AEMC

RULE

Australian Energy Market Commission

DRAFT RULE DETERMINATION

NATIONAL GAS AMENDMENT (DWGM IMPROVEMENT TO AMDQ REGIME) RULE 2019

PROPONENT

Victorian Minister for Energy, Environment and Climate Change

05 SEPTEMBER 2019

INQUIRIES

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Reference: GRC0051

CITATION

AEMC, DWGM Improvement to AMDQ regime, Draft rule determination, 05 September 2019

ABOUT THE AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

SUMMARY

1 The Australian Energy Market Commission (AEMC or Commission) has made a more preferable draft rule that amends the National Gas Rules to replace the current authorised maximum daily quantity (AMDQ) regime in the Victorian declared wholesale gas market (DWGM) with a new entry and exit capacity certificates regime. These certificates can be purchased by market participants at a primary auction run by AEMO to gain the benefits of injection and withdrawal tie-breaking, congestion uplift protection and some limited curtailment protection. These certificates will be auctioned for a range of tenures, including seasonal, annual and long term.

2 The draft rule was made in relation to a rule change request submitted by the Victorian Minister for Energy Environment and Climate Change that aimed to improve the current AMDQ regime in the Victorian DWGM.

3 Background and rationale

4 On 5 November 2018, the AEMC received three rule change requests from the Victorian Minister for Energy Environment and Climate Change to amend the National Gas Rules (NGR). The rule change requests proposed the following changes:

- introduce a simpler wholesale gas price for the DWGM in Victoria (*DWGM simpler wholesale price*)
- establish a forward trading exchange which will make it easier for buyers and sellers to trade gas and lock in a future price in the Victorian gas market (*DWGM forward trading market*)
- improve the allocation and trading of pipeline capacity rights (*DWGM improvement to AMDQ regime*).

5 These requests were generally based on recommendations made by the AEMC in June 2017,[1] as part of the *Review of the Victorian declared wholesale gas market* final report (DWGM Review).[2]

6 To address the issues related to the trading and allocation of pipeline capacity rights, the following changes were proposed in order to improve the existing AMDQ regime:

1. introduce separate, tradable entry AMDQ rights and exit AMDQ rights
2. introduce an exchange to improve secondary trading of AMDQ rights (permanent transfer) and benefits (temporary transfer)
3. make AMDQ available for a range of different tenures.

7 Features of the more preferable draft rule

8 The Commission has made a more preferable draft rule.

9 From the commencement of the next Declared Transmission System (DTS) access

1 The exception to this is the *DWGM simpler wholesale price* rule change request, which proposes a different amendment from the recommendation made in the *DWGM Review*.

2 AEMC, *Review of the Victorian declared wholesale gas market*, final report, 30 June 2017.

arrangement period in January 2023, the draft rule retires the current instruments of authorised MDQ and AMDQ credit certificates (AMDQ cc), and replaces these with:

1. entry capacity certificates that provide injection tie-breaking benefits
2. exit capacity certificates that provide withdrawal tie-breaking benefits and congestion uplift protection
3. uncontrollable exit capacity certificates that provide congestion uplift protection and limited curtailment protection.

10 AEMO will be required to conduct system capability modelling at least annually to determine the maximum amount of capacity available for allocation of capacity certificates.

11 The first allocation of capacity certificates in respect of existing and new capacity will occur via a primary auction.

12 The primary auction will be operated by AEMO and managed by similar requirements as for the current auctions of AMDQ cc. The auctions will be run on a sealed bid, pay as cleared basis with a reserve price of zero. AEMO is required to make capacity certificates auction procedures that will define the details of the certificates and auctions, which will involve industry consultation in their establishment and any subsequent revision.

13 The draft rule also requires AEMO to take the initial steps to create a secondary trading platform for capacity certificates. AEMO is required to propose an amendment to the exchange agreement by 1 January 2022 to facilitate secondary trading of capacity certificates through the gas trading exchange.

14 Bilateral trades outside the platform will also still be allowed, however, these trades will be required to be registered with AEMO in accordance with the requirements AEMO sets out in capacity certificates transfer procedures.

15 Benefits of the more preferable draft rule

16 Having regard to the issues raised in the rule change request, the Commission is satisfied that the more preferable draft rule is likely to better contribute to the achievement of the National Gas Objective by affording a number of benefits. The draft rule:

- improves the ability of market participants to obtain certificates to manage scheduling risk through tie-breaking, as well as financial risks through congestion uplift protection
- encourages more efficient use of pipeline capacity by allowing market participants to buy a set of entry and exit certificates, through auctions, that gives greater price and volume certainty to their preferred transportation pathways
- requires steps towards a secondary trading platform, which will reduce the search and transaction costs associated with trading certificates in the DWGM
- improves and simplifies current arrangements, which may encourage new entrants and promote competition in upstream and downstream markets.

17 Legacy arrangements

18 The changes in the draft rule do not affect current holders of AMDQ cc as these expire before

the commencement of the new regime.[3]

19 The draft rule does not convert any legacy holdings of authorised MDQ into capacity certificates under the new regime.

20 Authorised MDQ has been defined as a withdrawal right. However, in 2007 an injection test at Longford was introduced in order to align the treatment of authorised MDQ and AMDQ cc. In practice, this means that, currently, authorised MDQ holders enjoy both entry and exit benefits. An important element of the new regime is to separate entry and exit benefits and to enable allocation to their highest value use. Therefore, the allocation of entry benefits should not be based on the withdrawals of a market participant or customer.

21 Furthermore, the new regime:

- simplifies the framework by removing the distinction between authorised MDQ and AMDQ cc
- allows for a more efficient creation and allocation of capacity certificates
- creates a level playing field for all market participants to obtain capacity certificates through primary auctions, which allows them to be allocated to those that value those most and promote efficient use of pipeline capacity
- promotes price discovery through regular auctions, with prices to be published for each capacity certificate product providing market participants with information on the value of each product. Further, if a secondary trading platform is developed, this will provide up to date information on the price and quantities of any secondary trading of capacity certificates.

22 The Commission has decided not to grant entry or exit capacity certificates under the new regime to current holders of authorised MDQ, including tariff D customers, for a number of reasons:

- Authorised MDQ is a statutory bundle of rights that was conferred on customers in order to facilitate the working of the regulated DWGM market mechanism, and therefore, has always been susceptible to modification or extinguishment by amendment of the NGR.
- Current holders of authorised MDQ have benefited from these holdings for over 20 years, and by the time the new capacity certificates regime commences in 2023, they would have benefited for 24 years, which is a considerably long transition period.
- Analysis showed that the current allocations of authorised MDQ to tariff D customers are inefficient (where some tariff D customers hold authorised MDQ far in excess of their withdrawals on peak days, while others are not able to obtain it easily) and therefore should not be the starting point for the new regime.

23 Authorised MDQ relating to tariff V customers has always been held by AEMO and dynamically allocated to retailers. Therefore, there are no ownership rights that are held by consumers. For this reason, there is no need to grant uncontrollable exit capacity certificates

3 Except for 30 TJ of AMDQ cc at Culcairn, which has been allocated until 30 June 2023 and as a result, a transitional rule of the draft rule converts this allocation into an equivalent capacity certificate, being an entry capacity certificate at Culcairn, for this additional period.

to consumers.

24 Implementation

25 Under the draft rule, the new regime will commence on 1 January 2023, which is consistent with the start of the next DTS access arrangement period. To allow market participants time to prepare, the first auction of the new certificates must be conducted prior to this date. Prior to the first auction, AEMO is required to amend existing procedures and make new procedures required by the draft rule and to conduct the first system capability modelling. AEMO is also required to propose an amendment to the exchange agreement by 1 January 2022 to facilitate secondary trading of capacity certificates through the gas trading exchange.

26 Consultation

27 The Commission welcomes submissions on this draft determination and the more preferable draft rule by **24 October 2019.**

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1 VICTORIAN MINISTER FOR ENERGY ENVIRONMENT AND CLIMATE CHANGE'S RULE CHANGE REQUEST

1.1 The rule change request

On 5 November 2018, the Australian Energy Market Commission (AEMC or Commission) received three rule change requests from the Victorian Minister for Energy, Environment and Climate Change to amend the National Gas Rules (NGR).[4] The rule change requests proposed the following changes:

- introducing a simpler wholesale gas price for the Declared Wholesale Gas Market (DWGM) in Victoria
- establishing a forward trading exchange which will make it easier for buyers and sellers to trade gas and lock in a future price in the Victorian gas market
- improving the allocation and trading of pipeline capacity rights.

These requests were based on recommendations made by the AEMC in June 2017, as part of the Review of the Victorian declared wholesale gas market final report (*DWGM Review*).[5]

To address the issues related to the trading and allocation of pipeline capacity rights, the following changes were proposed in order to improve the existing authorised maximum daily quantity (AMDQ) regime in the DWGM:

1. introduce separate, tradable entry AMDQ rights and exit AMDQ rights
2. introduce an exchange to improve secondary trading of AMDQ rights (permanent transfer) and benefits (temporary transfer)
3. make AMDQ available for a range of different tenures.

1.2 Current arrangements

1.2.1 Non-firm capacity rights

The Victorian DTS is the only gas transmission system operating under a market carriage model in eastern Australia.[6] Under the market carriage model, market participants utilising the DTS cannot contract for firm capacity on a pipeline and are instead implicitly allocated capacity through the DWGM when they bid or offer to buy or sell gas (or forecast their uncontrollable demand) in the DWGM.

Because market participants cannot secure firm capacity rights, they have limited incentive to underwrite capacity in the DTS, as other market participants may "free-ride" by gaining

4 Additional information regarding these rule change requests can be found on the respective project pages on the AEMC website. *DWGM simpler wholesale price* at https://www.aemc.gov.au/rule-changes/dwgm-simpler-wholesale-price *DWGM forward trading market* at https://www.aemc.gov.au/rule-changes/dwgm-forward-trading-market

5 AEMC, *Review of the Victorian declared wholesale gas market*, final report, 30 June 2017.

6 Market carriage in Victoria (and its difference to contract carriage elsewhere) is covered in detail in AEMC, *Victorian DWGM Background Paper, 14 March 2019*.

access to that capacity through the DWGM.[7] However, they may hold authorised MDQ or AMDQ cc (collectively known as AMDQ),[8] which provides some limited physical and financial market benefits.

The amount of AMDQ available is consistent with the physical capacity of the system, meaning that under normal operating conditions (that is, other than when there is transmission equipment failure or another significant issue on the network) the physical and financial market benefits provided by AMDQ can be honoured.

AMDQ are specific point-to-point rights, with the benefits only applying when market participants are injecting and withdrawing at specific locations. Authorised MDQ refers to injections at Longford into the Longford to Melbourne pipeline. AMDQ cc is associated with a particular injection point and market participants nominate a quantity of AMDQ cc to the reference hub,[9] to specific customer sites or to a system withdrawal point at an interconnected facility.[10]

AMDQ can also be re-allocated between locations and market participants under certain circumstances and following specific procedures.

1.2.2 Benefits associated with AMDQ

As noted in the *Background Paper*, there are two different types of market benefits that are associated with holding AMDQ:

- **Physical access benefits:** holders of AMDQ receive pipeline access benefits above non-AMDQ holders during periods of pipeline congestion (injection tie-breaking benefits; withdrawal tie-breaking benefits and curtailment rights in emergencies).
- **Financial benefits:** market participants can use part or all of their AMDQ to partially hedge against congestion uplift charges.[11]

This section provides a brief overview of the current arrangements on tie-breaking rights and congestion uplift hedge, which are more relevant to this rule change request.

Injection and withdrawal tie-breaking benefits

The gross pool market design of the DWGM means that, each day, in order to gain access to the DTS, market participants are required to submit bids for controllable withdrawals, forecasts for uncontrollable withdrawals and offers for injections. AEMO matches supply with demand, and schedules the market based on the lowest price required to meet all demand. When there are equally priced bids, for gas injections or withdrawals, and only some of the

7 As access to the DTS is allocated on the basis of DWGM market outcomes, market participants cannot obtain exclusive access rights. The lack of such rights to use the DTS means that individual market participants have limited incentives to underwrite investments in the system. Other market participants would also benefit from a capacity expansion without having contributed to its costs, and may even be able to usurp the funding participant's ability to use it.

8 Authorised MDQ and AMDQ cc are collectively known as AMDQ. Throughout this chapter, the distinction between authorised MDQ and AMDQ cc is relevant. Consequently, this consultation paper will refer to authorised MDQ and AMDQ cc when referring to the specific right, and AMDQ when referring to the both authorised MDQ and AMDQ cc.

9 The reference hub is a notional site within the DTS established for the purpose of valuing AMDQ and AMQD cc, also referred to as the Melbourne AMDQ node. See AEMO, *AMDQ transfer algorithms*, 3 April 2012, p. 4.

10 AEMO, *Wholesale Market AMDQ procedures (Victoria)*, 25 October 2016, pp.16-17.

11 AEMC, *Victorian DWGM Background Paper*, 14 March 2019.

combined total bid quantity at that price is required or can physically be delivered into or from the system, a participant holding AMDQ at that location will be scheduled in priority to a participant without AMDQ.

While tie-breaking benefits are effective at any price, they are most typically used at the floor and cap prices. This is because many market participants purchase gas outside of the DWGM/DTS and so seek to purchase their own gas off themselves for delivery within the DTS. To do this, they offer at the market floor price ($0/GJ) and bid at the market price cap ($800/GJ). As such, a lot of gas is bid/offered at these prices, and so tie-breaking benefits are used to determine access between gas at these prices (when it is necessary to do so) because not all the gas at this price can be/needs to be scheduled.

Congestion uplift hedge

To recover ancillary payments caused by congestion on the DTS, congestion uplift is charged to market participants who have exceeded their allocation of AMDQ in a scheduling interval (that is, exceeded their Authorised Maximum Interval Quantity (AMIQ)).[12] Market participants who hold AMDQ can use part or all of their allocation to hedge against those congestion charges, up to their AMIQ.

1.3 Rationale for the rule change request

In the rule change request, the Victorian Minister for Energy Environment and Climate Change sought to reduce the complexity of AMDQ regime and make it easier for participants to secure and trade AMDQ rights, as well as being a step towards providing better signals for capacity usage to help to facilitate market-led investment.

The proponent noted that the existing AMDQ regime is causing the following issues[13] for DWGM participants and potential new entrants:

- **AMDQ do not provide firm capacity rights —** this can reduce the incentive for market-led investment. For these reasons, most of the investment in the DTS occurs through the regulatory process:
  - Market-led investment in DTS capacity to create new AMDQ is susceptible to free-riding, because the DWGM provides open access (subject to the tie-breaking and curtailment rights).
  - Participants may not be able to nominate newly acquired AMDQ to their preferred withdrawal point, even if they have underwritten the investment, should another participant nominate their AMDQ to that withdrawal point first.[14]
- **The AMDQ regime is complex —** these complexities are making it difficult for both existing DWGM participants and potential new entrants to understand and use AMDQ.

12 Each market participant's AMDQ uplift hedge is converted to schedule interval quantities using their nominated AMIQ profile (that is, how much AMDQ that participant expects to use in each schedule interval) to effectively create a hedge generated on an interval basis.

13 Victorian Minister for Energy, Environment and Climate Change, *DWGM Improvement to AMDQ regime*, rule change request (rule change request), pp. 3-4.

14 The nomination process is first-come-first serve, with AEMO processing viable nomination requests in the order they receive them.

- **Restrictions on the ability of market participants to trade AMDQ —**
  - Authorised MDQ at Longford for tariff V customers (residential and small business loads) is dynamically allocated to retailers based on customer numbers, and cannot be traded. Therefore, the participants with authorised MDQ may not have gas to inject at Longford (because they are sourcing their gas from another location) despite notionally holding capacity related to the Longford to Melbourne pipeline.
  - The processing time for AMDQ trades is lengthy at around six business days. This is prohibitive for shorter term trades.
  - Search and transaction costs are high. Participants must find each other bilaterally to trade.
  - AMDQ are created or obtained as a point-to-point right between the injection point and the reference hub (Melbourne). Participants can then nominate a different withdrawal point, subject to locational and diversity factors.[15] A participant currently does not have any guarantee, when they obtain AMDQ, that it will be able to transfer the withdrawal tie-breaking rights to its preferred location.
- **AMDQ are conservatively calculated —** AMDQ are released for long periods of time (generally five years in the case of AMDQ cc or indefinitely in the case of authorised MDQ) and are consistent with the physical capacity for the DTS. In order to guarantee that the physical rights provided by AMDQ can be honoured, under normal operating conditions, the maximum amount of AMDQ that can be released is conservatively calculated based on the forecasts of the lowest capacity available over the five-year period at peak load conditions.

