emissions, helping to meet Victoria's legislated target of net zero emissions by 2050. Existing assets must be used as effectively as possible to minimise the need for unnecessary overbuild of new assets and to reduce the risk of future asset stranding and associated costs to consumers. The Dandenong LNG facility is one such existing key asset.

There is ample evidence that current arrangements are not allowing for the effective use of the Dandenong LNG facility and this requires remediation through changes to the National Gas Rules (NGR). The need for a rule change is further supported by the lack of adequate market response to the Threat to System Security notices issued by AEMO in March 2021 and March 2022[2] in relation to insufficient inventory levels at the Dandenong LNG facility to meet all operational and emergency scenarios.

Based on the advice provided to me by my Department and AEMO, I consider that this rule change request satisfies the urgent rule change test under section 290 of the National Gas Law (NGL), which defines an urgent rule as "*if not made as a matter of urgency, will result in that matter or thing imminently prejudicing or threatening the effective operation or administration of a regulated gas market operated and administered by AEMO; or the supply of gas*".

[1] Meetings and communiques | energy.gov.au
[2] www.aemo.com.au/energy-systems/gas/declared-wholesale-gas-market-dwgm/dwgm-events-and-reports

Modelling undertaken by AEMO shows that the issue of low inventory levels must be addressed as a matter of urgency and no later than winter 2023 to mitigate against the risk of curtailment and system security issues. This requires implementation of the proposed rule change well ahead of winter 2023 to allow enough time for the physical refilling of the Dandenong LNG facility.

The urgent need for adequate inventory at the Dandenong LNG facility continues beyond 2023 into 2024 and 2025 as production from legacy fields continues to decline over this period and given the anticipated full outages of the Longford Gas Plant in late 2023 and late 2025, as flagged in AEMO's 2022 VGPR. AEMO has noted it 'will need to operate the DTS [Declared Transmission System] in an unprecedented manner during these outages' [3]. Ensuring adequate storage inventory at the Dandenong LNG facility is expected to play a key part in this. While the need for robust arrangements is expected to continue beyond 2025, this will be further considered as part of a broader suite of reform measures designed to support ongoing security and reliability of energy supply to ensure longer-term arrangements remain optimal.

The rule change request will clarify AEMO's powers under NGL 91BA(2) which specifies that 'AEMO may trade in natural gas— (a) to the extent necessary or desirable for the safety, security or reliability of a declared transmission system; or (b) in an emergency.'[4] It will do so by providing a transparent framework regarding when and how AEMO should intervene, and how AEMO is to cost recover for any such intervention.

If you would like to discuss the rule change request in further detail, please contact Ralph Griffiths, Executive Director, Energy Strategy at ralph.griffiths@delwp.vic.gov.au or on (03) 8624 3240.

Yours sincerely

Hon Lily D'Ambrosio MP
Minister for Energy
Minister for Environment and Climate Action
Minister for Solar Homes

8 / 08 / 2022

[3] Australian Energy Market Operator. "Victorian Gas Planning Report Update," March 2022. https://aemo.com.au/-/media/files/gas/national_planning_and_forecasting/vgpr/2022/2022-victorian-gas-planning-report-update.pdf?la=en, p.80

[4] National Gas (South Australia) Act 2008 | South Australian Legislation

RULE CHANGE PROPOSAL

Context and Problem Definition

Policy context

The East Coast gas markets are currently experiencing an unprecedented series of challenges. With the Australian Energy Market Operator (AEMO) forecasting a tightening supply-demand balance and the risk of a shortfall under certain peak conditions as early as winter 2023, these challenges are only expected to grow. AEMO has also pointed to an overall reduction in system resilience which will add further pressure to the gas markets.

Natural gas provides an essential service across the east coast of Australia. Victoria, notably, has the highest residential natural gas heating demand of all the Australian jurisdictions. Natural gas is also critical to agriculture, industry and manufacturing as well as supplying critical and essential services such as hospitals. It is, therefore, vital that gas can continue to be delivered in a safe, secure, reliable and affordable fashion. Gas storage plays a key role in ensuring these objectives can continue to be met.

Victoria has a legislated target of net zero emissions by 2050, and the Victorian Gas Substitution Roadmap, informed by extensive stakeholder consultation, charts a path on how this can best be achieved. A significant reduction in the demand for natural gas, whether through increased energy efficiency, electrification, or the uptake of alternative gases such as hydrogen or biomethane, will, however, take time. While this transition is underway, it is vital that security, reliability, safety and affordability of supply continues to be maintained.

The transition to net zero emissions means that existing assets must be used as effectively as possible to minimise the need for unnecessary overbuild of new assets and to reduce the risk of asset stranding. It is in this context that effective use of the existing Dandenong LNG storage facility aligns with the long-term interests of consumers by providing an appropriate balance between security, reliability, safety, and affordability of supply while supporting a net zero emissions trajectory.

The critical role of gas storage facilities was acknowledged at the meeting of Energy Ministers held on 8 June 2022. One of the priority actions agreed to at this meeting, was for Energy Senior Officials 'to prepare and submit an urgent rule change to assist AEMO to manage peak day gas supply shortfalls by enabling them to better utilise storage'.[1] This urgent rule change request reflects the implementation of this agreed action.

This rule change request meets the urgent rule change test under clause 290 of the National Gas Law (NGL). Despite Threat to System Security (TTSS) notices being issued in March 2021 and March 2022[2] in relation to low inventory at the Dandenong LNG storage facility, the market has failed to adequately respond and inventory levels remain insufficient to meet all operational and emergency needs to ensure a secure, safe and reliable supply of gas to end consumers. In the absence of timely implementation of the framework proposed in this rule change request, the immediate risk to the interests of consumers, including both residential and industrial consumers, and including their long-term interests, are considered unacceptable. An expedited process is required to ensure measured

[1] Meetings and communiques | energy.gov.au

[2] AEMO has issued further TTSS Notices for winter 2022: 1 and 6 June 2022 seeking additional supply offers into the DWGM; and 11 July 2022 which related to the depletion of Iona Underground Storage inventory and increased risk of gas curtailment on peak demand days or days of high gas power generation.

and proportionate action can be taken in time for Winter 2023 where the current risk profile is expected to significantly increase. This includes leaving sufficient time for AEMO to consult on and make the procedural amendments associated with the rule change request, and to allow sufficient time for physical refilling of the Dandenong LNG tank ahead of winter.

The Dandenong LNG facility and its place in Victoria's gas transmission system

The APA Group owned Dandenong LNG storage facility is the Declared LNG facility attached to the Victorian Declared Transmission System (DTS).

The Victorian DTS consists of approximately 1,992 kilometres of pipelines which transport gas from various inlet points to load centres throughout Victoria. The Declared Distribution Systems connected to the DTS supply approximately 2.2 million residential, commercial and industrial customers and are covered by the Declared Wholesale Gas Market (DWGM).

Unlike major transmission pipelines in other jurisdictions which hold 'days rather than hours' worth of linepack that can be drawn upon to respond to imminent threats, the Victorian DTS has only limited total linepack of around 400 terajoules (TJ). This means that on a peak demand day (e.g. over 1,150 TJ/d) Victorian linepack will need to be replenished around three times in a single day to meet demand. There is therefore extremely limited capacity to draw on linepack to respond to unanticipated events. In the 1990s, the Dandenong LNG facility was commissioned specifically to address this problem and played a major role in responding to both the 1998 and the 2016 Longford outages and in supporting high gas-powered generation (GPG) demand during a period of drought in 2007. The ratio of peak demand to available linepack has not shifted enough to remove the need for this facility.

