



Australian Energy Market Commission

RULE DETERMINATION

NATIONAL GAS AMENDMENT (DWGM IMPROVEMENT TO AMDQ REGIME) RULE 2020

PROPONENT

Victorian Minister for Energy, Environment and Climate Change

12 MARCH 2020

RULE

INQUIRIES

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

E aemc@aemc.gov.au
T (02) 8296 7800
F (02) 8296 7899

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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.

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SUMMARY

1 The Australian Energy Market Commission (AEMC or Commission) has made a 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 an auction run by AEMO to gain the benefits of injection and withdrawal tie-breaking.

2 The rule, which is a more preferable 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 In deciding to make this rule, the Commission has taken into account interactions with the rule for the separate rule change on *National Gas Amendment (DWGM simpler wholesale price) Rule 2020*.

Background

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 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).

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.

Features of the rule

7 From the commencement of the next DTS access arrangement period on 1 January 2023, the final rule retires the current instruments of authorised MDQ and AMDQ credit certificates (AMDQ cc), and replaces these with a new regime consisting of:

- entry capacity certificates that provide injection tie-breaking benefits
- exit capacity certificates that provide withdrawal tie-breaking benefits.

- 8 The changes do not affect current holders of AMDQ cc as these expire before the commencement of the new regime on 1 January 2023.¹ 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.
- 9 The allocation of capacity certificates will primarily occur via the capacity certificates auction, which will be operated by AEMO.
- 10 Capacity certificates are for entry or exit within a zone and AEMO is required to determine the capacity certificates zones and publish these in a register. AEMO is also required to conduct system capability modelling at least annually to inform AEMO's determination of the types and amounts of capacity certificates available at each auction.
- 11 The final rule introduces a number of requirements to implement the capacity certificates auction, including the following:
- Certificates will be auctioned at least twice a year, in blocks of monthly certificates that can be bid for as a single month or as a linked bid for multiple months.
 - The key elements of the auction format include that it must take place in one round with a reserve price of zero and must be conducted on a sealed bid, pay as cleared basis, with all winners of a particular auction product to pay the same clearing price per gigajoule (GJ) for that auction product.
 - Participation in the auction is restricted to market participants.
 - AEMO is required to make *Capacity Certificates Auction Procedures* that will set out further details of the auctions and involve industry consultation in their establishment and any subsequent revision.
- 12 Market participants can trade capacity certificates between each other and AEMO will develop *Capacity Certificates Transfer Procedures* for requests to AEMO to transfer capacity certificates to give effect to a trade. To enhance market transparency, AEMO will report information about capacity certificate transfers. The final rule also requires AEMO to develop a listing service, which market participants can use to list any capacity certificates they may want to buy or sell.²
- Benefits of the more preferable rule**
- 13 Having regard to the issues raised in the rule change request, the Commission is satisfied that the more preferable rule is likely to contribute to the achievement of the National Gas Objective. The final rule:
- improves the ability of market participants to obtain capacity certificates to manage scheduling risk through tie-breaking benefits

1 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 final rule converts this allocation into an equivalent capacity certificate, being an entry capacity certificate at the relevant zone to be determined by AEMO, for this additional period.

2 AEMO is required to publish this information under rule 330(3) of the Amending Rule. See the definition of 'publish' in rule 200 of the NGR.

- 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 promotes efficient use of pipeline capacity
- encourages more efficient allocation of pipeline capacity by allowing market participants to buy a set of entry and exit capacity certificates, that gives greater price and volume certainty to their preferred gas transportation pathways
- improves and simplifies current arrangements, which may encourage new entrants and promote competition in upstream and downstream markets and inter-regional trade.

Legacy arrangements

- 14 The changes in the final rule do not affect current holders of AMDQ cc as the majority of these expire before the commencement of the new regime.³
- 15 The final rule does not convert any legacy holdings of authorised MDQ into capacity certificates under the new regime.
- 16 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 under the existing regime 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 the new capacity certificates to be allocated to their highest value use through an auction mechanism. Under the new regime the allocation of entry benefits will not be based on the withdrawals of a market participant or customer.
- 17 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 several reasons:
- Authorised MDQ is a 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.

Key changes between the draft and the final rule

- 18 A number of changes were made between the draft and final rule, with key changes outlined below.
- 19 The draft rule proposed the concept of uncontrollable exit capacity certificates to provide

³ 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 final rule converts this allocation into an equivalent capacity certificate, being an entry capacity certificate at the relevant zone to be determined by AEMO, for this additional period.

congestion uplift hedge protection in replacement of authorised MDQ that is currently owned by tariff D gas consumers and held on behalf of tariff V gas consumers by AEMO. The final rule does not include the concept as under the *DWGM simpler wholesale price* rule change the Commission has decided to remove the link between authorised maximum daily quantity (AMDQ) or capacity certificates and uplift payments, such that a congestion uplift category is no longer required.

20 Under the draft rule limited curtailment protection in some circumstances was provided by uncontrollable exit capacity certificates. The final rule removes the link between capacity certificates and curtailment protection as the Commission believes that it is more appropriate for the curtailment requirements to be determined under the National Gas (Victoria) Act 2008, which requires broader consideration of economic and social needs, than to be based on holding capacity certificate under the National Gas Rules.

21 The draft rule proposed that the primary allocation of capacity certificates would be via auctions of products with different tenures, with 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 auctions were to have many of the same characteristics of the current auctions of AMDQ cc. Following further analysis and stakeholder consultation the final rule has moved to a partial combinatorial auction design that is based on products with a monthly tenure that can be bid for as single months or for multiple months through linked bids. Refinement of the auction design has resulted in several changes between the draft and final rule, as discussed in Chapter 5.

Commencement

22 Under the final 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 final rule and to conduct the first system capability modelling.

23 The listing service for buying and selling capacity certificates will also commence from 1 January 2023.

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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 prevent 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 apply 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 issues¹³ 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 proposed the following changes, which are based on the AEMC's recommendation in its final report of the *DWGM Review*:¹⁶

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, the proposed changes would contribute to the national gas objective (NGO) in the following manner:¹⁷

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

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.

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.

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 considered that this extension was necessary due to the complexity of the issues raised in the rule change request.

On 5 September 2019 the Commission published a draft determination, along with a more preferable draft rule. Submissions closed on 24 October 2019. The Commission received 13 submissions as part of the second round of consultation.

On 14 November 2019 the Commission published a notice under s. 317 of the NGL to extend the publication date of the final determination to 12 March 2020. The Commission considered that this extension is necessary due to the complexity and volume of the issues raised in stakeholder submissions.

The Commission formed a technical working group to discuss implementation issues and interactions between the rule changes on *DWGM simpler wholesale price* (GRC0049) and *DWGM improvement to AMDQ regime* (GRC0051). Working group meetings were held on 9 December 2019 and 3 February 2020.

The Commission considered all issues raised by stakeholders in submissions and feedback provided at workshops. Issues raised in submissions are discussed and responded to throughout this final rule determination. Issues that are not addressed in the body of this document are set out and addressed in Appendix A.

1.7 Related final determination on DWGM simpler wholesale price

In considering the final determination on this *DWGM improvements to AMDQ regime* rule change, the Commission has considered interactions with the final determination and the accompanying final rule on *DWGM simpler wholesale price*. The final determinations and final rules for both of these DWGM rule changes have been published on 12 March 2020.

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

2 FINAL RULE DETERMINATION

This chapter outlines:

- the Commission's final 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 final rule against the national gas objective
- the interactions with the *DWGM simpler wholesale price* rule change.

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

Key features of the more preferable rule

From the commencement of the next DTS access arrangement period on 1 January 2023, the final rule retires the current instruments of authorised MDQ and AMDQ cc and replaces these with a new regime consisting of entry and exit capacity certificates. The final 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 and exit capacity certificates based on the benefits they provide.²³

The changes do not affect current holders of AMDQ cc as these expire before the commencement of the new regime on 1 January 2023.²⁴ 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.

AEMO is required to report on tie-breaking events on a daily basis to help market participants understand the value of entry and exit capacity certificates.²⁵

²³ The new definition will be inserted in rule 200 by the Amending Rule.

²⁴ 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 final rule converts this allocation into an equivalent capacity certificate, being an entry capacity certificate at the relevant zone to be determined by AEMO, for this additional period.

²⁵ See rule 214A of the Amending Rule.

The primary allocation of capacity certificates in respect of existing and new capacity will occur via the capacity certificates auction, which will be operated by AEMO.²⁶

Capacity certificates are for entry or exit within a zone and AEMO is required to determine the capacity certificates zones and publish these in a register.²⁷ AEMO is also required to conduct system capability modelling at least annually²⁸ to inform AEMO's determination of the types and amounts of capacity certificates available at each auction.²⁹

The final rule introduces a number of requirements to implement the capacity certificates auction, including the following:

- The key elements of the auction format include that it must take place in one round with a reserve price of zero and must be conducted on a sealed bid, pay as cleared basis, with all winners of a particular auction product to pay the same clearing price per GJ for that auction product.³⁰
- Participation in the auction is restricted to market participants.³¹
- AEMO is required to make *Capacity Certificates Auction Procedures*, which will involve industry consultation in their establishment and any subsequent revision. The procedures must set out:³²
 - the process for conducting the auctions
 - the approach AEMO uses for system capability modelling
 - information about the method AEMO uses to determine the quantity of each auction product available to auction and the auction quantity (the quantity of each auction product to be offered for allocation in the auction)
 - the frequency of auctions and how far in advance of the start of the rolling forward period they will be held
 - billing and settlement requirements
 - the form of auction participation agreement and payment security arrangements, if either of these is required by AEMO
 - arrangements for a person to participate in the auction through an agent
 - a description of the information to be published before and after each auction, including the auction results
 - the arrangements for AEMO to consult on the proposed allocation of system injection points or system withdrawal points to capacity certificates zones.

In addition, within 5 years of the first capacity certificates auction and at least every 5 years after that, AEMO will be required to revisit some elements of the auction and auction products, such as: the frequency of capacity certificates auctions and how far in advance of

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

27 See rule 327B of the Amending Rule.

28 See rule 328 of the Amending Rule.

29 See rule 328B of the Amending Rule.

30 See rule 328C of the Amending Rule.

31 See rule 328B(5) of the Amending Rule.

32 See rule 328D of the Amending Rule.

the start of the rolling forward period they are held, the capacity release schedule determined under rule 328B(4), and the determination of capacity certificate zones under rule 328A(1).³³

The final rule also requires AEMO to develop a listing service, which market participants can use to list any capacity certificates they may want to buy or sell.³⁴

Bilateral trading of capacity certificates will still be allowed and AEMO will develop *Capacity Certificates Transfer Procedures* to enable market participants to give effect to trades.³⁵ In addition, AEMO must by the following gas day publish the type and quantity of capacity certificates transferred and the period they relate to. AEMO is not permitted to publish the names of the parties to the transfer.³⁶

The final rule is a more preferable rule because it:

- Retires the current concepts of authorised MDQ and AMDQ cc (AMDQ generally) and extinguishes current holdings of authorised MDQ.
- 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).
- Does not require AEMO to implement a secondary trading platform, but instead, requires AEMO to develop a listing service, which market participants can use to list any capacity certificates they may want to buy or sell.

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

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

The Commission also formed a technical working group to discuss implementation issues and interactions between this rule change and the *DWGM simpler wholesale price* (GRC0049). Working group meetings were held on 9 December 2019 and 3 February 2020.

The Commission considered all issues raised by stakeholders in submissions and feedback provided at the working group meetings. Issues raised in submissions and working group meetings are discussed and responded to throughout this final rule determination. Issues that are not addressed in the body of this document are set out and addressed in Appendix A.

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

33 See rule 328E of the Amending Rule.

34 See rule 330 of the Amending Rule.

35 See rule 331 of the Amending Rule.

36 See rules 331(6) and (7) of the Amending Rule.

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).³⁷ This is the decision-making framework that the Commission must apply.

The NGO is:³⁸

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 in section 2.4.

2.3 Assessment framework

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

- **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.³⁹
- **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.

³⁷ Section 291(1) of the NGL.

³⁸ Section 23 of the NGL.

³⁹ 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.

- **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

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

AEMO has estimated that their total cost of implementing this rule change and changes to the *DWGM simpler wholesale price* rule change is between \$8.2 to \$11.5 million. This estimate includes changes to AEMO's systems, including the development of new systems and the changes to existing systems. Given the large volumes of gas traded in the DWGM (around 248 PJ in 2019), the cost estimate of these changes equates to around \$0.01/GJ for the volume of gas traded over a 5-year period.

The Commission acknowledges that each market participant may also incur some costs in updating their internal systems, however no implementation cost estimates were provided by market participants.

Implementation costs need to be considered against cost savings over time due to the simplifications and improvements achieved through this rule change, as well as broader efficiency gains.

The Commission is of the view that the benefits of implementing this rule change, including improving risk management options and promoting competition, are likely to outweigh the implementation costs. These benefits are summarised below.

Effective risk management in the DWGM

Improving the capacity certificates regime should better enable market participants to manage scheduling risk through tie-breaking rights. The creation of separate entry and exit capacity certificates will allow market participants to purchase only the rights that they value. Market participants that only value injection (or withdrawal) tie-breaking rights will be able to bid for entry (or exit) capacity certificates.

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 for their preferred transportation pathways.

Trading between the DWGM and interconnected pipelines

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

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 simplifies interaction with the DWGM this will encourage new supply sources (e.g. interstate gas supplies or potentially LNG imports) to participate. Ease of entry for new supply sources is likely to be important as AEMO forecasts that declining production from southern gas fields raises the potential for supply shortfalls from 2024.⁴⁰

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.

Ultimately, these changes are aimed at encouraging entry of new market participants into the DWGM. Increased entry should facilitate competition placing downward pressure on prices paid by end-consumers.

Regulatory and administrative burden

The improvements to the regime should reduce the regulatory and administration burden on market participants and tariff D customers. The creation of separate entry and exit capacity certificates replace authorised MDQ and AMDQ cc. The *DWGM simpler wholesale price* final rule to remove the congestion uplift category means that the new capacity certificates will no longer provide a congestion uplift hedge.⁴¹ These rule changes together mean that market participants will be able to bid for entry and (or exit) capacity certificates with in line with their injection (or withdrawal) needs. Under the new regime participants that only value AMDQ rights for the congestion uplift hedge will no longer have to bid for or hold capacity certificates under the new regime, reducing their administrative burden.

2.5

Interaction with DWGM simpler wholesale price rule change

In considering the final determination on this rule change, the Commission has considered interactions with the final determination and the accompanying final rule on *DWGM simpler*

⁴⁰ AEMO, *Gas Statement of Opportunities*, March 2019.

⁴¹ See the project page on DWGM simpler wholesale price at <https://www.aemc.gov.au/rule-changes/dwgm-simpler-wholesale-price>

wholesale price. The final determinations and final rules for both of these DWGM rule changes have been published on 12 March 2020.

The key aspects of the *DWGM simpler wholesale price* final rule are that it:

- requires AEMO to take into account transmission constraints that affect withdrawals of controllable quantities of gas at system withdrawal points in pricing schedules, which determine market prices
- removes the link between AMDQ or capacity certificates and uplift payments, such that a congestion uplift category is no longer required.

The rule retains the current principle that uplift payments are to be allocated so far as practicable to market participants that caused the need for ancillary payments, however, it removes rules that require AEMO to take into account the extent to which a market participant's use of gas is in excess of a baseline derived from AMDQ or capacity certificates. The Commission considers that such a baseline-based congestion uplift mechanism does not appropriately allocate cost to cause and would involve unwarranted complexity and cost.

The decision to no longer require a congestion uplift category means that congestion uplift protection is not provided by entry or exit capacity certificates. The interaction between the more preferable rule accompanying this rule determination, and the rule accompanying the final determination on *DWGM simpler wholesale price*, are discussed further in chapter 4.

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.⁴² The nomination must also be consistent with the underlying physical capacity of the DTS, with AEMO applying locational factors to any nominations.⁴³

⁴² 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.

⁴³ 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.⁴⁴

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

⁴⁴ 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.⁴⁵

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 participants⁴⁶
- 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.⁴⁷

BOX 1: AMDQ TRANSFERS

Permitted transfers of authorised MDQ

Transfers of authorised MDQ can only be undertaken between:

⁴⁵ 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.

⁴⁶ 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.

⁴⁷ 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,⁴⁸ 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.⁴⁹ 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.⁵⁰
- *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.⁵¹
- *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.⁵²

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

48 APA is the owner of the DTS, responsible for building and maintaining the network, while AEMO is responsible for its operation.

49 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.

50 Rule change request, p. 2.

51 Setting up and managing the Agency Injection Hedge Nomination is complex.

52 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.⁵³ 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.

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 4.2.4).

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.

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

⁵³ See: <http://www.aemc.gov.au/rule-changes/portfolio-rights-trading>.

⁵⁴ Rule change request, pp. 4-5.

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

Consultation paper submissions

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

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.

would open up the market to more participants and encourage new entrants, as well as enable more efficient use of the DTS.⁵⁹

Draft determination submissions

Again, many stakeholders expressed their support for the overarching policy intent in response to the draft determination and draft rule.⁶⁰ However, even though some stakeholders expressed their support in principle, they argued that such support would be subject to the costs of the reform.⁶¹

Origin, on the other hand, noted it has significant concerns around the 'fundamental' changes proposed to the congestion uplift and AMDQ frameworks.⁶²

The ACCC noted that the AEMC's review of this regime is within the broader context of the COAG Energy Council's vision of a liquid wholesale gas market which promotes trade between markets. In their view, to date, the east coast market is not delivering this liquidity under existing arrangements and the proposed rule change will assist in this objective.⁶³

The AER indicated its support for initiatives to remove unnecessary complexity that may be serving as a disincentive to new entrants and/or hindering cross-border trade of gas; and to provide both new and potential market participants with improved ability to manage price and scheduling risk.⁶⁴

ERM Power, on the other hand, noted it is not convinced that the arrangements proposed by the AEMC would result in material benefits relative to the *status quo*. In addition, it raised concerns that there is a risk that the AEMC's proposed capacity rights regime may in fact lead to increased costs to market participants and ultimately gas consumers.⁶⁵

A summary of stakeholders' feedback for each area of the proposed changes and on implementation are shown below.

3.3.1

Separate entry and exit rights

Consultation paper submissions

Stakeholders were generally supportive of introducing separate, tradable, location specific entry and exit AMDQ rights within the DTS.⁶⁶ 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.⁶⁷

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

59 Submissions to consultation paper: AER, p. 5; AEMO, p. 1; Lochard Energy, p. 1; Major Energy Users, p. 5; Qenos, p. 2.

60 Submissions to draft determination: AEMO, p. 1; ACCC, p. 1; AER, p. 1; Victorian Government, p. 2; Lochard Energy, p. 1; Major Energy Users, p. 2.

61 Submissions to draft determination: AGL, p. 1; EnergyAustralia, p. 1.

62 Origin, *submission to draft determination*, p. 1.

63 ACCC, *submission to draft determination*, p. 1.

64 AER, *submissions to draft determination*, p. 1.

65 ERM Power, *submission to draft determination*, p. 2.

66 Submissions to consultation paper: AEMO, p. 1; Lochard Energy, pp. 1, 4; Major Energy Users, p. 5; Origin, p. 5.

67 Submissions to consultation paper: ERM Power, p. 3; AGL, p. 1.

- It would simplify arrangements and allow for more efficient use of AMDQ rights.⁶⁸
- 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 limit⁶⁹ regardless of whether the *DWGM simpler wholesale price* rule change proceeds.⁷⁰
- 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 1999.⁷¹
- 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.⁷² 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.⁷³

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.⁷⁴

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 rights and suggest that while the AEMC assesses the benefits and impacts, alternative options should be considered.⁷⁵

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.⁷⁶

Draft determination submissions

Various stakeholders expressed their support for the introduction of separate entry and exit capacity certificates to access tie-breaking rights for injections and withdrawals:

68 Submissions to consultation paper: AEMO, p. 1; Lochard Energy, pp. 1; 4.

69 Submissions to consultation paper: AEMO, attachment 1, p. 4; Origin, p. 5.

70 AEMO, *submission to consultation paper*, attachment 1, p. 3.

71 Major Energy Users, *submission to consultation paper*, p. 5.

72 Submissions to consultation paper: Lochard Energy, p. 4; AEMO, attachment 1, p. 4.

73 Origin, *submission to consultation paper*, pp. 1-2.

74 EnergyAustralia, *submission to consultation paper*, p. 5.

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

76 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.

