13 November 2013

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Mr John Pierce
Chairman
Australia Energy Market Commission
PO Box A2449
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Dear John,

Rule Change Request – Portfolio Rights Trading

AEMO requests that the Australian Energy Market Commission (AEMC) considers amending the National Gas Rules (NGR) to allow for a portfolio rights trading (PRT) model to be implemented for the Victorian Declared Wholesale Gas Market (DWGM).

PRT allows market participants (MP) to transfer the market benefits of having authorised maximum daily quantity (AMDQ) and AMDQ credit certificates (injection tie-breaking rights and uplift hedge) without transferring the physical rights.

This will effectively enable underutilised AMDQ rights to become available to participants who currently do not have enough AMDQ to cover their available gas injections.

PRT is a model developed by the Transmission Capacity Working Group (TCWG) by request of the Gas Wholesale Consultative Forum (GWCF). The TCWG comprised representatives from MPs, Producers, APA Group, and AEMO.

A description, draft rule proposal and statement of how the proposed Rule contributes to the achievement of the National Gas Objective (NGO) is provided at Attachment A.

AEMO plans to incorporate this rule change, if accepted, in the April 2015 release of market systems. To meet this objective AEMO would require an AEMC draft determination on the rule change by mid-June 2014.

AEMO would be pleased if you could have these matters considered by the AEMC.

For further details or to arrange a follow up presentation/discussion on the PRT proposal, please do not hesitate to contact Sandra McLaren, Acting Group Manager – Market Development, on (03) 9609 8355.

Yours sincerely

Mike Cleary
Chief Operating Officer

cc:

Attachments:

A: Rule Change Proposal

Attachment A: Rule Change Proposal – Portfolio Rights Trading

This Rule Change Proposal is structured as follows:

1 Summary

AEMO is proposing that Part 19 of the National Gas Rules be modified to allow for a portfolio rights trading (PRT) model to be implemented for the Victorian Declared Wholesale Gas Market (DWGM).

PRT is a new market mechanism to facilitate trading of the market benefits associated with transportation rights at close proximity points (CPP).

PRT would enable the market benefits of AMDQ (e.g. injection tie-breaking rights and uplift hedge) to be transferred between participants injecting gas at close proximity points, without affecting permanent ownership of the AMDQ. This will effectively enable underutilised AMDQ rights to become available to participants who currently do not have enough AMDQ to cover their available gas injections.

Although AMDQ can be transferred (excluding tariff V), the market for transferring authorised MDQ and AMDQ credit certificates (AMDQ CC) is not liquid, with widely dispersed holders who have little incentive to trade. PRT would allow for a narrower rights holder base, with greater incentive to trade.

2 Relevant Background

2.1 Authorised MDQ and AMDQ Credit Certificates

Transportation rights in the Victorian DWGM come in the form of authorised MDQ or AMDQ CC (collectively known as AMDQ), which afford the holder with certain market rights or benefits, including scheduling priority when bids or offers are tied, and some protection from uplift charges.

Authorised MDQ relates to injections at Longford into the Longford to Melbourne pipeline. Authorised AMDQ was allocated prior to the commencement of the Victorian wholesale gas market in 1999, reflecting the Longford-Melbourne pipeline capacity of 990TJ. Large industrial and commercial (tariff D) sites with consumption greater than 10TJ pa at that time were individually allocated authorised MDQ to match their maximum daily quantity under pre-existing supply arrangements with the Gas and Fuel Corporation. The authorised MDQ held by each tariff D customer confers the associated rights and benefits to the Market Participant (MP) who is financially responsible for that customer's gas usage in the DWGM.

The 637 TJ balance of the Longford – Melbourne pipeline capacity, after tariff D allocations, was allocated as a block to all small commercial and residential customers (tariff V). MPs supplying tariff V customers are allocated a share of the tariff V block authorised MDQ on a daily basis, proportionately to their aggregated tariff V customer gas withdrawals.

The declared transmission system (DTS) has been extended since market start. The transportation rights to new pipeline capacity have been made available to MPs as AMDQ CC, and are allocated by the DTS service provider (APA GasNet) based on bilaterally negotiated contractual arrangements. AMDQ CC are associated with a particular injection point and MPs nominate a quantity of the AMDQ CC to specific customer sites, or the nominal reference hub, where, if supported by gas injections at the relevant injection point, they become AMDQ credits and provide similar market benefits to authorised AMDQ.

See appendix C for more details of the types of AMDQ in the DWGM.