The Dandenong LNG facility's tank can hold 680 TJ of LNG in total (approximately 12,400 tonnes) which can be vaporised for injection into the network at a maximum rate of 9.8 TJ/hour. The refill process, which first requires the liquefaction of the natural gas to be stored at the facility, is slower, with refill able to occur at a maximum rate of up to 8.2 TJ/day.[3]

The Dandenong LNG facility plays a unique and critical role in the Victorian DTS due to its geographic location between Victoria's main supply source at Longford and its main demand centre in Melbourne (which accounts for approximately 70 percent of overall Victorian peak demand). It is the only facility that can be called upon to address the risk of pipeline pressure breaches and associated safety risks at this key location in a timely enough manner and is thus key to ensuring the safe, secure and reliable supply of gas to end customers.

The inventory within the Dandenong LNG tank can be used for five key purposes:

1) **Tank integrity** – APA maintained stock to ensure tank integrity.
2) **LNG Tanker Loading** – as undertaken by APA on a commercial basis.
3) **Market response –** Gas retailers or other market participants using their inventory to balance their individual supply and demand position and for hedging purposes.
4) **Operational and Reliability Needs** – For system security and operational needs, often called 'peak shaving gas', which is to provide short duration incident management and to mitigate against the risk of customer curtailment. This could include mitigating against:
    - Short term unavailability of plant and supply disruptions
    - Transmission equipment failure
    - Unforecast demand or a sudden demand increase.

[3] apa group dandenong lng storage | APA Group

5) **Emergency and Safe System Shutdown –** To mitigate the impacts if a major gas emergency occurs. When a major gas emergency occurs, gas load curtailment may be needed to reduce load from the networks, but this process takes time and LNG is needed to maintain the overall safety of the network while this process is being implemented. This is referred to as a 'safe system shutdown'.

APA as facility owner is responsible for ensuring that sufficient amounts of gas are held in the tank to ensure its integrity, and LNG tanker loading is provided for as a non-DWGM related commercial concern. Retailers have traditionally taken on the bulk of the remaining capacity of the facility for their own needs in responding to market price signals. This retailer role overlaps substantially with AEMO's interests in ensuring that sufficient quantities are available for operational, reliability and safety needs. When the facility is fully contracted by retailers, these needs are thought to be fully provided for. But use of the facility by retailers can and does fluctuate depending on market conditions, and it cannot therefore be assumed that system security, operational and reliability needs will be met through the availability of retailer contracted gas at all times.

These needs are crucial to the interests of consumers and society at large and can lead to significant adverse outcomes in terms of safety, health and wellbeing as well as both short and longer-term economic impacts if they are not met.[4]

Due to its location and its ability to rapidly respond to incidents, the Dandenong LNG facility is the only facility that can provide coverage for the majority of system security and emergency scenarios that must be handled by AEMO. Thus, it is treated as a unique facility under the NGL where it is defined as a Declared LNG storage provider and the National Gas Rules (NGR) as the Declared LNG facility.[5] Declaration allows the services of an LNG storage facility connected to a DWGM to be regulated through the DWGM rules in Part 19 of the NGR.

2010 rule change

Recognising the distinct needs of AEMO (and VENCorp before it) as market operator, it previously held 3,000 tonnes (approximately 165 TJ) of Dandenong LNG inventory as a system security reserve. This process was set out in the initial NGR as made in 2008, which carried over arrangements from the preceding Market and System Operations Rules (MSOR). These requirements were inflexible, with the quantity prescribed in the NGR regardless of whether it was necessary or not.

In 2009, APA requested that AEMO submit a rule change request to remove the AEMO requirement to hold a system security reserve as it considered that the NGR impeded APA's ability to offer services from the Dandenong LNG facility. AEMO agreed with this assessment and also stated that with the commissioning of the Brooklyn to Lara Pipeline (BLP) in 2008, the reliance on Dandenong LNG had significantly decreased with the increase in system linepack. This resulted in a 2010 rule change[6] that

[4] Unlike electricity load shedding, which is not dependent on action by end customers and can be rapidly enacted with an almost instantaneous rebalancing of supply and demand, a reduction in gas load can take many hours to effect and typically requires action by customers to self-curtail. The Dandenong LNG tank plays the critical role of supplying gas to maintain pressures in the networks while this curtailment is being implemented. Where a breach of minimum pipeline pressures is not averted, there is the potential for air ingress into the outer fringes of the distribution networks, If this occurs network purging and repressuring would be required which could cause a prolonged loss of supply for end consumers with consequent risks to health and safety and economic loss to small business and large industrials and flow-on impacts for the supply chains they participate in. This could include costly damage to industrial plant.

[5] A *declared LNG storage provider* is defined under the NGL as having the meaning given in a jurisdiction's application Act for that purpose. Section 41 of the *National Gas (Victoria) Act 2008* provides that this will be as declared by Ministerial Order. The relevant Order was made on 30 June 2009 and declares the Dandenong facility for this purpose. See: S222-09.indd (gazette.vic.gov.au)

[6] Australian Energy Market Commission. Dandenong Liquefied Natural Gas Storage Facility | AEMC

removed AEMO's right to 3000 tonnes of LNG storage capacity for the operation of the LNG reserve. Instead AEMO and an LNG storage provider would have to negotiate and agree on any storage capacity to be made available for the operation of the LNG reserve.

The current market conditions are significantly different to the market conditions that prevailed at the time of the of the 2010 rule change. The change in context is outlined in further detail below and underscores the criticality of the Dandenong LNG facility to ensure safe and secure operation of the networks in the coming three years and ensuring a reliable gas supply to end use customers.

AEMO's system requirements

As explained above, there are distinct system requirements from the Dandenong LNG facility to meet AEMO's needs to provide for operational reliability and security and, *in extremis* to allow for a safe system shutdown should a major gas supply interruption occur.

Starting with safety – a minimum quantity of LNG is required in the Dandenong LNG tank to ensure a safe, secure and reliable network and prevent uncontrolled curtailments from occurring. If an incident was to occur, even a short duration incident, and there was insufficient inventory within the tank to maintain minimum pipeline pressures, the consequence would be an uncontrolled curtailment with a loss of supply to end use customers. This leads to the potential for air ingress into the outer fringes of the distribution networks which would likely require network purging and repressuring which in turn could lead to a protracted loss of supply. This situation is highly undesirable and the risk of this occurring must be addressed in line with Victoria's *Gas Safety Act 1997* which requires that hazards and risks to the safety of the public and customers arising from interruptions to the conveyance or supply of gas, and the reinstatement of an interrupted gas supply are to be minimised as far as practicable[7].

Additional inventory is required to mitigate against the risk of controlled curtailment of end customers with all the attendant risks to health and wellbeing and economic impacts this would entail. This would safeguard the 'reliability' of supply in the gas sector, although this term is not as well defined in the gas sector as in the electricity sector. While a formal Value of Customer Reliability (VCR) study has not been done for gas, work undertaken on behalf of the Victorian Department of Environment, Land, Water and Planning, provided initial estimates of a gas VCR, which suggested that the value customers place on a reliable gas supply, particular in the case of industrial customers, is high.