1.4 Solution proposed in the rule change request

In order to address the issues related to the AMDQ regime in the DWGM, the rule change request[16] proposed the following changes, which are based on the AEMC's recommendation in its final report of the *DWGM Review*:

1. introduce separate, tradable entry AMDQ rights and exit AMDQ rights
2. introduce an exchange to improve secondary trading of AMDQ rights (permanent transfer) and benefits (temporary transfer)
3. make AMDQ available for a range of different tenures.

The proponent has also indicated that the proposed changes are expected to reduce the complexity of AMDQ regime and make it easier for participants to secure and trade AMDQ rights, as well as being a step towards providing better signals for capacity usage to help facilitate market-led investment.

In addition, according to the proponent,[17] the proposed changes would contribute to the national gas objective (NGO) in the following manner:

15 AEMO, *AMDQ transfer algorithms for the transfer of authorised MDQ and AMDQ credit certificates*, 3 April 2012.
16 Rule change request, pp. 4-5.
17 Rule change request, p. 11.

- Improving pipeline capacity rights allocation and improving capacity rights trading should better enable market participants to manage scheduling risk, and allow for the more efficient allocation of capacity rights between market participants.
- It may also assist in signalling when further investment in pipeline infrastructure is needed, should scarcity arise in AMDQ rights. To the extent that this information can then be factored into investment decisions and timings around pipeline augmentation, this may also improve the dynamic efficiency of the Victorian gas sector.
- Finally, the proposed reforms will assist in contributing to the further development of the east coast gas market more broadly, which is guided by the COAG Energy Council's gas market vision statement and the reform "target model" set out by the AEMC in its *DWGM Review*.[18]

The proponent did not include a proposed rule.

1.5 Relevant background

The proposed rule change is based on the recommendations made by the AEMC in the final report of the *DWGM Review*.[19]

1.5.1 Review of the Victorian Declared Wholesale Gas Market

On 14 July 2017 the Commission published its final recommendations to reform the Victorian declared wholesale gas market (DWGM).[20]

The Commission recommended that in the short term the DWGM be improved in the following ways:

1. Provide a cleaner wholesale market price by including the costs currently intended to be recovered by common and congestion uplift in the market price, while retaining separate pricing of temporal constraints.[21]
2. Establish a forward trading exchange over the Victorian declared transmission system (DTS) while retaining the existing daily DWGM.
3. Improve pipeline capacity allocation and introduce capacity rights trading by:
   - introducing separate, tradable entry AMDQ rights and exit AMDQ rights
   - introducing an exchange to improve secondary trading of AMDQ rights (permanent transfer) and benefits (temporary transfer)
   - making AMDQ available for a range of different tenures.

However, over the longer term, the Commission recommended further assessment of whether more significant market reform to the Commission's target model is necessary to more fulsomely meet the objectives of the review.

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18 A summary of the recommended target model can be found on AEMC, *Victorian DWGM Background Paper*, 14 March 2019, p. 27.

19 AEMC, *Review of the Victorian declared wholesale gas market*, final report, 30 June 2017.

20 AEMC, *Review of the Victorian declared wholesale gas market*, final report, 30 June 2017.

21 The *DWGM simpler wholesale price* rule change request proposes a different amendment from the recommendation made in the *DWGM Review.*

1.6 The rule making process

On 14 March 2019, the Commission published a notice advising of its commencement of the rule making process and consultation in respect of the rule change request.[22]

A consultation paper identifying specific issues for consultation was also published. Submissions closed on 26 April 2019. The Commission received 11 submissions as part of the first round of consultation.

The AEMC also held a stakeholder workshop in Melbourne on 16 May 2019 with a wide range of participants.

The Commission considered all issues raised by stakeholders in submissions and feedback provided at the workshop. They are discussed and responded to throughout this draft rule determination.

On 13 June 2019 the Commission published a notice under s. 317 of the NGL to extend the publication date of the draft determination to 5 September 2019. The Commission considers that this extension is necessary due to the complexity of the issues raised in the rule change request.

1.7 Consultation on draft rule determination

The Commission invites submissions on this draft rule determination, including a more preferable draft rule by **24 October 2019**.

Any person or body may request that the Commission hold a hearing in relation to the draft rule determination. Any request for a hearing must be made in writing and must be received by the Commission no later than 12 September 2019.

Submissions and requests for a hearing should quote project number **GRC0051** and may be lodged online at www.aemc.gov.au.

22 This notice was published under s. 308 of the National Gas Law (NGL).

2 DRAFT RULE DETERMINATION

This chapter outlines:

- the Commission's draft rule determination
- the rule making test for changes to the NGR
- the assessment framework for considering the rule change request
- the Commission's consideration of the draft rule against the national gas objective
- the interactions with the *DWGM simpler wholesale price* rule change.

2.1 The Commission's draft rule determination

Having considered views expressed by stakeholders in submissions and undertaken further analysis on the likely benefits of the proposed rule change, the Commission has determined to make a more preferable draft rule to address the issues identified in the rule change request, which incorporates a number of the elements of the solutions proposed by the Victorian Minister for Energy Environment and Climate Change.

The more preferable draft rule made by the Commission is published with this draft rule determination. The key features of the more preferable draft rule are set out below.

Key features of the more preferable rule

From the commencement of the next DTS access arrangement period in January 2023, the draft rule retires the current instruments of authorised MDQ and AMDQ cc, and replaces these with a new capacity certificates regime (consisting of entry capacity certificates, exit capacity certificates and uncontrollable exit capacity certificates). The draft rules make a range of changes to achieve this including:

- omitting definitions related to authorised MDQ and AMDQ cc,
- inserting new definitions, including for entry capacity certificates, exit capacity certificates and uncontrollable exit capacity certificates based on the benefits they provide,[23]
- requiring AEMO to conduct system capability modelling at least annually to determine the maximum amount of capacity available for allocation of capacity certificates.[24]

The changes do not affect current holders of AMDQ cc as these expire before the commencement of the new regime on 1 January 2023.[25] The Commission has decided not to grant capacity certificates under the new regime to current holders of authorised MDQ, including tariff D customers, in order to simplify the framework by removing the distinction between authorised MDQ and AMDQ cc and to create a level playing field for market participants to obtain the benefits of injection and withdrawal tie-breaking, congestion uplift protection and curtailment protection in limited circumstances.

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23 See rule 200 of the Amending Rule.

24 See rule 328 of the Amending Rule.

25 Except for 30 TJ of AMDQ cc at Culcairn has been allocated until 30 June 2023 and as a result, a transitional rule of the Draft rule converts this allocation into an equivalent capacity certificate, being an entry capacity certificate at Culcairn, for this additional period.

The allocation of capacity certificates in respect of existing and new capacity will occur via the capacity certificates auction to enable the primary allocation of capacity certificates.[26]

The capacity certificates auction will be operated by AEMO and managed by similar requirements as for the current auctions of AMDQ cc. The draft rule introduces a number of requirements to implement the primary auctions, including the following:

- AEMO is required to allocate capacity certificates via a capacity certificates auction[27]
- AEMO is required to make capacity certificates auction procedures, which will involve industry consultation in their establishment and any subsequent revision. The procedures must include:[28]
    - details of the auction products and an indication of how much of each will be available
    - the timing of auctions in respect of each type of auction product
    - location of the capacity certificates zones and auction products associated with each zone
    - billing and settlement requirements
    - information to be published before and after each auction.
- AEMO is required to auction long term, annual and seasonal products, but may also choose other products to be auctioned, provided the minimum requirements are met.[29]
- Participation in the auctions is restricted to market participants and allows AEMO to specify other eligibility criteria in the capacity certificates auction procedures.[30]
- The key design elements of the auction include that it will have a reserve price of zero and be run on a sealed bid, pay as cleared basis.[31]

The draft rule also requires AEMO to take the initial steps to create a secondary trading platform for capacity certificates. Infrastructure from the current capacity trading platform could be shared with the new secondary trading platform to deliver an 'any time' trading capability with similar products. This is expected to minimise development costs.

AEMO is required to propose an amendment to the exchange agreement by 1 January 2022 to facilitate secondary trading of capacity certificates through the gas trading exchange.[32] Bilateral trades outside the auction or secondary trading platform will still be allowed, although these trades will be required to be registered with AEMO in accordance with the requirements specified by AEMO in the capacity certificates transfer procedures.[33]

The draft rule is a more preferable rule because:

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26 See rules 328A and 328B of the Amending Rule.

27 The current exception in the NGR that AEMO is required to allocate capacity certificates at the direction of the declared transmission system service provider in specified circumstances remains. See rules 329A-329D of the Amending Rule.

28 See rule 328B(8), (9) and (11) of the Amending Rule.

29 See rule 328B(9) of the Amending Rule.

30 See rule 328B(3) of the Amending Rule.

31 See rules 328B(5), (6) and (7) of the Amending Rule.

32 See rule 69 in Schedule 2 of the Amending Rule.

33 See rule 331 of the Amending Rule.

- it retires the current concepts of authorised MDQ and AMDQ cc (AMDQ generally) and extinguishes current holdings of authorised MDQ
- it does not distinguish between a permanent transfer and a temporary transfer of benefits, as this distinction is no longer necessary as the current concept of authorised MDQ is extinguished and any bilateral trades will constitute a permanent transfer (for the period specified in the transfer)
- it does not require AEMO to implement a secondary trading platform, but instead, it requires AEMO to consider it by proposing an amendment to the exchange agreement under Part 22 of the NGR.

The Commission's reasons for making this draft determination are set out in section 2.4.

More details of the more preferable draft rule are also set out in chapters 4, 5 and 6 of this draft determination.

Further information on the legal requirements for making this draft rule determination is set out in Appendix A.

2.2 Rule making test

2.2.1 Achieving the NGO

The Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the national gas objective (NGO).[34] This is the decision-making framework that the Commission must apply.

The NGO is:[35]

> 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, safety, reliability and security of supply of natural gas.

2.2.2 Making a more preferable rule

Under s. 296 of the NGL, the Commission may make a rule that is different (including materially different) to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule will or is likely to better contribute to the achievement of the NGO.

In this instance, the Commission has made a more preferable rule. The reasons are summarised below.

2.3 Assessment framework

In assessing the rule change request against the NGO the Commission has considered the following criteria:

34 Section 291(1) of the NGL.
35 Section 23 of the NGL.

- **Effective risk management in the DWGM —** whether market participants are able to manage price and volume risk and options to improve the effectiveness of risk management activities.
- **Signals and incentives for efficient investment in and operation and use of pipeline capacity —** whether investment in, operation of and use of the DTS will occur in an efficient and timely manner and options to strengthen the signals and incentives for efficient investment in, operation of and use of the DTS.[36]
- **Trading between the DWGM and interconnected pipelines —** whether the current DWGM arrangements inhibit trading of gas between the DTS and interconnected facilities and pipelines, and options to allow producers and shippers to effectively operate across gas trading hubs on the east coast without incurring substantial transaction costs.
- **Promoting competition in upstream and downstream markets —** whether the DWGM continues to encourage the introduction of new gas supplies to the market and promote competition among retailers for the sale of gas, and the extent to which the design of the DWGM may be a deterrent to large users participating in the market.
- **Regulatory and administrative burden —** whether the cost of implementing the proposed solutions is proportional to the costs of managing the issues it is trying to resolve.

2.4 Summary of reasons

The Commission has assessed whether the proposed rule change request will, or is likely to, contribute to the achievement of the NGO and has evaluated the proposed rule change request against the assessment framework set out above.

2.4.1 Design considerations

The design of the new regime has been formulated to avoid significant cost outlays by AEMO and market participants. In addition, the following issues were taken into account when designing the new regime:

The unique characteristics of the DTS: unlike other gas systems in Australia, the Declared Transmission System (DTS) presents some unique physical characteristics that affect its operation and the nature of the transmission services it can provide. The network is meshed with many sources of supply and it has a demand centre that is highly temperature sensitive, creating large daily swings in demand.[37] It features little active linepack capacity to manage imbalances on many days of the year, and in fact often the entire capability of the system is needed to manage the daily swing in load.

36 The NGO is structured to encourage energy market development in a way that supports the: 1. efficient allocation of natural gas and transportation services to market participants who value them the most, typically through price signals that reflect underlying costs; 2. provision of, and investment in, physical gas and transportation services at lowest possible cost through employing the least-cost combination of inputs; 3. ability of the market to readily adapt to changing supply and demand conditions over the long-term by achieving outcomes 1 and 2 over time. These three outcomes are commonly referred to as allocative, productive and dynamic efficiency, respectively.

37 For more information on the DTS, please refer to AEMC, *Victorian DWGM Background Paper*, 14 March 2019.

The complexity of the Victorian DWGM: the Victorian gas market is complex, and there are many interdependencies between aspects of the market and aspects of system management. Rule changes of this type need to jointly address strong interdependencies between physical system management, commercial behaviour, and rules and procedures relating to: (1) AMDQ, (2) pricing, (3) ancillary payments and (4) uplift payments. The best solutions can often touch all of these areas, and changes to one area can have implications for others.

Transportation rights and the dynamics of zoning: the new regime will need to be accommodating of dynamic zoning that might be fixed within an access arrangement period, but that otherwise may need to adjust to accommodate changing behaviour and industry investment.

The trade and transfer of capacity certificates: as industry continues to evolve, capabilities to trade and transfer capacity certificates will continue to be required to ensure a capability to manage changes in its diverse commercial and physical operations.

Diversity in the demand for transmission services: diversity in the demand for transmission services means the new regime should enable firm use of the greatest amount of capacity across the entire year, not just at the time of peak winter demand in an extreme use scenario.

Signals for investment in new capacity and innovation: changes to the AMDQ regime should consider information needs to enable signalling for long term pipeline capacity investment as well as for innovation in the products and services that may use this capacity. The method and process according to which capacity certificates are created, allocated and traded should support the routine and timely publication of information to provide signals for investment in new transmission capacity and for related products and services.

Resilience to change: the new regime should be resilient to change, including the accommodation of continuing changes in investment, innovation and consumer needs, in a context of wholesale and retail competition, private ownership of infrastructure and interconnected gas and electric markets.

2.4.2 Reasons for making the more preferable draft rule

Having regard to the issues raised in the rule change request and during consultation, the Commission is satisfied that the more preferable draft rule will, or is likely to, better contribute to the achievement of the NGO for the reasons set out below against the assessment framework.

Effective risk management in the DWGM

Improving the capacity certificates regime should better enable market participants to manage scheduling risk through tie-breaking rights, as well as financial risks through congestion uplift protection.

Signals and incentives for efficient investment in and operation and use of pipeline capacity

Overall we expect investment in the DTS to continue to be driven by the regulatory determination process. The changes proposed will not detract from the current process and information from the improved regime (e.g. value of exit capacity certificates) in different zones may provide an additional signal for investment in capacity.

The new regime can encourage more efficient use of existing pipeline capacity by allowing market participants to hold a set of entry and exit certificates that gives greater price and volume certainty to their preferred transportation pathways.

Trading between the DWGM and interconnected pipelines

To the extent that separating AMDQ into entry and exit capacity certificates better facilitates market participants securing (non-firm) access to interconnected facilities, this may allow for improved trading between the DWGM and those facilities.

The secondary trading platform for capacity certificates may improve trading between regions, as participants would find it easier to obtain capacity certificates and have greater certainty of being scheduled in the DWGM, which would support trading decisions.

Promoting competition in upstream and downstream markets

Enhanced transparency and certainty in the ability of market participants to acquire capacity certificates at their preferred location could promote competition and reduce barriers to entry for new market participants.

To the extent the rule change improves simplicity of interacting with the DWGM this will encourage new supply sources (e.g. interstate gas supplies or potentially LNG imports) to participate.

Introducing capacity certificates of different tenures will give new participants greater flexibility to decide what tenure of entry or exit capacity certificates to buy. For example, a participant would no longer need to commit to 5 years of capacity certificates if they only need it for (for example) 3 months.

Regulatory and administrative burden

The improvements to the regime should reduce the regulatory and administration burden on market participants and tariff D customers. The AEMC has sought to minimise any new burdens, for example, by recommending the secondary trading platform make use of the infrastructure for capacity trading platform and the existing Trayport trading platform.