2.2 Benefits of transportation rights

AMDQ provide the following physical and financial benefits:

- Uplift hedge (UH) protection. MPs with AMDQ can create a financial hedge against congestion uplift provided that they inject sufficient gas at the relevant CPP. Congestion uplift payments result from the need to inject out of merit order gas at higher prices, and are paid by those MPs whose consumption exceeds the AMIQ resulting from their AMDQ holdings.
- Injection tie-breaking rights (ITR). MPs with AMDQ create a physical hedge by being scheduled ahead of those without AMDQ when there are tied injection bids. This is particularly critical when the system is congested or supply is limited (e.g. during maintenance), and most MPs try to get as much gas injected into the system as possible by bidding their gas at $0/GJ
- Withdrawal tie-breaking rights (not affected by PRT) – physical hedge benefits as described for ITR.
- Limited physical protection against curtailment for tariff D sites. This means tariff D sites with no AMDQ must be curtailed ahead of those with AMDQ coverage in the first stages of a DTS emergency.

Additionally, an ITR can be generated for AMDQ held by others through an Agency Injection Hedge Nomination (AIHN). This covers the situation where a MP holds AMDQ, but does not have the ability to make sufficient injections at the injection point for the AMDQ. AIHN provides:

- ITR to the injecting participant
- UH to the AMDQ holder

Importantly, an AIHN does not provide an UH to the injecting MP.

2.3 Transmission Capacity Working Group

The Transmission Capacity Working Group (TCWG) was set up in 2011as a working group of the Gas Wholesale Consultative Forum (GWCF) to look specifically at issues in relation to transmission capacity in the DWGM. The issues were grouped by four main categories and are set out in detail in GWCF paper 11-095-04 Transmission Capacity Issues in the DWGM (see appendix B for link) The categories of issues were:

- Existing capacity instruments not meeting market needs
- Maintaining adequate capacity
- Inadequate investment signals
- Interoperability with other pipelines and markets

The TCWG recommended two initiatives that are complementary and these were presented to the GWCF in paper GWCF 11-095-09 Market Design Initiatives Recommended by TCWG (see appendix B for link): The two initiatives were:

1. Supporting private investments in transmission capacity through:
    - Develop pathways to facilitate private investment
    - Planning enhancements
    - Refinement to capacity rights - Surprise uplift hedge
2. Transportation rights trading (later renamed PRT)

3 Statement of Issues

3.1 Issues with current situation

In the DWGM, MPs need a Gas Supply Agreement (GSA) to be able to offer gas for injection, but scheduling of injections by AEMO is dependent on bid prices. Where bids are equally priced, those with ITR are scheduled ahead of those without. This creates a risk for those MPs with more injection capacity than they have ITR in that they may not be scheduled to inject sufficient gas to cover their withdrawals – leading to a market imbalance exposure.

This risk can be managed through AMDQ holdings associated with that injection point. Participants would seek to hold sufficient AMDQ associated with the injection point to cover their GSA portfolio at that injection point.

To hedge against congestion uplift, MPs need to hold sufficient AMDQ in relation to their withdrawals, and need to inject (directly or via an AIHN) at the appropriate injection point for the AMDQ.

The following issues can affect an MP's ability to acquire AMDQ to meet their ITR and UH needs:

- Authorised MDQ has been allocated to end-use customers, either individually (tariff D) or as a block (tariff V), such that MPs' access to rights associated with authorised MDQ is dependent on their customer base and unrelated to their available injections under GSA at Longford.
- The market in AMDQ transfers is not liquid
- Alternatives to AMDQ that provide ITR are limited
- AMDQ CC tends to be released in tranches
- Expansion of the Longford - Melbourne pipeline to increase authorised MDQ is unlikely due to unused capacity

Each is explained in more detail below.

3.1.1 Authorised MDQ allocated irrespective of GSA

Authorised MDQ is associated with the Longford injection points, but is allocated between MPs based on their customer base. This can give rise to the situation where a MP has more authorised MDQ than available gas injections under GSA at Longford, and may have had to acquire AMDQ CC elsewhere to match their GSA portfolio injection points.

Where retailers have a larger customer tariff V customer base than they do Longford injection capacity (because they have developed or purchased gas supplies at alternative sources), the portion of tariff V block allocated authorised MDQ associated with that retailer's tariff V customers is effectively "stranded" as it cannot be transferred. This is an unintended and undesirable outcome of the current AMDQ construct.

This creates economic inefficiency, with market benefits accruing to authorised MDQ unachievable in the hands of the MP to whom they have been allocated.

3.1.2 The market in Authorised MDQ transfers is not liquid

Although Authorised MDQ may be transferred such that MPs can access the market benefits, in practice the market for transfers is not liquid. Historically, limited quantities of authorised MDQ or AMDQ CC are traded between MPs. AEMO has auctioned 12.5 TJ of unallocated authorised MDQ from defunct tariff D customer sites and has transferred a further 75 TJ in 106 transactions since transfers commenced in 2001. Of the transfers, 43% by volume and 65% by number were internal transfers to related organisations.