The 2022 Victorian Gas Planning Report (VGPR) points to an already tight supply-demand balance for winter 2023 and the risk of a shortfall under certain scenarios. This forecast assumes completion of the Western Outer Ring Main and adequate levels of Dandenong LNG facility inventory for winter 2023. More specifically the 2022 VGPR notes:

> Dandenong LNG injections are required to satisfy a 1-in-2-year system demand with moderate gas generation, or a 1-in-20-year system demand and that there is likely to be insufficient capacity to support high levels of gas generation on a peak day. The system is unlikely to be able to support the record total demand of 1,308 TJ on 9 August 2019 and may not support the 1,243 TJ of total demand on 4 August 2020 without the curtailment of gas generation. The increased reliance on Dandenong LNG increases the risk of inventory depletion.[8]

[7] Gas Safety Act 1997 (legislation.vic.gov.au)

[8] Australian Energy Market Operator. "Victorian Gas Planning Report Update," March 2022. https://aemo.com.au/-/media/files/gas/national_planning_and_forecasting/vgpr/2022/2022-victorian-gas-planning-report-update.pdf?la=en. p. 9.

Without adequate Dandenong LNG inventory, the above risks to the supply-demand balance further increase.

In addition to the increasing risk of a supply demand imbalance, AEMO has noted the risks associated with an overall decline in system resilience. This includes reduced redundancy at Longford with the permanent retirement of a key component of the plant in late 2021, and a reduced ability to respond to unexpected swings in demand due to a flatter production profile and changes to intra-day user demand profiles arising from the COVID-19 pandemic.[9]

AEMO has undertaken extensive probabilistic modelling to determine the requisite amounts required to be able to fulfil functions 3 and 4 as outlined above (Operational Response and Reliability and Emergency and Safe System Shutdown). These amounts are over and above any amount held by the Dandenong LNG storage provider for tank integrity purposes and for any agreements it has entered into with regard to LNG tanker loading. AEMO has determined:

- **Emergency and Safe System Shutdown: ~140 TJ** is required for the purposes of safe system shutdown, that is to provide enough time in the event of gas emergency event where curtailment needs to be implemented and to avoid the need to isolate the gas distribution networks with the associated safety risk of air ingress into pipelines. This amount will vary slightly year on year but was calculated at 140TJ for both winter 2021 and 2022. It may be slightly less for winter 2023 depending on completion of the Western Outer Ring Main and additional compression at Winchelsea.
- **Operational and Reliability Needs:** An additional amount must be held for operational response and to mitigate against the risk of customer curtailment. This will vary year on year depending on system conditions. For 2021 this was calculated at 110 TJ, increasing to 128 TJ for winter 2022. **For winter 2023, the operational amount needed has been calculated by AEMO at 310 TJ**.[10] These volumes represent a 5% risk of curtailment (or one-in-twenty-year probability of exceedance).

Development of hazardously low utilisation rates of the facility

While it is critical that sufficient inventory is held at the Dandenong LNG facility to meet these needs, contracted inventory levels have fallen dramatically from late 2019. This steep decline can be observed in **Figure 1**. Inventory levels were of such concern that on 19 January 2022, AEMO proceeded to contract an additional 60 TJ to ensure the minimum amount to cover a safe system shutdown was retained in the tank. However, it was required to do so to meet its system security obligations in the absence of a clear and robust framework under the NGR, including around the ability to cost recover against this amount.[11] This intervention highlights the deficiencies of the current framework, particularly in regard to the inefficient utilisation of the Dandenong LNG facility's capacity.

[9] Ibid. pages 10 and 61.
[10] Australian Energy Market Operator. Dandenong LNG, slide 12, 4 May 2022 (part of AEMO's 2022 Winter Outlook Presentation): AEMO | Victorian gas operations
[11] Ibid slide 13.

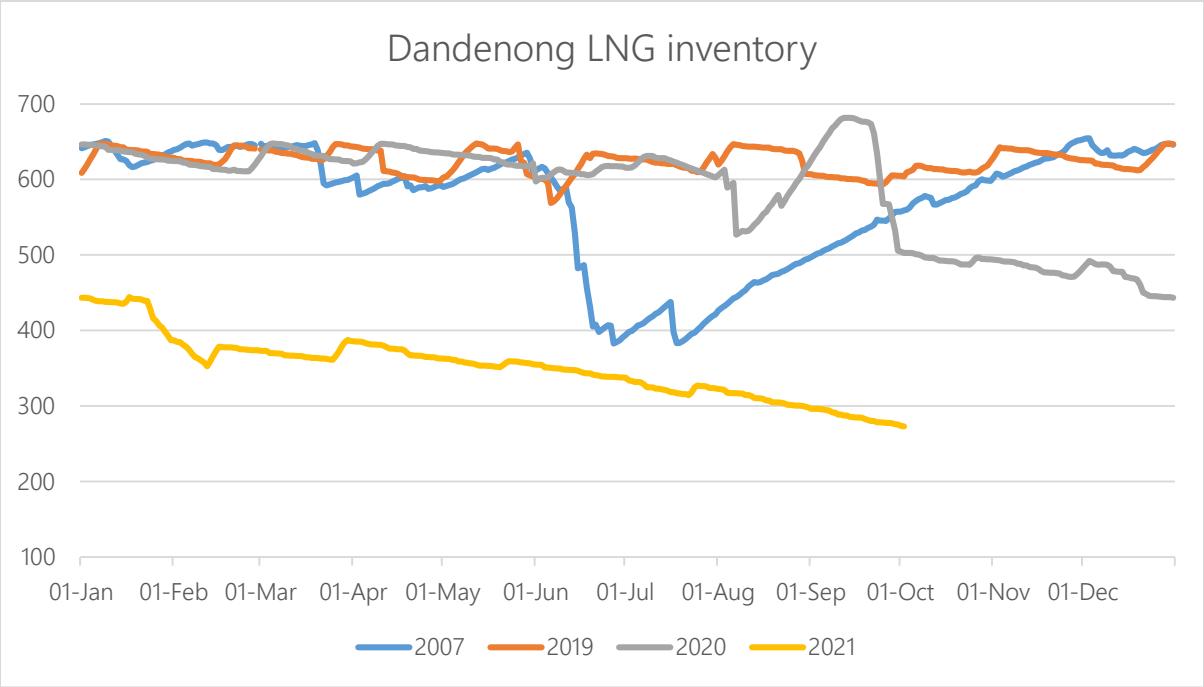

Figure 1: Comparison of historical LNG utilisation trends

AEMO issued Threats to System Security (TTSS) notices on both 29 March 2021[12] and 29 March 2022[13] seeking a market response which was not forthcoming. The 2022 TTSS notice noted that inventory at the time was at 249 TJ, less than the 268 TJ AEMO calculated was needed to meet emergency and operational needs.

In its 2022 VGPR, AEMO also noted "participant contracted volumes of Dandenong LNG services have remained low and are insufficient to respond to both operational and emergency scenarios", and that if market participants did not increase their contracted quantities to cover expected operational requirements, "there is a high likelihood of curtailment being required, particularly on high demand days or when there is unforecast gas generation". [14]

Despite the March 2022 TTSS notice, inventory levels have continued to decline and as at 24 June 2022, Dandenong LNG inventory levels have fallen as low as 255.6 TJ (See Figure 2). This is approaching the floor level of 65 TJ plus 140 TJ (205 TJ) that must be maintained at all times for tank integrity and safe system shutdown. Total drawdown since the TTSS notice was issued is at around 50 TJ. It should be noted this volume represents the average total winter drawdown over the last few years, with much of winter still to come. This trends toward hazardous levels and, if repeated in 2023 with a tighter supply/demand balance, would be even more hazardous and pose a significant risk to the operation of the market, and to the security and safety of supply.

[12] Australian Energy Market Operator. "Notice of a Threat to System Security – Seeking a Market Response -290321 (aemo.com.au)". 29 March 2021.
[13] Australian Energy Market Operator. "GP-2013-F02: Notice of a Threat to System Security – Seeking a Market Response (aemo.com.au)". 29 March 2022.
[14] Australian Energy Market Operator. "Victorian Gas Planning Report Update," March 2022. p. 4.