- AEMO noted the ability for a greater number of participants to access tie-breaking rights for injections and withdrawals through a market-based mechanism will lead to more efficient outcomes in the DWGM.⁷⁷
- EnergyAustralia said there is potential value in the creation of entry and exit capacity rights, particularly to support withdrawals from the DTS to replace the current arrangements of nominating existing AMDQ to close proximity points.⁷⁸
- Origin's view was that the draft proposal to introduce a new framework of entry/exit capacity certificates that provide distinct injection/withdrawal tie-breaking rights would likely assist with simplifying the existing framework, while also ensuring market participants can continue to effectively manage scheduling risk and exposure to the wholesale market price. They also noted that coupled with the auctioning of capacity certificates across different tenure ranges, it may also improve the ability for participants to access tie-breaking rights at their preferred locations.⁷⁹
- AGL noted the primary benefit of this aspect of the draft determination is that it addresses the current limitations of Authorised MDQ, which originate from the Longford close proximity point and are allocated to Tariff V and Tariff D customers. They also noted that the draft determination allows non-retailer shippers to access capacity certificates, facilitates gas flows across the DTS and supports the development of new gas supply options.⁸⁰

In addition, during the technical working group meeting held in December 2019 stakeholders generally agreed that there is value for tie-breaking certificates to be retained for the DWGM.⁸¹

Legacy arrangements

AEMO considered that the phasing out of authorised MDQ and AMDQ CC is an equitable and efficient outcome for the market.⁸²

However, APA, Major Energy Users (MEU) and Brickworks voiced their concerns about the decision of the Commission to not convert any legacy holdings of authorised MDQ into capacity certificates under the new regime:

- APA argued that authorised MDQ was issued in perpetuity at market start, and it would be understandable for shippers to engage in long term arrangements on the basis of that understanding.⁸³
- Brickworks said that the AEMC will extinguish the AMDQ rights of tariff D consumers with no compensation for the loss and expose large Victorian gas consumers to additional costs.⁸⁴

77 AEMO, *submission to draft determination*, pp. 2;8.

78 EnergyAustralia, *submission to draft determination*, p. 3.

79 Origin, *submission to draft determination*, p. 3.

80 AGL, *submission to draft determination*, p. 2.

81 AEMC, *DWGM rule changes technical working group minutes*, 9 December 2019.

82 AEMO, *submission to draft determination*, p. 8.

83 APA, *submission to draft determination*, p. 2.

84 Brickworks, *submission to draft determination*, p. 1.

- Major Energy Users stated removing AMDQ puts at risk the viability of the larger (tariff D) gas users that made significant investments prior to the advent of the DWGM.⁸⁵

3.3.2

AMDQ available for a range of different tenures

Consultation paper submissions

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.⁸⁶
- It provides a weak signal for future investment in the DTS.⁸⁷

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.⁸⁸

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).⁸⁹
- 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.⁹⁰
- More efficient use of existing pipeline capacity.⁹¹

AEMO suggested that the length of AMDQ tenures should be developed in consultation with industry.⁹² 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.⁹³
- 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.⁹⁴

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.

85 Major Energy Users, *submission to draft determination*, p. 3.

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

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

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

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

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

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

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

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

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

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.⁹⁵

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.⁹⁶

Draft determination submissions

Stakeholders that commented on this issue were supportive of making capacity certificates available for a variety of different tenures, noting that:

- removing barriers that prevent new entrants from procuring short-term capacity will ensure the market takes advantage of the capacity fluctuations available at different periods of the year⁹⁷
- a more granular release of AMDQ (or capacity certificates) to reflect the varying ability of the DTS would support higher and lower levels of AMDQ depending on the time of the year⁹⁸
- making AMDQ cc available for different tenures would assist market participants with purchasing AMDQ cc to meet their individual needs.⁹⁹

In addition, Origin reiterated its view that participants should be able to access long term tenure products (of at least three years in length) through the capacity certificate auction.¹⁰⁰

3.3.3

Secondary trading of AMDQ

Consultation paper submissions

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.¹⁰¹
- It would lower search costs for participants and allow anonymity between sellers and buyers.¹⁰² However, there may be participation limitations that may impact sites with authorised MDQ that are not market participants.¹⁰³

95 Origin, *submission to consultation paper*, p. 5.

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

97 Submissions to draft determination: Victorian Government, p. 2; AEMO, p. 8.

98 EnergyAustralia, *submission to draft determination*, p. 4.

99 AGL, *submission to draft determination*, p. 3.

100 Origin, *submission to draft determination*, p. 1.

101 Submissions to consultation paper: AEMO, attachment 1, pp. 2 and 6; ERM Power, p. 3; AGL, pp. 2-3; Qenos, p. 2.

102 Submissions to consultation paper: AEMO, attachment 1, p. 6; Lochard Energy, p. 4.

103 AEMO, *submission to consultation paper*, attachment 1, p. 6.

- It would remove the possible existing bias towards incumbent participants as currently AMDQ is auctioned only every five years.¹⁰⁴
- 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.¹⁰⁵
- 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.¹⁰⁶
- 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.¹⁰⁷

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.¹⁰⁸

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:¹⁰⁹

- 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.¹¹⁰

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.¹¹¹

104 AER, *submission to consultation paper*, p. 5.

105 Submissions to consultation paper: AER, p. 5; AEMO, attachment 1, p. 5.

106 AEMO, *submission to consultation paper*, attachment 1, p. 5.

107 AGL, *submission to consultation paper*, pp. 2-3.

108 AGL, *submission to consultation paper*, p. 3.

109 AEMO, *submission to consultation paper*, attachment 1, pp. 6-7.

110 AEMO, *submission to consultation paper*, attachment 1, p. 8.

111 Submissions to consultation paper: ERM Power, p. 3; AER, p. 5.

- EnergyAustralia noted that any prudential requirements for an AMDQ trading platform need to be combined with other AEMO prudential requirements across other platforms.¹¹²
- MEU argued that the rights associated with AMDQ should not be changed.¹¹³

Draft determination submissions

The Victorian Government encouraged the AEMC to maintain a focus on opportunities to ensure cost-efficient allocation and, where possible, secondary trading and reallocation of capacity certificates to ensure flexibility and utilisation of these rights by the parties that value them the most.¹¹⁴

On the other hand, AEMO questioned whether there would be sufficient demand at market start to justify the introduction of a separate platform for secondary trading of capacity certificates, and whether capacity trading should be phased in at a later point. If certificates are made available over multiple tranches and periods, the risk of an inefficient allocation of capacity certificates between participants will be reduced.¹¹⁵

AGL proposed that AEMO could, instead, work with industry to improve the current processes associated with bilateral transfers of AMDQ cc in a cost-effective way.¹¹⁶

ERM Power argued that there is a risk that under the proposed regime, there will be limited trading of capacity rights, which could be for several reasons, for instance, a strategy by participants to retain rights for optionality, to support business growth (e.g. retail load growth) or to manage uncertainties associated with peak demand of a portfolio.¹¹⁷

3.3.4

Implementation

Consultation paper submissions

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

AEMO noted at this stage that there was insufficient detail to provide estimates of implementation time and cost. 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 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.¹¹⁸

EnergyAustralia noted 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-

112 EnergyAustralia, *submission to consultation paper*, p. 6.

113 Major Energy Users, *submission to consultation paper*, p. 5.

114 Victorian Government, *submission to draft determination*, p. 2.

115 AEMO, *submission to draft determination*, p. 11.

116 AGL, *submission to draft determination*, p. 3.

117 ERM Power, *submission to draft determination*, p. 2.

118 AEMO, *submission to consultation paper*, attachment 1, p. 3.

lived (due to transition to the target model).¹¹⁹ A similar view was generally shared by both ERM Power and the AER in relation to secondary trading.¹²⁰

Draft determination submissions

Implementation timeline

Lochard Energy considers the transitional arrangements and a commencement date of 1 January 2023 to be reasonable, as they allow time for the market to prepare and adjust to the new rules, considering substantial amount of work recently completed in the gas markets.¹²¹

The AER supported the AEMC taking a broader view of the costs and benefits of the proposed rules: encompassing not only wholesale market efficiency but also the expected effects of any final rules on the long-term interests of gas users.¹²²

Implementation costs

Stakeholders that commented on this topic raised their concerns around implementation costs:

- ERM Power is of the view that implementation costs need to be understood before deciding whether to proceed with the rule change (particularly given that significant changes will need to be made to systems, rules, procedures and processes).¹²³
- EnergyAustralia noted that it is in principle supportive of changes to the current AMDQ and AMDQ cc arrangements to create separate entry and exit capacity rights but reiterated that these are substantial changes which are likely to involve significant implementation costs to both AEMO and all DWGM participants.¹²⁴
- AGL noted that the implementation costs for AEMO's systems changes have not yet been quantified. It suggested that AEMO should provide an estimate of the costs to implement the draft determination before the AEMC makes its final decision.¹²⁵

In February 2020, AEMO provided an estimate of their total cost of implementing this rule change and changes under the *DWGM simpler wholesale price* rule change as \$8.2 to \$11.5 million.

119 EnergyAustralia, *submission to consultation paper*, p. 5.

120 Submissions to consultation paper: ERM Power, p. 3; AER, p. 5.

121 Lochard Energy, *submission to draft determination*, p. 1.

122 AER, *submission to draft determination*, p. 1.

123 ERM Power, *submission to draft determination*, p. 2.

124 EnergyAustralia, *submission to draft determination*, p. 3.

125 AGL, *submission to draft determination*, p. 2.

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 and difficult for market participants to value and trade these benefits. This hinders the trade of gas more broadly in the DWGM.

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 aims 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.

The new capacity certificates regime set out in this determination promotes the NGO by simplifying arrangements in the DWGM, improving risk management and reducing barriers to entry for new market participants.

This chapter provides:

- an overview of the draft determination
- a detailed analysis of the issues raised in submissions and feedback provided by stakeholders in the two technical working group meetings
- a more detailed description of the rule and the reasons why the Commission made this final determination.

4.1 Overview of draft determination

Replacing AMDQ with entry and exit capacity certificates

The draft rule retired the current instruments of authorised MDQ and AMDQ cc and replaced these with a new framework based on instruments called 'capacity certificates'.

The draft determination envisaged three different types of capacity certificates: entry capacity certificates, exit capacity certificates and uncontrollable exit capacity certificates.

The first two would be limited to market participants who have a controllable quantity. A market participant who holds entry or exit capacity certificates would 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 — such as when, bid prices are equal.

The third category would replace 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 would be used in the determination of congestion uplift and limited curtailment protection in case of emergencies.

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

The benefits of the new capacity certificates

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

Figure 4.1 below provides a summary of the key benefits that would be attached to each of the capacity certificates products under the proposed draft rules.

Figure 4.1: Benefits associated with capacity certificates – draft determination

Benefit	Entry capacity certificates	Exit capacity certificates	Uncontrollable exit capacity certificates
Injection tie-breaking	Yes	-	-
Withdrawal tie-breaking	-	Yes	-
Curtailment protection	-	-	Yes
Congestion uplift protection	-	Yes	Yes

Note: Under the *DWGM simpler wholesale price* draft rule injections would no longer be required to activate congestion uplift protection.

Uncontrollable exit capacity certificates

The draft rule required market participants seeking congestion uplift protection to purchase uncontrollable exit capacity certificates, through auctions or trade, to cover their uncontrollable withdrawals for tariff D and tariff V customers. It also removed the distinction between AMDQ for tariff D and V customers.

Location of zones and auction products available in each zone

The new types of capacity certificates, and the associated trading arrangements, are to be defined in accordance with entry and exit zones.

The quantity of entry capacity certificates and exit capacity certificates to be released through the auction are to be determined on a zonal basis, with the location of the zones and the auction products associated with each capacity certificates zone to be determined by AEMO, in consultation with stakeholders.

Under the draft rule zones were to be specified in the *Capacity Certificates Auction Procedures*.

4.2 Analysis

This section provides further analysis and stakeholder views on key elements of the final rule.

Taking into account the feedback provided by stakeholders through submissions and the two technical working group meetings (see Chapter 3 and further details below), the Commission decided that the new regime of capacity certificates will only be applicable to controllable entry and exit system points, which will provide tie-breaking rights to its holders.¹²⁶

Figure 4.2 below summarises the benefits associated with capacity certificates under the final rules.

Figure 4.2: Benefits associated with capacity certificates – final determination

Benefit	Entry capacity certificates	Exit capacity certificates
Injection tie-breaking	Yes	-
Withdrawal tie-breaking	-	Yes

Under the *DWGM simpler wholesale price* rule change the AEMC is removing the link between authorised maximum daily quantity (AMDQ) or capacity certificates and uplift payments, such that a congestion uplift category is no longer required. The Commission considers that such a baseline-based congestion uplift mechanism does not appropriately allocate cost to cause and continuing it would involve unwarranted complexity and cost.

In the DWGM, tie-breaking benefits, which are currently held by AMDQ and AMDQ cc holders, only come into operation when two or more market participants have bid the same price for injections or withdrawals, and only some of their combined total bid quantity is required, or can physically be delivered into or from the system.

In these cases, a participant with a tie-breaking benefit at that location will be scheduled in priority to a party without a tie-breaking benefit.

If the participants at the tied-price do not hold tie-breaking benefits (or if both hold the same tie-breaking benefits), then their injection or withdrawal will be pro-rated based on their bid quantity.

4.2.1 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, the new regime attributes and allocates capacity certificates according to zones and at nominated system points that may share a zone.

¹²⁶ Please refer to section 4.3.4 for further details.

This zoning method will be similar to what AEMO does at the moment in respect of multiple injection points that share the region of a close proximity injection point (CPP). AEMO will define the location of the zones, but there will also be flexibility for the zones to evolve over time with new injection points, withdrawal points and pipeline flow behaviour.

Key to this is a determination by AEMO of the allocation of system injection points or system withdrawal points to capacity certificates zones.

The draft determination required the zones to be specified in the *Capacity Certificates Auction Procedures*.

Stakeholder views

In its submissions to the draft determination, stakeholders have requested further details on the capacity certificates zones under the proposed new regime.

According to Origin, the ability for participants to manage scheduling risk under the proposed framework will be heavily contingent on the definition/application of zones that will govern the grouping of entry/exit certificates respectively and recommended the AEMC to engage further with market participants and AEMO to better define how the zones would likely be applied and ensure the principles governing their design is set out in any resultant changes to the NGR.¹²⁷

At the December 2019 technical working group meeting the AEMC explained that the zones will likely resemble the current concept of close proximity injection points (CPPs), which defines groups of injection points along a pipeline path that may share capacity at the CPP.

The possible zones under the new regime are represented below and were discussed during the technical working group meeting, noting these will be determined at a later date by AEMO.¹²⁸

¹²⁷ Origin, *submission to draft determination*, pp. 3-4.

¹²⁸ AEMC, *DWGM improvement to AMDQ regime*, technical working group meeting, slides 24-25, 9 December 2019.

Table 4.1: Possible entry zones

CURRENT ARRANGEMENTS		POSSIBLE NEW REGIME (TO BE DETERMINED BY AEMO)	
Close Proximity Point (CPP)	System injection point	Capacity certificates zone	System injection point
Longford	Longford / Tas Hub / Vic Hub	Longford entry	Longford / Tas Hub / Vic Hub
Bass Gas	Bass Gas	Bass Gas entry	Bass Gas
Culcairn	Culcairn	Culcairn entry	Culcairn
Iona	Iona underground storage / SEA Gas / Otway / Mortlake	Iona South West Pipeline entry	Iona underground storage / SEA Gas / Otway / Mortlake
Iona (AMDQ cc to Western Transmission System only)	Iona underground storage / SEA Gas / Otway / Mortlake	Iona Western Transmission System entry	Iona underground storage / SEA Gas / Otway / Mortlake

Source: AEMO

Note: The possible new regime columns are based on how the current Close Proximity Points would work. However, AEMO will need to determine the zones based on DTS configuration in force at the time of the new regime implementation.

Table 4.2: Possible exit zones

CURRENT ARRANGEMENTS	POSSIBLE NEW REGIME (TO BE DETERMINED BY AEMO)	
System withdrawal point	Capacity certificates zone	System withdrawal point
Tas Hub withdrawal	Not applicable (<i>backhaul only</i>)	Not applicable
Culcairn withdrawal	Culcairn exit	Culcairn withdrawal
Iona underground storage	Iona UGS exit	Iona UGS
SEA Gas / Otway	Not applicable (<i>backhaul only</i>)	Not applicable

Source: AEMO

Note: The possible new regime columns are based on how the current Close Proximity Points would work. However, AEMO will need to determine the zones based on DTS configuration in force at the time of the new regime implementation.

The Close Proximity Point concept relates to injections only, and not withdrawals.

In its submission to the draft determination AEMO also noted that it was unclear how capacity certificates procured on a zonal basis were to be allocated to system points within the zone.¹²⁹ AEMO also suggested that an approach similar to Rules 627 to 629 for the pipeline capacity trading markets would be more appropriate, as these rules outline the principles and process by which AEMO must determine zones and the Capacity Transfer and Auction Procedures require these to be published.¹³⁰

Final determination

The final rule provides for capacity to be allocated in the form of entry capacity certificates or exit capacity certificates. The certificates are allocated in respect of capacity certificate zones, which comprise one or more system injection points or system withdrawal points. AEMO's gas scheduling procedures will contain information about how to use a capacity certificate in a zone that comprises more than one system point.¹³¹

AEMO will determine (and may amend) the allocation of system injection points or system withdrawal points to capacity certificates zones.¹³² The final rule states that AEMO may have regard to the following when making this determination:

1. the impact of the proposed allocation on capacity certificates auctions including the impact on the demand for auction products or liquidity
2. the impact on the use of capacity certificates for tie-breaking events, whether over time or at particular times or in particular conditions
3. the technical or operational characteristics of the declared transmission system.¹³³

These factors recognise that there are trade-offs between maximising liquidity and the demand for capacity certificates (which would tend to result in the specification of a very large zone) and minimising the risk that certificates will not match the physical use of the system (which would tend to result in the specification of single point zones because capacity cannot readily be used for tie-breaking at every service point on a one-for-one basis).

The Commission also agrees with the approach suggested by AEMO in its submission to the draft determination relating to publication of the determination and the final rule requires AEMO to publish the zones in a register rather than in the procedures themselves.¹³⁴ This means that any changes to the zones only require an update to the register rather than a procedure change, which reduces the regulatory and administrative burden for both AEMO and market participants. This decision contributes to the NGO by reducing costs that would otherwise ultimately be borne by consumers.

The final rule nonetheless requires AEMO to consult when making or amending its determination of zones and to take into account the forecasts and information provided by

¹²⁹ AEMO, *submission to draft determination*, p. 13.

¹³⁰ AEMO, *submission to draft determination*, p. 14.

¹³¹ See rule 328A(4) of the Amending Rule.

¹³² See rule 327B of the Amending Rule.

¹³³ See rule 327B(3) of the Amending Rule.

¹³⁴ See rule 327B(2) of the Amending Rule.

registered participants under Rules 324(1) to 324(4).¹³⁵ The final rule also requires AEMO to review its determination of zones if there is a change that could reasonably be expected to affect the allocation of system points to zones (e.g. extension or expansion of the DTS or changes to technical or operational characteristics), or if a proposal for a review is made in accordance with the capacity certificate auction procedures.¹³⁶

4.2.2 **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 introducing exit capacity certificates are likely to provide to market participants. The separation of rights into entry and exit certificates are likely to promote the NGO by allowing greater flexibility and reducing costs for market participants as discussed below.

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.

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 to the consultation paper 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.¹³⁷

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.

¹³⁵ See rules 327B(5) and 327B(6) of the Amending Rule.

¹³⁶ See rule 327B(7) of the Amending Rule.

¹³⁷ AEMO, *submission to consultation paper*, attachment 1, p. 4.

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.