This is because:

- Two thirds of all authorised MDQ cannot be transferred (that associated with tariff V)

- The balance of authorised MDQ is widely dispersed and mostly held by those with little market incentive to trade. At most they may only value the physical curtailment or UH component.

This makes it difficult for those MPs who need to acquire authorised MDQ through purchase.

3.1.3 Alternatives to AMDQ that provide ITR are limited

While it is possible to gain an ITR through selling an AIHN to a MP who has AMDQ but no injections at the relevant injection point, this approach gives an advantage to the party with physical injection– they get an ITR and payment for validating the other parties' UH.

Because the other party is likely to hold AMDQ for ITR at another injection point, they would only need to purchase some AIHN to get enough UH to cover a gap in their exposure; some exposure would already be covered through their AMDQ holdings at the other injection point. This reduces the likelihood that AIHN is available in any significant quantities.

The AIHN process is complex and tends to only be followed intracompany, where a company may have registered more than one entity. AIHN between different companies is rare. As of 1 July 2013 there were ten live AIHNs in AEMO's systems and all ten are intracompany.

3.1.4 AMDQ CC release tends to be in tranches

Recent releases of AMDQ CC have tended to be in tranches of five years. This means that MPs must project requirements out five years when tendering for the AMDQ CC, which is highly likely to result in over or under estimating needs thus exposing themselves to risks. While the AMDQ CC can be transferred to others, this is a manual process requiring sign off from the DTS Service Provider (DTS SP, or APA Group) and manual processing by AEMO.

Additionally, new entrants are unable to purchase directly from the DTS SP if there is no AMDQ CC available – despite other MPs holding under-used AMDQ CC.

3.1.5 Expansion of Longford Melbourne pipeline to increase authorised MDQ unlikely due to unused capacity

Changing supply dynamics mean that there has been a decline in the proportion of supply from Longford (via the Longford – Melbourne Pipeline (LMP)) and an increase in supply from Iona (via the South West Pipeline (SWP)). See Table 1 below for changes in LMP utilisation in recent years compared with 2007.

Table 1 Longford-Melbourne pipeline capacity utilisation

	2007	2008	2011	2012
Maximum daily injection (TJ/d)	978	898	769	904
Spare capacity on max injection day (TJ/d)	12	92	221	86
Average daily injection (TJ/d, Jun-Aug)	838	713	611	781
Average winter capacity utilisation rate (compared with 990 TJ of capacity)	84.7%	72.0%	61.7%	78.8%

Note that as of 26 August 2013 the Longford maximum daily injection so far for 2013 is 803 TJ/d with spare capacity for this day at 187 TJ/d (excluding Bass Gas).

Note that on 20 August 2013 the SWP was scheduled to 348 TJ which is just 5 TJ short of capacity, while the LMP was only scheduled to a total of 804.5 TJ (including Bass Gas) which is 235 TJ below the maximum capacity of 1030 TJ (including Bass Gas).

Note that an outage at the Bass Gas production facility and Yallourn power station in peak demand periods contributed to higher than expected Longford injections in 2012 that is unlikely to be repeated in 2013.

This table shows that the LMP has become less utilised, and has unused capacity. This means that if the DTS SP was seeking to increase the capacity of the LMP as a regulated expansion, they would be unable to demonstrate an economic benefit (as there is unused capacity), so would need to privately fund the augmentation. However, ITR benefits alone would probably be insufficient inducement for MPs to sign onto the long term contracts generally needed to underpin private investments.

This means that acquiring AMDQ through expansion of the LMP is unlikely.

3.2 Extent of issue

Initial consultation with stakeholders in 2011/12 identified that approximately 250TJ of the 990TJ (using winter 2011 data) of allocated authorised MDQ was not and could not be supported by injections at the Longford CPP, unless parties who had contracted those gas supplies primarily for injection into other pipelines opted to redirect that gas to the DWGM.

A further analysis comparing MPs winter 2012 scheduled injections (at Longford and Vic Hub) with their authorised MDQ reveals the extent of the resultant mismatch in the allocations of Longford authorised MDQ relative to injections at the Longford CPP. It shows that, collectively, some MPs were allocated an excess of 142 TJ authorised MDQ over their injections, while others experienced a shortfall of up to 92 TJ of authorised MDQ relative to their injections on some high demand

winter days. This indicates that potentially up to 92 TJ of authorised MDQ could be available for trade between MPs who have either a surplus or shortfall of authorised MDQ to support their injections at the Longford CPP.