2.5 Interaction with DWGM simpler wholesale price rule change

As noted in the consultation paper, this rule change request is being considered in the context of other potential changes in the DWGM. The Commission also received a rule change request from the Victorian Government that seeks to introduce a simpler wholesale gas price for the DWGM in Victoria (*DWGM simpler wholesale price*).[38]

The *DWGM simpler wholesale price* rule change request proposes that congestion uplift charges be 'socialised' or 'spread' across market participants. In spreading congestion uplift, congestion uplift could be recovered using a pro-rata method (for example in the way that common uplift is recovered) or through another method to be defined.

In addition, AEMO on behalf of EnergyAustralia submitted a related rule change request on the *Application of constraints in the declared transmission system* which has been consolidated with the *DWGM simpler wholesale price* rule change request.

Spreading congestion uplift

The Commission has made a more preferable draft rule which does not spread congestion uplift as the original rule change request proposed. The Commission considers that that rule change proposal to socialise or spread congestion uplift payments across market participants would not support the NGO. While it may simplify risk management related to congestion uplift payments, it removes the ability of market participants to manage the risk of congestion uplift payments, and may increase the risk of system security issues in the DTS.

Instead, the more preferable draft rule removes the requirement for market participants to inject to nominate congestion uplift protection. This change applies to the new exit capacity certificates and uncontrollable exit capacity certificates created through the draft rule relevant to this determination. This makes it simpler for market participants to manage the risk of incurring congestion uplift payments as they can simply buy and hold these certificates and withdraw gas in accordance with the new congestion mechanism set out in the *DWGM simpler wholesale price* rule change.

Internalising withdrawal constraints in the pricing schedule

In practice there is unlikely to be any significant interaction between the rule change to internalise withdrawal constraints and the creation of separate entry and exit capacity certificates.

Under the current arrangements, the market clearing engine considers withdrawal bids that are physically constrained in determining the market price in the pricing schedule. As there is no mechanism to compensate, and therefore schedule an equivalent amount of unconstrained withdrawal bids below the market price, a quantity of injections equal to the amount of physically constrained withdrawals are necessarily de-scheduled.

The Commission decided to make a draft rule to internalise withdrawal constraints in determining the pricing schedule. This means that where some withdrawal bids are physically constrained, these bids will not be 'seen' by the market clearing engine in determining the

38 See the project page on *DWGM simpler wholesale price* at https://www.aemc.gov.au/rule-changes/dwgm-simpler-wholesale-price

market price. Consequently, the withdrawal quantities in the pricing schedule would be higher, and the market prices lower, than under the current arrangements.

It is possible that within the increased withdrawal quantity that is scheduled, withdrawal tie-breaking rights could have value in determining which withdrawals are scheduled in a case where withdrawal bids are tied. Market participants will continue to be scheduled on the basis of their bids and the benefits of tie-breaking will continue to apply where constraints are binding, or when multiple bids are equally beneficial to the schedule.

The Commission does not anticipate any adverse consequences arising from the interaction of both rule changes being implemented.

For further discussion of the rule change to internalise withdrawal constraints see Chapter 3 of the *DWGM simpler wholesale price* draft determination.[39]

DWGM forward trading market

The Commission has made a decision not to make a draft rule for the proposed *DWGM forward trading market* rule change request. The reasons behind the decision can be found in the *DWGM forward trading market* draft determination, which the Commission published on 4 July 2019.[40]

39 AEMC, *DWGM simpler wholesale price*, draft determination, 5 September 2019.

40 Documents relating to the *DWGM forward trading market* rule change are available on the AEMC website: https://www.aemc.gov.au/rule-changes/dwgm-forward-trading-market

3 ISSUES WITH CURRENT ARRANGEMENTS, PROPOSED SOLUTIONS AND STAKEHOLDER VIEWS

This chapter discusses the key issues with the current arrangements and the proposed solutions, as identified by the Victorian Minister for Energy, Environment and Climate Change, as well as stakeholder views based on submissions to the consultation paper.

The Commission's response is explained in detail in chapters 4, 5 and 6.

3.1 Issues with current arrangements

The proponent identified four main issue with the current AMDQ regime, which are discussed below.

3.1.1 The AMDQ regime is complex

As discussed in Chapter 1 and the background paper, the AMDQ regime is complex, which can make it difficult for current market participants and may act as a barrier for potential new entrants in the DWGM to make efficient use of the DWGM and AMDQ benefits.

3.1.2 The AMDQ regime may not support efficient levels of investment into, and utilisation of, pipeline capacity

The design of the AMDQ regime was historically based on using gas from Longford to meet Victorian demand, primarily in or around Melbourne, rather than using gas imported from other states or exporting gas beyond the boundaries of the DTS. However, with the changing dynamics in the east coast gas market there is growing demand to be able to move gas from the DTS inter-region, inter-region into the DTS or into storage at Iona to be used in the DTS at a later date.

All AMDQ cc are initially created as a point-to-point right between an injection point (for example Culcairn or Iona) and the reference hub at Melbourne. These rights are consistent with the underlying physical capacity of the system between the injection point and the reference hub.

Market participants are then required to nominate their AMDQ cc to a withdrawal point (which may be the reference hub or a different location).

In order to nominate AMDQ cc to a system withdrawal point at an interconnected facility (for example at Culcairn or Iona), the market participant must provide satisfactory evidence to AEMO that it, or a counter party, holds a corresponding quantity of firm capacity rights on that interconnected facility.[41] The nomination must also be consistent with the underlying physical capacity of the DTS, with AEMO applying locational factors to any nominations.[42]

41 The need to provide evidence of firm capacity at an interconnected facility was introduced in 2014,after a procedure proposal request submitted by APA. See: AEMO, *Notice to participant of AEMO's decision on making the Wholesale Market AMDQ Procedures (Victoria)*, 10 June 2014.

42 Please refer to Box 1 in section 3.1.4, *Restrictions of transfer quantities,* for more details on locational factors.

The nomination process is first-come-first serve, with AEMO processing viable nomination requests in the order they receive them, which means that participants may not always be able to nominate newly acquired AMDQ cc to their preferred withdrawal point, even if they have underwritten the investment, should another participant nominate their AMDQ cc to that withdrawal point first.

At Culcairn, the amount of firm capacity available north of Culcairn is consistent with the capacity in the DTS south of Culcairn. Market participants that have a newly acquired firm contract north of Culcairn would have sufficient confidence that they (alone) will be able to nominate their AMDQ cc to withdraw at Culcairn. This is because other parties would be prohibited from doing so as they have insufficient firm capacity at the interconnected facility. Therefore, there may be an incentive to underwrite firm contract carriage capacity outside of the DTS north of Culcairn and capacity to Culcairn within the DTS, utilising any newly created capacity.[43]

However, at Iona, the total amount of firm capacity on interconnected facilities outside of the DTS far exceeds the amount of capacity on the South West Pipeline from Melbourne to Iona. This is because there are multiple facilities interconnected at Iona which collectively have a capacity greater than the South West Pipeline (for example, the SEA Gas pipeline and the Iona gas storage facility). Were capacity to be underwritten by a market participant in order to create new AMDQ cc which could be nominated to Iona, the market participant would have no ability to ensure that existing AMDQ cc was not then nominated to Iona by a different market participant because it was first to make a nomination request after the capacity was created.

For these reasons, the price or availability of AMDQ cc may not be acting as a signal for market-led investment in the DTS.

3.1.3 AMDQ are conservatively calculated

The DTS is a complex, meshed network. Consequently, the amount of capacity physically available at each entry and exit point varies on a day-to-day basis, in response to a number of factors, such as: pipeline infrastructure, system wide and local linepack, compressor settings, flow direction and operating considerations, such as maintenance and outages, and the location and profile of demand.

The nature of many of these factors means that it is difficult to accurately forecast, well in advance, the amount of capacity that would be physically available. For example, demand for gas in the DTS is partly a function of the weather. Consequently, even though the amount of capacity available can be forecast with reasonable certainty immediately before the gas day, the further ahead the capacity level is forecast, the greater the uncertainty.

Currently, the total amount of AMDQ in the market is consistent with the physical capacity of the system, meaning that under normal operating conditions (that is, other than when there

43 Under contract carriage arrangements, access to pipelines is provided to a shipper through a contract with a pipeline owner acquired in a capacity market separate to the commodity market. Market participants nominate their gross flows consistent with their capacity rights. Whether they are provided access to the capacity is determined under the terms of their contract with the pipeline owner, rather than on the basis of their bids and offers for gas.

is transmission equipment failure or another significant issue on the network) the physical and financial rights provided by AMDQ can be honoured.

The availability of AMDQ is determined by AEMO with the aid of load flow modelling software, taking a probabilistic assessment of whether capacity will be available. The capacity is calculated and released with a probability that it could not be met one day in every twenty years.[44]

In addition, AMDQ are released for long periods of time (generally, five years for AMDQ cc or indefinitely for authorised MDQ), so to guarantee the system can support the AMDQ under normal operating conditions, the maximum that can be released will necessarily relate to forecasts of the lowest capacity available over the five-year period at peak load conditions. Therefore, the current availability, tenure and form of AMDQ may be hindering some shippers' ability to transport gas to storage or to export gas from Victoria via the DTS.

This presents an issue where a participant may only want AMDQ cc for a single year or a single quarter (and is uncertain about its future requirements) but has to subscribe and pay for a full five years' worth of AMDQ cc.

3.1.4 Restrictions on the ability of market participants to trade AMDQ

AMDQ are, in some circumstances, tradable capacity rights:

- AMDQ cc are held by market participants and can be traded among themselves
- authorised MDQ (tariff D) are primarily held by large industrial consumers and can be traded among themselves and to other market participants[45]
- authorised MDQ (tariff V) are automatically and dynamically allocated to market participants in proportion to their retail load and therefore cannot be traded
- authorised MDQ (tariff D and tariff V) are primarily held by end consumers and retailers supplying these consumers cannot trade these rights, but can transfer some associated benefits.

Box 1 below briefly describes the current process that market participants need to go through for the transfer (trade) of AMDQ, and the transfer of benefits associated with these rights.[46]

BOX 1: AMDQ TRANSFERS

Permitted transfers of authorised MDQ

Transfers of authorised MDQ can only be undertaken between:

44 The Victorian Gas Planning Report (VGPR) defines the 1-in-20 peak day demand projection (for severe weather conditions) as one that has a 5% probability of exceedance (POE) in a given year. This is expected, on average, to be exceeded once in 20 years. The total AMDQ available must be within these limits during the period of validity of AMDQ.

45 A limited amount of authorised MDQ has been purchased from the original large industrial consumers by retailers and are therefore no longer held by a large industrial consumer.

46 This process is not specified in the NGR but is set out in the AEMO Wholesale Market AMDQ Procedures.

- two tariff D withdrawal points
- a tariff D withdrawal point and the reference hub (or vice-versa), or
- two parties at the reference hub.

Site to site authorised MDQ transfers involve two steps: first from the originating site to reference hub, and then from reference hub to the destination site.

Site to reference hub, reference hub to site, or reference hub to reference hub transfers are simpler, each being a single step.

Permitted transfers of AMDQ cc

Transfers of AMDQ cc can only be undertaken between market participants at the reference hub. However, AMDQ cc must then be nominated by the new holder, either to the reference hub or to a different location.

Restrictions of transfer quantities

Not all transfers of authorised MDQ are consistent with the physical capacity of the DTS. Consequently, AEMO applies diversity and locational factors to account for the effect of pipeline network dynamics on the value of authorised MDQ when transferred.[a] Necessarily, transfers of AMDQ cc are consistent with the physical capacity of the DTS because they happen between two market participants both at the same location — the reference hub. A subsequent nomination of AMDQ cc to other locations is subject to locational factors to ensure the nomination is consistent with the physical capacity of the system.

Initiating a transfer or nomination process

Market participants need to submit a form to AEMO no less than five business days in advance of the required start date for a transfer to take effect.

Processing time

AEMO will use reasonable endeavours to process transfers within six business days of AEMO receiving a form.

Publication on market information bulletin board (MIBB)

AEMO publishes the aggregate amount of AMDQ transferred on each gas day on the market information bulletin board, and the indicative amount of available spare capacity at selected locations within the DTS.

Agency injection hedge

Because retailers do not own the large majority of authorised MDQ (which are owned by end customers), they are unable to transfer these rights. Nevertheless, retailers are able to transfer some associated benefits of authorised MDQ to other market participants.

This is undertaken by a retailer allocating a quantity of its scheduled injection to be used as an agency injection hedge nomination (AIHN) for one or multiple recipient market participants at a close proximity injection point. The recipient market participant receives the congestion

uplift hedge created by injecting gas at the close proximity point, while the retailer continues to receive the injection tie-breaking rights.

Note: Unless otherwise stated, the information in this box references: AEMO, *Wholesale Market AMDQ Procedures (Victoria)*, 25 October 2016.
[a] AEMO, *AMDQ transfer algorithms for the transfer of authorised MDQ and AMDQ credit certificates*, 3 April 2012.

There are a number of issues that may be restricting the ability of market participants to trade AMDQ (or to allocate the associated benefits of authorised MDQ) efficiently. Some issues are highlighted below:

- *Allocation of authorised MDQ at Longford.* Authorised MDQ associated with Longford is allocated for tariff V customers between market participants based on their customer base. This may give rise to a situation where a market participant has been allocated more authorised MDQ than it has contracted injection capacity at Longford. Since authorised MDQ allocated to tariff V customers cannot be transferred, it is effectively stranded.
- *Allocation of AMDQ cc.* AMDQ cc is released through the AEMO auction in tranches, often for five years in line with APA's access arrangement period,[47] which means that new entrants within the five-year period are unable to obtain AMDQ cc if the full allocation has been sold, no additional capacity is created through the APA led process (that is, with associated costs not included in the regulated asset base), and no other market participant is willing to sell.
- *Lengthy processing time for transfers.* Market participants have little ability to trade short-term AMDQ as it can take six business days to complete the transfer.[48] This is particularly problematic when supply and demand change at short notice, for example, due to abrupt weather events or due to LNG terminal outage, even if these are outside the DTS.[49]
- *Complex process to acquire market benefits.* It can be a confusing process to obtain AMDQ (or the associated benefits of authorised MDQ). Complicating factors include the diversity and locational factors which determine the amount of AMDQ transferred or nominated to other locations, and the agency injection hedge process.[50]
- *Search and transaction costs.* As market participants have to bilaterally find one another to enter into a trade (or to allocate the associated benefits of authorised MDQ), there may be considerable search and transaction costs, which may prevent efficient trades. In absence of an organised exchange, participants have to manage counterparty risks and settlements themselves.[51]

In 2013-14, the AEMC considered a rule change request submitted by AEMO seeking to introduce a trading platform mechanism that would facilitate market participants transferring

47 APA is the owner of the DTS, responsible for building and maintaining the network, while AEMO is responsible for its operation.
48 The Commission understands this is due to AEMO having to undertake load flow modelling to make sure the transfer is possible; validating that the applicant is the rightful owner of the AMDQ; and having to make manual database changes.
49 Rule change request, p. 2.
50 Setting up and managing the Agency Injection Hedge Nomination is complex.
51 Rule change request, p. 2.

all or part of their portfolio of financial benefits associated with holding AMDQ to other market participants operating in the DWGM.[52] Due to circumstances at the time (namely a significant revision by AEMO of the costs and time frames for implementation, and the fact that the Commission was about to undertake a comprehensive review of the Victorian DWGM) the Commission decided not to make a rule in its final determination.[53]

3.2 Proponent's view

In order to address the issues related to the AMDQ regime in the DWGM, the rule change request proposed the following changes, which were based on the AEMC's recommendation in its final report of the *DWGM Review*:[54]

1. introduce separate, tradable entry AMDQ rights and exit AMDQ rights
2. introduce an exchange to improve secondary trading of AMDQ rights (permanent transfer) and benefits (temporary transfer)
3. make AMDQ available for a range of different tenures.

The proponent has also indicated that the proposed changes are expected to reduce the complexity of AMDQ regime and make it easier for participants to secure and trade AMDQ rights, as well as being a step towards providing better signals for capacity usage to help facilitate market-led investment.