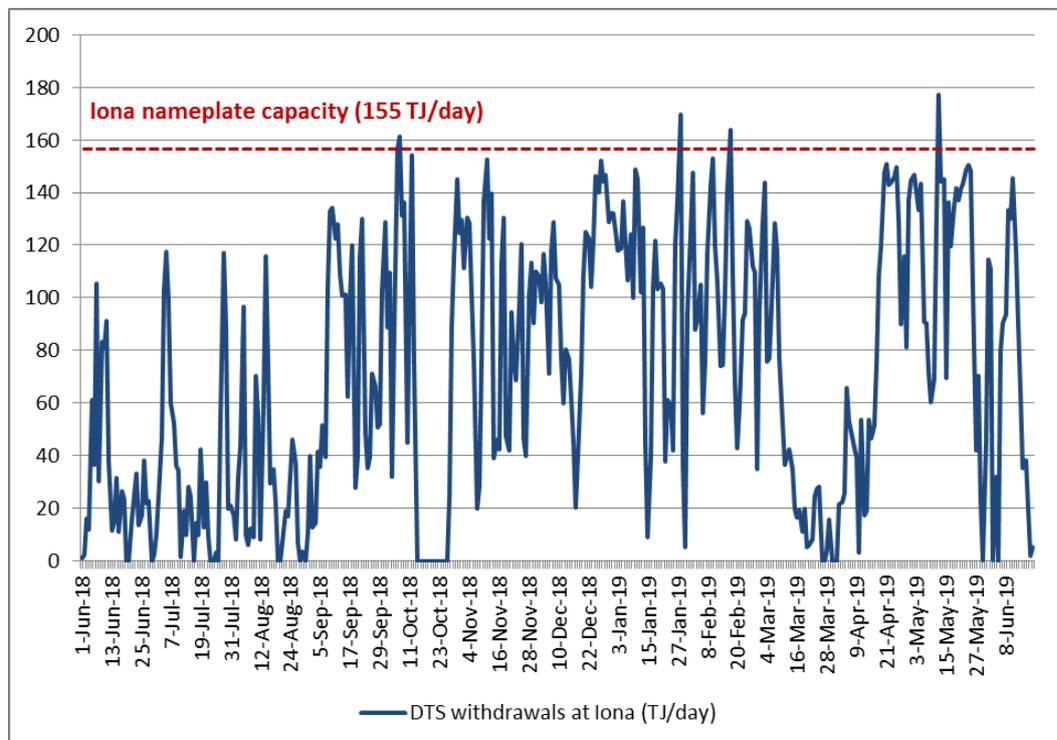
Exit capacity certificates at Iona

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 4.3).

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.

Figure 4.3: 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.

4.2.3 Reporting on tie-breaking events

The Commission also added a new requirement under the final rule, which is for AEMO to report on tie-breaking events.¹³⁸

The purpose of such report is to provide clarity and transparency to market participants and the industry on the likely value of capacity certificates.

During the preparation of the draft determination, AEMC staff requested data from AEMO on the number of tie-breaking events associated with AMDQ/AMDQ cc under the existing regime. AEMO explained that the number of actual tie-breaking events can only be determined on a schedule by schedule basis by reconstructing data sets as at that schedule, so are not readily available for analysis.

Therefore, the final rule requires AEMO must publish the information about tie-breaking events that occurred on each gas day D on the following gas day D+1, with the following information must be published for each schedule in gas day D:

- the total number of tie-breaking events at each system injection point or system withdrawal point
- for the total number of tie-breaking events at each system injection point or system withdrawal point:
 - the number for which all of the equally beneficial bids were associated with capacity certificates
 - the number for which some of the equally beneficial bids were associated with capacity certificates
 - the number for which none of the equally beneficial bids were associated with capacity certificates,
- and in each case, the corresponding quantity of gas bid but not scheduled.

4.2.4 Legacy arrangements

As noted at the introduction of this chapter, the draft determination retired the current instruments of authorised MDQ and AMDQ cc and replaced these with a new framework with instruments called 'capacity certificates'.

In order to understand why this decision was made it is important to look at the history of the DWGM and the analysis undertaken by the Commission during this rule change process. These are explained in detail under this section.

Background

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).

¹³⁸ See rule 214A of the Amending Rule.

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.*¹³⁹

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

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.¹⁴⁰

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.

¹³⁹ MSOR clause 11.

¹⁴⁰ MSOR clause 5.3.2(a).

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 4.3 shows the excess authorised MDQ as a proportion of tariff D authorised MDQ holdings at the five key peak demand days in 2017 and 2018.

Table 4.3: 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.

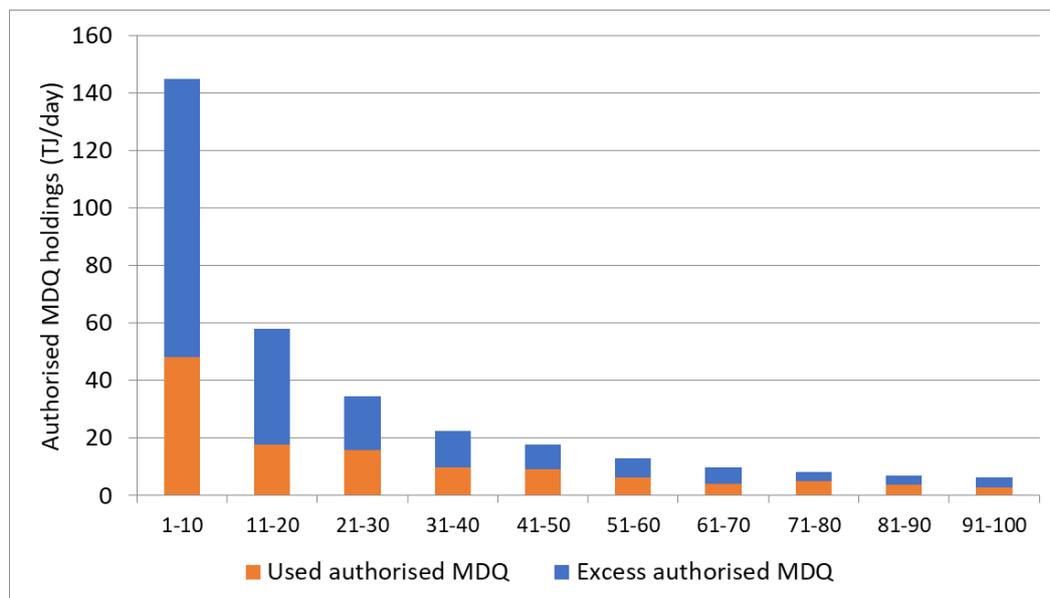
The analysis shows that on most peak demand days more than 50 per cent of the total tariff D authorised MDQ is being underutilised when compared to tariff D actual demand, suggesting that the current allocation may not be the most efficient from a risk management perspective, and in fact, it is stranded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

Furthermore, excess authorised MDQ is skewed towards tariff D customers with the largest authorised MDQ holdings. Figure 4.4 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.

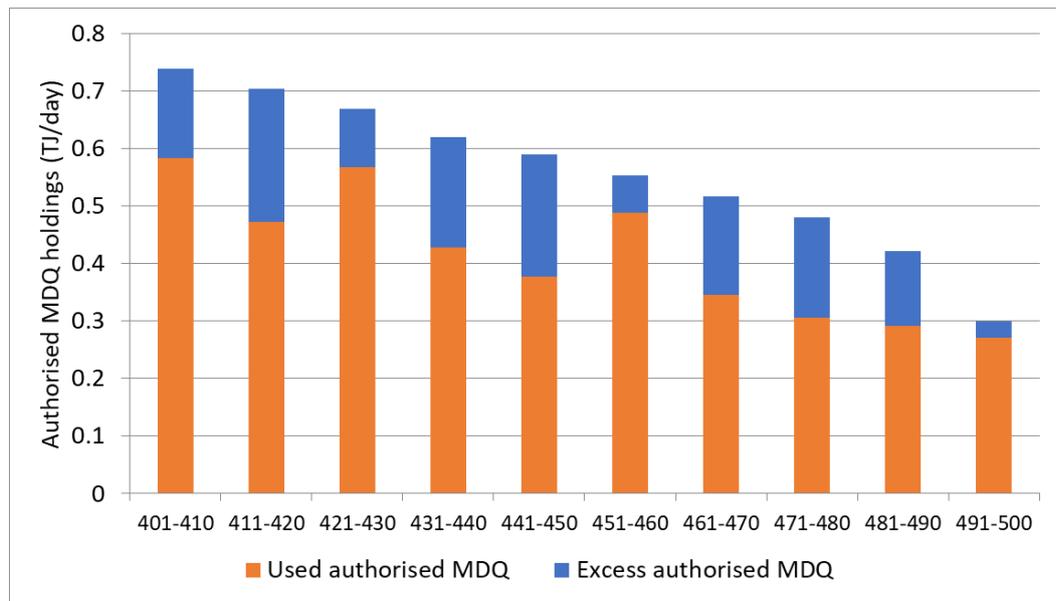
Figure 4.4: Authorised MDQ utilisation by top holders (1-100)



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

Figure 4.5 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 4.5: 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.

4.2.5

System capability modelling

To inform the allocation of the capacity certificates, the draft rule required AEMO to conduct a process of system capability modelling. This modelling would inform the maximum amount of capacity that would be 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.

Under the draft rules, this modelling would be undertaken at least once each calendar year and use a one-day in 20 years (1:20) peak demand standard, applied monthly, with the aim of supporting monthly and/or seasonal products, 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. As new capacity is introduced via pipeline extensions and expansions, these would be modelled on a similar basis.

Stakeholder views

AEMO noted in its submission that there is scope for greater alignment between the system capability modelling required for the determination of capacity available to support capacity certificates each calendar year, the Victorian Gas Planning Review (VGPR) published by 31 March every two years, and the transitional requirement for the initial system capability modelling by 1 January 2022 (transitional rule 67). It argued that it would avoid duplication of effort if all were published at the same time and on a similar basis.¹⁴¹

AEMO also noted that while the VGPR requires information to be provided for that review, it was not clear from the draft rules if information provided for the VGPR (which is confidential) could be used for the system capability modelling required under draft rule 328.¹⁴²

Final determination

The Commission has considered AEMO's suggestions and after further analysis, it has aligned the timing and requirements of the system capability modelling so that AEMO can leverage from the VGPR process, to give AEMO greater scope to determine how the modelling is conducted and to use information collected for the VGPR. The final rule provides as follows:

- The timing for the annual system capability modelling is aligned with the VGPR timing. AEMO must also undertake modelling during the course of a year if there is a material change to the matters taken into account in the initial modelling.¹⁴³
- AEMO must test for feasibility using the same planning criteria that it uses for rule 323(3)(b).¹⁴⁴ Rule 323(3)(b) provides for AEMO to use a one day in 20-year peak demand gas day standard (consistent with the standard proposed for system capability modelling under the draft rule) but also allows AEMO to determine another planning standard.
- When undertaking system capability modelling, AEMO must assume the DTS assets are available in accordance with the service envelope agreement and must take into account anticipated further growth in demand, committed projects, the capacity required to service uncontrollable demand in respect of tariff D or tariff V withdrawal points and transmission constraints.¹⁴⁵
- AEMO must also take into account the information it receives from market participants under rule 324 (VGPR) for the purpose of conducting the planning review.¹⁴⁶

4.2.6

Uncontrollable exit capacity certificates

As noted in section 4.1, the draft rule created a category of capacity certificates to replace authorised MDQ that is currently owned by tariff D gas consumers and held on behalf of tariff V gas consumers by AEMO. This new category was labelled uncontrollable exit capacity

¹⁴¹ AEMO, *submission to draft determination*, p. 8.

¹⁴² AEMO, *submission to draft determination*, p. 8.

¹⁴³ See rules 328(1) and (2) of the amending Rule.

¹⁴⁴ See rule 328(3) of the Amending Rule.

¹⁴⁵ See rule 328(4) of the Amending Rule.

¹⁴⁶ See rule 328(5) of the Amending Rule.

certificates, to be used in the determination of congestion uplift and limited curtailment protection in case of emergencies.

Stakeholder views

Most stakeholders did not support auctioning of uncontrollable exit capacity certificates, making the following arguments:

- The AEMC should be particularly sensitive to the possibility that needing to participate in an auction for uncontrolled exit rights will pose an additional barrier to entry within the retail market.¹⁴⁷
- The AEMC should be cautious that the design of the auction does not create challenges for new entrant retailers to obtain capacity rights. In addition, under the current metering arrangements retailers often do not get a clear view of their actual customer load until approximately 6 months after and therefore are likely to be hesitant to release 'unused' capacity certificates back into the auction ahead of time.¹⁴⁸
- Even though there is merit in creating entry/exit tie-breaking rights, the treatment of uncontrollable withdrawals requires further consideration. Given the high level of churn associated with Tariff V customers, market participants would face significant uncertainty around the level of uncontrollable exit capacity certificates required to manage supply to their customer base, the impact of which may be particularly acute for smaller participants.¹⁴⁹
- AEMO was not convinced that auctioning uncontrollable exit capacity certificates is the most efficient or pragmatic option. As the quantity of uncontrollable exit capacity certificates to be made available will be calculated on a 1-in-20 demand basis, they are likely to be a non-scarce resource — it makes little sense to auction them off.¹⁵⁰
- AMDQ rights holders should not be required to pay for limiting their exposure to the costs of congestion through having to purchase the needed AMDQ.¹⁵¹

A preferred solution was proposed by both AEMO and the Victorian Government:

- If the simpler wholesale price rule change decides to remove congestion uplift, AEMO would recommend removing uncontrollable exit capacity certificates altogether. If not, AEMO proposed that uncontrollable exit capacity certificates are dynamically allocated similar to how authorised MDQ is dynamically allocated in the current market.¹⁵²
- The Victorian Government shared a similar view to AEMO, arguing that even though the AEMC proposed auctioning 'uncontrolled exit' rights to achieve economically efficient allocation of these rights, it may be more efficient to allocate these dynamically — to

147 Victorian Government, *submission to draft determination*, p. 2.

148 EnergyAustralia, *submission to draft determination*, p. 4.

149 Origin, *submission to draft determination*, p. 1.

150 AEMO, *submission to draft determination*, p. 12.

151 Major Energy Users, *submission to draft determination*, p. 4.

152 AEMO, *submission to draft determination*, pp. 12-13.

those retailers/shippers that are utilising them — in a similar manner to the current regime.¹⁵³

Final determination

The final determination does not provide for the allocation of uncontrollable exit capacity certificates.

It is important to note that this category of capacity certificates is inherently linked to the other rule change request under consideration by the Commission, the *DWGM simpler wholesale price* rule change. Under this rule change the Commission has decided to remove the link between authorised maximum daily quantity (AMDQ) or capacity certificates and uplift payments, such that a congestion uplift category is no longer required. The Commission considers that such a baseline-based congestion uplift mechanism does not appropriately allocate cost to cause and would involve unwarranted complexity and cost.

Under the *DWGM simpler wholesale price* rule change, the Commission considers a mechanism involving dynamic allocation of uncontrollable exit capacity certificates would be more complex than the current congestion uplift framework and it would be particularly challenging developing dynamic allocation for tariff D and gas-powered generation. Further, participants would have a limited ability to manage the risk of congestion uplift payments as participants would not be able to buy certificates to protect against congestion uplift and are unlikely to invest in additional pipeline capacity. It does not appear that a practical mechanism could be developed that would provide clear signals and incentives that outweigh the costs.

Treatment of tariff D and tariff V going forward

Under the new regime, AEMO will take into consideration the demand of uncontrollable tariff D and V customers before making a determination on the amount of entry and exit capacity certificates available for auction.¹⁵⁴

4.2.7

Curtailment protection

Current arrangements

The curtailment of gas customers in the DWGM is decided using the Gas Emergency Protocol (the Protocol), which includes the Gas Load Curtailment and Gas Rationing and Recovery Guidelines.¹⁵⁵ The Protocol is a requirement of clause 53 of the National Gas (Victoria) Act 2008.

Box 4 below provides a brief overview of the curtailment order and the process AEMO needs to follow in case of emergencies.

¹⁵³ Victorian Government, *submission to draft determination*, p. 2.

¹⁵⁴ See rule 328(4)(b)(iii) of the Amending Rule.

¹⁵⁵ The Gas Emergency Protocol consists of a high-level set of documents that outline the actions AEMO may take in an emergency: Emergency Procedures (Gas); Wholesale system security procedures; Gas Load Curtailment and Gas Rationing and Recovery Guidelines. See AEMO's website on: <https://aemo.com.au/energy-systems/gas/emergency-management/victorian-role>

BOX 4: CURTAILMENT ORDER AND RESPONSE

AEMO has developed *Curtailment Tables* that are based on system security criteria and has then consulted the Victorian Government in accordance with its obligations under the National Gas Rules (NGR). The *Curtailment Tables* are used to prepare the emergency curtailment lists required under Rule 343 of the NGR. The emergency curtailment lists are made available to Market Participants through the AEMO Market Information Bulletin Board (MIBB).

The *Curtailment Tables* specify the order and extent of curtailment of categories of gas customers with the objective of providing the required level of load shedding within the limited time available before system security is breached as defined in the *System Security Procedures*.

The *System Security Procedures* prepared by AEMO specify the minimum pressures that AEMO must provide at critical gas transmission system delivery points in order to ensure that flows of gas into distribution networks and interconnecting pipelines are adequate to meet demand and maintain minimum pressures in distribution networks.

A rapid response in load reduction of the required magnitude is critical, given the limited amount of gas stored as line pack available in the gas transmission system. The order of curtailment is primarily driven by the requirement to shed load at the fastest possible rate and, in practical terms, this means that the largest loads are shed first. The order of curtailment is in descending order of load size with the following exceptions:

- essential and critical services are placed last in the order of curtailment;
- non-critical rationed services: approved uninterruptible, continuous processes, and gas allocations to enable customers to convert to or start-up with alternative fuels are placed in the order after all other Tariff D1 industrial and commercial sites, and before essential and critical services; and
- provision has been made for voluntary restrictions for residential and small commercial and industrial sites not explicitly shown in the curtailment lists, excepting classes exempted by the Department of Human Services.

In the event of a threat to system security that is attributable to a transmission constraint, then to the extent practicable, gas retailers will be directed to instruct their customers to limit gas usage to their authorised maximum daily quantity (AMDQ) or AMDQ credits and to completely cease further usage of gas at those sites that have already exceeded their AMDQ or AMDQ credits level on the day. Market customers will be advised directly by AEMO.

Curtailment of unauthorised loads reflects requirements under AEMO's Access Arrangement and Rule 343 of the NGR, and is implemented by 'Table 0' of the Curtailment Tables.

Source: AEMO, *Gas Load Curtailment and Gas Rationing and Recovery Guidelines*, May 2010.

Shortcomings of the current mechanism

As noted above, according to rule 343(2), if a threat to system security is attributable to a transmission constraint then, to the extent practicable, AEMO must, prior to curtailing any other customers, use reasonable endeavours to curtail those customers who, in AEMO's reasonable opinion, are using more than the authorised MDQ or quantities in AMDQ credit certificates assigned to those customers. However, this same rule limits the protection provided by AMDQ to a scenario where there is a transmission constraint, which may not include a simple supply shortfall.

In addition, for any curtailment event it is unlikely that AEMO would only curtail Table 0. Any sizeable curtailment event will likely necessitate a broader response that will mean that curtailment is not limited to just Table 0, particularly where a timely response to a curtailment notice is required.

The Commission understands from AEMO that the last gas curtailment on the DTS occurred on 22 July 2002, when load with and without AMDQ was curtailed.¹⁵⁶

Stakeholder views

AEMO noted in its submission to the draft determination that if curtailment is required as a result of a transmission constraint, draft rule 343(2) requires AEMO to curtail those customers not covered by uncontrollable exit capacity certificates before those that are covered (similar to the current rule). AEMO then argued that it would not be practicable to do this because uncontrolled exit capacity certificates would no longer be assigned to customers (according to the draft determination), and the quantum of capacity certificates allocated is likely to exceed the uncontrolled system demand in most circumstances.¹⁵⁷

AEMO was of the view that it may be more appropriate for all curtailment to be determined under the National Gas (Victoria) Act 2008 rather than the National Gas Rules and supports decoupling the curtailment process from the market and removing this clause from the NGR.¹⁵⁸

In the technical working group meeting held in December 2019 the AEMC gave an overview of its recommended final determination policy position to de-link curtailment protection from capacity certificates under the new regime, with the effect that AEMO would remove Table 0 from the existing *Gas Load Curtailment and Gas Rationing and Recovery Guidelines*.