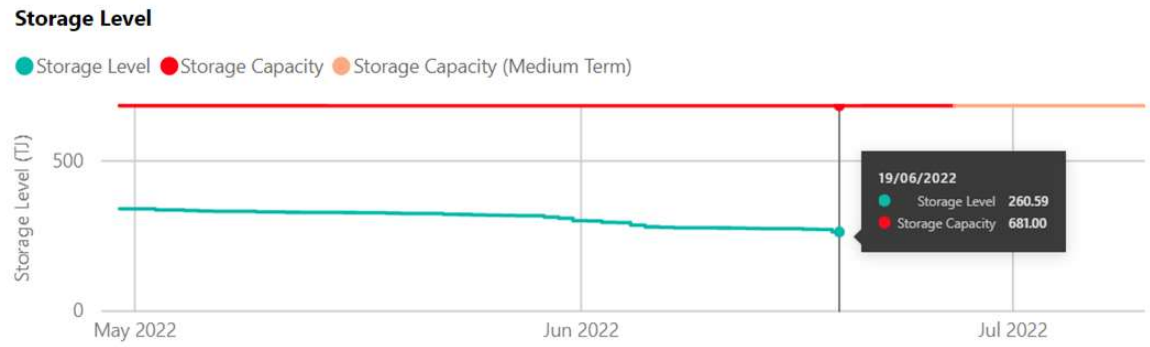

Figure 2: 2022 LNG utilisation trend

At its May 2022, Winter Outlook briefing, AEMO noted the probabilities of curtailment for winter 2023 based on varying Dandenong LNG inventory levels. AEMO indicated that to achieve the 5 per cent likelihood of curtailment during 2023 (see Table 1), an increased amount of 310 TJ of operational response would be required. Based on the figures below, if inventory going into winter 2023 were similar to that at the start of winter 2022, the likelihood of curtailment would be between 15 and 35 percent. This would, for reasons already explained, be an unacceptable outcome for the community, particularly with the means to avert it readily to hand in the form of the facility's unutilised capacity.

Table 1: Curtailment probabilities under operational and reliability scenarios

Tank Floor (65 TJ+140 TJ)	205 TJ	205 TJ	205 TJ	205 TJ
Available for operational response	45 TJ	105 TJ	185 TJ	310 TJ
Total inventory	250 TJ	310 TJ	390 TJ	515 TJ
Likelihood of curtailment	86%	35%	15%	5%

The limited guidance provided in the NGR may be contributing to inefficient underutilisation

While the NGR prior to the 2010 rule change request were too prescriptive and inhibited the optimal use of assets and market products, the current rules provide very little guidance on how AEMO should intervene, when AEMO should intervene, and how AEMO is to recover the costs of any such intervention.

AEMO still retains power to contract for LNG capacity in connection with its statutory function to control the operation and security of the DTS and has a broad basis under NGL 91BA(2) to trade in natural gas to the extent necessary or desirable for the safety, security or reliability of a declared transmission system or in an emergency. The NGR also still contemplates AEMO holding LNG stock to manage system security through the references to an LNG reserve, LNG stock and LNG storage capacity.[15]

[15] NGR Version 61 Summary - AEMC Energy Rules – 'LNG reserve' is defined as the LNG storage capacity to which AEMO is entitled under its LNG storage agreement. 'LNG stock' is defined as the amount of LNG in an LNG storage facility held on behalf of AEMO, a Market Participant, or any other person. 'LNG storage capacity' is defined as rights to hold capacity in the LNG storage facility granted by the LNG Storage Provider to a Market Participant. AEMO or any other person pursuant to an LNG storage agreement.

In addition to AEMO's system security requirements as outlined in the NGL and NGR, it is required under Victorian safety legislation and in its safety case with the Victorian technical safety regulator, Energy Safe Victoria, to ensure there is sufficient inventory to cover emergency and safe system shutdown requirements. These safety requirements do not extend to holding inventory to avoid curtailment, as curtailment provides one way of managing a system shutdown, albeit with significant adverse associated economic consequences and potential impacts on health and wellbeing. On the basis of its system security and safety requirements, in January 2022, AEMO intervened to contract 60 TJ (as outlined in its March 2022 report on the matter[16] to increase overall inventory to 140 TJ[17] and ensure a minimum safe system shutdown amount would be available if needed. This being said there is currently no clear guidance in the NGR on the extent to which retailer held gas can be used to support system security functions.

While AEMO can contract to fulfil its system security and safety roles, neither the current NGR nor Victorian legislation currently provide any certainty on whether, when and how AEMO is to procure, maintain and dispose of additional LNG stock from a declared LNG facility, in order to support reliability of supply and mitigate against the risk of curtailment. There is, for example, no formal reliability standard in place for gas and it will not be possible to implement any such standard by winter 2023. Both AEMO and market participants, and ultimately end users, would benefit from such certainty with regard to Dandenong LNG usage.

Noting all of the above, and in view of the shifting context of the market, there is a strong case for AEMO's role in relation to Dandenong LNG storage to be strengthened considerably over the next few years and to better define its ability to hold, use and cost recover against any Dandenong LNG that is used to support reliability of supply. This shifting market context is expanded upon below. This rule change request will allow time for a broader package of measures, including a gas reliability standard or equivalent, to be developed by supporting reliable supply over the intervening period in the context of a tightening supply-demand balance and reduced system resilience as flagged by AEMO in its VGPR forecasts.

Summary

In summary, the services provided by the Dandenong LNG facility are considered to be unique, essential and not able to be substituted by those provided by any other facility or service provider. Present trends point to a substantial underutilisation of the facility which raises significant risks to the system, market and to consumers. This is due to the current rules governing the use of the facility not providing adequate certainty for AEMO, as system operator, to remedy the underutilisation. These rules, while perhaps appropriate in 2010 when made, are no longer fit for purpose given the changed market context in which the facility operates. This rule change request is intended to remedy this in a simple, straightforward way over the next three years while the current market context of tight supply/demand and heightened curtailment risks exist.

Desired Outcome

[16] dwgm-er-21-004-winter-2021.pdf (aemo.com.au)

[17] Note that this safe system shutdown amount will vary depending on operating conditions in any given year. The 140TJ modelled for 2022 to maintain systems linepack and survival time, is expected to decrease slightly upon completion of the Western Outer Ring Main (scheduled for completion by winter 2023) and may increase or decrease in subsequent years depending upon any further changes to system conditions.

When assessing options for a solution to the current inventory contracting issues, the Victorian Government seeks to ensure the NGR meet the following high-level objectives:

- Ensuring there is sufficient Dandenong LNG inventory available for injection into the DTS to cover operational, reliability and emergency and safe system shutdown needs in the context of declining supply and reduced system resilience.
- Ensuring the proposed solution can be implemented in time for Dandenong LNG storage to be filled by the commencement of winter 2023.
- Facilitating a market-based solution as far as practicable.
- Providing adequate certainty and transparency to the market including regarding roles and responsibilities for contracting inventory.
- Ensuring costs to market participants, and ultimately end customers, are minimised to the extent possible including avoiding the risk of asset stranding with associated long-term costs for consumers through efficient use of existing assets.
- Providing for flexibility so that Dandenong LNG storage arrangements can be adapted over time as market conditions continue to change.