3.2.1 Separate entry and exit rights

The proponent proposed that AMDQ should no longer be point-to-point rights, but entry rights that refer to a specific physical injection point to the reference hub (the DTS), and exit rights that refer to a specific physical withdrawal point from the reference hub (the DTS).

The proposed solution suggested that those currently holding AMDQ would have these rights converted into separate entry and exit AMDQ.

3.2.2 AMDQ available for a range of different tenures

Under the rule change proposal, entry and exit AMDQ would be made available for shorter periods than the current five-year period. The total amount of AMDQ available over the DTS access period would be allocated in tranches. It was proposed that this would not apply to existing authorised MDQ. The proponent gave the reason that this was allocated "in perpetuity", however the Commission is of the view that it was allocated indefinitely (See section 4.1.5.)

For example, a portion could be allocated for the five-year period in a single auction (similar to how all AMDQ cc is auctioned now). The remainder could be allocated in smaller tenures throughout the access period, such as yearly and quarterly.

52 See: http://www.aemc.gov.au/rule-changes/portfolio-rights-trading.
53 AEMC, *Portfolio Rights Trading,* final determination, 27 November 2014.
54 Rule change request, pp. 4-5.

In addition, a one day in twenty-year summer event is likely to have different load flow characteristics than a one day in twenty-year winter event. This way, it is likely that additional summer capacity might be able to be released which would not be consistent with the physical capacity of the system in winter and vice versa.[55]

The tenure of AMDQ and the timing of their allocation should allow new or small participants with increasing portfolios to access capacity at regular intervals.

3.2.3 Secondary trading of AMDQ

The rule change request proposed to introduce an electronic trading platform operated by AEMO that would facilitate all aspects of the trade (finding buyers and sellers, matching and executing trades, and automatically updating AEMO's systems).[56]

The platform would automatically match bids and offers and execute the trade. This trading platform could be similar to that recommended by the Commission in the east coast review stage 2 final report with regard to the trading of point-to-point capacity outside of the DTS and which has recently been implemented by AEMO using Trayport.[57] For example, AMDQ trading could occur through standardised products on Trayport.[58]

In the rule change request, the proponent articulated that by introducing a trading exchange to facilitate the trading of AMDQ rights and benefits a more efficient allocation of AMDQ between market participants is expected to occur. Having better access to AMDQ will better enable participants to manage scheduling (volume) risks from congestion.

Improved trading enables market participants to secure AMDQ who were not a market participant at the time of the auction prior to the beginning of the access period. It also reduces search and transaction costs for trading AMDQ, enables market participants to find counter parties, and reduces the complexity of trading for participants. These aspects may help to encourage new entrants into the DWGM. This is expected to enhance opportunities for the trade of gas and this will assist with managing gas system security and put downward pressure on gas prices.

The trading platform together with making AMDQ available for different tenures could also be used to make previously unsold AMDQ available to market participants, further increasing the ease of access and trading of AMDQ.

3.3 Stakeholder views

In response to the consultation paper, stakeholders were generally supportive of the proposed changes to the AMDQ regime as most shared the view that the proposed changes would open up the market to more participants and encourage new entrants, as well as

55 As a result of the related rule change proposal on creating separate entry and exit AMDQ, the seasonal availability of entry and exit AMDQ may differ from each other as well. That is, the available entry AMDQ may be different from the available exit AMDQ.

56 Rule change request, p. 7.

57 Refer to Recommendation 7 at AEMC, *East Coast Wholesale Gas Markets and Pipeline Frameworks Review*, stage two final report, 23 May 2016, Sydney.

58 AEMO, submissions to the AEMC, *Assessment of alternative market designs*, appendix A, p. 9.

enable more efficient use of the DTS. A summary of stakeholder feedback for each area of the proposed changes and on implementation are shown below.

3.3.1 Separate entry and exit rights

Stakeholders were generally supportive of introducing separate, tradable, location specific entry and exit AMDQ rights within the DTS.[59] Most were of the view that the proposed changes would improve the efficient use of the DTS, although AGL and ERM Power preferred to move away from the AMDQ regime given its complexity.[60]

The potential benefits of the proposed changes identified by stakeholders include:

- It would simplify arrangements and allow for more efficient use of AMDQ rights.[61]
- It would continue to provide tie-breaking benefits to the holders of exit AMDQ as they would be scheduled to the full extent of their holding in the tie-breaking process and would be further scheduled on a pro-rata basis with those not holding exit AMDQ for the balance up to the internal constraint limit[62] regardless of whether the *DWGM simpler wholesale price* rule change proceeds.[63]
- It was also noted that the proposed changes would create a more effective arrangement for accessing gas supply, as there are now a number of injection points in the system, compared with the single injection point at Longford when the DWGM was established in 1999.[64]
- Both AEMO and Lochard Energy were of the view that the proposed changes would promote investment within the DTS infrastructure, as it would be easier for participants to obtain market benefits.[65] However, Origin argued that the separation of entry and exit AMDQ rights may not improve investment signals in the DTS citing the low levels of market led investment in the DTS in recent years and that the existing regulatory framework remains the best approach for DTS investment.[66]

EnergyAustralia also shared general support for the proposed change, although noted that this would be a major change to the current operation of the DWGM and would need to be considered in more detail, and likely more challenges to be worked through, before implementation.[67]

More broadly and in contrast to the above, both AGL and ERM Power were less supportive of the AMDQ regime given its complexity, and suggested it could be wound back. Should it remain, AGL was unsure of the impacts of moving towards separate entry and exit AMDQ

59 Submissions to consultation paper: AEMO, p. 1; Lochard Energy, pp. 1, 4; Major Energy Users, p. 5; Origin, p. 5.
60 Submissions to consultation paper: ERM Power, p. 3; AGL, p. 1.
61 Submissions to consultation paper: AEMO, p. 1; Lochard Energy, pp. 1; 4.
62 Submissions to consultation paper: AEMO, attachment 1, p. 4; Origin, p. 5.
63 AEMO, *submission to consultation paper,* attachment 1, p. 3.
64 Major Energy Users, *submission to consultation paper,* p. 5.
65 Submissions to consultation paper: Lochard Energy, p. 4; AEMO, attachment 1, p. 4.
66 Origin, *submission to consultation paper,* pp. 1-2.
67 EnergyAustralia, *submission to consultation paper,* p. 5.

rights and suggest that while the AEMC assesses the benefits and impacts, alternative options should be considered.[68]

AEMO noted that given the relatively small size of the network and number of controllable points, introducing multiple DTS zonal capacity products would limit usefulness and participation in trading, so consideration should be given to limiting trading in DTS capacity products to controllable entry and controllable exit points.[69]

3.3.2 AMDQ available for a range of different tenures

In response to the consultation paper, stakeholders were generally supportive of making AMDQ available for a range of different tenures, and noted that the existing AMDQ auctioning process, where rights are allocated for five years, is not meeting market expectations, in particular:

- It is challenging for smaller users, new entrants with changing portfolios, and those with short-term needs to participate.[70]
- It provides a weak signal for future investment in the DTS.[71]

Lochard Energy also identified the looming tightness in the Victorian gas supply-demand balance noting that improvements to the AMDQ regime will need to be addressed in a timely manner to minimise risk.[72]

Stakeholders identified the following benefits from the proposed rule change:

- It would provide transparency in pricing for capacity. High prices would send a signal for investment (either through the regulatory process or through private investment).[73]
- It would benefit participants who want to purchase AMDQ rights for less than five years, more tailored to their gas supply needs, particularly smaller or new entrants to the market.[74]
- More efficient use of existing pipeline capacity.[75]

AEMO suggested that the length of AMDQ tenures should be developed in consultation with industry.[76] Some suggested approaches raised in response to the consultation paper included:

- Blocks of AMDQ be contracted each year, allowing participants to manage and adjust their AMDQ holding more regularly for example, a third of AMDQ could be auctioned each year and would have a life of three years.[77]

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68 Submissions to consultation paper; AGL, p. 2; ERM Power, p. 3.

69 AEMO, *submission to consultation paper,* attachment 1, p. 8. Further detail on AEMO's nominated specific controllable entry and exit points are covered in Appendix A.

70 Submissions to consultation paper: Powershop/Meridian Group, p. 1; Lochard Energy, pp. 1; 3.

71 Lochard Energy, *submission to consultation paper,* p. 3.

72 Lochard Energy, *submission to consultation paper,* p. 3.

73 AEMO, *submission to consultation paper,* attachment 1, p. 9.

74 Submissions to consultation paper: AEMO, attachment 1, p. 9; AGL, p. 2; EnergyAustralia, p. 5; Qenos, p. 2.

75 Lochard Energy, *submission to consultation paper,* p. 4.

76 AEMO, *submission to consultation paper*, attachment 1, p. 11.

77 Major Energy Users, *submission to consultation paper,* p. 1.

- Having much shorter tenure duration (i.e. annually, seasonally or quarterly). This would provide capacity in the system to customers who require it on a shorter term basis.[78]

Origin Energy, while generally supportive, noted that market participants should be able to align the acquisition of AMDQ with gas transportation/supply contracts outside the DTS. Origin argued that any changes should ensure that long-term AMDQ rights are still available. It also noted that improving the tradability of AMDQ (through a trading platform) should mitigate the need for allocating a significant proportion of AMDQ under short-term tenures.[79]

AEMO have also noted a number of issues to be considered before the next access arrangement period: uncontrollable exit AMDQ, ownership of entry AMDQ at Longford, developing auction tenures, eligibility criteria, and controllable entry/exit AMDQ.[80]

3.3.3 Secondary trading of AMDQ

Some stakeholders were supportive of the proposed introduction of a platform that allows more fluid trading of AMDQ rights and benefits, and potentially provides greater access to the market for more participants.

Stakeholders noted a number of benefits from this proposed change:

- It would make it easier and provides more access to trade AMDQ rights and provide value in the form of tie-breaking rights.[81]
- It would lower search costs for participants and allow anonymity between sellers and buyers,[82] however there may be participation limitations that may impact sites with authorised MDQ that are not market participants.[83]
- It would remove the possible existing bias towards incumbent participants as currently AMDQ is auctioned only every five years.[84]
- Transparent pricing on the trading platform would facilitate the allocation of AMDQ to those who value it the most, that is, supporting their own market strategy.[85]
- It may encourage new entrant retailers to grow and seek to supply their own load as they may want to acquire AMDQ from the platform to improve their scheduling certainty.[86]
- It would allow participants to transfer AMDQ rights between different locations (subject to physical constraints), which will become more important as gas supply locations change over time.[87]

78 Lochard Energy, *submission to consultation paper*, p. 4.
79 Origin, *submission to consultation paper,* p. 5.
80 AEMO, *submission to consultation paper,* attachment 1, p. 11.
81 Submissions to consultation paper: AEMO, attachment 1, pp. 2 and 6; ERM Power, p. 3; AGL, pp. 2-3; Qenos, p. 2.
82 Submissions to consultation paper: AEMO, attachment 1, p. 6; Lochard Energy, p. 4.
83 AEMO, *submission to consultation paper,* attachment 1, p. 6.
84 AER, *submission to consultation paper*, p. 5.
85 Submissions to consultation paper: AER, p. 5; AEMO, attachment 1, p. 5.
86 AEMO, *submission to consultation paper*, attachment 1, p. 5.
87 AGL, *submission to consultation paper,* pp. 2-3.

AGL noted that should the AMDQ regime continue, its support for the trading platform is not conditional on the forward trading market rule being adopted, however should they both proceed then it would be prudent for them to be run through the same platform.[88]

AEMO provided a summary of how the current AMDQ trading and auction process works and a suggested framework for the proposed trading platform, noting the benefits would include:[89]

- standardised product definitions
- common IT and trading systems which reduces the administrative burden transaction costs for participants
- transparent reporting of anonymous trading for price discovery
- common prudential framework with the gas supply hubs, capacity auction and capacity trading platform with shared collateral
- a common settlement across multiple markets
- payments being spread across a longer period, which would benefit smaller market participants.

AEMO also noted (specifically in response to Question 4 from the Consultation paper) that the exchange trading system cannot accommodate a transfer algorithm, and provided detail on how and where the trading of AMDQ could occur.[90]

While generally still supportive, some stakeholders raised other points to consider:

- Both ERM Power and the Australian Energy Regulator (AER) were cautious in their support, noting that further work should be done to weigh the costs and benefits to ensure it is efficient to do so.[91]
- EnergyAustralia noted that any prudential requirements for an AMDQ trading platform need to be combined with other AEMO prudential requirements across other platforms.[92]
- MEU argued that the rights associated with AMDQ should not be changed.[93]

3.3.4 Implementation

Stakeholders have also raised several issues around the implementation of the proposed changes to the AMDQ regime which are covered below.

Cost and timeframe to implement

AEMO noted there is insufficient detail to provide estimates of implementation time and cost at this stage. An estimate of the project cost will follow the publication of the draft determination. The time required for implementation will depend upon the extent of consultation required after the final decision and final design. AEMO will assess the likely

88 AGL, *submission to consultation paper,* p. 3.
89 AEMO, *submission to consultation paper,* attachment 1, pp. 6-7.
90 AEMO, *submission to consultation paper,* attachment 1, p. 8.
91 Submissions to consultation paper: ERM Power, p. 3; AER, p. 5.
92 EnergyAustralia, *submission to consultation paper,* p. 6.
93 Major Energy Users, *submission to consultation paper,* p. 5.

duration to implement the changes following the publication of the draft determination. AEMO also noted that implementation during or close to winter should be avoided to minimise risk to the operation of the market.[94]

EnergyAustralia shared concerns that the costs of implementing the AMDQ rule changes should be weighed against the benefits, particularly if any changes are expected to be short-lived (due to transition to the target model).[95] A similar view was generally shared by both ERM Power and the AER in relation to secondary trading.[96]

3.3.5 Other considerations

Firm capacity rights outside the DTS

While being generally supportive of improving the tradability of AMDQ rights, Origin suggested that access to AMDQ/AMDQ cc injection rights should be linked to the participant's firm transportation rights outside the DTS, similar to the current framework for validating access to AMDQ cc withdrawal rights at points of interconnection.[97]

EnergyAustralia suggested that the volume of AMDQ that a participant can purchase should be linked to the amount of firm capacity that the participant holds on an interconnected facility. This would prevent participants from holding AMDQ that they cannot physically use. EnergyAustralia further suggested that any unused AMDQ could be auctioned off similar to how the Day Ahead Auction operates.[98]

APA considered that the proposed changes must harmonise in a way that ensures that gas bid into the DWGM has in place firm arrangements ensuring that it can be delivered to an injection point, and that legitimately available gas that seeks entry to the DWGM is not inappropriately barred from participating in the DWGM auction.[99]

Alternative reforms

AGL proposed 'winding back' the AMDQ regime. In its view, removing the AMDQ regime would enhance the incentives for market participants to avoid congestion thereby reducing the amount of congestion uplift. It also added that in instances of tie-breaking, scheduling could be done on a pro-rated basis similar to how dispatch operates in the NEM. AGL did not consider that removing the AMDQ regime would have perverse impacts on investment as in its current form AMDQ does not provide incentives for private investment in AGL's view.[100]

ERM Power made similar observations, recommending an alternative approach that involves phasing out the AMDQ regime after the current five-year access period and that scheduling should be done on a pro-rata basis.[101]

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94 AEMO, *submission to consultation paper,* attachment 1, p. 3.
95 EnergyAustralia, *submission to consultation paper,* p. 5.
96 Submissions to consultation paper: ERM Power, p. 3; AER, p. 5.
97 Origin, *submission to consultation paper,* p. 5.
98 EnergyAustralia, *submission to consultation paper,* p. 5.
99 APA, *submission to consultation paper,* p. 1.
100 AGL, *submission to consultation paper*, pp. 1-2.
101 ERM Power, *submission to consultation paper*, p. 3.

Free-rider issue

The consultation paper posed the question 'to what extent would the proposed changes to the AMDQ regime reduce the free-rider effect?'. Opposing views were put forward.