MEU suggested a demand response mechanism for gas, rather than curtailing large end users. MEU suggested that the contingency gas approach in the STTM worked well and should be considered for the DWGM. In response, the AEMC noted that such a change would require a separate rule change.¹⁵⁹

¹⁵⁶ Source: AEMO.

¹⁵⁷ AEMO, *submission to draft determination*, p. 13.

¹⁵⁸ AEMO, *submission to draft determination*, p. 13.

¹⁵⁹ AEMC, *DWGM rule changes technical working group minutes*, 9 December 2019.

Brickworks questioned how the proposed changes would work, as curtailment is an important process.¹⁶⁰

During the meeting AEMO noted:

- Table 0 currently has a large number of tariff D customers.
- The curtailment tables are currently being revisited through other processes by the Gas Emergency Management Consultative Forum and the Victorian Government, that will consider economic and social needs.

In addition, there was some confusion amongst attendees of the meeting about the difference between rationing and curtailment. AEMO clarified that rationing occurs when there is an ongoing problem that can be forecast (i.e. shortage of supply), and there are separate guidelines/procedures to address that. Curtailment only occurs when an emergency event (that was not expected) arise.

Stakeholders noted that curtailment was an important issue for large users, but generally agreed that it was not appropriately dealt with by linking curtailment protection to capacity certificates.

Final determination

Taking into consideration feedback provided by stakeholders through submissions, the technical working group meetings and further analysis by the project team, the Commission has made its final decision to remove the link between curtailment protection and capacity certificates. Therefore, the final rule deletes rule 343(2).¹⁶¹

As a consequence of this decision, AEMO can remove Table 0 from the existing *Gas Load Curtailment and Gas Rationing and Recovery Guidelines*.

The Commission notes that section 53 of the National Gas (Victoria) Act 2008 requires AEMO to have regard to the economic and social needs of the Victorian community when determining its gas emergency protocol, including the order of curtailment. The Commission believes that it would be more appropriate for the curtailment requirements to be determined under the Act and the gas emergency protocol than based on holding capacity certificates under the National Gas Rules.

4.3 Final determination

Taking into consideration feedback provided by stakeholders through submissions, the technical working group meetings and further analysis by the project team, the Commission has made a final rule to replace the current AMDQ regime with a new entry and exit capacity certificates regime, with a number of changes from the draft rule as summarised below.

The new capacity certificates regime enabled by the final rule promotes the NGO by simplifying arrangements in the DWGM, improving risk management and reducing barriers to

¹⁶⁰ AEMC, *DWGM rule changes technical working group minutes*, 9 December 2019.

¹⁶¹ See clause [26] of the Amending Rule.

entry for new market participants. These changes together should ultimately result in lower long-run prices for consumers.

4.3.1 Key changes between draft and final rule

Table 4.4 below provides a brief summary of the key changes between the draft and final rules on the aspects related to the introduction of the new regime of capacity certificates.

Table 4.4: Key changes between draft and final rule – new capacity certificates regime

TOPIC	DRAFT RULE	FINAL RULE
Capacity certificates zones	To be determined by AEMO and published in the <i>Capacity Certificates Auction Procedures</i> .	To be determined by AEMO and published in the <i>Capacity Certificates Zones Register</i> .
Reporting on tie-breaking events	N/A	Report the total number of tie-breaking events at each system injection point or system withdrawal point, by schedule, and the number where some, all or none of the bids were associated with capacity certificates and in each case the quantity of gas bid but not scheduled.
System capability modelling	To be conducted at least once per calendar year. Modelling to be tested against a one-day in 20-year peak demand gas day assumption for the declared transmission system.	Aligns timing of conducting the modelling with the VGPR (31 March each year) and allows for additional modelling when there is a material change. Allows AEMO to use the information it receives from market participants under rule 324 (VGPR) for modelling purposes. Clarifies the other matters to be taken into account for modelling. Amends the planning standard to 'feasible when tested against the planning criteria used by AEMO for the purpose of rule 323(3)(b)' as this will allow AEMO to use the same planning standard for both purposes. Removes the concepts of 'load flow analysis' and 'simultaneously physically feasible'.
Uncontrollable exit capacity	To be auctioned by AEMO. Only market participants	No longer applicable.

TOPIC	DRAFT RULE	FINAL RULE
certificates	allowed participating in the auction.	
Curtailement protection	Afforded to holders of uncontrollable exit capacity certificates.	No longer applicable.
Legacy arrangements	No changes between the draft and final rule other than consequential drafting changes. Final rule retires the existing instruments of AMDQ and AMDQ cc by 31 December 2022.	

Source: AEMC

Note: This list is not exhaustive. It is only a summary of the key changes between draft and final rule. For the reasons behind the changes, please refer to the relevant sections in this chapter.

4.3.2

Description of the final rule

The final rule introduces a number of requirements to implement the new capacity certificates regime, which are detailed below.

Reporting on tie-breaking events

The final rule requires AEMO to publish information about tie-breaking events each gas day, covering the previous gas day. The following information must be published for each schedule in the gas day:¹⁶²

- the total number of tie-breaking events at each system injection point or system withdrawal point; and
- for the total number of tie-breaking events at each system injection point or system withdrawal point, the number of which all, some or none of the equally beneficial bids were associated with capacity certificates
- in each case, the corresponding quantity of gas bid but not scheduled.

Determination of capacity certificates zones

The final rule requires AEMO to determine the allocation of system injection points or system withdrawal points to capacity certificates zones and allows AEMO to amend this determination.¹⁶³ The final rule states that AEMO may have regard to the following when making this determination:

1. the impact of the proposed allocation on capacity certificates auctions including the impact on the demand for auction products or liquidity
2. the impact on the use of capacity certificates for tie-breaking events, whether over time or at particular times or in particular conditions

¹⁶² See rule 214A of the Amending Rule.

¹⁶³ See rule 327B of the Amending Rule.

3. the technical or operational characteristics of the declared transmission system.¹⁶⁴

In addition, the final rule requires AEMO to consult when making or amending a determination on zones and to take into account the forecasts and information provided by registered participants under Rules 324(1) to 324(4).¹⁶⁵ AEMO must review its determination of zones if there is a change that could reasonably be expected to affect the allocation of system points to zones (e.g. extension or expansion of the DTS or changes to technical or operational characteristics), or if a proposal for a review is made in accordance with the capacity certificate auction procedures.¹⁶⁶

Register of capacity certificates zones

The final rule removes the requirement in the draft rule for the zones to be included in the capacity certificate auction procedures and instead, requires AEMO to publish the zones in a register.¹⁶⁷ This means that the zones can be updated without the need to go through a procedure change consultation. However, the consultation process AEMO follows will be set out in the procedures.¹⁶⁸ This approach is consistent with the one adopted in Part 24 of the NGR.¹⁶⁹

System capability modelling

The final rule requires that AEMO must, by 31 March each year, conduct system capability modelling of the declared transmission system for the purpose of informing AEMO's determination of the amount of capacity certificates available for allocation through capacity certificate auctions.¹⁷⁰

In addition, it states that AEMO must update the system capability modelling during the course of a year if there is a material change in the matters taken into account in the annual modelling or in the technical or operational characteristics of the declared transmission system or if required for the purposes of determining when new capacity is to be allocated by auction or at the direction of the declared transmission system service provider in accordance with rules 329B and 329C.¹⁷¹

In order for the system capability modelling to measure the capacity of the declared transmission system that is available for allocation, the rules require the modelling to test for the maximum capacity that is deliverable across all system injection points and system withdrawal points and feasible when tested against the planning criteria used by AEMO for the purpose of rule 323(3)(b).¹⁷²

When performing the system capability modelling, AEMO must assume all declared transmission system assets are available in accordance with the availability specified in the

164 See rule 327B(3) of the Amending Rule.

165 See rules 327B(5) and 327B(6) of the Amending Rule.

166 See rule 327B(7) of the Amending Rule.

167 See rule 327B(2) of the Amending Rule.

168 See rule 328D(3) of the Amending Rule.

169 See rule 629 of the NGR.

170 See rule 328(1) of the Amending Rule.

171 See rule 328(2) of the Amending Rule.

172 See rule 328(3) of the Amending Rule.

service envelope agreement and must take into account anticipated future growth of demand, committed expansions or extensions to the DTS, the capacity required to serve uncontrollable demand in respect of tariff D withdrawal points or tariff V withdrawal points and any transmission constraints.¹⁷³

The final rule also makes an explicit provision that AEMO must take into account information it receives from market participants under rule 324 for the VGPR when conducting the system capability modelling.¹⁷⁴

Moreover, the final rule requires AEMO to publish the assumptions upon which the system capability modelling is based as soon as reasonably practicable after completion of system capability modelling.¹⁷⁵

4.3.3

Minor changes to the rules

Minor amendments will be made to some other rules in Part 19 of the NGR to reflect the new terminology and changes to the framework.

- Rules 211, 214, 217, 239, 240 and 272: minor drafting amendments have been made to adopt the terminology of the new capacity certificates regime.¹⁷⁶
- Rule 327A Register of capacity certificates: the subrules that refer to the amount of authorised MDQ allocated to tariff V and D customers have been removed, 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.

In addition, rules 329A to 329D of the Amending Rule have been changed to reflect how the capacity certificates regime now operates. The rules establish the framework for determining whether additional capacity in the existing system, or resulting from an extension or expansion of the DTS is allocated by auction or at the direction of the declared transmission system service provider, referred to in the Rules as 'non-regulated capacity'.¹⁷⁷ AEMO will determine the capacity certificate type and quantity to be made available for allocation, including for non-regulated capacity.¹⁷⁸ The timeframe for an AER assessment has also been removed given the capacity certificates auction now occurs regularly and there is no longer a need for these provisions.

¹⁷³ See rule 328(4) of the Amending Rule.

¹⁷⁴ See rule 328(5) of the Amending Rule.

¹⁷⁵ See rule 328(6) of the Amending Rule.

¹⁷⁶ These changes should be read in conjunction with the *DWGM simpler wholesale price* rule as the two interact closely. The *DWGM simpler wholesale price* rule commences immediately after this rule and therefore, that makes the final changes that are effected in the NGR.

¹⁷⁷ See rules 329B(1) and 329C(1) of the Amending Rule.

¹⁷⁸ See rule 329A(3) of the Amending Rule.

5 PRIMARY ALLOCATION OF CAPACITY CERTIFICATES

This chapter discusses how the primary allocation of capacity certificates will occur, including auction principles, determination of traded products and the eligibility criteria for participants to participate in the auction.

This chapter is organised in the following manner:

- Section 5.1 provides an overview of the draft determination
- Section 5.2 is a detailed analysis of the issues raised in submissions and feedback provided by stakeholders in the two technical working group meetings
- Section 5.3 is a more detailed description of the rule and the reasons why the Commission made this final determination.

5.1 Overview of draft determination

5.1.1 Primary allocation of capacity certificates

The draft determination stated that the primary allocation of capacity certificates should occur via an auction to allow the certificates to be allocated to their highest value use. The following was specified in relation to the auction format:

- *Format:* single round, sealed bid uniform price auction with potential for partial bid fulfilment.
- *Reserve price:* zero.
- *Pricing rule:* pay as cleared, with all winners paying the same clearing price per GJ for that product.
- *Determination of winning bids:* maximisation of value at bid amounts.
- *Auction proceeds and fees:* auction proceeds to be retained by AEMO and used to offset its costs of operating the DWGM. AEMO may also charge auction participants an auction fee to recover the costs associated with establishing, operating and administering the auction.

The draft rules provided for AEMO, through the *Capacity Certificates Auction Procedures*, to specify the timing and frequency of the auctions, as well as:

- the procedures for conducting the auctions
- a description of the information to be published before and after each auction
- the minimum bid quantity for auction products
- any additional conditions for participation in the auction (including during the course of bidding)
- whether the auction results are to be treated as final and not subject to review or the payment of compensation in the event of error in the determination of auction results
- that capacity certificates are to be allocated for a period of time that commences no earlier than the date of allocation and that capacity certificates that become available as

a result of an extension or expansion, must be for a period that commences no earlier than the date on which the relevant extension or expansion is commissioned

- the billing and settlement requirements for the auction.

The draft rules also required AEMO to do the following before and after the auction:

- No later than 20 business days prior to an auction, AEMO must issue a notice that sets out the date and time of the auction, the products and quantities to be auctioned, the minimum bid quantity for each product and any other information AEMO considers relevant or convenient to include.
- After the auction has been conducted AEMO must publish the auction results (i.e. the clearing price for each product, the quantities of each product allocated and any unallocated quantities) as soon as reasonably practicable after the information becomes available.

5.1.2

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

The draft determination stated that the total amount of capacity certificates available to be auctioned would be determined by AEMO through system capability modelling.

Under the draft rules, this modelling would be undertaken at least once each calendar year and is to use a one-day in 20 years peak demand standard (i.e. 1:20 standard), applied on a monthly basis. The draft rules stated that the total allocation of capacity certificates must be consistent with the outcomes of this system capability modelling.

The draft rules also provided for:

- any capacity certificates that are not allocated at the conclusion of an auction to be made available at the next auction
- and any capacity certificates that are relinquished to AEMO (e.g. because a holder ceases to be a market participant) to be reallocated through the next auction.

5.1.3

Determination of traded products

Different tenures and minimum requirements

The draft determination provided for AEMO to specify the tenure of the auction products that would be available through the auction in the *Capacity Certificates Auction Procedures* subject to the following minimum requirements:

- at least one type of capacity certificates must have a tenure of at least three years and account for no more than 50 per cent of available capacity, taking into account the aggregate of such products sold at any one auction
- at least one type of capacity certificates must have a tenure of one year
- at least one type of capacity certificates must have a seasonal tenure (the months of the year and the duration of which is to be defined by AEMO in the *Capacity Certificates Auction Procedures*) and account for at least 10 per cent of the available capacity.

Timing of primary auctions

The draft rule required the timing of the auctions for the different types of auction products to be set by AEMO in the *Capacity Certificates Auction Procedures*, following consultation with industry.

The draft rule also had a requirement for AEMO to publish an auction notice no later than 20 business days prior to each auction, which would set out the date and time of the auction, the type and amount of each auction product that would be available and the minimum bid quantity for each auction product.

5.1.4 Auction eligibility criteria

The draft rule specified that only market participants would be eligible to participate in the auctions. This would simplify the arrangements for settlements and prudentials. AEMO could 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.
- (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.

5.2 Analysis

Following stakeholder feedback on the draft determination the Commission undertook further analysis on the primary allocation of capacity certificates, which has resulted in some changes from the draft determination.

Axiom Economics and NERA Economics Consulting were engaged by the Commission to provide advice on the auction format and auction product design. Changes to the auction format and auction products were discussed with stakeholders at the DWGM technical working group meetings in December 2019 and February 2020.

5.2.1 Demand and supply of auction products

When designing an auction, it is important to consider the nature of both the demand for and supply of the auction product.

In this case, the demand for the auction product (i.e. entry and exit capacity certificates) is inextricably linked to the DWGM market participants' demand for gas at different points in time. It is, for example, market participants' demand for gas that will determine:

- the term over which the auction products will be sought
- whether the market participant requires a constant or variable amount of the auction product over the year
- the locations at which the auction products will be sought and if auction products at some locations are likely to be viewed as substitutes or complements.

The impact of these factors is described in further detail in Box 5 below.

BOX 5: NATURE OF THE DEMAND FOR GAS IN THE DWGM

Term over which the auction products are likely to be sought

Historically, most market participants in the DWGM have relied upon medium to long-term gas supply agreements (GSAs) entered into with producers in the Gippsland Basin and, to a lesser extent, the Bass and Otway basins to meet their gas requirements. Tighter conditions in the east coast gas market have, however, resulted in a movement toward shorter-term GSAs (e.g. 1 to 3 year contract terms are now becoming the standard, rather than 5 to 10 year contract terms) and greater reliance being placed on other sources of supply (e.g. Queensland via Culcairn).

Looking forward, these conditions are not expected to change in the short- to medium-term. AEMO has noted in its latest Gas Statement of Opportunities (GSOO) that declining production in Victoria will result in increased reliance being placed on gas supplied from Queensland, an LNG import terminal located in NSW or Victoria and/or the Iona underground storage (UGS) facility to meet winter demand in Victoria.

The shorter-term nature of GSAs coupled with the more dynamic nature of the location at which gas is procured, means that there is likely to be greater demand for shorter-dated auction products (i.e. with 1 to 3 year terms) than longer-dated auction products (i.e. 5 years or greater).

Those market participants that have more variable demand throughout the year (see below), may also want to secure even shorter-term products (e.g. retailers may want to be able to secure seasonal or monthly auction products to deal with the winter peak, while peaking gas-powered generators (GPGs) may want even shorter-dated products).

Constant or variable demand for the auction product

Whether a market participant requires a constant or variable amount of the auction product will depend on their end-use requirements, which can differ substantially across the market participants operating in the DWGM.

For example, most commercial and industrial (C&I) customers and baseload GPGs tend to

exhibit a relatively flat demand profile over the year and are therefore likely to seek a constant amount of auction product over the year. Peaking GPGs, on the other hand, tend to exhibit highly variable demand for gas and are therefore likely to seek a variable amount of the auction product over the year.

In between these two extremes are retailers servicing residential customers. Their demand for gas tends to exhibit a distinct seasonal trend, with demand in winter being substantially higher than it is in summer and retailers having to make use of storage (e.g. UGS, LNG storage or pipeline storage) and other products to supplement their winter supply (e.g. short-term GSAs or the facilitated markets). Retailers are therefore likely to:

- hold a baseline level of auction products, which is constant throughout the year, and
- use a seasonal or monthly auction product over the winter period to manage the variation in the level of demand for gas and/or the location of supply over this period (i.e. the location could change if the retailer has placed gas in storage).

Retailers may also use this approach to manage changes in the size of their customer base over time (e.g. as smaller retailers' customer bases grow, they may want to rely on shorter-term auction products before increasing their baseline auction product holdings).

Locations at which the auction products are likely to be sought

The locations at which auction products are likely to be sought will differ across market participants and, as noted above, are likely to become more dynamic in the future, given the changes under way in the east coast gas market and the implications this may have for where gas is sourced (e.g. Queensland, Northern Territory, NSW or Victoria) and the reliance placed on storage.

From a market participant perspective, it is worth noting that larger retailers (who also operate GPGs in the DWGM) tend to have the flexibility to use multiple system injection points (SIPs) and system withdrawal points (SWPs) (e.g. because they have a portfolio of GSAs at different locations, use the Iona UGS and/or use the DWGM to supply gas to NSW and South Australia via the DWGM, either to supply customers or to use storage services on interconnected contract carriage pipelines). Smaller retailers and C&I customers that procure their gas from a producer, on the other hand, tend to use a single SIP and will only use an SWP if they need to store gas at the Iona UGS, or if they need to supply gas to NSW and South Australia (e.g. to supply demand in these states or to use storage services on the interconnected contract carriage pipelines).

The implications of this for the auction product and auction format are two-fold:

- First, larger retailers that have a portfolio of GSAs and have some flexibility to determine where they will inject and withdraw gas from, may view some locations as substitutes for shorter-dated auction products. For example, a retailer with a GSA at Longford and another GSA at Port Campbell, may view the Longford and Otway SIPs as substitutes for a short period (e.g. for a month) if they have access to more gas than they require and can divert that excess gas into NSW or South Australia. They may also in some

circumstances view the Culcairn and Iona UGS SWPs as substitutes. Other market participants that don't have this flexibility, on the other hand, may not view these SIPs or SWPs as substitutes.

- Second, those market participants that use the DWGM to transport gas into the Iona UGS, or to supply gas into NSW via Culcairn or South Australia via Iona may want to link their bids for use of a particular SIP with the Iona or Culcairn SWP. Other market participants, on the other hand, may just want to procure an auction product at a single SIP and/or SWP.

Source: AEMC/Axiom Economics and NERA Economics consulting.

As the discussion in Box 5 highlights, the nature of demand can vary markedly across market participants. The design of both the auction product and auction format must therefore be sufficiently flexible to accommodate these differences. They must also be flexible enough to deal with changes over time, including those that are currently underway in the east coast gas market, which are resulting in:

- market participants entering into shorter-term GSAs than they have historically (i.e. 1 to 3 year contract terms rather than 5 to 10 year terms)
- the locations at which gas is injected into and withdrawn from the DWGM becoming more dynamic.