A number of options have been considered to address the identified problem, including:

- Retaining the status quo.
- Using existing or new storage to provide a substitute service.[18]
- Demand management including curtailment of industrial load or gas-power generation[19];
- Different market and regulatory approaches to ensure that sufficient Dandenong LNG inventory is available for AEMO.

Unfortunately, none of the above options were considered to be viable in the timeframes still available and to allow for the processing and implementation of this rule change request, including leaving adequate time to fill Dandenong LNG storage, prior to the start of winter 2023.

The preferred option detailed below is considered optimal as it can be implemented in time for winter 2023 and provide adequate inventory to support the ongoing security, reliability and safety of the system and the supply of gas to end consumers.

Proposed Rule Change

A proposed Draft Rule is included for illustrative purposes at Appendix 2 of this document.

AEMO as buyer of last resort

The proposed rule change would provide for AEMO to act as 'buyer of last resort', stepping in to buy uncontracted volumes once market customers have had a reasonable opportunity to contract their own storage capacity, inventory and injection rights. The rule would allow for AEMO, at 15 March of each relevant year (2023, 2024 and 2025), to secure all available uncontracted LNG storage capacity via variation to its contract with APA and to hold associated inventory it has purchased at the facility for reinjection into the DTS.

[18] Australian Energy Market Operator . Winter Outlook 2022, 4 May 2022, Dandenong LNG, AEMO | Victorian gas operations. Slides 5-8.
[19] Ibid. Slide 9.

The proposed timing would maximise the time available to market participants to enter into their own contracts while also providing AEMO time to fill the storage tank ahead of the peak winter period when supply is at greatest risk.

These arrangements will not prevent retailers or other Market Participants from negotiating with the Declared LNG storage provider for storage capacity and to hold associated inventory after 15 March. Where a market participant wishes to subsequently contract for storage capacity with the Declared LNG storage provider, AEMO will be able to relinquish the relevant amount of storage capacity so that a new contract between the market participant and the Declared LNG storage provider can be entered into. AEMO will also be able to sell any associated inventory to the market participant in question to avoid unnecessary and inefficient reinjections back into the DTS only to have to reinject the same amount back into the Dandenong LNG storage facility.

The rule will also not inhibit AEMO's power to contract for storage at other times if it identifies the need to do so.

In extraordinary circumstances, AEMO will also be able apply to the Victorian Minister for approval of a different target level. This could include a situation where there is no available supply to fill the tank due to a major emergency situation or where filling of the tank could lead to perverse operational outcomes.

Contractual matters

The proposed rule will require the LNG storage provider and AEMO to have entered into an LNG storage agreement by 15 March 2023. This will provide the contractual underpinning for AEMO to perform its roles.

The proposed rule also requires the LNG storage agreement to be on substantially the same terms as the agreement between AEMO and the LNG storage provider applicable during the winter months of 2022, except to the extent that changes:

i. are reasonably necessary to give effect to changes in operational and technical requirements necessary for the safe and reliable operation of the LNG storage facility;
ii. reflect indexation of prices in line with changes in the consumer price index; or
iii. give effect to changes of law.

The existing contract is considered to provide a reasonable basis for the contract over the relevant years, because it was recently negotiated and agreed to by both APA and AEMO and can be taken to reflect terms that are both acceptable to APA and reasonably provide for its commercial interests, and also provide the services required by AEMO. Making provision for the existing contract to be varied to reflect the matters described above will also ensure that APA's and AEMO's interests are appropriately taken into account and are consistent with standard contract practices. This approach is also considered consistent with the need for a timely process that can be implemented by winter 2023.To protect the interests of consumers, these requirements may be enforced if required by the Australian Energy Regulator (AER). Recognising the pressures AEMO will be under to operationalise the rule, the rule clarifies that any enforcement action by the AER will not be affected by AEMO having entered into an LNG storage agreement on terms offered by the facility owner.

Refilling of the Dandenong LNG facility to contracted levels

AEMO and the facility owner will agree a liquefaction schedule allowing AEMO to commence refilling the facility from 15 March 2023. Withdrawals from the DWGM will be forecast into the market scheduling process, such that AEMO will procure the gas at the spot price.

Cost Recovery of Purchased AEMO LNG stock

AEMO will be empowered to recover through its participant fees the cost of acquiring the uncontracted capacity of the Dandenong LNG facility. The commencement of the Rule will be determined through a transitional rule to be a major gas project, and AEMO will promptly commence consultation on a reopening of its participant fees to set out how the costs are to be recovered.

Utilising AEMO LNG stock

The proposed rule change would specify the terms under which AEMO may utilise the LNG stock held at the LNG storage facility at such times and in such quantities as AEMO sees as necessary to ensure the security and reliability of the DTS. While the detail of how AEMO schedules its gas into the market will be subject to AEMO's gas scheduling procedures, the following high-level principles would be included in the Rule:

AEMO as supplier of last resort

AEMO would be enabled to act as a 'supplier of last resort' within the DWGM, in respect of the utilisation of its LNG stock. That is to say that AEMO would be enabled to schedule its Dandenong LNG inventory into the DTS once market participants have first had the opportunity to inject any LNG stock they hold for market purposes. This would minimise the need for AEMO intervention and support the efficient operation of the market.

It is proposed that AEMO held LNG stock that is injected into the DTS will be be priced at Value of Lost Load (VoLL), (currently set at $800 per gigajoule). This will ensure that AEMO's gas will not be scheduled before any alternative gas that could be injected. The proposed Rule specifies that this must be given effect through AEMO's Gas Scheduling Procedures.

This will also ensure an appropriate incentive is maintained on market participants to continue to contract at the facility in the first instance, and to limit the financial impact of AEMO's interventions as a supplier of last resort.

Accreditation of AEMO Dandenong LNG injections and withdrawals

For AEMO's gas to be scheduled, it also needs to be accredited. Currently the accreditation rules only contemplate Market Participants having accreditation. It is proposed that AEMO be deemed as having the necessary accreditation for all purposes required for the injection of AEMO held Dandenong LNG inventory and that AEMO's Gas Scheduling Procedures give effect to this.

Settlement of AEMO Dandenong LNG injections and withdrawals

The proposed Rule specifies that any money made or lost by AEMO through imbalances, deviations, uplift, or ancillaries, would be integrated into the linepack account (LPA) in much the same way that operational gas is included within the LPA. This is effectively the cost of operating the system including maintaining pressure within the network. Given AEMO held Dandenong LNG inventory and injections essentially fulfils the function of linepack in this part of the system, inclusion of LNG stock into the LPA provides a consistent approach.

As AEMO's gas would only be injected when the market clearing price reaches VoLL, it is possible that AEMO will make a profit. This approach will ensure that the proceeds are effectively rebated to consumers.

Disposing of AEMO held LNG stock

The proposed Rule specifies that any Dandenong LNG Storage capacity acquired by AEMO would be disposed of in accordance with LNG reserve procedures which AEMO will be required to develop. These LNG reserve procedures would outline the detail of how AEMO held LNG reserves would be acquired and disposed of.

This recognises that AEMO may wish to reduce quantity of gas held on its behalf at the end of winter to free up capacity for the market and that the proceeds of disposing of this LNG should be used to offset the costs incurred by market participants through participant fees. This Rule should not allow for AEMO to on-sell LNG stock to other market participants, unless it is part of AEMO relinquishing storage capacity. This is because AEMO on-selling of LNG stock could provide a disincentive for market participants to contract and create wealth transfer issues. It is proposed that the Rule will provide general guidance with further detail to be included in the relevant procedures.

Ensuring Transparency to the Market

The rule will provide for AEMO to be able to publish information relating to the amount of uncontracted LNG storage capacity that was contracted by AEMO, and the amount of that capacity relinquished, under the proposed LNG reserve procedures.