The Major Energy Users considered that the current regulatory process for investment in the DTS is efficient and disagrees that free-riding acts as a barrier to efficient investment in the DTS.[102]

On the other hand, AGL was of the view that private investment in the DTS, while possible, is not incentivised under the current AMDQ regime as there is no certainty about the AMDQ created until after the investment, and the investor does not receive exclusive access to the capacity it has underwritten, only the AMDQ rights, which does not prevent the free-rider effect.[103]

AEMO also argued that the proposed changes to the AMDQ regime would not overcome the free-rider problem, as on non-capacity constrained days all market participants will be scheduled and will therefore not contribute to privately funded capacity investment. However, AEMO noted that free-riders still pay transmission tariffs for using the system, so even if they are not paying for privately funded enhancements, they are still contributing to cost recovery on the capital base.[104]

Interactions with other rule changes

APA emphasised the complexity of the NGR and the potential for unintended consequences arising from changes to the AMDQ regime. APA did not take a position on whether the AMDQ rule changes should proceed but noted its intention to work with the AEMC to develop a rule change package that serves the needs of Australian gas consumers in the longer term.[105]

Lochard Energy was of the view that the congestion uplift hedge benefits of AMDQ should be retained.[106]

AEMO argued that there is complementarity between the DWGM forward trading market rule change and the Improvement to AMDQ regime rule change, noting that sellers of forward products would have access to transparent pricing and availability of entry AMDQ and buyers of forward contracts would have access to information on exit AMDQ.[107]

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102 Major Energy Users, *submission to consultation paper,* p. 5.
103 AGL, *submission to consultation paper,* pp. 1-2.
104 AEMO, *submission to consultation paper,* attachment 1, p. 2.
105 APA, *submission to consultation paper,* pp. 1-2.
106 Lochard Energy, *submission to consultation paper*, p. 4.
107 AEMO, *submission to consultation paper*, attachment 1, p. 9.

4 INTRODUCING AN IMPROVED CAPACITY CERTIFICATES REGIME

The Commission agrees with the proponent and stakeholders that the current AMDQ regime creates a number of issues that should be addressed.

The complex nature of the benefits associated with authorised MDQ and AMDQ cc make it difficult to estimate how much should be available, difficult to value and contribute to them being difficult to trade.

A new regime that better separates these benefits into types of tradable certificates would begin to address these issues.

While it is beyond the scope of this rule change to ensure absolute point-to-point certainty, the new regime should aim to provide for a substantially certain ability to withdraw to be matched with substantially certain ability to inject, and with minimum cost uncertainty associated with system and operational balancing.

This chapter provides a more detailed description of the draft rule and the reasons why the Commission made such decisions. It also discusses how the existing AMDQ regime will be replaced by capacity certificates, including:

- the introduction of new types of capacity certificates
- the benefits of separate entry and exit capacity certificates
- treatment of existing authorised MDQ and AMDQ cc
- the need for system capability modelling
- the definition of new entry and exit zones
- interaction with other DWGM rule changes.

4.1 Replacing AMDQ with entry and exit capacity certificates

This section describes how the current AMDQ regime will be replaced by an improved regime for tie-breaking rights, congestion uplift protection and curtailment protection.

4.1.1 Retiring the current classes of AMDQ

The draft rule retires the current instruments of authorised MDQ and AMDQ cc, and replaces these with a new framework with instruments called 'capacity certificates'.

The authorised MDQ mechanism dates back to the start of the gas market in 1999 where it was conferred on customers in order to facilitate the working of the regulated DWGM market mechanism. Initially, the benefits associated with authorised MDQ were limited to the financial benefits of protection from congestion uplift and the physical benefits associated with protection from curtailment in certain circumstances.[108] However, under the initial MSOR, authorised MDQ did not confer any tie-breaking rights.

108 MSOR clause 3.6.7.

The Commission is of the view that authorised MDQ are no longer best suited to the current realities of the market, and it contributes to allocative and dynamic inefficiencies that challenge the best achievement of the National Gas Objective.

The draft rule does not continue with the distinctions between the two regimes, but rather, introduces a new capacity certificates regime designed to allow the efficient allocation of the benefits of tie-breaking, congestion uplift protection and some limited curtailment protection.

4.1.2 Introducing new types of capacity certificates

Three new types of capacity certificates will be introduced under the new regime:

1. entry capacity certificates
2. exit capacity certificates
3. uncontrollable exit capacity certificates.

The first two are limited to market participants who have a controllable quantity. A market participant who holds entry or exit capacity certificates will be able to nominate these to be used in the determination of tie-breaking in accordance with rule 214 to enable greater scheduling certainty during times of injection/withdrawal constraint, and otherwise when bids are equally beneficial to the schedule, say due to equal bid prices.

The third category replaces authorised MDQ that is currently owned by tariff D gas consumers and held on behalf of tariff V gas consumers by AEMO. This new type of uncontrollable exit capacity certificates will be used in the determination of congestion uplift and limited curtailment protection in case of emergencies.

The new types of capacity certificates, and the associated trading arrangements, are to be defined in accordance with entry and exit zones (see section 4.2.2). Entry and exit capacity certificates would be nominated to a system injection or withdraw point within the relevant zone.[109] Uncontrollable exit capacity certificates would be defined in relation to a zone, not specific to a customers' site.

4.1.3 The benefits of the new capacity certificates

The new regime means entry and exit capacity certificates can work as a pair so that, for example, withdrawal tie-breaking can be matched to injection tie-breaking, minimising cost uncertainty for market participants.

Table 4.1 below provides a summary of the key benefits that would be attached to each of the capacity certificates products.

109 AEMO will set out how this will occur in procedures.

Table 4.1: **Benefits attached to capacity certificates**

BENEFIT	ENTRY CAPACITY CERTIFICATES	EXIT CAPACITY CERTIFICATES	UNCONTROLLABLE EXIT CAPACITY CERTIFICATES
Injection tie-breaking	yes	not applicable	not applicable
Withdrawal tie-breaking	not applicable	yes	not applicable
Curtailment protection	no	no	yes
Congestion uplift protection[1]	no	yes	yes

Note: [1] The congestion uplift protection will no longer require injections to be activated under the *DWGM simpler wholesale price* draft rule.

Exit capacity certificates

Exit capacity certificates will be used in the determination of tie-breaking in accordance with rule 214 of the NGR. Market participants with exit capacity certificates therefore receive scheduling priority which enables access to greater certainty in scheduling. They can be nominated to system withdrawal points for application to related controllable quantities.[110] How this will occur will be open to AEMO to determine through procedures, as the draft rule does not specify this level of detail.

Exit capacity certificates can also be used in the determination of congestion uplift payments in accordance with rule 240 of the NGR. Under the *DWGM simpler wholesale price* draft rule market participants that withdraw no more than their holdings of exit capacity certificates on a daily basis are protected from the risk of incurring congestion uplift payments. Note that the *DWGM simpler wholesale price draft rule* also removes the requirement to inject gas to activate this protection.

Uncontrollable exit capacity certificates

Uncontrollable exit capacity certificates can be held by a market participant and apply to withdrawals within a zone.

As with exit capacity certificates, market participants that withdraw no more than their holdings of uncontrollable exit capacity certificates on a daily basis are protected from the risk of incurring congestion uplift payments.

Uncontrollable exit capacity certificates also confer the benefit of limited curtailment protection in case of emergencies.

110 Rule 210 of the NGR.

The Commission is also of the view that it is no longer necessary to have distinct products for tariff D and V customers. Uncontrollable exit capacity certificates could be held by market customers to receive the benefit of congestion uplift protection regardless of whether the uncontrollable withdrawals are associated with tariff D or V customers.

Rather than continue with the dynamic allocation of authorised MDQ to retailers for tariff V customers based on customer numbers, the Commission's view is that uncontrollable exit capacity certificates should be allocated via an auction in the same way as the other entry and exit capacity certificates. This allows these certificates to be allocated to those market participants that value it the most.

With the distinction between tariff D and V customers removed, it will be left to retailers as to how they are going to allocate the benefits of the uncontrollable exit capacity certificates to its customer base.

Entry capacity certificates

Entry capacity certificates will operate in the same manner as exit capacity certificates to provide an injection tie-breaking priority to enable access to greater certainty in scheduling.

4.1.4 The value of exit capacity certificates

In making the decision to separate AMDQ into entry and exit capacity certificates, the Commission analysed the potential benefits that exit capacity certificates are likely to provide to market participants.

Greater schedule certainty

By enabling access to tie-breaking priority, the holder of the exit capacity certificates would be able to structure bids in a way that provides greater schedule certainty when the system withdrawal point is constrained and two or more participants are bidding for withdrawals at the same price.

Tie-breaking priority means the holder could be assured of schedule priority in cases when its bid is otherwise equally beneficial to the schedule.

Greater cost certainty

The *DWGM simpler wholesale price* draft rule makes it simpler for market participants to manage the risk of incurring congestion uplift payments as it removes the requirement for market participants to inject or nominate hedge nominations to active congestion uplift protection. This means that participants who hold a sufficient quantity of exit capacity certificates to cover their withdrawals for the relevant zone will not be exposed to congestion uplift. This will provide greater cost certainty for those participants who currently hold AMDQ but do not have the ability to satisfy the injection test.

Reduced commercial risk

The first two points combine to reduce commercial risks associated with gas flow transactions. In particular, they provide the holder with improved capability to structure inter-regional transactions, and could enable market participants to manage their risks in the

DWGM consistent with the certainty of related activities on contract carriage pipelines that are part of the same transaction.

Evidence on the value of exit certificates

AEMO noted in its submission that market participants have transferred and/or nominated AMDQ to the controllable system withdrawal point at Culcairn to the limit of available capacity. Because this does not provide additional uplift hedge protection over leaving AMDQ at the reference hub, AEMO concluded that transfer/nomination (similar to exit capacity certificates) is useful to market participants to manage scheduling risk.[111]

The AEMC looked further into this issue by analysing historical data at a key system point in the DTS, which is discussed in Box 2 below.

BOX 2: THE VALUE OF EXIT CAPACITY CERTIFICATES

The value of exit capacity certificates will be determined by the interaction of the physical nature of the system and the dynamics of demand over time.

Below is an example of where it is expected exit capacity certificates will be valuable at certain times of the year.

Exit capacity certificates at Iona

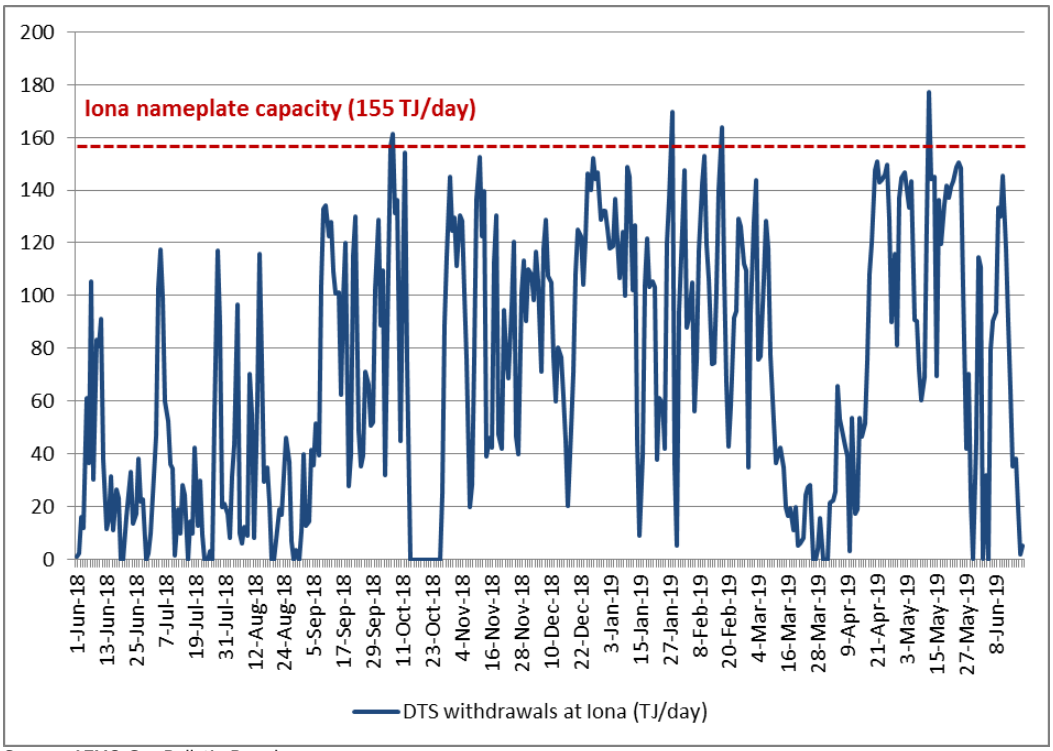
Market participants typically fill Iona underground storage facility in the lead up to winter, and opportunistically during winter when demand is unexpectedly low.

On some days, capacity for injections into Iona storage (withdrawal from the DTS) is fully utilised (see Figure 4.1).

Therefore, there may be value in exit capacity certificates for withdrawal tie-breaking benefits whenever withdrawal bids exceed the capacity of the Net Flow Transmission Constraint (NFTC) applied by AEMO in the operating schedule.

111 AEMO, *submission to consultation paper*, attachment 1, p. 4.

Figure 4.1: DTS withdrawals at Iona (TJ/day)



Source: AEMO Gas Bulletin Board
Note: Capacity is fully utilised more often than indicated here as capacity varies with system demand.

4.1.5 Legacy arrangements

The DWGM commenced on 15 March 1999, and with effect from that date, DWGM participants' rights and obligations in relation to the injection, transmission and withdrawal of gas were governed by the Victorian gas industry Market and System Operations Rules (MSOR).

Authorised MDQ

Authorised MDQ at the time it was first allocated was described as a withdrawal right, in which a maximum daily quantity of gas was authorised by VENCorp to be withdrawn by, or on behalf of, the associated consumer. The Market and System Operations Rules (MSOR) in 1999 defined authorised MDQ as per the following:

> In respect of a *Customer*, the maximum daily quantity of gas, expressed in GJ/day, which is authorised by *VENCorp* to be withdrawn by or on behalf of that *Customer*, in accordance with the allocation of *MDQ* under clauses 5.3.2, 5.3.3 and 5.3.4.[112]

This is generally consistent with the current definition of authorised MDQ in the NGR.

112 MSOR clause 11.

The enactment of the MSOR and commencement of the DWGM altered the basis and nature of the rights previously enjoyed by gas customers who had contractual MDQ for firm gas supply from their retailers or suppliers. Rather than having a contractual right to purchase up to its contractual MDQ at an agreed price, the MSOR instituted a clearing and market facility for the purchase of gas supplied through the DWGM at prices and quantities determined by the market.

The initial MSOR required VENCorp to allocate authorised MDQ as follows:

> (1) a Customer is to be allocated authorised MDQ in respect of all quantities of gas which it withdraws at a Tariff V withdrawal point; and
>
> (2) a Customer is to be allocated authorised MDQ in respect of gas which it withdraws at a Tariff D withdrawal point on the basis of past and/or existing contractual arrangements, or on some other basis that VENCorp reasonably considers to be appropriate in all the circumstances.[113]

Under both the MSOR and NGR Part 19, there is no provision for the expiry of authorised MDQ (other than for relinquishment under rule 332 of the NGR). Under both sets of rules, authorised MDQ is allocated to customers indefinitely: that is, for an unspecified duration. But that is quite distinct from allocation in perpetuity.

The Commission considers that authorised MDQ is a statutory bundle of rights, conferred on customers in order to facilitate the working of the regulated DWGM market mechanism, and therefore, has always been susceptible to modification or extinguishment by amendment of the NGR.

Analysis of current utilisation levels of authorised MDQ by tariff D customers

The Commission also carried out analysis that shows that the current allocations of authorised MDQ to tariff D customers are inefficient and should not be the basis for the new regime. Some tariff D customers hold authorised MDQ far in excess of their withdrawals on peak days (see Box 3 below) and others are not able to obtain it easily.

BOX 3: **ANALYSIS OF TARIFF D CUSTOMERS' CURRENT USE OF AUTHORISED MDQ ALLOCATION**

According to AEMO, there are currently around 840 tariff D customers in the DWGM of which around 510 hold authorised MDQ.

Through a detailed analysis of the current use of authorised MDQ by tariff D customers, we found that a significant amount of authorised MDQ is being underutilised by tariff D customers when compared to their withdrawals on peak demand days over the past couple of years. Table 4.2 shows the excess authorised MDQ as a proportion of tariff D authorised MDQ

113 MSOR clause 5.3.2(a).

holdings at the five key peak demand days in 2017 and 2018.