In addition to these demand related factors, the auction design should:

- recognise there is a range of sophistication levels in the DWGM, by making the product design and auction format as simple as possible (i.e. so that all market participants can use the auction)
- be able to accommodate new entrants, expansions of existing market participants, and other changes in the demand for auction products over time, by conducting the auction at regular intervals and balancing the release of both short- and longer-dated products.

The design of the auction product and auction format should also reflect the effect of any constraints on the supply of the auction product. As AEMO noted in its submission, the amount of capacity certificates released through longer-tenure products at some locations may either be restricted or non-existent if there are constraints on the availability of capacity, because the amount made available through an auction product must be available for each day in that tenure on a 1-in-20 demand day.

The implications of these observations are discussed in further detail in the subsequent sections.

5.2.2

Single or multiple tenure auction products

As noted in section 5.1.3, the draft determination provided for AEMO to specify the tenure of the auction products that would be available through the auction in the *Capacity Certificates Auction Procedures* subject to the following minimum requirements:

- at least one type of capacity certificates must have a tenure of at least three years and account for no more than 50 per cent of available capacity, taking into account the aggregate of such products sold at any one auction
- at least one type of capacity certificates must have a tenure of one year
- at least one type of capacity certificates must have a seasonal tenure (the months of the year and the duration of which is to be defined by AEMO in the *Capacity Certificates Auction Procedures*) and account for at least 10 per cent of the available capacity.

Stakeholder views

In its submission to the draft determination AEMO raised the following issues around auction product tenures:

1. The amount of capacity available under longer-tenure products must be available for each day in that tenure on a 1-in-20 demand day and, as a consequence:
 - a. the amount of capacity certificates capable of being released through longer-tenure products could be restricted (i.e. because the capacity certificates that can be auctioned for a product tenure will be based on the lowest capacity available over the term)
 - b. longer-dated products may not be available in those locations where system constraints result in no capacity being available in some months.
2. Participants that just want to acquire longer-tenure products are potentially restricted in their ability to tailor their demand for entry and exit capacity certificates, because they will have to procure the same amount of capacity certificates for each day in the period.

To address these issues AEMO suggested that a single tenure product (e.g. a monthly product), rather than multiple tenure products, be auctioned in tranches.¹⁷⁹

Analysis

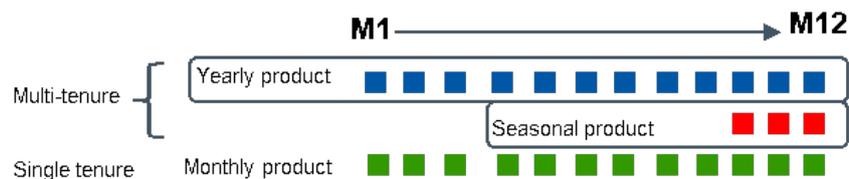
There are broadly two options for making entry and exit capacity certificates available, which would involve issuing either:

- multiple tenure products (e.g. a three-yearly product, an annual product and a seasonal product), or
- a single tenure product (e.g. a monthly product), which could be made available on a rolling basis for a specified forward period (e.g. for at least three years).

The difference between these two options is highlighted in the figure below.

¹⁷⁹ AEMO, *submission to draft determination*, pp. 9-11.

Figure 5.1: Multi-tenure v single tenure products



Source: Axiom Economics and NERA Economics consulting, *DWGM technical working group meeting*, slide 9, 03 February 2020.

Of the two options, a single monthly product that is made available on a rolling basis for at least a 36-month forward period is likely to be of most use to market participants, given the nature of demand and operational constraints in the market, as outlined in Box 5 above.

This option also provides for relatively straightforward bidding by market participants, while also:

- enabling competition between short- and long-term demand to determine the optimal split between short- and longer-dated products, which is efficiency-enhancing and ensures a fair pricing outcome
- offering the most flexibility in terms of allowing participants to work around constraints on the availability of capacity certificates in some months, or to link bids across different products (i.e. bid for the same quantity of capacity certificates for an entry and an exit zone) to support the movement of gas between two pre-defined zones.
- minimising substitution risk (e.g. the risk of winning relatively expensive products when a combination of cheaper shorter-term alternative was available).

Further detail on the efficiency, flexibility and substitution risk related benefits of a single tenure product is provided in Box 6 below.

BOX 6: BENEFITS OF A SINGLE TENURE AUCTION PRODUCT

Efficiency benefits

If total capacity is split into multiple-tenure products and then offered to the market, the split of capacity certificates between short-term and long-term demand is effectively predetermined. If the predetermined split is inefficient, this could have a considerable impact on the efficiency of the resulting allocation.

An auction with a single-tenure product, on the other hand, enables competition between short- and long-term demand to determine the optimal split — which is efficiency-enhancing. This is subject to any constraints imposed on the release of shorter versus longer-dated products to achieve the AEMC's broader objectives.

If only a single-tenure product is offered on a rolling basis, aggregation risk would be a

concern if market participants have to compete for individual products on a standalone basis.

A market participant wishing to acquire the same capacity certificates across several months/years could be exposed to only winning a subset of his actual demand.

To protect bidders from this aggregation risk, the auction can allow them to link their bids across a number of products. This can be achieved in a partial combinatorial format similar to the one used for the DAA and the inter-regional Settlements Residue Auction (SRA) and discussed in more detail in section X.

Flexibility benefits

As AEMO noted, the amount of capacity certificates that can be made available through longer-tenure products is restricted by the minimum available capacity certificates over the term of the product. The existence of these restrictions, particularly around Iona, would therefore reduce the amount available under longer-tenure products.

A single-tenure product would allow market participants to flexibly aggregate across months/years taking into account the available capacity certificates in all months.

Market participants with long-term demand may be able to work around some of these supply constraints by acquiring little or no capacity certificates in those months.

A single tenure product would allow them to express their demand flexibly, which further increases the scope for an efficient allocation. For example, if no capacity certificates are available in June, a bidder can still submit a single linked bid for the other 11 months. It is worth noting that a linked bid does not have to include consecutive months. Bids can also be linked across different products (i.e. bid for the same quantity of capacity certificates for an entry and an exit zone) to support the movement of gas between two defined zones.

Substitution risk benefits

If capacity certificates are sold in different tenure products, market participants are exposed to the risk of winning relatively expensive products when a cheaper (shorter-term) alternative was available.

For example, a market participant with long-term demand may be able to acquire the same long-term capacity certificates by bidding for shorter term products over a number of auctions.

To protect against the risk of overpayment, market participants will likely bid less aggressively for longer-tenure products and then compete for shorter-tenure products as they become available.

The need to compete for all products of different tenure increases the risk of an inefficient allocation as bidders are exposed to aggregation risk (as they may fail to win all required shorter-term products), as well as the risk of winning more than one substitute (i.e. a monthly and a seasonal product for the same month).

Source: AEMC/Axiom Economics and NERA Economics consulting.

In short, while the mechanics of the multi-tenure auction are simple, it is strategically complex as it exposes bidders to substitution and aggregation risk. It will likely favour market participants who can devote greater resources to developing an optimal bid strategy.

Final determination

For the reasons set out above, and given the nature of both the demand and supply factors outlined in section 5.2.1, the Commission is of the view that a monthly product is preferred to a multi-tenure product.

The fungibility of a single tenure product should encourage higher liquidity in the primary auction and should facilitate secondary trading of capacity certificates via the listing service. The Commission therefore concludes that a single tenure product will better promote the NGO. Therefore, the final rule adopts a single tenure product of one month.

The final rule introduces the definition of an auction product, which means a capacity certificate type (i.e. entry or exit) offered for allocation as a month-long product commencing at the start of the first gas day of the month and expiring at the end of the last gas day of the month. This definition sets out the single monthly tenure requirement.¹⁸⁰

5.2.3

Auction format and other features

With the adoption of a single tenure product, if capacity certificates were auctioned using a standard uniform price auction, then those market participants wanting to buy capacity certificates for a number of months would have to place a bid for each month and would face the risk of winning different quantities of capacity certificates in each month.

A combinatorial auction format reduces this aggregation risk, by allowing bidders to submit bids for combinations of products.

There are two common combinatorial auction formats that could be utilised for the allocation of capacity certificates:

- **A partial combinatorial auction** is a linear programming based auction mechanism that allows participants to bid the same quantity across a number of products at the same time. Under this auction format a participant's bid may be partially filled, but if this occurs then the participant will win the same quantity for all products included in the bid. While this auction format can accommodate simple demand, it cannot accommodate substitutable or complementary demand (see Figure 5.2) without modification. Variants of this auction format have been used in the Day-Ahead Auction of contracted but unominated capacity and the Settlements Residue Auction in the NEM.
- **A fully combinatorial auction**, on the other hand, is an integer linear programming based auction mechanism that allows participants to bid for mutually exclusive packages and only win bids in their entirety. It therefore shields auction participants from aggregation risk and can also accommodate simple, substitutable and complementary demand (see Figure 5.2).

Table 5.1 provides further detail on the differences between these two formats:

¹⁸⁰ See rule 200 of the Amending Rule.

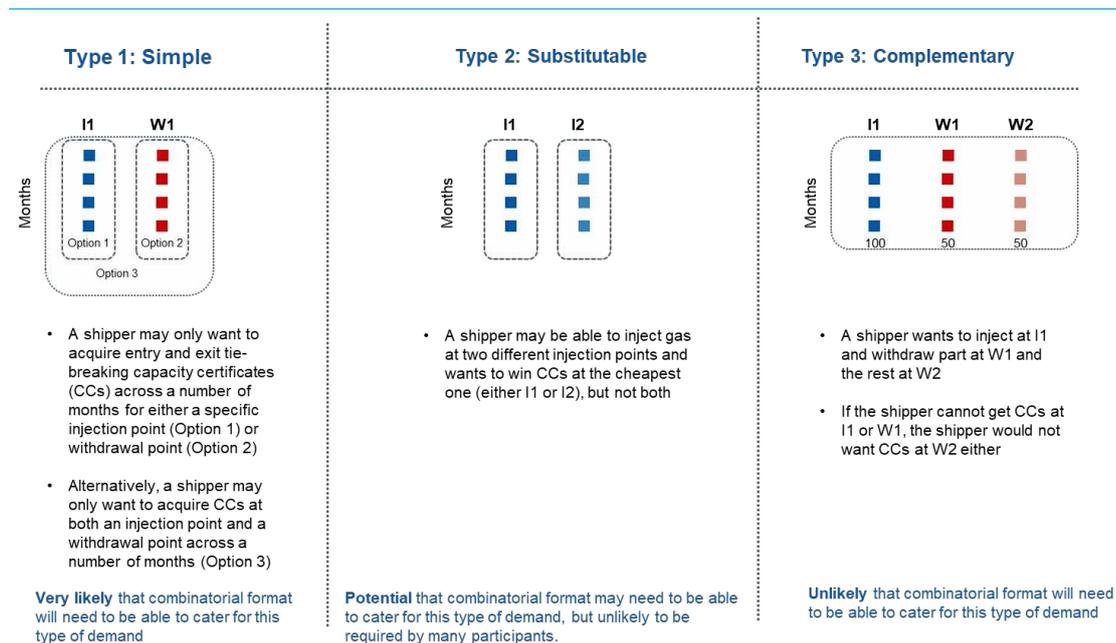
Table 5.1: Partial versus fully combinatorial auction

	PARTIAL COMBINATORIAL AUCTION	FULLY COMBINATORIAL AUCTION
Bidding language	<ul style="list-style-type: none"> • Bid consists of a quantity, a price and a nomination of products included in the bid. Bid amount caps the sum of prices paid for one unit in each product included in the bid. • Bidders can submit multiple bids — more than one of their bids may win. 	<ul style="list-style-type: none"> • Bid consists of a quantity for each product (Q_P1, Q_P2, Q_P3 etc) and a total bid amount for the entire bid. • Bidders can submit multiple mutually exclusive bids — at most one may win.
Key features	<ul style="list-style-type: none"> • Winning bids determined simultaneously using a linear program — maximum value $\sum(\text{bid amount} * \text{amount allocated to bid})$. • Bids may only be partially filled — if a bidder wins part of its bid, the quantity won across all products in the bid is the same. 	<ul style="list-style-type: none"> • Winning bids are identified using an integer linear program (ILP) maximum value and are always honoured in full. • Identifies combination of bids that maximises value. • Usually implemented with mutually exclusive bids — bidders win at most one of the bids they submit.
Pricing rule	<ul style="list-style-type: none"> • Clearing price — marginal (partially filled) bids determine price. 	<ul style="list-style-type: none"> • First price. • Second price.
Advantages	<ul style="list-style-type: none"> • Simple for bidders to understand and identification of price for individual products relatively straightforward. • Accommodates simple demand (Type 1) and implementation relatively straightforward. 	<ul style="list-style-type: none"> • Removes all aggregation risks. • Mutually exclusive bids can accommodate: simple demand (Type 1); substitutable demand (Type 2); and complementary demand (Type 3).
Disadvantages	<ul style="list-style-type: none"> • Does not fully remove aggregation risk because participants may win less than the quantity specified in their bids. • Does not accommodate type 2 or type 3 demand. 	<ul style="list-style-type: none"> • Bidding language complex and requires bidders to submit a very large number of bids to express their demand. • Significantly more complex to implement.

Source: Axiom Economics and NERA Economics consulting, *DWGM technical working group meeting*, slide 24, 3 February 2020.

The choice between these two auction formats will depend on the type of demand that auction participants are expected to have (see Figure 5.2) and the level of aggregation risk that auction participants are expected to be exposed to.

Figure 5.2: Types of demand



Source: Axiom Economics and NERA Economics consulting, *DWGM technical working group meeting*, slide 23, 3 February 2020.

As Figure 5.2 highlights, the most dominant form of demand that the capacity certificate auction will need to accommodate is simple demand. While this type of demand could be accommodated under either a partial or fully combinatorial auction, a fully combinatorial auction would add significant complexity for bidders and AEMO. It would also be more complex to implement. A partial combinatorial auction format is therefore more appropriate in this context taking into account feedback from market participants.

How does a partial combinatorial auction work in practice?

Under the partial combinatorial auction format, a bid consists of a bid quantity (GJ per gas day), a bid price (\$/GJ) and a nomination of products included in the bid (e.g. an entry capacity certificate and an exit capacity certificate, or a strip of entry/exit capacity certificates over a period of time). A bid effectively links demand for different products with bidders being guaranteed to win the same quantity of each product included in a bid. The bid amount can be interpreted as a bidder's maximum willingness to pay for winning one unit of each product included in the bid. A bidder can submit more than one bid and may win more than one of them. This allows bidders to bid for incremental units at lower bid amounts, effectively mapping out a full demand curve.

If a bid wins in full, the bidder will be allocated the specified quantity of all products included in the bid and the sum of the prices for all products included in the bid will be less than or equal to the bid price. If, on the other hand, a bid is only partially filled, then the bidder will win the same quantity across all products included in the bid and the sum of the prices for all products included in the bid will be equal to the bid price.

Winning bids are determined using a linear program, which maximises the total value of bid amounts subject to not exceeding the available supply of each product. Winning bids are determined simultaneously for all products and the lowest accepted bids are usually filled partially.

Pricing rule and price indeterminacies

There are several pricing rules that can be used under the partial combinatorial auction, but the pay-as-cleared pricing rule is strategically simpler for bidders because those bidders that have a higher willingness to pay than their rivals can simply submit bids at value. The pay-as-cleared rule then ensures that they do not pay more than what is required to win.

Under the pay-as-cleared pricing rule, the lowest accepted bids set the per-unit prices for all products. This has the following implications:

- If some of the available supply of a product is unsold, the price of the auction product is zero.
- The lowest accepted bids impose pricing constraints on all other products. For example:
 - if the lowest accepted bid only includes one product, the price of that product is set to the bid price; and
 - if the lowest accepted bid includes more than one product, it imposes a constraint that the sum of the prices of the products included in that bid sum to the bid price.

Prices are then determined jointly such that they satisfy all constraints imposed by the lowest accepted bids. If there is more than one set of prices that jointly satisfies all these constraints, the set of prices that maximise the total value of bid amounts is selected. If this does not resolve all the price indeterminacy, a method of random selection can be used to determine the final prices, subject to the constraints set out above.

Final determination

For the reasons set out above, the Commission decided to adopt a partial combinatorial auction format. This format will promote the NGO by improving the ability of market participants to manage scheduling risk without disproportionate regulatory and administrative burden. The auction format will include the following features:¹⁸¹

- auction winners be determined on the basis of the value-maximising combination of bids
- all winners of a particular auction product will pay the same clearing price per GJ for that auction product
- the clearing price will be based on the lowest (partially or fully) accepted bid

¹⁸¹ See rule 328C of the Amending Rule.

- any auction product that remains partially unsold in the capacity auction for a gas day will have a clearing price of \$0/GJ and the clearing price for all other products must be based on the lowest (partially or fully) accepted bid and must satisfy other conditions in the rules for determining what is paid by a winning bidder
- bid prices will be expressed to a number of decimal places (to be specified in the *Capacity Certificates Auction Procedures*) to minimise the chance of a tie. If there is more than one combination of winning bids, AEMO will employ a method of random selection to determine the winning allocation.

5.2.4 Auction frequency and auction quantities

The Commission also considered how to give effect to one of the broader objectives of the rule change proposal, which is that the tenure and the timing of the allocation should allow new or smaller market participants with increasing portfolios to access capacity at regular intervals.¹⁸²

To ensure there are some short-term capacity certificates available in the rolling auctions, the capacity certificates available in future months will be restricted through the adoption of a constraint that ensures that some of the auction product is withheld when the auction of longer-dated products is conducted and allocated in future auctions closer to delivery.

The constraints adopted are similar to the draft rule, however due to the change from multiple product tenure to a single monthly tenure in the final rule the constraints are expressed in a different format.

Final determination

The Commission considers the final rule sets out auction frequencies and processes to determine auction quantities that promote the NGO by achieving an appropriate balance between improving market participants ability to manage scheduling risk without disproportionate regulatory and administrative burden.

Auction frequency

The final rule includes a requirement that a capacity certificates auction must be conducted at 6-month intervals or, if specified in the *Capacity Certificates Auction Procedures*, at shorter intervals specified in those procedures.¹⁸³

The final rule also clarifies that a rolling forward period of at least 36 consecutive months will be available to cater for the long-term capacity needs of market participants, but that AEMO also has discretion to make available a rolling forward period longer than 36 consecutive months, if the *Capacity Certificates Auction Procedures* allow for such.¹⁸⁴

In making the *Capacity Certificates Auction Procedures*, AEMO will follow the consultation process in Part 15B of the NGR, giving stakeholders the opportunity to provide their views about auction frequency and the length of the rolling forward period.

¹⁸² Rule change request, p. 8.

¹⁸³ See rule 328B(2)(a) of the Amending Rule.

¹⁸⁴ See rules 328B(2)(b) and (c) of the Amending Rule.

Auction quantities

The final rule specifies that after conducting system capability modelling, AEMO must determine and publish the total quantity of each auction product available to auction, taking into account the system capability modelling and the quantity to be allocated at the direction of the declared transmission system service provider.¹⁸⁵

Under the final rule, AEMO must also determine and specify in the *Capacity Certificates Auction Procedures* a capacity release schedule that stipulates the percentages and timing for the release over the rolling forward period of the quantity of each auction product available to auction as determined under rule 328B(3).

The final rule constrains the release of short and longer- dated products by specifying that in determining the capacity release schedule, AEMO must:

- have regard to the need for the auction product for any particular month to be made available for allocation by auction at regular intervals
- for each auction product, determine a schedule under which no more than 50 per cent of the quantity available to auction is released for months 25 or later of the rolling forward period
- for each auction product, determine a schedule under which at least 10 per cent of the quantity available to auction is not released until the last capacity certificates auction in which the auction product is included.¹⁸⁶

Under the final rule, AEMO must determine the quantity of capacity certificates to be offered for allocation before each auction.¹⁸⁷ This quantity will be by certificate type (e.g. entry or exit zone) and be specified as a daily quantity in GJ over a period of a month. In doing so AEMO must have regard to:

- the capacity release schedule in the *Capacity Certificates Auction Procedures*
- the most recent determination of the quantity of each product available to auction
- the quantity already allocated in previous capacity certificates auctions
- any quantity of capacity certificates relinquished by a market participant who ceases to be a market participant and to be allocated to be allocated by auction.