Further supporting these provisions and transparency to the market, the National Energy Laws Amendment (Gas Pipelines) Bill 2022 is providing for the insertion of a new Part 18A, which will require storage facility operators (including the DLNG) to report on the prices actually paid under contracts with users, contracted volumes and other key terms and conditions in these contracts.

This will ensure public accountability for AEMO in the use of its purchaser of last resort function and ensure that market participants are fully aware of when and how much capacity AEMO holds. It will also assist market participants in making approaches to AEMO to relinquish capacity they wish to contract for as needed.

Transitional Arrangements

As noted, transitional rules will provide for the negotiation and establishment of a liquefaction schedule, and an agreement between AEMO and the facility owner by 15 March 2023.

Given the tight timeframes available prior to the start of winter 2023, the proposed Rule would specify that any consultation AEMO has undertaken on associated updates to or the creation of new Procedures prior to implementation of the Rule Change would qualify as part of its formal consultation process.

A transitional rule will also specify that the commencement of the rule is a major gas project, allowing for appropriate changes to market fees to be put in place.

Consequential changes

In order to operationalise this rule change, AEMO will need to examine its procedures and advise which will need to be amended through the consultation process, and whether any new procedures will need to be made. This includes:

- Gas Scheduling Procedures;
- System Security Procedures;
- Gas Ownership Procedures;
- Administered Pricing Procedures;
- Ancillary and Uplift Procedures.

Urgent Rule Change

The proposal meets the urgent rule change test under clause 290 of the National Gas Law (NGL), which defines an urgent Rule as "*if not made as a matter of urgency, will result in that matter or thing imminently prejudicing or threatening the effective operation or administration of a regulated gas market operated and administered by AEMO; or the supply of gas*".

Despite AEMO issuing TTSS notices in both March 2021 and 2022, there has been insufficient market response to address the ongoing low levels of inventory at the Dandenong LNG facility. These levels are insufficient to meet all operational and emergency needs and are posing an imminent threat to the effective operation of the market.

Modelling undertaken by AEMO in preparation for its latest VGPR shows that inventory levels in the Dandenong LNG facility must be increased as a matter of urgency and prior to winter 2023 to mitigate against the significant risk of the curtailment and system security issues that is expected to occur from winter 2023. The 2022 VGPR also flagged an unprecedent one-day full shutdown of Longford as early as the fourth quarter of 2023 as well as a one-month shutdown at the end of 2025, with AEMO noting that it 'will need to operate the DTS in an unprecedented manner during these outages'. Providing certainty around adequate inventory in the DLNG is therefore expected to play a critical role in managing security and reliability of supply over the three-year period (2023-2025), which is the period over which the arrangements in this Rule change request are intended to apply. The proposed rule change can therefore be viewed as being required to address an imminent threat to the supply of gas between 2023 and 2025 and the effective operation of the DWGM.

In addition to consideration of the proposed Rule change request and implementation of a final Rule, sufficient time needs to be allowed for AEMO to update, develop and consult on associated Procedures as well as to enter into relevant contractual arrangements. Sufficient time also needs to be allowed for filling of any available uncontracted capacity subsequent to this, noting that the refill process is relatively slow. The time required by AEMO to undertake this work and to allow for physical refill of the tank means that a final rule must be in place no later than February 2023, although an earlier final rule decision would be preferable. The urgent Rule change process will mitigate against the risk of this not occurring in a sufficiently timely manner.

A broader reform program will be progressed in the intervening period to enhance reliability of supply including consideration of a gas reliability standard and gas Reliability and Reserve Trader (RERT) scheme. The proposed Rule Change request provides the urgent interim measure required to support system security and reliability while this broader package of measures is under development.

National Gas Objective

This rule change is expected to help achieve the National Gas Objective (NGO), set out in the National Gas Law as follows:

"The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas."

The implementation of this rule change promotes the NGO in the following ways:

Security and Reliability of Supply:

Under Section 91BA of the NGL (AEMO's declared system functions) – clause 1 b) AEMO is responsible for 'controlling the operation and security of the declared transmission system'. It also specifies that AEMO may trade in natural gas— (a) to the extent necessary or desirable for the safety, security or reliability of a declared transmission system. This rule change request is intended to support these critical requirements as outlined in the NGL.

The AEMC has noted that system security 'broadly means that the power system is able to operate with defined technical operational limits, even if there is an incident such as the loss of a major transmission line or large generator. […] In gas, security is achieved when every point across the pipeline network is at acceptable pressure levels'.[20] Commensurately, the proposed Rule is intended to:

- ensure that there is adequate inventory within the declared Dandenong LNG facility to minimise risks to system security buying enough time for safe system shutdown of the transmission system in the event of an emergency;
- improve gas supply reliability by maintain pipeline pressures within acceptable levels at this critical point in the Victorian gas transmission system and thereby minimise the risk of customer curtailment;
- provides a transparent framework to the market within which AEMO can operate to improve system security and reliability; and
- provides a transparent framework to the market within which AEMO can cost recover for the purposes of system security and reliability.

Safety:

Ensuring adequate inventory is held at the declared LNG facility to allow safe system shutdown is a requirement of AEMO's Gas Safety Case with the technical regulator, Energy Safe Victoria.

This is because an uncontrolled curtailment event carries the risk that minimum pipeline pressures will be breached allowing air ingress into the gas networks. This in turn can pose an ignition risk with potential safety impacts for end users. Ensuring a robust framework is in place for safe system shutdown helps mitigate against this risk.

Even with curtailment there is a residual risk of air ingress as curtailment relies on customers actively turning off their load which can take time. This is a particular concern in the outlying sections of the distribution networks. This is because, unlike with electricity load shedding, where large blocks of load can be automatically shed or removed via distribution control rooms within very short timeframes, gas curtailment depends on individual end users ceasing their gas use. The process is more time-consuming than in electricity and may take several hours to enact. In the time taken to enact curtailment, pressure breaches may already have occurred.

[20] Australian Energy Market Commission. Applying the energy market objectives (aemc.gov.au) (emphasis added).

The Victorian curtailment procedures seek to ensure critical and essential load and vulnerable users are protected to the greatest extent possible, however, the procedures also note that if curtailment does not reduce demand sufficiently to secure the transmission system, distribution networks may be selectively isolated to ensure the integrity of the system. In this event, critical and essential customers falling within these networks, particularly where located at end points of the network, might also have to be curtailed. Loss of gas to these critical and essential services could pose its own significant safety risks.

Where air ingress has occurred, a prolonged and resource intensive purging and relight process will likely be required. Two recent examples (the Whyalla Port Pirie incident in 2015 and the Mount Gambier incident of 2020)[21] provide an indication of likely extended restoration timeframes, noting that a pipeline pressure breach and isolation of the distribution networks leading to air ingress in the Melbourne would be at a far larger scale, and restoration times would therefore also be expected to be much longer.

The proposed rule change seeks to put in place a robust and transparent framework to ensure additional inventory can be held to mitigate against the safety risks associated with curtailment and air ingress into the system.

Promoting efficient investment and operation and use of natural gas services:

While the primary purpose of the proposed Rule Change is to promote security, reliability and safety of energy supply and the DTS, it also supports the efficient operation of the declared LNG facility. Ongoing low inventory levels over the last two years have raised risks for the efficient use of this facility, which provides additional gas injection capabilities in one of the most critical parts of the system.