Table 4.2: **Tariff D authorised MDQ underutilisation in key peak demand days (2017-2018)**

DATE	TARIFF D TOTAL AUTHORISED MDQ (TJ/DAY)	TARIFF D AUTHORISED MDQ NOT UTILISED (TJ/DAY)	EXCESS AUTHORISED MDQ AS PROPORTION OF ALLOCATION
20/07/2017	392	209	53%
02/08/2017	391	198	51%
03/08/2017	391	201	51%
07/08/2017	391	199	51%
05/09/2017	391	193	49%
19/06/2018	388	211	54%
27/06/2018	390	208	53%
28/06/2018	390	209	54%
28/08/2018	390	209	54%
30/08/2018	390	227	58%

Note: Excess authorised MDQ is calculated as the amount of authorised MDQ in excess of consumption on a peak demand day for each tariff D customer.
The dates in this table correspond to the five peak demand days in the DTS for calendar year 2017 and 2018.
Used authorised MDQ indicates withdrawals up to the level of authorised MDQ holdings by customer, aggregated into groups of 10 for confidentiality.

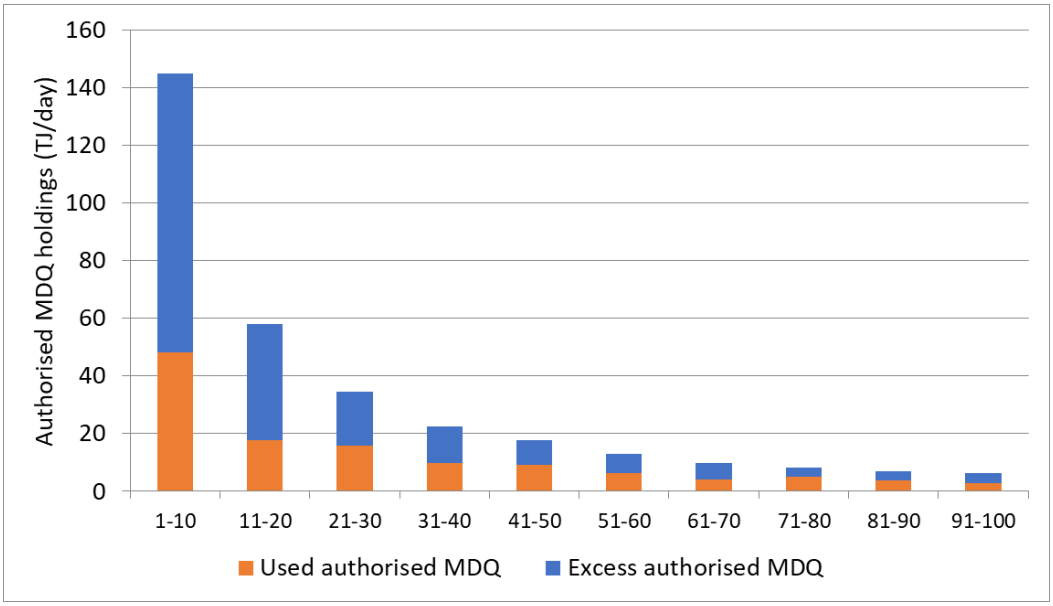
The analysis shows that on most peak demand days more than 50 per cent of the total tariff D authorised MDQ is being underutilised when compared to tariff D actual demand, suggesting that the current allocation may not be the most efficient from a risk management perspective, and in fact, it is stranded with its current holders.

Furthermore, excess authorised MDQ is skewed towards tariff D customers with the largest authorised MDQ holdings. Figure 4.2 shows the excess authorised MDQ for the largest holdings of authorised MDQ for a particular peak demand day, aggregated into groups of 10 customers to guarantee confidentiality of such customers.

The results show that excess authorised MDQ is disproportionately concentrated among the largest holders. For example, the top 10 holders held 97 TJ of authorised MDQ in excess of their withdrawals on this peak day.

This corresponds to approximately 67 per cent of their authorised MDQ holdings.

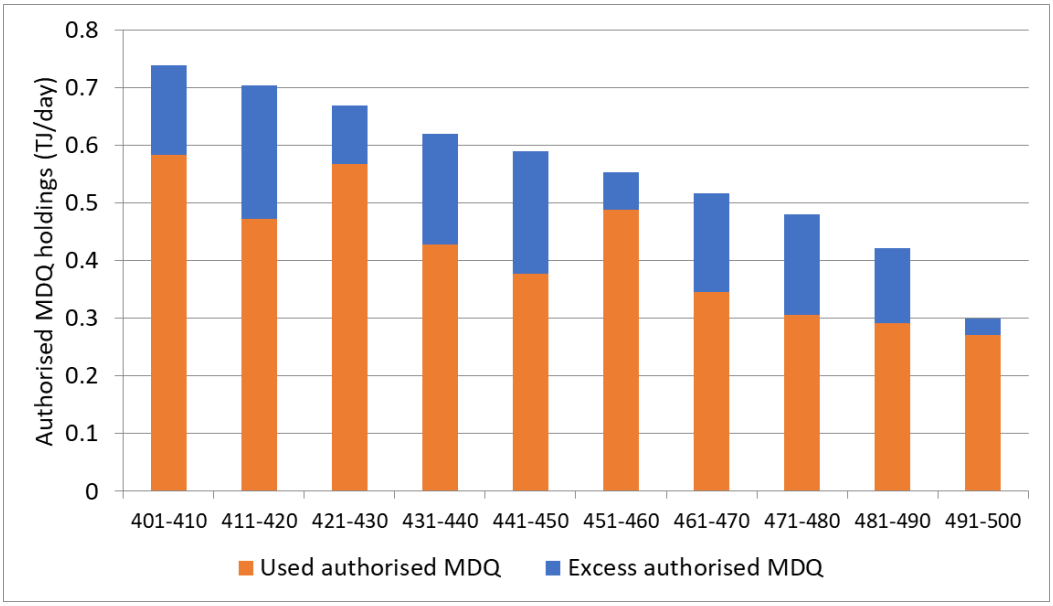
Figure 4.2: Authorised MDQ utilisation by top holders (1-100)



By contrast, the utilisation of authorised MDQ by small tariff D holders is high.

Figure 4.3 shows the excess holdings of authorised MDQ for smaller tariff D customers (ranked 401-500 by authorised MDQ holdings) for the same day. These customers have withdrawals around 90 per cent of their authorised MDQ holdings on a peak demand day.

Figure 4.3: Authorised MDQ utilisation by small holders (401-500)



In addition, there are around 330 tariff D customers without any authorised MDQ. This analysis suggests that the current allocation of authorised MDQ may not be the most efficient allocation for the purposes of risk management.

Source: Data provided by AEMO.

Given this, and for the additional reasons discussed below, the draft rule does not convert any legacy holdings of authorised MDQ into capacity certificates under the new regime. Instead, the Commission proposes to extinguish all current authorised MDQ at the end of the gas day on 31 December 2022, which will allow market participants to purchase capacity certificates on an equal footing through the primary auction.

Treatment of tariff D AMDQ going forward

As previously mentioned, authorised MDQ has always been defined as a withdrawal right. However, in 2007 an injection test at Longford was introduced in order to align the treatment of authorised MDQ and AMDQ cc. In practice, this means that, currently, authorised MDQ holders enjoy both entry and exit benefits. An important element of the new regime is to separate entry and exit benefits and to enable allocation to their highest value use. Therefore, the allocation of entry benefits should not be based on the withdrawals of a market participant or customer.

In addition, the Commission has also decided not to grant uncontrollable exit capacity certificates under the new regime to current holders of authorised MDQ, including tariff D customers, for a number of reasons:

- As explained above, authorised MDQ is a statutory bundle of rights that was conferred on customers in order to facilitate the working of the regulated DWGM market mechanism, and therefore, has always been susceptible to modification or extinguishment by amendment of the NGR.
- Analysis showed that the current allocations of authorised MDQ to tariff D customers are inefficient (where some tariff D customers hold authorised MDQ far in excess of their withdrawals on peak days, while others are not able to obtain it easily) and therefore should not be the basis for the new regime, which could be considered a barrier / costs to entry for other tariff D customers.
- Current holders of authorised MDQ have benefited from these holdings for over 20 years, and by the time the new capacity certificates regime commences in 2023, they would have benefited for 24 years, which is a considerably long transition period.

Furthermore, the new regime:

- Simplifies the framework by removing the distinction between authorised MDQ and AMDQ cc.
- Allows for a more efficient creation and allocation of capacity certificates.
- Creates a level playing field for all market participants to obtain capacity certificates through primary auctions, which allows them to be allocated to those that value those most and promote efficient use of pipeline capacity.

- Promotes price discovery through regular auctions, with prices to be published for each capacity certificate product providing market participants with information on the value of each product. Further, if a secondary trading platform is developed, this will provide up to date information on the price and quantities of any secondary trading of capacity certificates.

Treatment of tariff V going forward

Authorised MDQ relating to tariff V customers has always been held by AEMO and dynamically allocated to retailers. Therefore, there are no ownership rights that are held by consumers. For this reason, there is no need to grant uncontrollable exit capacity certificates to consumers.

AMDQ cc

Current holdings of AMDQ cc expire at the end of 2022, before the new regime is proposed to commence, so legacy arrangements are not needed.[114]

4.2 The dynamics of zoning

Particularly since the commissioning of Queensland's LNG trains, and with changing patterns of generation in the electricity market, gas flows across south-eastern Australia have become more varied and volatile. The DTS has supported changes in patterns of net exports, and the demands for its transportation services are becoming more diverse, varied and increasingly driven by factors other than the supply of gas to local gas customers. Prospects for major sources of new gas supply to the DTS, as well as investments such as the Western Outer Ring Main (WORM)[115], mean that gas flow dynamics will continue to change.

For the new capacity certificates regime, the capability to improve certainty of transportation will require attention to zoning.

Similar to current arrangements where Close Proximity Injection Points infer a zonal relationship between related system points, these relationships may need to evolve as new system injection and withdrawal points are added to the DTS, and as the flow dynamics associated with co-located demand may reshape constraints affecting the allocation of capacity in support of varying types of capacity certificates.

It is expected that the zoning mechanism will need to address changes in the sharing of capacity that can have dependency on pathway characteristics of gas flow and use, including bi-directional flows. There is a likely need for zones to be different in respect of entry and exit, and these will need to evolve with changing patterns of consumer behaviour, investment and commercial needs.

114 Except for 30 TJ of AMDQ cc at Culcairn which has been allocated until 30 June 2023 and as a result, a transitional rule of the draft rule converts this allocation into an equivalent capacity certificate, being an entry capacity certificate at Culcairn, for this additional period.

115 See section 6.3.1 of AEMO's VGPR 2019 for information on how the WORM will augment the system: https://www.aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/VGPR/2019/2019-VGPR-Full-Report.pdf

The Commission understands that this concept of dynamic zoning is consistent with what AEMO currently manages in respect of Close Proximity Injection Points (CPP), which defines groups of injection points along a pipeline path that may share capacity at the CPP.

4.2.1 System capability modelling

To inform the allocation of the capacity certificates, the draft rule requires AEMO to conduct, at least annually, a process of system capability modelling.[116] This informs the maximum amount of capacity that is available to support the market's preferred mix of certificates for pipeline capacity. The modelling would apply a principle of simultaneous physical feasibility to ensure that the diverse use of a range of capacity rights can be supported by the DTS at key times.

Rule 328(2) of the draft rule requires the modelling to use a one day in 20 years (1:20) peak demand standard, applied monthly, with the aim of supporting monthly and/or seasonal products,[117] to the extent required and wanted by industry. In this way, the proposed new capacity regime is seeking to enable an 'every-day' firmness to allocated capacity certificates, with an improved capability to structure firm transportation during and between the variant seasons of a year.

In addition, the modelling will assume the full availability of those system assets that define the DTS as per the Service Envelope Agreement.[118] As new capacity is introduced via pipeline extensions and expansions, these will be modelled on a similar basis.

4.2.2 New entry and exit zones

To manage the different gas flow dynamics at the reference hub, along lateral pipeline pathways that connect the hub to and from system injection and withdrawal points, and at the system points themselves, it is proposed that the new regime attributes and allocates capacity certificates according to zones and at nominated system points that may share a zone.

It is proposed that this zoning method will replicate what AEMO does at the moment in respect of multiple injection points that share the region of a CPP. We anticipate that zones will not be defined rigidly, but instead there will be flexibility for zones to evolve with new injection points, withdrawal points and pipeline flow behaviour.

Key to this is a determination by AEMO of those zones and system points that together enable the greatest allocation of capacity to support capacity certificates as is feasible, which will be supported by the same process of system capability modelling discussed above. The modelling will enable AEMO to determine the structure of zones that promotes the use and utility of capacity certificates, in respect of both entry and exit, through the consideration of the reference hub, of the major pipeline pathways that extend to/from the hub, and as well as to/from major system injection and withdrawal points. It is expected that this will enable

116 See rule 328 of the Amending Rule.

117 Currently a similar standard is applied over a five-year period, which strands capacity when compared to a monthly calculation.

118 See rule 328(3)(a) of the Amending Rule.

the more efficient allocation of capacity that has a dependency on pathway characteristics of gas flow and use, including where relevant, bi-directional flows.

It will also be possible for zones to be different in respect of entry and exit capacity certificates, and which may allow for:

- greater flexibility for cost to cause attribution in future designs of the uplift mechanism
- scarce capacity to be better shared between multiple system injection points that may share an entry zone
- capacity to be better shared between multiple system withdrawal points in a zone.

The draft rule defines capacity certificates zone in rule 200 of the NGR, whereas rule 328B(8)(c) requires AEMO to define the chosen capacity certificates zones in the capacity certificates auction procedures.

4.3 The matter of injection dependency

The unique physical characteristics of the Victorian system mean that the benefits of withdrawal rights are difficult to realise without commensurate injections within the day, and often from sources that can respond to the limited flexibility enabled by linepack and pressure management. Indeed, the first tranche of authorised MDQ was allocated in total on the basis of the quantum of supply that was deliverable from Longford, and it was understood that the initial Longford supply contracts shared an allocation commensurate with the AMDQ share of retailers. To provide market participants with greater control over the scheduling priority of these injections, the daily market design provided a minimum daily quantity constraint that could be applied to injections. The primacy of injections from Longford together with a mechanism for priority scheduling attributed an implied point-to-point transmission access quality to authorised MDQ.

As new sources of supply became available, this injection dependency was strengthened with the introduction of AMDQ cc that require injections to be delivered to support a hedge for congestion uplift that is applied to withdrawals. Further, the injection dependency was made more explicit in 2007 when AMDQ was required for injection tie-breaking in the event of equally beneficial injection offers.

Currently, in order to achieve some protection from congestion uplift, holders of AMDQ must be assigned a nominated injection hedge; this de-rates the capacity benefit from the AMDQ holding in the case that matched injections are short of the quantity of AMDQ. So, there is currently an explicit injection dependency on the realisation of uplift protection from holdings of AMDQ.

Although this characteristic of injection dependency does have relevance in aggregate for the management of the physical system, it does not by itself impose any particular requirement on the AMDQ regime to support an injection test on rights to withdraw.

Instead, what is required is that the totality of mechanisms that define the market and its operation provide a system of incentives that encourage the careful management of supply-demand balance, to the extent required for the safe operation of the physical system.

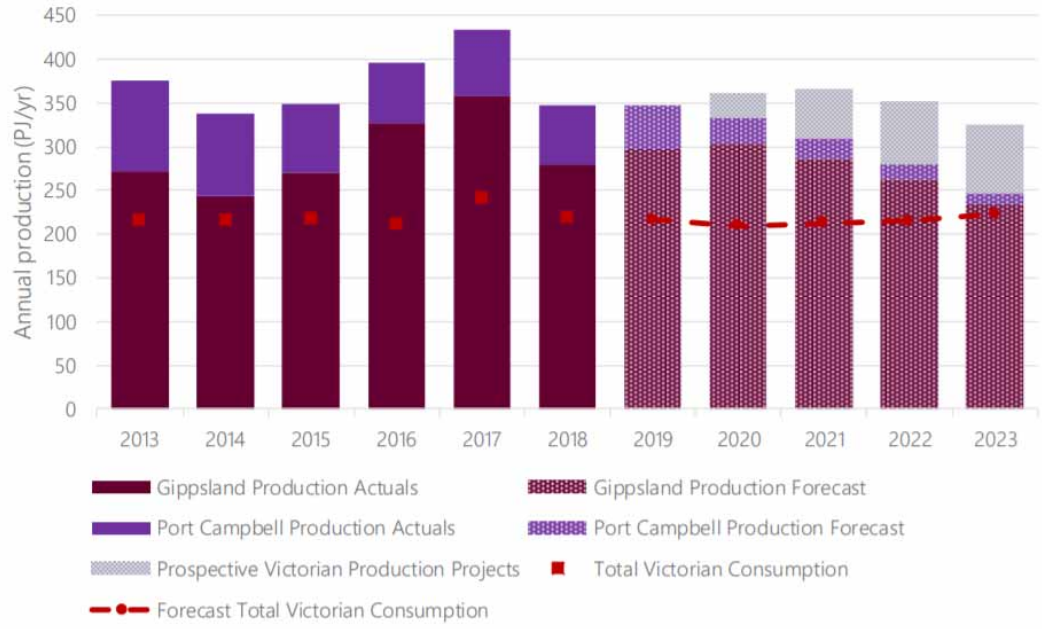
Arguably, the most important of these mechanisms is price, supported by arrangements for ancillary payments and uplift.