The final rule also requires AEMO to include in the *Capacity Certificates Auction Procedures* information about the method AEMO uses to move from the amount determined under the system capability modelling to the auction quantities available in each auction.¹⁸⁸ This will provide transparency for market participants.

¹⁸⁵ See rule 328A(3) of the Amending Rule.

¹⁸⁶ See rule 328B(3) of the Amending Rule.

¹⁸⁷ See rule 328B(4) of the Amending Rule.

¹⁸⁸ See rule 328D(2)(c) of the Amending Rule.

5.2.5 Allocation of capacity certificates from zone to system points

The draft rule did not specify how capacity certificates are to be allocated from zones to system injection points or system withdrawal points, in those cases where there is more than one system point in a zone. The AEMC analysed two options:

- Capacity certificates could be auctioned on a **pure zonal basis**. Under this option:
 - auction participants would bid for the zones they want to use, with the capacity certificates released in the auction based on the capacity certificates available in the zone
 - if there is more than one system point within a zone, a separate process would be used to allocate the zonal capacity certificates to system points after the auction is conducted (i.e. and *ex post* process), which could involve:
 - a first come first served approach, with total capacity certificates allocated to a system point capped by the amount of capacity at the point, or
 - an all come all served approach, with pro-rating of rights if the total capacity certificates allocated to the system point exceeds the system point capacity at the time of scheduling.
- Capacity certificates could be auctioning on a **hybrid zonal-system point basis**. Under this option auction participants would bid for the system points they want to use, with the capacity certificates released in the auction reflecting both the capacity certificates available in the zone and the capacity certificates available at a system point. This is the approach that was used for the DAA.

A potential variant of the hybrid option is to accord auction winners with first priority rights at the system points they win capacity at and second priority rights at all other system points in the zone. This would provide auction winners with some flexibility to use capacity certificates at other system points within the zone, although their ability to use these points will depend on whether there is any spare capacity available and if the participants with first priority rights are using their rights.

Box 7 highlights the key differences between a pure zonal auction and a hybrid zonal-system point auction.

BOX 7: DIFFERENCES BETWEEN ZONAL AND HYBRID ZONAL-SYSTEM POINT AUCTIONS

Pure zonal auction

- Form of bids: Bids made for zone.
- Auction quantity: Based on capacity certificates available in the zone.
- Clearing prices: Single clearing price for the zone.
- Main benefits: Under the all come all served approach auction winners would have the flexibility to determine what point to use up to scheduling.

- Main deficiencies:
 - May not result in the most efficient allocation of capacity certificates at system points if based on first come first served or all come all served approach.
 - Zonal clearing prices may not provide a good indicator of the scarcity of capacity at different points within the zone or the need for investment at particular points.
 - Auction winners have no guarantee they can allocate capacity certificates at the system points they want to use because a separate process is required to allocate the zonal capacity to system points –auction winners may therefore end up paying for capacity certificates they can't use.

Hybrid zonal-system point auction

- Form of bids: Bids made for system points (or zones).
- Auction quantity: Based on capacity certificates available in zone and at each system point in the zone.
- Clearing prices: Separate clearing prices for each system point and zone.
- Main benefits:
 - The allocation of capacity certificates to system points will be more efficient because it is based on the value of capacity certificates at the system point.
 - System point clearing prices will better reflect the scarcity of capacity at these points and therefore provide a better investment indicator.
 - Auction winners are guaranteed to be able to use the capacity certificates at system points they want to use (under normal operating conditions).
 - If second priority rights are also granted for other system points then the same level of flexibility would be available under this option.
- Main deficiencies: Additional complexity in the auction solver, but not for bidding (i.e. the only additional information bidders have to provide is the system point they want to use).

Source: Axiom Economics and NERA Economics consulting, *DWGM technical working group meeting*, slide 18, 3 February 2020.

As noted above, the key difference between these options is that the allocation of capacity certificates to system points occurs through the auction under the hybrid approach, while under the zonal approach a separate process must be used. The use of the separate process under the zonal approach means that:

- auction winners may pay for capacity certificates they can't use at the system points they want to use if the points are oversubscribed (i.e. if the capacity certificates auction winners want to use at the point exceeds the system point capacity); and
- the allocation of capacity certificates to system points may not occur in the most efficient manner because the allocation is not based on the price participants are prepared to pay for the capacity certificates at that point.

These deficiencies are overcome under the hybrid option, because the allocation of capacity certificates to system points occurs through the auction and uses the prices auction

participants are prepared to pay to procure capacity certificates to ration capacity at these points.

In effect, the use of this separate process means the products sold under the two approaches differs, with the product sold under the hybrid approach guaranteeing tie breaking rights at a system point can't be oversubscribed, while the product sold under zonal approach does not. The value of a capacity certificate under the hybrid approach should therefore be higher than it is under the zonal approach, because it provides a greater level of certainty to the holder.

Final determination

While the hybrid option offers a number of efficiency benefits over the zonal option, at the DWGM technical working group meeting held on 3 February 2020 there were mixed views from stakeholders, with some preferring the certainty of allocation to a system point and others noting the importance of having flexibility within a zone. Further discussion with AEMO indicated that the hybrid option could be quite costly and complex to implement because the scheduling process would likely need to recognise first priority and second priority rights.

The Commission has therefore decided that a zonal approach would better meet the NGO by allowing efficient allocation of tie-breaking right and improved risk management without disproportionate regulatory and administrative burden.

For the reasons explained above, the final rules:¹⁸⁹

- require AEMO to provide information about the process for a market participant to use a capacity certificate at an individual system point (in those cases where there is more than one system point in a zone) in the *Gas Scheduling Procedures*; and
- provided that the process must not result in equally beneficial bids associated with capacity certificates being given different priorities at the same system point in the capacity certificates zone.

5.2.6

Auction eligibility criteria

The draft rule determination provided for a person to be eligible to participate in the capacity certificates auction if they satisfy and continue to satisfy the following criteria:

- the person is a Market Participant¹⁹⁰; and
- any other criteria specified in the *Capacity Certificates Auction Procedures*.

In the draft determination, the Commission noted that 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

¹⁸⁹ See rule 328A(4) of the Amending Rule.

¹⁹⁰ Linking the eligibility criteria to the Market Participant definition in Part 15A of the NGR, in effect, ensures that the auction participants have the legal capacity to enter into and perform their obligations and adequate financial resources to participate in the market, as well as the 'expertise and other resources necessary for compliance' with the rules and procedures governing the relevant market.

supply or transportation and help to prevent market participants holding capacity certificates that are unutilised.¹⁹¹ 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.

Stakeholder views

In their responses to the draft determination, Origin and EnergyAustralia suggested that, in a similar manner to the existing *Wholesale Market AMDQ Procedures*, the eligibility criteria should restrict access at interconnected facilities to participants with firm capacity rights on the interconnected contract carriage pipelines.¹⁹² In doing so, Origin noted that this would ensure alignment of shippers' rights between the DTS and connecting pipelines and improve signals for investment in firm capacity.¹⁹³

While not commenting specifically on the eligibility criteria, APA noted in its initial submission to the rule change that any changes to the DWGM 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 a DWGM injection point, and that legitimately available gas that seeks entry to the DWGM is not inappropriately barred from participating in the DWGM auction.¹⁹⁴

In contrast to these positions, ERM Power stated it would not support any proposal to require entry capacity certificates to be linked to a requirement to have a firm service on an interconnecting facility. Elaborating on this further, ERM noted that the market design should be flexible and accommodating of the evolving needs of the market and recognise different types of trading activity and optimisation that involve the use of different forms of capacity (whether firm or as available, or long or short term).¹⁹⁵

Current restriction at interconnected facility system withdrawal points

The *Wholesale Market AMDQ Procedures* currently state that AEMO will only initiate the transfer of AMDQ, or the nomination of AMDQ cc, to an interconnected facility system withdrawal point if, amongst other things:¹⁹⁶

- AEMO has received satisfactory evidence that the person is entitled to sufficient firm capacity on the interconnected facility to cover the transfer or nomination quantity, plus any existing AMDQ held at that system withdrawal point by the transferee or nominating party
- accreditation of a sufficient controllable quantity to cover the transfer or nominated quantity is in place (or an application is submitted with the form).

191 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.

192 Submissions to the draft determination: Origin, p. 1; EnergyAustralia, pp. 3-4.

193 Origin, *submission to draft determination*, p. 3.

194 APA, *submission to draft determination*, p. 1.

195 ERM Power, *submission to draft determination*, pp. 2-3.

196 AEMO, *Wholesale Market AMDQ Procedures*, 25 October 2016, section 2.1.

This restriction was implemented in 2014 through a procedure change that was instigated by APA. At the time, APA stated the proposed restriction would deliver the following benefits:¹⁹⁷

- increased alignment of market participant rights at interconnection points
- enhanced interoperability between the market carriage and contract carriage markets
- support greater trade of gas across the east coast
- certainty that market participants with firm contract rights on interconnected facilities that have procured and assigned AMDQ at the system withdrawal point will be able, through submission of appropriately priced bids, to ensure that their gas is scheduled in the DWGM (subject to system operational constraints).

Some other benefits that were identified through the procedure change process were that it would:

- provide clearer requirements for transfer and nomination requests and provide for a single priority queue, which would improve transfer management.¹⁹⁸
- reduce the risk of deviations in the market and provide for operational certainty when constraints are binding (i.e. in the event of a constraint, gas dispatch is backed by firm transportation rights).¹⁹⁹

While most stakeholders supported the proposed change, some smaller participants claimed it would discount the value of AMDQ and disadvantage those parties who were unable or less able to acquire firm contract rights.²⁰⁰ AEMO, however, was not convinced the change would have this effect and stated that the restriction would more effectively and efficiently deliver the same outcomes intended through the 'good faith' bidding provisions.

The procedure change was approved by AEMO in mid-2014. In approving the change AEMO stated that:²⁰¹

"...the proposed alignment of AMDQ to firm contracts on interconnected facilities for the purposes of withdrawal tie-breaking is in keeping with the national gas objective because:

The proposal promotes efficient investment in pipeline capacity by providing a means to expand the DTS and interconnected facilities through private investment in firm capacity. Those parties will have priority on days of full capacity use, while allowing 'as available' capacity to be scheduled where spare capacity exists.

- Increased capacity will allow retailers to better manage the cost of gas in New South Wales in face of increasing costs for gas from alternate sources. This will directly impact consumer pricing policies.

197 AEMO, *Impact and Implementation Report — AMDQ Procedure change*, 5 May 2014, p. 6.

198 AEMO, *Impact and Implementation Report — AMDQ Procedure change*, 5 May 2014, p. 6.

199 AEMO, *Discussion Paper — AMDQ Procedure Proposal*, 28 February 2014, p. 7.

200 AEMO, *Impact and Implementation Report — AMDQ Procedure change*, 5 May 2014, p. 7.

201 AEMO, *Impact and Implementation Report — AMDQ Procedure change*, 5 May 2014, p. 7.

- The proposal promotes efficient operation of the interface between the DWGM and interconnected facilities by allowing scheduling in DWGM to align with 'firm' contractual rights in interconnected facilities. This reduces need for additional processes between the DWGM, market participants and interconnected facility operators."

Should a similar restriction be applied to the new regime of capacity certificates?

As noted in the introduction to this section, Origin and EnergyAustralia have suggested that the eligibility criteria should restrict access to both entry and exit capacity certificates at interconnected facilities to those participants with firm capacity rights on the interconnected contract carriage pipelines. If implemented, this would result in the restriction that currently applies at system withdrawal points being extended to interconnected facility system injection points (i.e. Culcairn and Iona).

While it would be open to AEMO, under the current draft rules, to implement such a restriction through the *Capacity Certificates Auction Procedures*, Origin has suggested that this criterion be specified in the rules.

In considering this proposal, the Commission considered the effect that the restriction could have on competition in the auction and the DWGM more generally. The Commission also considered whether the restriction is required:

- from a market perspective
- from a market carriage-contract carriage interoperability perspective
- to promote efficient investment.

The Commission's views on these matters are provided below.

What effect could the restriction have on competition in the DWGM?

If the restriction that currently applies to system withdrawal points at interconnected facilities was implemented through the rules and expanded to include system injection points at interconnected facilities, then it could:

- limit competition in the capacity certificates auction at these points (i.e. because there are only a limited number of market participants with firm capacity rights at these points), which could result in the prices paid for capacity certificates at these points failing to reflect their true value
- discourage market participants that do not have firm capacity on interconnected contract carriage pipelines from participating in the DWGM (i.e. because they cannot procure capacity certificates), which could limit competition for the supply of gas into and out of the DWGM at interconnection points. This could, in turn result in higher prices in the DWGM and other facilitated gas markets and negate some of the benefits that have flowed from the introduction of the DAA.²⁰²

²⁰² The restriction could affect other markets, because it would be more difficult for smaller players to exploit arbitrage opportunities across the facilitated markets (e.g. the STTM and Gas Supply Hub).

In relation to the second of these points, it is worth noting that recent analysis by the AER indicates that the DAA resulted in prices in the DWGM being \$0.08-\$0.17/GJ lower than they would otherwise have been between March and September 2019.²⁰³ While not stated by the AER, we understand that this is because more gas has been injected at Culcairn (which is not currently subject to the restriction) by parties that do not have firm capacity on the Moomba to Sydney Pipeline.

On their own, these factors would suggest that the restriction should not be implemented through either the rules or the procedures.

Is the restriction required from a market perspective?

One of the arguments made in favour of the procedure change was that it would reduce the risk of market deviations and provide for operational certainty when constraints are binding, because dispatch would be backed by firm transport rights.

If such a restriction is required for this purpose, then we would expect the same restriction to apply at all system injection points and system withdrawal points and all market participants to be required to demonstrate to AEMO that their bids in the DWGM are backed by firm supply, storage and transportation agreements. This is not, however, the case.

The market instead relies on the operation of the 'bidding in good faith' provisions, which require injection and withdrawal bids to:²⁰⁴

- be submitted in good faith, where good faith means the market participant has 'a genuine intention to honour the bid if the material conditions and circumstances on which the bid is based remained unchanged'
- represent the market participant's best estimate of the quantities it expects to inject into or withdraw from the system.

Given the operation of this provision, it is unclear why from a market perspective an additional restriction would be required.

Is the restriction required from an interoperability perspective?

Another perceived benefit of the restriction is that it would enhance the interoperability of the market carriage and contract carriage models.

While the restriction may have yielded some benefits from an interoperability perspective initially, it may now be exacerbating the interoperability issues, because the restriction does not recognise:

- *Shorter-term firm services that some service providers, such as APA and Jemena have introduced:* while these services are treated in the same manner as other firm services from a scheduling perspective on contract carriage pipelines, they would not be captured by the current definition of 'firm capacity' in AEMO's procedures. This is because the contracts don't usually specify a reserved capacity, so users, who usually pay more for the service, would be treated the same way as 'as available' and interruptible users.

²⁰³ AER, *Wholesale Markets Quarterly — Q3 2019*, November 2019, p. 54.

²⁰⁴ NGR Rule 213.

- *The day-ahead auction service:* while these services are a second priority firm service (i.e. they rank below firm services but ahead of as available and interruptible services), on most days they are effectively firm once scheduled.

The other problem with the restriction is that it does not respect the priority of other services on contract carriage pipelines — for example, short-term firm, day-ahead firm and the day-ahead auction service are treated in the same way as available and interruptible services even though they are higher priority services than as available and interruptible services.

Is the restriction required to promote efficient investment?

Another argument made in favour of the restriction is that it would promote efficient investment by providing a means to expand the DTS and interconnected facilities through private investment in firm capacity.

To the extent this is a benefit, it is restricted to Culcairn because at Iona the total amount of firm capacity on interconnected facilities far exceeds the capacity of the South West Pipeline from Melbourne to Iona.

Under the final rule, participants that underwrite investments will continue to be allocated entry and/or exit capacity certificates. While the restriction of access to participants that have firm capacity on interconnected pipelines at system withdrawal points and system injection points may provide an additional guarantee to those market participants that underwrite the investment that they will be able to use the capacity when required, this is not, in and of itself, a sufficient reason to maintain the restriction, particularly given the other effects it could have.

Another matter that is relevant to consider in this context is whether the restriction may distort investment decisions. That is, by providing APA and market participants with an additional incentive to expand the DTS in a way that favours the expansion of Culcairn over other system points in the DTS (e.g. the Vic Hub or the South West Pipeline), because market participants could obtain a 'firmer' right at Culcairn than they could at these other points.

Final determination

Having regard to the matters set out above and, in particular, the potential effect on competition in the auction and the DWGM, the Commission is of the view that access to entry capacity certificates at interconnected facilities should not be restricted to participants with firm capacity rights on the interconnected contract carriage pipelines through either the rules or the procedures.

Unnecessary restrictions on participation have the potential to reduce competition in the DWGM which would be in contradiction to the NGO.

Therefore, the eligibility criteria in the final rule to participate in capacity certificates auction is to be a market participant in the DWGM. Unlike the draft rule, the final rule does allow AEMO to specify other eligibility criteria in the *Capacity Certificates Auction Procedures*.²⁰⁵

²⁰⁵ See rule 328B(5)(a) of the Amending Rule.

The final rule does allow AEMO to require auction participants to be a party to a capacity certificates auction participation agreement, if required under the *Capacity Certificates Auction Procedures*. This is intended to allow a participation agreement to be developed in the future if needed for administrative reasons. If needed, the form of the agreement would be developed in consultation with industry, through AEMO's procedures consultation processes.²⁰⁶

5.2.7 Addressing capacity hoarding and market conduct concerns

In the second round of submissions, some stakeholders raised concerns around the risk of capacity hoarding and potential anti-competitive behaviour by market participants. For example:

- Brickworks warned of the risk that market participants could hoard capacity certificates in the hopes of making windfall gain profits by selling via the secondary market.²⁰⁷
- ACCC indicated that the new auction-based approach has the potential to entrench the market positions of larger players who have greater financial capacity to successfully bid for certificates.²⁰⁸
- The AER encouraged the Commission to consider whether there are risks around the conduct of participants in the proposed primary auction and secondary market trading of capacity certificates. For example, if market participants engaged in hoarding of capacity certificates this could work against the long-term interests of gas users by discouraging new entrants to the market.²⁰⁹
- Major Energy Users submitted that if all capacity rights were made available to market participants through the auction process, there is the potential that a retailer/shipper might acquire some exit rights and use this ownership to limit the avenues available to an end user to pay the lowest possible price for its gas. In its view having capacity certificates allocated to an end user provides the end user with some protection against the exercise of market power.²¹⁰

Current arrangements in the NGR

Part 25, Division 3 of the NGR deals with market participants bids at the day-ahead capacity auctions of contracted but unominated capacity. The requirements under this rule are framed as a prohibition on false or misleading bids, rather than bids in good faith.

A similar provision exists under *Part 19, Division 2* of the NGR in relation to participation in the DWGM. In this context, the requirement to bid in good faith is to enable AEMO to rely on the bids of market participants so it can schedule the injection or withdrawal of gas. There are no provisions under this rule regarding rebidding. Under this rule, a bid will be made in 'good faith' if the Market Participant has a genuine intention to honour it at the time of

²⁰⁶ See rule 328D(2)(e) of the Amending Rule.

²⁰⁷ Brickworks, *submission to draft determination*, p. 2.

²⁰⁸ ACCC, *submission to draft determination*, p. 2.

²⁰⁹ AER, *submission to draft determination*, p. 2.

²¹⁰ Major Energy Users, *submission to draft determination*, p. 4.

making the bid, subject to all material conditions and circumstances remaining the same. However, there is no guidance on what would constitute 'material' in these circumstances.

Analysis

The Commission notes that one important aspect to observe from the provisions in Part 19 and 25 is that the timeframe of the application of such provisions is a very short one.

Under this final rule, capacity certificate auctions will be conducted for a rolling forward period of at least 36 months (in the case of long-term products). In this situation, market participants would participate in the capacity certificates auction with their best estimates of their requirements, at the time of the auction. The closer to the gas day that a capacity certificates refer to, the better and more refined its estimates will likely become.