The proposed rule change will also allow for the efficient operation of the broader market by continuing to provide market participants with the opportunity to contract for storage and inventory at the Dandenong LNG facility and for injection rights back into the DTS. AEMO will only function as:

- a buyer of last resort once market participants have contracted
- a supplier of last resort once market participants have injected to meet their market needs.

This will allow the market to continue to operate as per current arrangements as much as possible while also ensuring the interests of consumers are met with respect to safety, reliability and security of supply.

The rule change also recognises that the energy sector is undergoing a period of significant and rapid transition. In the context of the transition to net zero emissions, it is important that existing assets are used efficiently. This will help avoid unnecessary investment in pipeline or other infrastructure which bears the risk of asset stranding and may come at a greater cost to end consumers over a longer period of time. The efficient use of the Dandenong LNG facility thus supports the efficient investment in natural gas services.

The rule change request proposes that the rule apply for a period of three years. This provides a proportionate response and an appropriate balance between providing certainty to the market, and

[21] OTR-Annual-Report-2015-gas.pdf (energymining.sa.gov.au)

[21] Australian Gas Networks Media Release, 'Gas Supply Disruption at Mount Gambier' 14 September 2020, Mount Gambier gas supply to return progressively from Friday | Australian Gas Networks and ABC News, 10 September 2020: Gas outage in Mount Gambier sees thousands without hot water, stovetop cooking after meter incident - ABC News

supporting security, reliability and safety of supply with regard to the immediate operation of the DWGM, without locking in arrangements over the medium to longer term. It will also allow time for the development of a broader package of security and reliability related measures over that three-year period to ensure any longer-term arrangements that apply beyond the immediate urgent circumstances identified earlier, including ongoing arrangements for the Dandenong LNG storage facility, are designed in the most optimal fashion. This will ensure the continuing efficient operation of natural gas services in a transforming system and market.

APPENDIX 1 – Dandenong LNG Inventory Levels – Historic and Recent

Historic Usage[22]:

Year	TTSS Events	LNG (TJ) used in TTSS	Market LNG (TJ)	Total LNG Scheduled (TJ)	Minimum Tank Level (TJ)	Cumulative EDD
2017	1	17.9	14.5	32.4	596	878
2018	0	0	58.3	58.3	610	879
2019	3	44	76.3	120.3	600	845
2020	4	135	246	381	526	884
2021	0	0	7.1	7.1	299	821

APPENDIX 2 – PROPOSED DRAFT RULE

200 Definitions

LNG reserve procedures means the Procedures made under rule 286A.

uncontracted LNG storage capacity means any available storage capacity in an LNG storage facility that is not subject to an LNG storage agreement.

206 Gas scheduling

(1) AEMO must schedule injections of gas into and withdrawals of gas from the declared transmission system in accordance with bids.

(2) When scheduling injections of gas into and withdrawals of gas from the declared transmission system, AEMO must:

(a) comply with the gas scheduling procedures; and

(b) use its reasonable endeavours to operate within the system security procedures.

(3) Subject to:

(a) AEMO's obligations under this Part to schedule injections of gas into, and withdrawals of gas from, the declared transmission system in accordance with the gas scheduling procedures;

[22] Australian Energy Market Operator. Declared Wholesale Gas Market Intervention Report. March 2022

(b) AEMO's obligations under this Part to operate the declared transmission system within the system security procedures and to avert or minimise threats to system security; and

(c) there being sufficient gas available at all relevant times for injection into the declared transmission system to satisfy withdrawal and linepack requirements,

AEMO must use its reasonable endeavours to ensure that sufficient gas is made available for withdrawal from the declared transmission system during each gas day to satisfy Market Participants' aggregate requirements for gas at system withdrawal points.

(4) AEMO must make Procedures (**gas scheduling procedures**), including the algorithm that will be used by AEMO, for the purpose of scheduling in accordance with this Subdivision and pricing in accordance with Subdivision 3.

Note:

The gas scheduling procedures also cover the manner in which AEMO utilises the LNG reserve under rule 285.

241 Linepack account

(1) AEMO must maintain a linepack account in respect of each gas day in accordance with subrule (2).

(2) AEMO must determine the amount to be added to the linepack account in respect of each gas day in accordance with the following formula:

LPDA = - (TIP + TDP)

Where:

LPDA is the daily linepack amount in $ to be added to the linepack account in respect of imbalance payments and deviation payments for that gas day (which may be positive or negative); and

TIP is the total of imbalance payments of all Market Participants for the gas day determined in accordance with rule 235(1); and

TDP is the total of deviation payments of all Market Participants and AEMO for the gas day determined in accordance with rule 235(4).

Note:

The linepack account also includes amounts under rule 285.

Subdivision 2 LNG Storage

278 Obligations of AEMO

AEMO is responsible for scheduling LNG injection bids.

279 Obligations of an LNG Sstorage Pprovider

(1) An LNG Storage Provider must ensure that its LNG storage facility is utilised with the objective of maintaining LNG stock at the highest level possible.

(2) An LNG Storage Provider must operate its LNG storage facility in accordance with scheduling instructions issued by AEMO.

Note:

This subrule is classified as a conduct provision under the National Gas (Victoria) (Declared System Provisions) Regulations. See clause 4 and Schedule 2 of the National Gas (Victoria) (Declared System Provisions) Regulations.

(3) [**Deleted**]

(4) An LNG Storage Provider must as soon as reasonably practicable after the end of each gas day provide AEMO with the following information in respect of its LNG storage facility:

(a) the total quantity of LNG stock at the end of the gas day; and

(b) the total quantity of LNG stock held on behalf of Market Participants at the end of that gas day which is available to be bid into the Market.

280 Provision of information relating to an LNG storage facility

(1) An LNG Storage Provider must, subject to the terms and conditions of a declared LNG supply agreement (where relevant), keep AEMO informed in a timely manner of all matters or circumstances relating to the operation of its LNG storage facility that may affect the ability of AEMO to schedule LNG injection bids or use the LNG reserve.

Note:

This subrule is classified as a conduct provision under the National Gas (Victoria) (Declared System Provisions) Regulations. See clause 4 and Schedule 2 of the National Gas (Victoria) (Declared System Provisions) Regulations.

281 LNG storage capacity

(1) [**Deleted**]

(2) [**Deleted**]

(3) [**Deleted**]

(4) [**Deleted**]

(5) An LNG Sstorage Pprovider must maintain a register of LNG storage capacity, which must include the following information:

(a) the identity of each holder of LNG storage capacity;

(b) the amount of storage space to which each holder of LNG storage capacity is entitled; ~~and~~

(c) the quantity of LNG stock held on behalf of each holder of LNG storage capacity; and

(d) the amount of uncontracted LNG storage capacity.

Note:

This subrule is classified as a conduct provision under the National Gas (Victoria) (Declared System Provisions) Regulations. See clause 4 and Schedule 2 of the National Gas (Victoria) (Declared System Provisions) Regulations.

(6) An LNG Storage Provider must provide the register referred to in subrule (5) to AEMO as soon as reasonably practicable after the end of each gas day.

282 Uncontracted LNG storage capacity

(1) At all times during the relevant years, AEMO and an LNG Storage Provider must have in force an LNG storage agreement in relation to the use by AEMO of uncontracted LNG storage capacity under which:

(a) AEMO may contract for use of the uncontracted LNG storage capacity during the periods of the relevant year, and to the extent, that in AEMO's reasonable opinion are necessary or convenient to satisfy AEMO's obligations under subrule (4); and

(b) AEMO may relinquish contracted capacity from time to time if a Market Participant acquires or proposes to acquire capacity in the LNG storage facility.