BOX 4: DIVERSE SOURCES OF GAS IN THE DWGM

The rationale for the injection test, that participants must inject gas at Longford to activate benefits of their AMDQ, was developed at a time when the DWGM was entirely supplied from gas injected from Longford. Given the increasing diversity of gas supply sources for the DWGM, this injection test will become harder for participants to satisfy over time.

Annual gas demand in Victoria is forecast to increase significantly in coming years. Over this period, production at Longford is projected to decline, as seen in Gippsland production forecast in Figure 4.4 below.

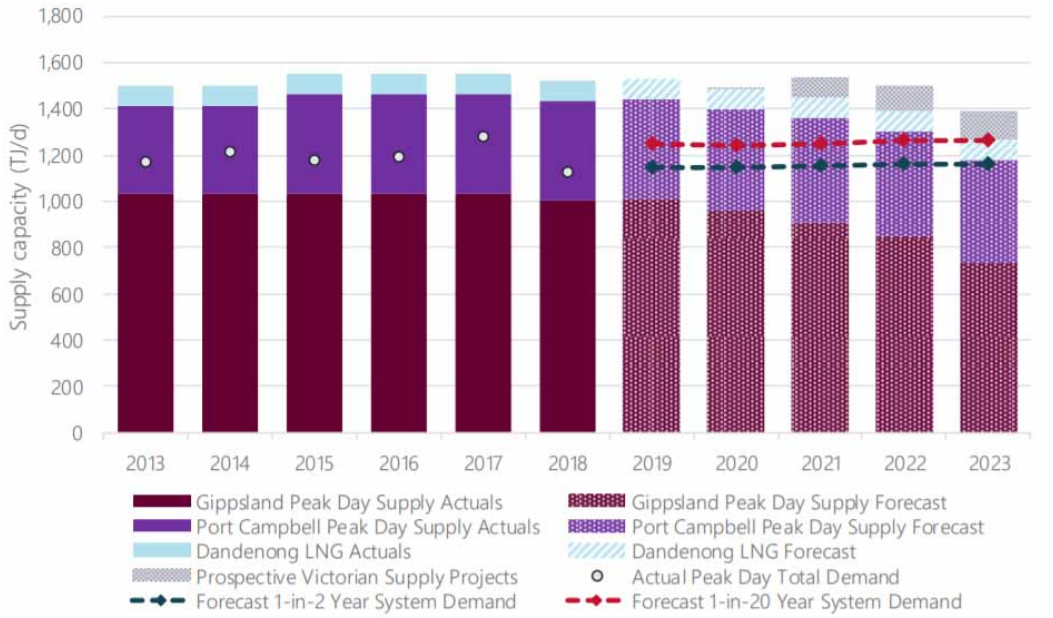
Figure 4.4: Offshore Victoria annual production (PJ/year)



Source: AEMO, 2019 Victoria Gas Planning Report, March 2019, p. 4.

The need for other production sources is particularly apparent during peak demand days. Figure 4.5 below shows historic and forecast supply capacity to meet peak day demand.

Figure 4.5: Peak day supply capacity by location (TJ/day)



Source: AEMO, 2019 Victoria Gas Planning Report, March 2019, p. 8.

There are a number of projects planned or under way that will help meet annual demand:

- AGL LNG import terminal — AGL has proposed a floating storage re-gasification unit at Crib Point. A pipeline from the terminal would interconnect with the Longford to Melbourne pipeline and contribute to meeting both annual and peak demand.
- Lochard Energy is planning an expansion of its Iona Underground Storage facility to 520 TJ/day, up from 440 TJ/day currently. This would help meet demand on high demand days.
- The Western Outer Ring Main (WORM) is expected to be available in 2021 which will increase Port Campbell supply capacity by 16 TJ/day up to 449 TJ/day.
- Linepack on interconnected pipelines (SEA Gas, EGP and TGP) may be available to meet demand on peak days.

Given these significant changes to the forecast gas supply mix, the rationale for the injection test has weakened and should be removed, which is addressed by the *DWGM simpler wholesale price* draft rule.

4.4 Minor changes to the rules

Some other rules of Part 19 of the NGR had some minor amendments to reflect the new terminology and changes to the framework.

- Rules 211, 214, 217, 239, 240, 272 and 343: minor drafting amendments have been made to adopt the terminology of the new capacity certificates regime.

- Rule 327A Register of capacity certificates: removed the subrules that refer to the amount of authorised MDQ allocated to tariff V and D customers, as the Commission has removed the distinction between authorised MDQ and AMDQ cc.
- Rule 328 Information on authorised MDQ and rule 329F AEMO re-allocations of authorised MDQ: these rules have been removed as the Commission has removed the distinction between authorised MDQ and AMDQ cc and therefore they are no longer applicable.
- Rules 329A to 329D of the Amending rule are largely the same as the current rules 329A-329E except that some amendments have been made to clarify them and fit them in under the new framework.

4.5 What does not change?

The capacity certificates that would result from the separation of AMDQ into entry and exit capacity rights would not be firm rights with respect to scheduling.

The DWGM would remain as market carriage: physical access to the DTS would be determined through the DWGM scheduling process, subject to the non-firm physical benefits of entry and exit capacity certificates.

New entry and exit capacity certificates could be created in the same ways AMDQ cc can currently be created:[119]

- *Through the regulatory process:* where an investment in the DTS is part of the regulatory process and leads to greater capacity in the system, new entry and/or exit capacity certificates could be created and auctioned to participants. AEMO might also decide that additional entry and/or exit capacity certificates could be created as a result of having certificates for different tenures, to reflect seasonal demand (discussed in section 5.1.4).
- *Through market led investment:* if a participant underwrites investment in the DTS outside the regulatory led investment process and this leads to additional capacity in the system, the DTS service provider can allocate entry and/or exit capacity certificates to that participant.

4.6 Alternative reform

The AMDQ regime has been modified over the years, with the introduction of AMDQ cc in 2000,[120] the introduction of injection dependency to authorised MDQ in 2007 (in order to align with the new AMDQ cc concept) and in 2010 withdrawal tie-breaking rights were also added to AMDQ (in order to align with treatment on the injection side).[121]

As we are retiring the current framework for authorised MDQ and AMDQ cc, the purpose and value of the AMDQ regime comes up as a question in the market carriage design of the DWGM.

119 See rules 329A-329D of the Amending Rule.
120 Amendments to MSOR gazetted on 18 May 2000.
121 AEMC, *Prioritisation of tied controlled withdrawal bids*, final determination, May 2010.

The draft rule makes a number improvements from current arrangements, including simplifying and clarifying the framework. However, it could be argued that further simplification could be achieved by removing the concept of AMDQ or capacity certificates completely. Eliminating such concept would address the concern that the regime is too complex and could potentially encourage new entry and competition. It would also leave the DWGM as a true market carriage regime.

On the other hand, the benefits provided by AMDQ (tie-breaking, congestion uplift protection and limited curtailment protection) may be necessary features of the market design and without AMDQ, or capacity certificates, other arrangements to allocate these benefits could be needed.

As noted in chapter 3, AGL and ERM Power proposed that rather than reform the AMDQ regime it should be wound back. The AEMC considered this proposal and whether a regime similar to AMDQ was worth retaining. However, the Commission determined that entirely removing the concept of AMDQ, or capacity certificates for that matter, is not within the scope of the current rule change request. If stakeholders consider that the proposed reforms in this draft determination do not address the issues raised in the rule change request with respect to the AMDQ regime and would like removing the regime to be further considered they would need to submit a new rule change request.[122]

122 According s. 295(3)(b) of the NGL only AEMO and the Victorian Minister for Energy can propose changes to the rules relating to the DWGM.

5 PRIMARY ALLOCATION AND SECONDARY TRADING

This chapter discusses the details of:

- how the primary allocation of capacity certificates will occur, via the capacity certificates auction, including auction principles, determination of traded products and eligibility criteria
- how the secondary trading of entry and exit capacity certificates could be enabled through an electronic exchange platform.

5.1 Primary allocation of capacity certificates

The primary allocation of capacity certificates will occur via an auction. This section sets out the main characteristics of the auctions, as defined in the draft rule.

The auction will have many of the same characteristics of the current auctions of AMDQ cc. Rule 329G of the NGR currently sets out the requirements for AEMO to allocate available AMDQ cc on the basis of an auction. It also requires AEMO to make procedures in which it details the process to be followed for such allocation.

5.1.1 Operation of the primary auction

Under the draft rule the primary auction of capacity certificates will be operated by AEMO and managed by similar rules as for the current auctions for AMDQ cc; however, more detail is set out in the NGR for the new framework. AEMO is also required to make capacity certificates auction procedures that will set out further details and requirements for the auctions.[123]

The capacity certificates auction will have the following characteristics, which are set out in rules 328A and 328B of the draft rule:

- The auction will enable the initial allocation of each type of capacity certificates with a specified tenure (termed 'auction products' in the draft rule).
- The total allocation of capacity certificates in the auctions must be consistent with the outcomes of the system capability modelling carried out by AEMO.[124]
- The auction products that are made available must be consistent with the outcomes of the system capability modelling carried out by AEMO.[125]
- Only market participants are eligible to participate in the auctions. This simplifies arrangements for settlements and prudentials and it seems that the capacity certificates are only of value to market participants.[126]

123 See rule 328B(2) of the Amending Rule.
124 See rule 328A(2) of the Amending Rule.
125 See rule 328A(3) of the Amending Rule.
126 See rule 328B(3) of the Amending Rule.

- Auctions will be conducted in one round, with sealed bids and on a pay as cleared basis where all winners pay the same clearing price for the auction product.[127]
- AEMO must use the proceeds of capacity certificates allocated at capacity certificates auctions to offset its costs of operating the declared wholesale gas market.[128]

5.1.2 Calculating the amount of capacity certificates to be released in each auction

A process needs to be established to define the products that will be auctioned, determine the capacity certificates zones that will promote the efficient use of pipeline capacity and calculate the amount of each type of capacity certificates that will be auctioned.

As discussed in section 4.2.1, AEMO will be required to perform system capability modelling at least once a year for the purpose of informing the maximum of each type of auction product (i.e. capacity certificates of various tenures) that can be allocated via the capacity certificates auction. The assumptions of the modelling and results will be published.[129]

The draft rule requires the capacity certificates auction procedures to set out the types of auction products that will be available, the timing of the auctions for each product and the locations of the zones associated with each product (discussed further in section 4.2.2).[130]

AEMO will be required to update the capacity certificates auction procedures at least once every 5 years and also if the system capability modelling indicates that different auction products should be made available.[131] This allows the auction products to adapt to the dynamics of the gas flows in the DWGM and respond to physical changes to the DTS.

5.1.3 Auction eligibility

The draft rule specifies that only market participants are eligible to participate in the auctions.[132] This simplifies arrangements for settlements and prudentials. AEMO can also specify other criteria in the capacity certificates auction procedures that it may deem necessary for participation in the auction.

For example, AEMO could utilise a similar framework currently utilised in the auction of AMDQ cc, as set out in section 6.1.2 of the AMDQ Procedures:

> (a) Only Market Participants with an accredited controllable quantity at the relevant CPP are eligible to receive and hold an allocation of AMDQ credit certificates.
>
> (b) A person that has applied to AEMO both for registration as a Market Participant and for accreditation of a relevant controllable quantity under rule 210 of the NGR may bid for AMDQ credit certificates at an auction, but must meet the eligibility criteria in paragraph (a) by the time allocation occurs.

127 See rules 328B(5), 328B(6) and 328B(7) of the Amending Rule.
128 See rule 328B(19) of the Amending Rule.
129 See rule 328(4) of the Amending Rule.
130 See rules 328B(8) and (9) of the Amending Rule.
131 See rule 328B(10) of the Amending Rule.
132 See rule 328B(3) of the Amending Rule.

(c) AEMO must not allocate certificates to any person who does not meet the eligibility criteria in paragraph (a) at the time of allocation, and that person's bids will be disregarded in determining the allocation.

AEMO may consider whether the restriction on eligible participants having accredited controllable quantities should apply. The restriction means that only participants that are able to make use of the capacity, or have a reasonable prospect of being able to use it in the future, are able to bid in the auctions. This may provide confidence that the capacity certificates could be supported by matching gas supply or transportation and help to prevent market participants holding capacity certificates that are unutilised.[133] However, it is not clear that this is likely to occur, particularly if there are changes to implement secondary trading through which market participants could sell any capacity certificates, or parts of capacity certificates, they are not likely to use.

5.1.4 Determination of traded products

Different tenures

Stakeholders have stated a preference for a mix of tenures for capacity certificates, which expressed a need for a mix of products, including long-term, where products have a tenure of at least three years, and short-term, featuring an annual and seasonal mix of tenures.[134]

Long-term tenures would seem to align with a propensity for three-year retail contracts that are understood to be common with large commercial and industrial gas users. Indeed, it is understood from AEMO's forecasting process (which includes consultation with gas users), that there is a preference for contracting to enable greater certainty of costs. Long-term tenures in this regard would likely assist retailers to structure their operations in the market to deliver improved certainty over this time frame.

Products with an annual tenure would seem to align with the industry's preference for firming and finalising supply and transportation contracts on a year-ahead basis. Moreover, they would complement products having a long-term tenure by enabling market participants to tailor their holdings to manage shorter-term changes in need, say due to the loss of retail customers, or to support a major push to win new customers. These tenures could also help to structure the capacity certificates to match the base, or every-day load of a portfolio that requires a product with a flat load factor (same quantity across all months in a year).

Seasonal or monthly tenures could then assist with sculpting a structure of capacity certificates holdings to match winter needs for capacity that might be higher than during other times of the year. These short-term tenures might also allow value to be obtained via trade in the event of planned outages or other events that require temporary capacity certificates.

The tenures for entry and exit capacity certificates do not need to be the same:

133 This is only required where capacity certificates are attributed to a system point, and in this case, the accreditation applies to a nominated controllable quantity that is co-located.

134 AEMC, *DWGM stakeholder workshop held in Melbourne*, 16 May 2019.

- For example, a system injection point that is associated with a low-cost source of gas supply may support consistent gas flows all year round, in accordance with long-term contracts. In this case there may not be an industry preference for seasonal or annual entry capacity certificates at this zone.
- On the other hand, temperature sensitive customer loads at the reference hub would likely support an industry preference for seasonal uncontrollable exit capacity certificates. In addition, due to the high levels of retail competition, there may be less demand for long-term products.

Minimum requirements

The draft rule includes a set of minimum requirements that AEMO will need to meet in defining the auction products in the capacity certificates auction procedures:[135]

- There needs to be at least one long term product having a duration of at least three years, at least one annual product, and at least one seasonal product.
- The long term product is to have a release percentage of no more than 50 per cent of the available capacity of the DTS (calculated through the system capability modelling).
- Seasonal auction products are to account for at least 10 per cent of the available capacity of the DTS, with the duration and timing of the seasons to be defined by AEMO in the capacity certificates auction procedures.
- Unsold capacity is to roll-forward to the next auction, in the form of the relevant product available at that auction.

These minimum requirements will be a starting point for industry consultation through AEMO's consultation requirements for the capacity certificates auction procedures. This is particularly important prior to the first round of the primary auction.

Timing of primary auctions

Stakeholders have shared their concerns around the pace of change in the gas markets and that this is presenting risks for long-term contracting, and have suggested that capacity certificates could be allocated one to two years ahead of the calendar year in which the capacity certificates might be used.[136]

Some stakeholders expressed a preference for capacity certificates to be offered a few months in advance of a season that might define their use.