Therefore, enforcing a similar provision (market conduct and/or bidding in good faith) under the new regime in relation to certificate auctions would be difficult as intentions may legitimately change as the gas day gets closer. Such requirements could prove costly and burdensome for all parties involved.

In addition, the Commission is of the view that there is no true capacity hoarding in the DWGM market carriage model considering that the capacity certificates do not provide fully firm access to the DTS. In a contract carriage market capacity hoarding can be more serious and prevent access.

Under the new regime, entry and exit capacity certificates only provide tie-breaking rights. If a market participant buys all the capacity certificates available, but does not use them, then other market participants will still be able to get access to the DTS through their daily bids and offers.

Further, capacity hoarding has not appeared to be a concern in the current AMDQ cc auctions, which are for five-year tenures.

The Commission notes that the only mechanism in the NGR at the moment that seeks to address capacity hoarding is the Day-Ahead Auction of contracted but unominated capacity that applies to the contract carriage pipelines in the east coast gas market. In practice, that means a day-ahead use-it-or-lose-it mechanism. Therefore, the only capacity that is being released is one day worth of capacity, on a day-ahead basis.

The Commission is of the view that certain elements of the new DWGM capacity certificates regime may also mitigate against hoarding concerns:

- **Tenure and constraints on capacity release:** the capacity certificates will be released more often than under the current regime (at least twice a year, compared to once every five-year) and will be progressively released in tranches, which will increase the difficulty of successfully executing a hoarding strategy.
- **Competitive allocation:** participants will compete for capacity certificates through the partial combinatorial auction. As noted in [section X](#), due to the DTS having multiple entry and exit points, there will also be competition among participants that do not utilise precisely the same 'pathway'.

- **Auction participation restriction:** the auction design provides that only market participants will be able to acquire entry and exit capacity certificates.

Final determination

For the reasons explained above, the final rule does not include a specific market conduct provision or bidding in good faith requirement linked to the auction of capacity certificates. The Commission considers that such a provision could introduce unnecessary costs for AEMO, AER and market participants, which can be borne by consumers and this would not be aligned with promoting the NGO.

5.2.8

Other issues

Agent participation

AEMO noted in its submission that the draft rules do not contemplate the existence of agent participants. AEMO believes that the rules may need to consider the ability for related entities to participate in the auction and acquire capacity certificates on behalf of each other.²¹¹

For example, a participant may have three registered entities in the DWGM. This participant may want a single participant (either one of the three DWGM registered entities, or perhaps a non-DWGM registered entity) to participate in the auction for capacity certificates on behalf of all of their registered entities.

Having a single entity manage participation on behalf of multiple related entities can be beneficial for participants in minimising collateral costs, administration costs and settlement.

AEMO suggested that the procedures could specify the requirements for agent participation e.g. nomination and registration, and for allocation of purchased capacity certificates between the registered entities. It also indicated that the pipeline capacity trading markets provide one potential way for establishing agent participants.²¹²

Final determination

The Commission have considered AEMO's suggestions and after further analysis, has determined that the *Capacity Certificates Auction Procedures* will set out the arrangements for a person to participate in the auction as an agent for a market participant.²¹³

5.3

Final determination

Taking into consideration feedback provided by stakeholders through submissions, the DWGM technical working group meetings and further analysis by the project team, the Commission has made its final decision, with details provided in the following sections below:

- Key changes between draft and final
- Final rule.

²¹¹ AEMO, *submission to draft determination*, p. 14.

²¹² AEMO, *submission to draft determination*, p. 14.

²¹³ See rule 328D(2)(f) of the Amending Rule.

5.3.1 Key changes between draft and final rule

Table 5.2 below provides a brief summary of the key changes between the draft and final rules on the aspects related to the primary allocation of capacity certificates.

Table 5.2: Key changes between draft and final rule – primary allocation of capacity certificates

TOPIC	DRAFT RULE	FINAL RULE
Product tenure	Multiple tenures: 3-year product, 1-year product and a seasonal product.	Single monthly tenure, released for a rolling forward period of 36 months or longer if provided for in the <i>Capacity Certificate Auction Procedures</i> .
Constraints on the release of auction products	<p>AEMO to specify the tenure of the auction products in the <i>Capacity Certificates Auction Procedures</i> subject to the following minimum requirements:</p> <ul style="list-style-type: none"> • at least one type of capacity certificates must have a tenure of at least three years and account for no more than 50 per cent of available capacity, taking into account the aggregate of such products sold at any one auction • at least one type of capacity certificates must have a tenure of one year • at least one type of capacity certificates must have a seasonal tenure (the months of the year and the duration of which is to be defined by AEMO in the <i>Capacity Certificates</i> 	<p>AEMO to specify the capacity release schedule (that specifies the percentages and timing for the release) in the <i>Capacity Certificate Auction Procedures</i>.</p> <ul style="list-style-type: none"> • for each auction product, determine a schedule under which no more than 50% of the quantity available to auction is released in months 26 or later in the rolling forward period; and • for each auction product, determine a schedule under which at least 10% of the quantity available to auction is not released until the last capacity certificates auction in which the auction product is included.

TOPIC	DRAFT RULE	FINAL RULE
	<i>Auction Procedures</i>) and account for at least 10 per cent of the available capacity.	
Auction quantities	To be informed by the system capability modelling.	<p>The auction quantity is to be determined having regard to the quantity available to auction (as informed by the system capability modelling), the capacity release schedule and quantities already allocated or relinquished.</p> <p>Additional requirement for AEMO to set out in the <i>Capacity Certificate Auction Procedures</i> information about the method it will use to move from the system capability modelling to the auction quantities available in each auction.</p> <p>The auction notice will specify the actual quantities of capacity certificate that will be made available in the upcoming auction.</p>
Auction format	Single round, sealed bid, pay as cleared.	<p>Single round, sealed bid, pay as cleared.</p> <p>Partial combinatorial format allows for linked bids (across months or products, i.e. different zones).</p>
Auction frequency and timing	The frequency of auctions and timing of the auction to be defined in the <i>Capacity Certificates Auction Procedures</i> .	The frequency of auctions and how far in advance of the start of the rolling forward period they will be held will be defined in the <i>Capacity Certificates Auction Procedures</i> , subject to the requirement of running it at least at 6-month intervals.

TOPIC	DRAFT RULE	FINAL RULE
Allocation of capacity certificates to system points	N/A	AEMO to specify how zonal capacity certificates are to be allocated to individual system points within a zone (in those cases where there is more than one system point in a zone) in the <i>Gas Scheduling Procedures</i> ; and the allocation method used by AEMO not to result in equally beneficial bids being given different priorities at the same system point in a zone.
Auction eligibility criteria	Be a market participant. AEMO to identify further criteria in the procedures.	Be a market participant. Be a party to a capacity auction participation agreement, if required by AEMO. No discretion for AEMO to specify additional auction eligibility criteria.
Agent participation	Not addressed in the draft rule.	Agent participation to be considered by AEMO in the <i>Capacity Certificate Auction Procedures</i> .
Five-year review	Review the auction products at least every 5 years. This includes tenure, constraints on the release, timing and frequency.	AEMO will no longer need to review the auction product as it is now a monthly product that can be purchased via linked bids to form different tenures. However, AEMO will still be required to review, every five years and in consultation with industry, the frequency of the auctions and how far in advance of the start of the rolling period they are held, the capacity release schedule and the determination of capacity certificate zones.

TOPIC	DRAFT RULE	FINAL RULE
Auction costs and proceeds	<p>AEMO must use the proceeds of capacity certificates allocated at capacity certificates auctions to offset</p> <ul style="list-style-type: none"> its costs of operating the declared wholesale gas market. 	<p>AEMO must use the proceeds of capacity certificates allocated at capacity certificates auctions to offset</p> <ul style="list-style-type: none"> its costs to establish, operate and administer capacity certificates auctions and its costs of operating the declared wholesale gas market.

Source: AEMC

Note: This list is not exhaustive. It is only a summary of the key changes between draft and final rule. For the reasons behind the changes, please refer to the relevant sections in this chapter.

5.3.2

Description of the final rule

The allocation of capacity certificates in respect of existing and new capacity will primarily occur via the capacity certificates auction, which will be operated by AEMO.²¹⁴

By allocating capacity certificates through an auction, market participants will be able to bid for the combination and quantity of certificates they want on equal footing with other market participants. This should help to allocate capacity certificates to those that value them the highest, which will improve the efficiency of allocation and promote the NGO.

The final rule introduces a number of requirements to implement the capacity certificates auction, which are detailed below.

New non-regulated capacity will be allocated at the direction of the declared transmission system service provider.²¹⁵

Auction product

The final rule introduces the definition of an auction product, which means a capacity certificate type (i.e. entry or exit) offered for allocation as a month-long product commencing at the start of the first gas day of the month and expiring at the end of the last gas day of the month. This definition sets out the single monthly tenure requirement.²¹⁶

Auction frequency

The final rule includes a requirement that a capacity certificates auction must be conducted at 6-month intervals or, if specified in the *Capacity Certificates Auction Procedures*, at shorter intervals specified in those procedures.²¹⁷

The final rule also clarifies that auction products will be offered for a rolling forward period of at least 36 consecutive months to cater for the long-term capacity needs of market participants, but that the rolling forward period may be longer than 36 consecutive months, if provided for in the *Capacity Certificates Auction Procedures*.²¹⁸

It is worth noting that AEMO will follow the procedures' consultation process in Part 15B of the NGR, through which stakeholders will have the opportunity to provide their views on auction frequency and the rolling forward period.

Auction quantities

The final rule specifies that after conducting system capability modelling, AEMO must determine and publish the total quantity of each auction product available to auction, taking

²¹⁴ See rules 328A, 328B and 328C of the Amending Rule.

²¹⁵ See rules 329A to 329D of the Amending Rule.

²¹⁶ See rule 200 of the Amending Rule.

²¹⁷ See rule 328B(2)(a) of the Amending Rule.

²¹⁸ See rules 328B(2)(b) and (c) of the Amending Rule.

into account the modelling and the quantity to be allocated at the direction of the declared transmission system service provider.²¹⁹

Under the final rule, AEMO must also determine and specify in the *Capacity Certificates Auction Procedures* a capacity release schedule that stipulates the percentages and timing for the release of the total quantity of each auction product available to auction over the rolling forward period.²²⁰

The final rule constraints the release of short and longer- dated products by specifying that in determining the capacity release schedule, AEMO must:

- have regard to the need for the auction product for any particular month to be made available for allocation by auction at regular intervals
- for each auction product, determine a schedule under which no more than 50% of the quantity available to auction is released for months 25 or later of the rolling forward period
- for each auction product, determine a schedule under which at least 10% of the quantity available to auction is not released until the last capacity certificates auction in which the auction product is included.²²¹

The final rule also requires AEMO to determine the quantity of auction products to be to be offered for allocation before each auction.²²² This quantity will be by certificate type (e.g. entry or exit zone) and will be specified as a daily quantity in GJ in each month in the rolling forward period. In doing so AEMO must have regard to:

- the capacity release schedule in the *Capacity Certificates Auction Procedures*
- the most recent system capability modelling
- the quantity already allocated in previous capacity certificates auctions
- any quantity of capacity certificates relinquished by a market participant who ceases to be a market participant.

Auction participation

Participation in the auction is restricted to market participants.²²³

Relinquishment of capacity certificates

If a market participant is the holder of a capacity certificate and ceases to be a market participant, then the capacity certificates held by that person will revert to AEMO for reallocation to other persons on the basis of a capacity certificates auction. The former market participant will not be entitled to the proceeds of a capacity certificates auction conducted in respect of that capacity certificate.²²⁴

219 See rule 328A(3) of the Amending Rule.

220 See rule 328B(3) of the Amending rule.

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

222 See rule 328B(4) of the Amending Rule.

223 See rule 328B(5) of the Amending Rule.

224 See rule 332(1) and (3) of the Amending Rule.

This will not apply if the capacity certificate has been allocated pursuant to a direction by the declared transmission system service provider under rule 329D. In that case, the capacity certificate will revert to the declared transmission system service provider for allocation in accordance with its direction under rule 329D.²²⁵

Publication of auction notices and results

AEMO is required to issue a notice before each auction setting out the date and time of the auction and the products and quantities to be auctioned, and any other information AEMO considers relevant or convenient to include.²²⁶

After the auction, AEMO must publish the auction results, including the clearing price for each product, the quantities of each auction product allocated to auction participants and any unallocated quantities of each auction product.²²⁷

Auction costs and proceeds

AEMO may charge auction fees relating to the establishment, operation and administration of the capacity certificates auctions, which are payable by auction participants in accordance with the requirements of the *Capacity Certificates Auction Procedures*.²²⁸

AEMO must use the proceeds of capacity certificates allocated at capacity certificates auctions to offset its costs to establish, operate and administer capacity certificates auctions and its costs of operating the declared wholesale gas market.²²⁹

Auction format

The final rule specifies the key elements of the auction format, which AEMO must implement through the *Capacity Certificates Auction Procedures*.

The final rule requires the auction to take place in one round with a reserve price of zero, to be conducted on a sealed bid, pay as cleared basis, with all winners of a particular auction product to pay the same clearing price per GJ for that auction product.²³⁰ In addition, the rules implement the partial combinatorial format for the auction through the following:²³¹

- In relation to the clearing price, any auction product that remains partially unsold in the capacity auction for a gas day must have a clearing price of \$0/GJ and the clearing price for all other products must be based on the lowest (partially or fully) accepted bid and must satisfy other conditions in the rules for determining what is paid by a winning bidder.
- In relation to bidding, the *Capacity Certificates Auction Procedures* must provide for a minimum bid quantity, the bidder must specify the combination of auction products its bid relates to and may submit different bids for different combinations of products, and bid

225 See rule 332(2) of the Amending rule.

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

227 See rule 328B(11) of the Amending Rule.

228 See rule 328B(12) of the Amending Rule.

229 See rule 328B(13) of the Amending Rule.

230 See rule 328C of the Amending Rule.

231 See subrules 328C(3), (4) and (5) of the Amending Rule.

prices must be for the combination of products bid or and be expressed to a number of decimal places (to be specified in the *Capacity Certificates Auction Procedures*) to minimise the chance of a tie. If there is more than one combination of winning bids, AEMO must employ a method of random selection to determine the winning allocation.

- In relation to allocation, the *Capacity Certificates Auction Procedures* must provide for all winning bids to be determined simultaneously and for a bidder to win some, all or none of its bids, for auction winners to be determined on the basis of the value-maximising combination of bids subject to the winners receiving the same quantity of auction product in the combination specified in its bid, the quantity allocated to a winning bidder to be between zero and the quantity in the bid, for AEMO to use a process of random selection if there is more than one combination of winning bids, and for the lowest accepted bid to be partially filled if necessary.

Capacity certificates auction procedures

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:²³²

- the process for conducting the auctions
- the approach AEMO uses for system capability modelling
- information about the method AEMO uses to determine the quantity available to auction and the auction quantity
- the frequency of auctions and how far in advance of the start of the rolling forward period they will be held
- billing and settlement requirements
- the form of auction participation agreement and payment security arrangements, if either if these is required by AEMO
- arrangements for a person to participate in the auction through an agent
- a description of the information to be published before and after each auction, including the auction results
- the arrangements for AEMO to consult on the proposed allocation of system injection points or system withdrawal points to capacity certificates zones.

Review of the capacity certificates auction

Within 5 years of the first capacity certificates auction and at least every 5 years after that, AEMO will be required to revisit the frequency of capacity certificates auctions and how far in advance of the start of the rolling forward period they are held, the capacity release schedule determined under rule 328B(3), and the determination of capacity certificate zones under rule 327B(1).²³³

²³² See rule 328D of the Amending Rule.

²³³ See rule 328E of the Amending Rule.

6 SECONDARY TRADING OF CAPACITY CERTIFICATES

This chapter sets out the Commission's consideration of secondary trading of capacity certificates, including the draft determination, stakeholder views, further analysis and the final determination.

The final rule requires AEMO to develop a listing service, which market participants can use to list any capacity certificates they may want to buy or sell. Bilateral trading outside the service will still be allowed, however these trades will be required to be registered with AEMO. AEMO is also required to report all bilateral trades.

The Commission is satisfied that this aspect of the more preferable rule is likely to contribute to the achievement of the National Gas Objective because it will reduce search efforts associated with trading capacity certificates in the DWGM.

6.1 Draft determination

Secondary trading platform

The draft rule required AEMO to initiate a process for considering introducing secondary trading of capacity certificates via the gas trading exchange. AEMO was required to, by 1 January 2022, 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 capacity certificates.

The draft determination included a section that discussed the potential introduction of a secondary trading platform of entry and exit capacity certificates. It also included 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.

The expected benefits of creating a secondary trading platform for capacity certificates included:

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

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.

The Commission noted that this type of trading would still be allowed under the draft rule. These trades would be required to be registered with AEMO and subject to the requirements set out in the *Capacity Certificates Transfer Procedures*.

6.2 Stakeholder views

As noted in section 3.3.3, the majority of stakeholders were of the view that the costs of implementing secondary trading may outweigh the benefits.

Stakeholders also noted that if the primary auction is designed well (e.g. with short tenure monthly products) then secondary trading may not be necessary.

This issue was revisited during the technical working group meeting held in December 2019. During discussions, EnergyAustralia suggested there would be value in having a listing service facility.²³⁴

CQ Partners, on the other hand, argued that there would be value in settling bilateral trades through AEMO's platform.²³⁵

6.3 Analysis

This section considers whether the adoption of a single tenure product would have any effect on secondary trading and other issues related to secondary trading raised by stakeholders.

6.3.1 Would the adoption of a single tenure product have any effect on secondary trading?

Irrespective of whether a single tenure auction product or a multiple tenure auction product is adopted, the tie-breaking rights provided by entry and exit capacity certificates will be measured on a GJ per gas day basis.

Therefore, market participants will not be restricted to trading capacity certificates of the same tenure as the auction product. Rather, they will be able to trade the rights provided by the capacity certificates for as little as one day. For example, a market participant that holds more capacity certificates than it requires for a particular month (whether it was procured as a single month or through a linked bid for 36 months) could on-sell the rights for a single day, a week, a fortnight, the full month or any variant in between.

The Commission is of the view that the auction product tenure is not expected to have any effect on the ability of market participants to engage in secondary trading.

6.3.2 Is 'splicing' an issue?

In AEMO's response to the draft determination, it noted that secondary trading could be more costly and complex if products need to be 'spliced' (i.e. into separate products).²³⁶

AEMO has described the 'splicing' issue as follows:²³⁷

²³⁴ DWGM rule changes technical working group minutes, 9 December 2019.

²³⁵ DWGM rule changes technical working group minutes, 9 December 2019.

²³⁶ AEMO, submission to draft determination, pp. 11-12.

²³⁷ AEMO, submission to draft determination, pp. 11-12.

- Market participant 'A' purchases a three-year product for 5,000 GJ per day at auction, and market systems are updated to reflect that capacity holding.
- 'A' then used secondary trading to sell 1,000 GJ for six months to market participant 'B'.
- Market systems would need to reflect that 'A' held 5,000 GJ until the start of the six-month period, 4,000 GJ during the six months, and 5,000 GJ for the balance of the three years.
- Market systems would also need to reflect that 'B' held 1,000 GJ for the six-month period.

While AEMO is correct that 'splicing' would be required to enable shorter-dated products to be traded, AEMO would already have to do this for bilateral trades.

While there may be some costs associated with setting up a system to facilitate this, it is worth noting that similar requirements have recently been imposed on pipeline operators through the capacity trading reforms and this doesn't appear to have been a significant driver of costs.

The Commission does not consider this to be a reason not to provide for secondary trading in some way.

6.3.3

Should secondary trading occur via the auction?

In AEMO's response to the draft determination, it suggested that rather than developing a secondary trading platform, market participants could be allowed to sell spare capacity certificates through the primary auction.²³⁸ This is akin to the way in which secondary trading has been facilitated through the settlements residues auction (SRA).

From the perspective of having a single mechanism that market participants can use to procure capacity certificates, AEMO's suggestion to facilitate secondary trade through the auction has some appeal.

The use of this approach would, however, mean that market participants cannot use this mechanism to trade shorter-dated capacity certificates products (e.g. daily or weekly products), which are likely to have some value during peak periods when constraints are expected; or capacity certificates between auctions (if auctions are only conducted twice a year this could limit the usefulness of this mechanism for secondary trading and the efficiencies associated with secondary trading).