(2) The LNG storage agreement, and any amendments to the LNG storage agreement, must be:

(a) consistent with rules 282 to 286A; and

(b) on substantially the same terms (including as to price and price structure) as the LNG storage agreement between AEMO and the LNG Storage Provider applicable during the winter months of 2022, except to the extent changes:

(i) are reasonably necessary to give effect to changes in operational and technical requirements necessary for the safe and reliable operation of the LNG storage facility;

(ii) are reasonably necessary to ensure the agreement is consistent with rules 282 to 286A;

(iii) reflect indexation of prices in line with changes in the consumer price index; or

(iv) give effect to changes of law.

(3) Any amendment to the LNG storage agreement requested by AEMO must be negotiated in good faith. The LNG Storage Provider must respond to any request for an amendment within 10 business days after receiving the request.

(4) If, at the end of 15 March of any relevant year, there is any uncontracted LNG storage capacity in relation to an LNG storage facility for the upcoming winter months, AEMO must contract for use of the uncontracted LNG storage capacity, and purchase gas for storage as LNG and vaporisation in accordance with the Rules, with the objective of achieving and maintaining LNG stock over the winter months of the relevant year at the target level determined in accordance with subrule (5).

(5) The target level is:

(a) the highest level reasonably possible; or

(b) such other level determined by AEMO and approved by the Minister of the adoptive jurisdiction under subrule (6).

(6) For the purposes of subrule (5)(b), AEMO may, if it considers that there are extraordinary circumstances warranting a target level that is less than the highest level reasonably possible, apply to the Minister of the adoptive jurisdiction for approval of a different target level.

(7) AEMO may contract in accordance with subrule (4) for use of any uncontracted LNG storage capacity for the winter months of a relevant year that becomes available after 15 March of that year.

(8) AEMO must publish, in accordance with the LNG reserve procedures, information relating to the amount of uncontracted LNG storage capacity contracted for use by AEMO under subrules (4) and (7).

(9) This rule does not affect AEMO's power to enter into LNG storage agreements at any other time.

(10) In this rule, 'relevant year' means each of 2023, 2024 and 2025.

283 [Deleted]

284 Vaporisation of LNG and LNG injection bids

(1) Subject to subrule (2) and rule 285, AEMO must schedule LNG injection bids in accordance with the provisions of Division 2, Subdivision 2.

(2) AEMO must call on LNG injection bids by issuing scheduling instructions directly to an LNG Storage Provider and, to avoid doubt, AEMO is not required to issue scheduling instructions to Market Participants in respect of their LNG injection bids.

285 ~~[Deleted]~~ Utilising the LNG reserve

(1) AEMO may utilise the LNG reserve by issuing scheduling instructions to an LNG Storage Provider to vaporise LNG stock held by the LNG Storage Provider on AEMO's behalf at such times and in such quantities as AEMO may reasonably consider necessary or desirable to ensure the security of the declared transmission system and to satisfy AEMO's operational requirements.

(2) The gas scheduling procedures must contain procedures relating to the utilisation of the LNG reserve.

(3) Without limiting the generality of subrule (2), the gas scheduling procedures:

(a) must give effect to the principle that LNG stock held on behalf of AEMO should ordinarily be scheduled after LNG stock held on behalf of Market Participants;

(b) must provide for AEMO to place bids for injections of gas from the LNG reserve at a price equal to VoLL; and

(c) may allow AEMO to:

(i) impose conditions in relation to the scheduling of gas from the LNG reserve; and

(ii) provide a demand forecast; and

(d) may deem AEMO to have accreditation for the purposes of all or any provision of Division 2.

(4) Any losses or proceeds from the utilisation of the LNG reserve, including on account of any imbalances, deviations, ancillaries or uplift, must be included in the linepack account.

286 [Deleted] Disposing of the LNG reserve

(1) AEMO may, in accordance with the LNG reserve procedures, relinquish to an LNG Storage Provider LNG storage capacity acquired by AEMO if a Market Participant acquires or proposes to acquire that capacity.

(2) AEMO may, in accordance with the LNG reserve procedures, transfer to a Market Participant LNG stock held on behalf of AEMO if the Market Participant has acquired a right to store the stock in an LNG storage facility.

(3) AEMO must, in accordance with the LNG reserve procedures, publish information relating to the amount of LNG storage capacity relinquished, and LNG stock transferred, under this rule.

286A LNG reserve procedures

(1) AEMO must make Procedures (**LNG reserve procedures**) relating to contracting for LNG storage capacity under rule 282, the acquisition of natural gas for storage as LNG and the disposal of the LNG reserve under rule 286.

(2) Without limiting the generality of subrule (1), the LNG reserve procedures may deal with:

(a) the publication of information relating to the amount of:

(i) uncontracted LNG storage capacity contracted for use by AEMO under rule 282; and

(ii) LNG storage capacity relinquished, and LNG stock transferred, under rule 286;

(b) the terms and conditions on which the LNG reserve and associated LNG stock may be disposed of;

(c) how the price of LNG stock transferred to a Market Participant under subrule 285(2) will be determined; and

(d) how the proceeds from the disposal of the LNG reserve and associated LNG stock will be used.

Transitional rules for the Schedule

[1] Commencement of rule 282

(1) For new subrule 282(1), AEMO and an LNG Storage Provider are not required to have an LNG storage agreement in force until 14 March 2023.

(2) Despite subrule (1), AEMO and an LNG Storage Provider must, at the request of AEMO, use reasonable endeavours to agree by 1 March 2023 a gasification schedule that will allow AEMO to commence storing LNG under the LNG storage agreement on and from 15 March 2023.

[2] Establishing an agreement for use of uncontracted LNG storage capacity

(1) An LNG Storage Provider must give to AEMO an offer that complies with subrule (4) no later than 31 December 2022.

(2) If requested by AEMO, an LNG Storage Provider must negotiate in good faith the terms of an offer under subrule (1) or a revised offer under subrule (3).

(3) An LNG Storage Provider must give to AEMO a revised offer that complies with subrule (4) and that reflects the outcome of good faith negotiations under subrule (2) within a reasonable time of a request from AEMO for the revised offer and in any event not later than 5 business days after the request.

(4) An offer under subrule (1) and any revised offer under subrule (3) must be in a form that, if accepted by AEMO, will give rise to a binding LNG storage agreement that satisfies the requirements of subrule 282(2).

(5) AEMO is not required to be satisfied that an offer under this rule complies with subrule (4) before accepting it. The acceptance by AEMO of an offer is not evidence that an LNG storage agreement satisfies the requirements of subrule 282(2).

[3] Initial Procedures

(1) AEMO must make and publish the initial LNG reserve procedures and the amended gas scheduling procedures relating to the utilisation of the LNG reserve by 1 March 2023.

(2) For the purposes of Part 15B, information and notices published by AEMO and consultation undertaken by AEMO in relation to proposed LNG reserve procedures and proposed amended gas scheduling procedures before the commencement of the [insert name of the amending rules] is taken to satisfy the requirements for publication and consultation under rules 135EE and 135EF, if and to the extent that publication and consultation would have satisfied those requirements if it had been conducted after that date.

[4] Major gas project

The commencement of new rule 282 is taken to have been determined to be a major gas project under subrule 135CB(1) and AEMO is entitled to recover through participant fees expenditure incurred by AEMO under that new rule. The period or periods over which recovery will occur will be determined by AEMO using the *standard consultative procedure*. If any amounts associated with the commencement of new rule 282 are to be recovered before the next general determination of all participant fees under rule 135CA, such recovery must be through an additional participant fee determined using the *standard consultative procedure*.