The timing of the auctions for the different types of auction products will be set by AEMO in the capacity certificates auction procedures, following consultation with industry.[137]

AEMO is also required to publish an auction notice no later than 20 business days prior to each auction, which sets out the date and time of the auction, the type and amount of each auction product that will be available and the minimum bid quantity for each auction product.[138]

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135 See rule 328B(9) of the Amending Rule.

136 AEMC, *DWGM stakeholder workshop held in Melbourne*, 16 May 2019.

137 See rule 328B(8)(b) of the Amending Rule.

138 See rule 329B(13) of the Amending Rule.

Consultation with industry

AEMO will be required to follow the consultation requirements of the NGR (Part 15B) when procedures are made or modified to confirm that the characteristics of the products addresses industry needs. These requirements include publishing notices on their website and inviting written submissions.

Attributes of capacity certificates that would be consulted on include:

- the different auction products that will be available (i.e. the different tenures for entry capacity certificates, exit capacity certificates and uncontrollable exit capacity certificates)
- the number and timing of auctions throughout the year and how far in advance these will be conducted
- how much of the expected available capacity will be released in each product per auction.

5.1.5 Information provision

The new capacity certificates regime, including the demand for different types of certificates in different zones, should provide signals for investment in new capacity and for the creation and valuation of related products and services.

Clear information can enable signalling for long term capacity investment as well as for innovation in the products and services that may use this capacity.

The method and process according to which capacity certificates are created, allocated and traded should support the routine and timely publication of information to provide signals for investment in new capacity and for related products and services.

After each auction, AEMO will be required to publish the results, including the clearing price, the total quantity allocated and any unallocated quantity.[139]

In the event that capacity is scarce relative to demand, such information should assist industry to understand, create and trade associated products, either via bilateral agreements or a secondary trading platform where this emerges.

As the system capability modelling is used to inform the amount of capacity that is available to support the allocation of capacity certificates, the associated assumptions and data should also be published. AEMO will be required to publish the assumptions and results of the modelling as soon as practicable after it is complete.[140]

5.2 Secondary trading of capacity certificates

The draft rule requires AEMO to propose an amendment to the exchange agreement in accordance with Part 22 of the NGR for the purpose of including a product, or number of products, for trading on the gas trading exchange that would allow for the secondary trading of the whole or part of a capacity certificate by reference to one or more whole gas days.[141]

139 See rule 329B(17) of the Amending Rule.
140 See rule 328(4) of the Amending Rule.
141 See rule 69 in Schedule 2 of the Amending Rule.

This section discusses the potential introduction of a secondary trading platform of entry and exit capacity certificates. It also includes a discussion on the following topics:

- the benefits of introducing a secondary trading platform
- how the platform could leverage the use of existing systems
- the process to determine a set of standardised products for trading.

5.2.1 Benefits of a secondary trading platform

There are a number of benefits that flow from creating a secondary trading platform for capacity certificates, which include:

- reducing the search and transactions costs associated with trading
- improving the flexibility for participants to trade products of different tenures
- shortening the lengthy processing times for processing trades
- improving price discovery by market participants
- allow participants to trade anonymously, avoiding concerns around commercially sensitive information when trading bilaterally.

Together these benefits should lead capacity to be allocated to where it is most highly valued. Market participants who hold capacity certificates can compare the value of the benefits that flow from it against the price that the capacity certificates can be sold for on the secondary trading platform.

5.2.2 Operation of the secondary trading platform

The Commission envisages that the secondary trading of capacity certificates could occur through standardised products on Trayport, which is the system used for the Pipeline Capacity Trading Platform (CTP) and the Gas Supply Hubs (GSHs).

The secondary trading of capacity certificates could be conducted by market participants by either:

- entering bids or offers on standardised products, which are automatically matched through the exchange, or
- entering bilateral (pre-matched) trades in listed, for settlement through the exchange.

It is important to note that although the bids and offers made through the exchange for capacity products are fully anonymous, the trading price and quantity of each of the products would be published and available to all licensed participants.

5.2.3 Advantages in utilising the existing platform

There are several advantages in utilising Trayport to facilitate secondary trading. Trayport is currently used by AEMO for pipeline capacity trading and for the trading of gas on the Gas Supply Hub.[142] The AEMC understands that secondary trading of capacity certificates could be

142 Information on Pipeline Capacity Trading and the Gas Supply Hub can be found here: https://www.aemo.com.au/Gas/Pipeline-Capacity-Trading and https://www.aemo.com.au/Gas/Gas-Supply-Hubs.

easily added to Trayport as an additional exchange, saving on IT and development costs for AEMO.[143] In addition, it is expected that the common trading systems would minimise the administrative burden on market participants and reduce transaction costs for trading capacity in the DTS.

The use of Trayport would also allow for a common settlement across multiple markets and would have a common prudential framework allowing for the pooling of collateral requirements across the different markets operated through Trayport.

An advantage of the exchange is that Trayport will allow for anonymous trading of capacity certificates between participants that would otherwise not trade on a bilateral basis.

Another advantage is that the Trayport exchange would publish prices of executed trades for the different capacity products which would aid market participants in determining the value that other participants place on capacity certificates and assist them in making efficient decisions regarding their holdings of capacity certificates.

5.2.4 Exchange agreement

The gas trading exchange agreement will need to be updated to encompass secondary trading of capacity certificates.

The Commission anticipates that participation in the secondary trading platform would require a valid exchange agreement from market participants, as is currently required for pipeline capacity trading through the CTP and for commodity trades on the Gas Supply Hubs.

The draft rule requires AEMO to propose an amendment to the exchange agreement by 1 January 2022 to facilitate secondary trading of capacity certificates through the gas trading exchange.[144]

For the latest version of the Gas Supply Hub Exchange Agreement see AEMO's website: https://www.aemo.com.au/Gas/Gas-Supply-Hubs/Market-operations.

5.2.5 Recovering costs of the secondary trading platform

AEMO could recover the costs of establishing and operating the secondary trading platform through market participant fees. The recovery of costs could follow a similar methodology to that of the Gas Supply Hubs and Pipeline Capacity Trading Platform.[145]

5.2.6 Bilateral trading

Transfers via bilateral agreement refers to the trading/transfer of entry and exit capacity certificates outside of the primary auction and any secondary trading platform.

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143 The Commission is seeking additional information from AEMO on the likely costs of introducing a secondary trading platform.

144 See rule 69 in Schedule 2 of the Amending Rule.

145 The full fee schedule for these services is available on AEMO's website: https://www.aemo.com.au/About-AEMO/Energy-market-budget-and-fees.

The Commission notes that this type of trading will still be allowed, however these trades will be required to be registered with AEMO and subject to the requirements set out in the capacity certificates transfer procedures.[146]

5.3 Trading capacity certificates under the new framework

Table 5.1 below provides a few examples on how trading of capacity certificates would work in practice.

Table 5.1: Trading capacity certificates under the new framework

EXAMPLE	TRADING OPTIONS

Example 1
• A retailer serves customers with a diverse range of supply needs and demand risks.
• The retailer must manage long and short term risks.
	Primary auction
	• Purchase a long-term (i.e. 3 year) entry capacity certificates to support long term business customers.
	• Annual purchases of 1 year entry capacity certificates to address customer growth.
	• Purchase seasonal products to manage load-factor weather risk.
	Secondary trading platform (if available)
	• The retailer could adjust its position over time via secondary trading
	  • Any time trading of standard products
	  • Day-ahead trading to support nominations
	  • Transparency of pricing
	  • Low transaction costs

Example 2 • A large industrial plant that is a market participant and holds entry and exit capacity certificates is planning to shut down its factory for a month.	• The customer can offer its entry and exit capacity certificates on the secondary trading platform (if available) or bilaterally and trade it with another participant for a specific period.
Example 3 • A retailer wishes to refill the Iona gas storage facility over summer, in preparation for upcoming winter demand.	• Option A: the retailer can buy exit capacity certificates as a seasonal product in the primary auction. • Option B: the retailer can buy "as needed" exit capacity certificates via the secondary trading platform (if available) or through bilateral trades.

146 See rule 331 of the Amending Rule.

EXAMPLE	TRADING OPTIONS
• It purchases seasonal exit capacity certificates for the summer period for exit at Iona, which provides tie-breaking rights to withdraw gas from the DTS at Iona for the summer period.	

Note: The examples provided above reflect not only the separation of AMDQ into entry and exit capacity certificates, but also includes examples on how the secondary trading of capacity certificates and capacity certificates of different tenures would work in practice.

6 IMPLEMENTATION OF THE DRAFT RULE

This chapter sets out the proposed timeframe for implementing the draft rule, including the interim steps that may need to be undertaken by market participants and AEMO before commencement of the rule.

6.1 Preparing for implementation

6.1.1 AEMO's system changes and procedures

As a consequence of the draft rule, AEMO will be required to update its procedures and systems to give full effect to the improved DWGM capacity certificates regime.

The Commission has identified the following documents and procedures that will require some modification in order to comply with the draft rule:

- Gas scheduling procedures
- Electronic communication procedures
- Gas load curtailment and gas rationing and recovery guidelines
- Uplift payment procedures
- Gas trading exchange agreement

There may be additional procedures or documents that require updating to take account of the draft rule. It is worth noting that once the new capacity certificates regime commences, some operations in support of the current and future regime will need to be maintained concurrently, in particular to support delayed and sequenced settlement processes that publish preliminary, final and revised settlement statements over a period after the gas day.

6.2 Proposed commencement

The Commission recognises that system changes are not a trivial task, and require careful planning and management, detailed design work, and thorough testing.

At this stage, the Commission is of the view that it would take around 24 months from the time the final determination is published to consult on and finalise the necessary procedures and to make the necessary system changes, which includes software development, testing and implementation.

In addition, the Commission is of the view that this draft rule should be implemented as a package with the commencement to occur at the start of the next access arrangement period, on 1 January 2023. The benefit of this approach is to minimise implementation costs for participants and consumers.

6.3 Transitional arrangements

The current access arrangement for the Victorian Transmission System expires on 31 December 2022 and any revised access arrangement application must be lodged with the

AER by 1 January 2021. Therefore, it is expected that the implementation of any final rule will be able to be taken into account in APA's revised access arrangement application.

However, once the new access arrangement commences, some operations in support of the current AMDQ and future capacity certificates regime will need to be maintained concurrently, in particular to support delayed and sequenced settlement processes that publish preliminary, final and revised settlement statements over a period of months after the gas day.

Stakeholder input is sought on the following transitional arrangements specified in the draft rule (which assume a final rule is made in December 2019):[147]

- By 1 January 2022:
  - AEMO to prepare, consult and publish any necessary changes to *existing* procedures.
  - AEMO to carry out the first round of system capability modelling, in accordance with the requirements of the new rules.
  - AEMO to propose an amendment to the exchange agreement for the purpose of including a product, or number of products, for trading based on the gas trading exchange as a secondary trading platform.
- By 1 April 2022
  - AEMO to prepare, consult and publish the *new* procedures required by the new rules, which are the capacity certificates auction procedures and the capacity certificates transfer procedures.
- By 1 October 2022
  - AEMO to publish the notice of the first auction of capacity certificates in accordance with the requirements of the new rules.

In addition, the transitional rule also provides for a number of other matters to make the transition from the existing framework to the new framework.

Rule 72(1) provides that any capacity certificates allocated or auctioned between the effective date (being the date the final rule is made) and the commencement date (being 1 January 2023) must expire on 31 December 2022. The purpose of this rule is to make clear that all current AMDQ ccc will expire on the end of the gas day on 31 December 2022 so that a smooth transition can be made to cross over to the new capacity certificates regime on and from 1 January 2023.

However, the Commission understands that there is a current allocation of 30TJ of AMDQ cc at Culcairn that expires on 30 June 2023. Therefore, rule 72(2) allows for this allocation to be brought across to the new framework on the commencement date by converting the AMDQ cc into an equivalent allocation of capacity certificates, being an entry capacity certificate of 30TJ at Culcairn. The expiry date remains the same. This will provide the current holder of this AMDQ cc with the benefits associated with entry capacity certificates for the period 1 January 2023 to 30 June 2023. The Commission is not aware of any other AMDQ cc that expires after 31 December 2022.

147 See Schedule 2 of the Amending Rule.

Rule 72(3) makes clear that the effect of the draft rule is to place an expiration date on all current authorised MDQ allocated to tariff D and tariff V withdrawal points and any authorised MDQ allocated to the declared transmission system service provider. Therefore, under the draft rule, all current holdings of authorised MDQ remain in place only up until the commencement date of the rule, being the end of the gas day on 31 December 2022. The Commission's reasons for this decision are discussed further in section 4.1.5 of this draft determination.

ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AMDQ	Authorised maximum daily quantity
AMDQ cc	AMDQ credit certificates
AMIQ	Authorised maximum interval quantity
Background paper	Victorian DWGM Background Paper
COAG Energy Council	Council of Australian Governments' Energy Council
Commission	See AEMC
CPP	Close Proximity Injection Point
CTP	Capacity Trading Platform
DTS	Declared Transmission System
DWGM	Declared Wholesale Gas Market
DWGM Review	Review of the Victorian declared wholesale gas market
EGP	Eastern Gas Pipeline
GSH	Gas Supply Hub
MSOR	Market and System Operations Rules
NFTC	Net flow transmission constraint
NGL	National Gas Law
NGO	National gas objective
NGR	National Gas Rules
TGP	Tasmanian Gas Pipeline
VTS	Victorian Transmission System
WORM	Western Outer Ring Main

A LEGAL REQUIREMENTS UNDER THE NGL

This appendix sets out the relevant legal requirements under the NGL for the AEMC to make this draft rule determination.

A.1 Draft rule determination

In accordance with s. 308 of the NGL the Commission has made this draft rule determination in relation to the rule proposed by the Victorian Minister for Energy Environment and Climate Change.

The Commission's reasons for making this draft rule determination are set out in section 2.4.2.

A copy of the more preferable draft rule is published with this draft rule determination. Its key features are described in section 2.1.

A.2 Power to make the rule

The Commission is satisfied that the more preferable draft rule falls within the subject matter about which the Commission may make rules. The draft rule falls within s. 74 of the NGL as it relates to the operation of a declared wholesale gas market and the activities of persons in a regulated gas market.

Under s. 296 of the NGL, the Commission may make a rule that is different (including materially different) to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule will or is likely to better contribute to the achievement of the NGO. The Commission is satisfied that the more preferable draft rule will, or is likely to, better contribute to the achievement of the NGO. The Commission's reasons are set out in chapter 2, 4, 5 and 6.

A.3 Commission's considerations

In assessing the rule change request the Commission considered:

- its powers under the NGL to make the rule
- the rule change request
- feedback provided at the workshop on 16 May 2019
- submissions received during the first round of consultation
- the ways in which the proposed rule will, or is likely to, contribute to the NGO.

There is no relevant Ministerial Council on Energy (MCE) statement of policy principles for this rule change request.[148]

148 Under s. 73 of the NGL the AEMC must have regard to any relevant MCE statement of policy principles in making a rule. The MCE is referenced in the AEMC's governing legislation and is a legally enduring body comprising the Federal, State and Territory Ministers responsible for energy. On 1 July 2011, the MCE was amalgamated with the Ministerial Council on Mineral and Petroleum Resources. The amalgamated council is now called the COAG Energy Council.

The Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper performance of Australian Energy Market Operator (AEMO)'s declared system functions.[149] The more preferable draft rule is compatible with AEMO's declared system functions because it does not change those functions.

A.4 Civil penalties

The Commission cannot create new civil penalty provisions. However, it may recommend to the COAG Energy Council that new or existing provisions of the NGR be classified as civil penalty provisions.

The draft rule does not amend any clauses that are currently classified as civil penalty provisions under the NGL or National Gas (South Australia) Regulations. The Commission does not propose to recommend to the COAG Energy Council that any of the proposed amendments made by the draft rule be classified as civil penalty provisions.

A.5 Conduct provisions

The Commission cannot create new conduct provisions. However, it may recommend to the COAG Energy Council that new or existing provisions of the NGR be classified as conduct provisions.

The draft rule omits rule 328(2) but does not insert an equivalent or similar rule. In the draft rule, rule 328(2) is an entirely different rule with different requirements. Therefore, the Commission considers that this rule should cease to be a classified as a conduct provision.

149 Section 295(4) of the NGL.