The efficiencies that may flow from secondary trading would therefore be impeded under this option.

A number of additional rules would also need to be implemented to enable the auction to be used for this purpose. For example, rules would need to be drafted to:

- allow market participants to sell any spare capacity through the auction
- set out the relationships between AEMO, the seller and the buyer and what is to occur if there is a default by the buyer
- require AEMO to pay the proceeds of any sale to the seller.

²³⁸ AEMO, *submission to draft determination*, pp. 11-12.

After further consideration of the issue the Commission is of the view that facilitating secondary trade via the auction would not be preferable to adding products onto the gas trading exchange, which we understand can occur at a reasonably low cost and already has well-established prudential and settlement requirements.²³⁹ It would therefore not be in the promotion of the NGO to require AEMO to conduct secondary trading of capacity certificates through the auction.

6.3.4 **Would a listing service be preferable?**

As noted in section 3.3.3 there has not been strong interest in secondary trading from stakeholders and stakeholders considered the costs may outweigh the benefits. A listing service was suggested as an alternative, which is a low cost option that can help facilitate secondary trade.

Given the uncertainty surrounding how much demand there is likely to be for secondary trading, the Commission is of the view that there may be value in starting with the listing service and then adding products to the gas trading exchange if it becomes clear that secondary trading is occurring and could be better facilitated through the exchange.

AEMO or market participants are able to propose new products for the gas trading exchange at any time. The AEMC may also consider this issue through its *Biennial review into liquidity in wholesale and gas pipeline trading markets*.

6.4 **Final determination**

Taking into consideration feedback provided by stakeholders through submissions, the technical working group meetings and further analysis by the project team, the Commission has made its final determination, with details provided in the following sections below:

- Key changes between draft and final
- Final rule.

²³⁹ GMRG, *Operation and Administration of the Capacity Trading Platform(s) and Day-Ahead Auction*, May 2017, p. 9.

6.4.1 Key changes between draft and final rule

Table 6.1 below provides a brief summary of the key changes between the draft and final rules on the aspects related to the primary allocation of capacity certificates.

Table 6.1: Key changes between draft and final rule – secondary trading of capacity certificates

TOPIC	DRAFT RULE	FINAL RULE
Secondary trading platform	AEMO to take steps to facilitate the secondary trading of capacity certificates through the gas trading exchange, by requiring AEMO to propose an amendment to the exchange agreement by 1 January 2022.	AEMO to develop a listing service, which market participants can use to list any capacity certificates they may want to buy or sell.
Bilateral trading	No changes between draft and final determination. Bilateral trades outside the platform to continue to be allowed, but to be registered with AEMO.	
Information provision	N/A	AEMO is required to report all bilateral trades, covering the capacity certificates quantity and type and the period to which they related, but not party names. This information should be published daily.

Source: AEMC

Note: This list is not exhaustive. It is only a summary of the key changes between draft and final rule. For the reasons behind the changes, please refer to the relevant sections in this chapter.

6.4.2

Description of the final rule

Listing service for secondary trade

For the reasons set out above, the Commission decided that the final rules will require AEMO to develop a listing service, which market participants can use to list any capacity certificates they may want to buy or sell.²⁴⁰

Bilateral trading

Market participants will be able to enter into over-the-counter bilateral agreements to trade capacity certificates between themselves. To give effect to the trade, the transaction parties will need to apply to AEMO for a transfer of the capacity certificates.

AEMO will make *Capacity Certificate Transfer Procedures* setting out the arrangements for applying to AEMO for a transfer of capacity certificates and any requirements to be met by the market participants before AEMO will give effect to the transfer.²⁴¹ The *Capacity Certificate Transfer Procedures* will also set out the form of notice to be used to give information to AEMO for the listing service.

Information provision

AEMO will be required to report information about all transfers of capacity certificates. The information will be published on the day after the transfer and will cover:

- the type of capacity certificates transferred (including the relevant capacity certificate zone)
- the capacity transferred (in GJ/day)
- the period of time to which the capacity certificates relate.²⁴²

²⁴⁰ AEMO is required to publish this information under rule 330 of the Amending Rule. See the definition of 'publish' in rule 200 of the NGR.

²⁴¹ See rule 331 of the Amending Rule.

²⁴² See rule 331(7) of the Amending Rule.

7 IMPLEMENTATION OF THE FINAL RULE

This chapter sets out the timeframe for implementing the final rule, transitional arrangements and changes to systems and procedures that may be required.

7.1 Commencement of the rules

The final rule will commence on 1 January 2023.

The Commission is of the view that the final rule should be implemented 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.

This also allows time to consult on and finalise the necessary procedures (as set out below) and to make the necessary system changes, which includes software development, testing and implementation.

7.2 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 the 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.

The transitional arrangements will commence on 19 March 2020. The elements of the transitional arrangements are set out below:

- By 1 January 2022 AEMO must review, update and publish any necessary changes to the following *current* procedures, with effect from 1 January 2023:
 - gas scheduling procedures
 - electronic communication procedures
 - uplift payment procedures.
- By 31 March 2022:
 - AEMO must carry out the first round of system capability modelling, in accordance with the requirements of the new rules
 - AEMO must determine the allocation of system injection points or system withdrawal points to capacity certificates zones and publish the initial capacity certificates zone register
 - AEMO must make and publish the following *new* procedures required by the rule:
 - *Capacity Certificates Auction Procedures*
 - *Capacity Certificates Transfer Procedures.*

- By 1 October 2022:
 - AEMO must publish the notice of the first auction of capacity certificates in accordance with the requirements of rule.
- By 31 December 2022:
 - AEMO must conduct a capacity certificates auction prior to the expiry of AMDQ cc on 31 December 2022.

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 cc 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 entry capacity certificates of 30TJ for the relevant capacity certificates zone (as determined by AEMO for the purposes of the subrule). 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.

Rule 72(3) makes clear that the effect of the final 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 4.3.3 of this final determination.

ABBREVIATIONS

ACCC	Australian Competition and Consumer Commission
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
GSA	Gas supply agreement
GSH	Gas Supply Hub
MEU	Major Energy Users
MIBB	Market Information Bulletin Board
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
VGPR	Victorian Gas Planning Review
VTS	Victorian Transmission System
WORM	Western Outer Ring Main

A SUMMARY OF OTHER ISSUES RAISED IN SUBMISSIONS

This appendix sets out the issues raised in the first and second rounds of consultation on this rule change request and the AEMC's response to each issue. If an issue raised in a submission has been discussed in the main body of this document, it has not been included in this table.

Table A.1: Summary of other issues raised in submissions to the draft determination

STAKEHOLDER	ISSUE	AEMC RESPONSE
Unwind AMDQ regime		
AGL, p. 3.	Another option that would avoid the cost and complexity of AMDQ reform is to abolish the AMDQ regime in its entirety. The AEMC states in the draft determination that this option is outside the scope of the rule change and so AGL will not explore that option further in this submission.	As noted in the draft determination, 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.
ERM Power, p. 2.	ERM believes that consideration should be given to phasing out the AMDQ regime at the end of 2022, after the conclusion of the current 5-year access arrangement period. Our view is that any attempt to impose a system of capacity rights over a market carriage regime will result in complexities and inefficiencies, potential hoarding risks, and is unlikely to lead to any real benefits to consumers.	
Delay implementation		
EnergyAustralia, p. 5.	There could be value in the AEMC allowing additional time before making a final rule decision to establish technical working groups consisting of AEMO, AEMC and key industry participants to work out further design details.	On 14 November 2019 the Commission published a notice under s. 317 of the NGL to extend the publication date of the final determination to 12 March 2020.

STAKEHOLDER	ISSUE	AEMC RESPONSE
Origin, p. 4.	Recommends the AEMC engage further with market participants and AEMO to better define how the zones would likely be applied and ensure the principles governing their design is set out in any resultant changes to the NGR.	The Commission considered that this extension is necessary due to the complexity and volume of the issues raised in stakeholder submissions.
APA, p. 2.	The AEMC should undertake a thorough review of the interface issues to ensure these rule changes do not inadvertently reduce the scope for liquid gas markets to develop to promote the free and fair trade of gas in the long-term interests of consumers	The Commission then formed a technical working group to discuss implementation issues and interactions between the rule changes on <i>DWGM simpler wholesale price</i> (GRC0049) and <i>DWGM improvement to AMDQ regime</i> (GRC0051). Working group meetings were held on 9 December 2019 and 3 February 2020.
AEMO, p. 1.	Prefer further AEMC-led rounds of consultation and design development.	
Alternative reform		
ERM Power, p. 2.	If the AMDQ regime were to be unwound (and not replaced with any capacity rights regime such as that being proposed by the AEMC), the existing functions of AMDQ could be dealt with by other mechanisms, for instance, tied bids could be dealt with via a pro-rata allocation, and uplift costs could be recovered via the surprise and common mechanisms. We believe that this approach would simplify the arrangements and minimise barriers to entry.	As noted in the draft determination, 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.
AGL, pp. 2-3.	Should the implementation costs be significant, AGL suggests that the AEMC consider an alternative, incremental reform to AMDQ that would likely be lower cost for AEMO to implement but achieves some of the benefits of the draft determination, which could include regular auctions of AMDQ cc and transition AMDQ into AMDQ cc.	The Commission believes the final rule better addresses the issues raised in the rule change.

STAKEHOLDER	ISSUE	AEMC RESPONSE
Assessment framework		
ACCC, p. 1.	The ACCC recommends that the AEMC explicitly consider the impact of the proposed rule on affordability for end-users, including the likely impact of the proposed rule change on competition in gas markets (both the DWGM and connected wholesale and retail gas markets) and consequently the flow on effects for smaller gas suppliers and end-users.	As noted in chapter 2, 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). This is the decision-making framework that the Commission must apply.
Competition concerns		
AER, p. 2.	<p>The draft legislation leaves much of the detailed design of the proposed primary auction and secondary market trading procedures to AEMO to determine.</p> <p>It is therefore not possible to determine at this stage whether such risks will be addressed in AEMO's procedures.</p>	<p>Following stakeholder feedback on the draft determination the Commission undertook further analysis on the primary allocation of capacity certificates, which has resulted in some changes from the draft determination.</p> <p>Axiom Economics and NERA Economics Consulting were engaged by the Commission to provide advice on the auction format and auction product design.</p> <p>Changes to the auction format and auction products were discussed with stakeholders at the DWGM technical working group meetings in December 2019 and February 2020 and are reflected in the final rules.</p>
Interface with other gas markets		
APA, pp. 1-2.	The draft determination did not appear to address the scope for unintended consequences arising from changes to the AMDQ regime	The AEMC has considered this issue in section 5.2.5 and is of the view that the new

STAKEHOLDER	ISSUE	AEMC RESPONSE
	<p>for the operation of the day-ahead auction of unutilised capacity on contract carriage pipelines and other facilities.</p> <p>Before finalising these Rules, APA suggests that the AEMC should undertake a thorough review of the interface issues to ensure these Rule changes do not inadvertently reduce the scope for liquid gas markets to develop to promote the free and fair trade of gas in the long term interests of consumers.</p>	<p>capacity certificates regime will not adversely impact on the interoperability between market carriage and contract carriage pipelines.</p>
APA's proposed changes to Culcairn allocation		
EnergyAustralia, p. 4.	The AEMC should also consider APA's current proposed changes to the Culcairn allocation methodology which, if they were to go ahead could have serious impacts on the operation of the current (and the AEMC's proposed) AMDQ regime going forward.	The Commission is of the view that this issue is not related with the current rule change.
Timing of auctions		
Brickworks, p. 3.	Market participants should be able to purchase entry capacity certificates shortly after entering into a new gas supply agreement to manage their risk exposure and not be required to wait until a much later point of time when AEMO eventually authorises the injection capacity at that injection point.	The final rule requires AEMO to run at least two auctions per year, which should be sufficient to cater for market participants needs.
Prudential requirements		
EnergyAustralia, p. 4.	To minimise costs, any prudential requirements for participation in either the auction or secondary trading platform (depending on outcome of final rule) should be combined with other prudential requirements across other AEMO platforms.	The AEMC does not anticipate any additional prudential requirements for participation in the auction of capacity certificates, as they will operate on a pay as cleared basis. However, if required, AEMO will be able to establish such requirements in the auction

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		participation agreement.
Uncontrollable exit capacity certificates		
Brickworks, p. 2.	<ul style="list-style-type: none"> AEMO should be required to allocate, each year, sufficient uncontrollable exit capacity certificates that can only be matched to tariff D withdrawals. This could be achieved by creating a fourth capacity certificate that is specifically reserved for tariff D withdrawals, in order to avoid the pass-through of unforeseen (and not budgeted) uplift congestion costs to large Victorian gas consumers who did not cause the cost to occur. The draft rule does not appear to address how AEMO will allocate exit rights between the exit capacity certificates and the uncontrollable exit capacity certificates nor how exit rights relate to the draft rule 328 requiring AEMO to conduct system capability modelling. The AEMC should provide detailed information for further consultation prior on how exit capacity certificates and uncontrollable exit capacity certificates should be allocated by AEMO and whether there is any interaction between the two allocation volumes. 	No longer applicable.
AEMO, p. 15.	Rule 329D allows allocation of uncontrollable exit capacity certificates under direction of the DTS SP. This is problematic as any expansion to the system that results in increased uncontrollable capacity should result from the access arrangement process and form part of the regulated asset base and therefore be allocated by AEMO. Increase in pipeline capacity that is not included in the approved capital expenditure of the DTS SP should be limited to	No longer applicable.

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	controllable entry and exit capacity and specifically exclude uncontrollable exit capacity certificates.	
AEMO, p. 15.	The definition of uncontrollable exit capacity certificates includes references to tariff D and tariff V withdrawal points. This implies that the uncontrollable exit capacity certificate may be associated with these sites, rather than with a market participant. AEMO considers that it may be more appropriate for the definition to state that the uncontrollable exit capacity certificates are owned by market participants and link them to delivery points for which a market participant must submit demand forecasts under rule 208.	No longer applicable.
Implementation timeframe		
EnergyAustralia, p. 2.	Changes to the operation of gas markets have also come at a time when there is increasing focus on gas affordability and supply in the future. These are complicated and challenging reforms for the industry and it will take time for the full benefits of these changes and any future changes to be realised across the markets.	Noted.
Brickworks, p. 3.	<p>A sufficient transition period is required for market participants to acquire capacity certificates ahead of the 1 January 2023 commencement date. Draft rule 71 requires that AEMO must schedule a first auction by no later than 28 October 2022 (20 business days after 1 October 2022). This timeframe appears too short to ensure that market participants have appropriate risk management in place prior to the commencement date.</p> <p>AEMO should be required to provide notice of a first auction by no later than 1 January 2022 and conduct multiple auctions throughout 2022 to provide market participants with sufficient opportunity to</p>	<p>The AEMC does not envisage that procedures and systems will be ready prior to 1 January 2022.</p> <p>However, the AEMC notes that the transitional arrangements in the final rule requires are considered final deadlines.</p> <p>If AEMO's systems are ready prior to that date, they will be able to conduct the auction before the final deadline.</p>

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	purchase capacity certificates via an auction or on the secondary market prior to the commencement date.	
Final rule drafting suggestions		
AEMO, pp. 14-15.	Rule 328B(14) requires unsold capacity to be made available for next capacity auction for the same type of auction product. If auction products are defined as separate tenors this drafting may not work. For example, if there is an Iona entry auction for calendar year 2023 (the yearly auction), there will not be another calendar year 2023 auction. The next relevant auction for Iona entry in 2023 would either be a monthly or seasonal auction. The drafting should be adjusted so that any unsold capacity from a capacity certificates auction is made available in the next relevant auction for a period included in the auction product as specified in the Procedures.	No longer applicable.
Brickworks, p. 3.	<p>AEMO should be required to publicly provide information on the volume of allocated and unallocated capacity certificates for each certificate zone to ensure that market participants make rational decisions when entering into new contracting arrangements. Market participants should not be exposed to the risk of entering into new agreements and being left stranded with no unallocated capacity certificates available.</p> <p>Brickworks suggests that the AEMO be required to maintain an update to date public register showing the total number of each capacity certificate at each certificate zone that are allocated and unallocated in addition to publishing auctions dates for at least the next 3 years.</p>	Rule 328B(11) requires AEMO to publish, after each auction, the auction results, including the clearing price for each product, the quantities of each auction product allocated to auction participants and any unallocated quantities of each auction product.

STAKEHOLDER	ISSUE	AEMC RESPONSE
AEMO, pp. 8.	It would be beneficial to combine the VGPR and system capability modelling rules and to create the requirement for AEMO to implement a Planning Procedure covering both.	The Commission has considered AEMO's suggestions and after further analysis, it has aligned the timing and requirements of the system capability modelling so that AEMO can leverage from the VGPR process, to give AEMO greater scope to determine how the modelling is conducted and to use information collected for the VGPR. This is discussed in section 4.2.5.

STAKEHOLDER	ISSUE	AEMC RESPONSE
AEMO, p. 8.	<p>Implementing a Planning Procedure would allow AEMO and industry to develop a consistent approach to determine the maximum capacity that is "...simultaneously physically feasible when tested against a 1-day in 20-year peak demand gas day..." as required in draft rule 328(2).</p> <p>A planning Procedure would also help resolve the following issues:</p> <ul style="list-style-type: none"> • Taking both gas-powered generation (GPG) and other system demand into account — the VGPR separates them. This is compounded by likely entry of new GPG in Victoria in the medium term. • Evolving flow patterns of injections to and withdrawals from the declared transmission system have a significant impact on system capability and must necessarily be based on assumptions of future flows. • Determining the availability of entry or exit capacity certificates where there is unequal capacity between the relevant zone and the connected facility. 	<p>The Commission considers that introducing a Planning Procedure that applies to both the system capability modelling and the VGPR is not within scope of the current rule change request.</p> <p>AEMO can submit a separate rule change request if it wishes for this to be evaluated further by the Commission.</p>

Table A.2: Summary of other issues raised in submissions to the consultation paper

STAKEHOLDER	ISSUE	AEMC RESPONSE
Alternative reform		
AGL, pp. 1-2.	<p>Proposed 'winding back' the AMDQ regime.</p> <p>In its view, removing the AMDQ regime would enhance the incentives</p>	<p>The AEMC considered this proposal and whether a regime similar to AMDQ was worth retaining. However, the Commission</p>

STAKEHOLDER	ISSUE	AEMC RESPONSE
	<p>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.</p> <p>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.</p>	<p>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.</p> <p>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.</p>
ERM Power, p. 3.	Recommended 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.	<p>According to 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.</p>

B LEGAL REQUIREMENTS UNDER THE NGL

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

B.1 Final rule determination

In accordance with s. 311 of the NGL the Commission has made this final 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 final rule determination are set out in section 2.4

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

B.2 Power to make the rule

The Commission is satisfied that the more preferable final rule falls within the subject matter about which the Commission may make rules. The final 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 final 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.

B.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 workshops on 16 May 2019, 9 December 2019 and 3 February 2020
- submissions received during the first and second round of consultations
- 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.²⁴³

²⁴³ 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.²⁴⁴ The more preferable final rule is compatible with AEMO's declared system functions because it does not change those functions.

B.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 final 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 final rule be classified as civil penalty provisions.

B.5 Conduct provisions for the declared wholesale gas market

The more preferable final rule amends rule 328(2) of the NGR. This rule is currently classified as a conduct provision under Schedule 2 of the National Gas (Victoria) (Declared System Provisions) Regulations.

The Commission may recommend that rule 328(2) of the NGR be deleted as a conduct provision but must notify the Victorian Minister of the policy rationale for taking this course of action. The Commission does not recommend to the Victorian Minister that rule 328(2) of the final rule should be classified as a conduct provision. The final rule omits rule 328(2) but does not insert an equivalent or similar rule. In the final 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.

B.6 Review of operation of final rule

The final rule does not require the Commission to conduct a formal review of the operation of the rule. The Commission may however self-initiate a review of the operation of the rule at any time if it considers such a review would be appropriate, pursuant to section 83 of the NGL. In addition, any person (other than the Commission) may request a change to the NGR under section 295 of the NGL.

²⁴⁴ Section 295(4) of the NGL.