4 Proposed Solution

4.1 Proposed PRT model

The proposed PRT model was developed in consultation with DWGM stakeholders through a special purpose industry working group, the TCWG. The proposed model would facilitate trading so called 'portfolio rights' of AMDQ benefits between MPs to allow easier access to ITR and UH, without affecting the ownership of the underlying physical AMDQ rights. This then includes AMDQ from all current tariff V or tariff D customers of the MP plus any AMDQ CC held by the MP (whether nominated to a tariff D site or not).

The model includes a market systems interface for registering and confirming bilateral trades between MPs, but does not include contract terms and payments. Future expansions could allow for MPs to offer trades and for market systems to clear and settle these transfers.

Based on analysis from winter 2012 of the six largest MPs' AMDQ and injections, plus discussions with individual MPs, AEMO has identified sufficient opportunities for the take up of PRT. Taking into account the assumption each MP is likely to want to retain a 5% position buffer as a risk premium to cater for fluctuating demand, AEMO estimates that between 5-10TJ could be transferred at Longford and a further 10-20 TJ at Iona. There is also likely to be new capacity added to the DTS over the next 2 years increasing the scope for trades.

Additionally, short term transfers of the market benefits from AMDQ through the PRT mechanisms will be possible to cover short term surpluses or shortfalls. Such transfers are currently not possible for the block allocated tariff V authorised MDQ and are difficult for the tariff D authorised MDQ (since these rights are generally owned by the tariff D customers rather than the retailers) and the contracted AMDQ CC.

4.2 How PRT model addresses identified issues

4.2.1 Authorised MDQ allocated irrespective of GSA

PRT would help readdress the imbalance between authorised MDQ and injection quantities under GSA at Longford by:

- Allowing those with AMDQ greater than GSA injection capacity to sell PRT (and still do some AIHN if needed for UH as insufficient AMDQ elsewhere
- Allowing those with AMDQ less than GSA injection capacity to buy ITR and UH

4.2.2 Market in AMDQ is not liquid

PRT will improve liquidity in AMDQ by:

- allowing those with AMDQ greater than GSA injection capacity to sell PRT
- allowing those with AMDQ less than GSA injection capacity to buy ITR and UH
- allowing shorter term trades of unused capacity (particular benefit to small MPs)
- providing a simpler process for intercompany transfer of AMDQ benefits

4.2.3 Benefits of PRT versus alternatives

PRT offers an alternative to AMDQ transfers by:

- transferring both ITR and UH benefits
- allowing better use of AIHN for ITR as a primary benefit rather than UH
- providing a simpler process for transferring the benefits of AMDQ
- allowing shorter term trades of unused capacity (particular benefit to small MPs)

4.2.4 AMDQ CC released in tranches

PRT addresses issues with AMDQ CC tending to be contracted in 5 year tranches by:

- allowing shorter term trades of unused capacity (particular benefit to small MPs)
- flexibility to sell excess AMDQ CC for shorter periods without a manual process

4.2.5 Expansion of Longford Melbourne pipeline to increase authorised MDQ unlikely due to unused capacity

PRT addresses expansion issues by:

- Providing the benefit of capacity without augmentation
- Opening up access to the benefits of AMDQ despite other MPs holding unused capacity

4.3 Alternatives considered

4.3.1 TCWG outcomes

The TCWG's other recommendations are not precluded by PRT. Each recommendation is discussed further below.

4.3.1.1 Develop pathways to facilitate private investment

- This would allow private investors to negotiate for augmentations to be added, acquire relevant authorised MDQ or AMDQ CC, pay agreed tariffs to DTS service provider and receive rebates for use of the augmented system by others.
- There would be no specific changes to AMDQ or AMDQ CC provisions as a result of this element.
- Changes would be needed to planning processes to assist in identifying when parts of an enhancement could be rolled in, and the addition of a surprise hedge would help make a stronger economic case for the initial decision to invest.
- May promote efficient investment and/or increase liquidity; but fails to address how transmission pricing will be efficient and what mechanisms will increase trading liquidity.

4.3.1.2 Planning enhancements

- The planning process would become the market view of system development to meet market requirements, and will include all connections with other pipelines
- More information would be needed from shippers as to planned loads, planned cross system loads and sources of supply that will be used for each.
- The market view of system development would not be compulsory for the DTS SP to implement, but they would need to pay due regard to it and explain why they were not taking the recommendations into account.

4.3.1.3 Refinement of capacity rights – surprise uplift hedge

- The basis for private investment would be a business case on the part of the investors that sees positive value for the commitment to building the pipeline augmentation.
- Provides additional financial hedges to investors who increase useable linepack in the DTS to an extent that lower quantities of peak shaving LNG are needed to meet un-forecast demand.
- As part of the AMDQ or AMDQ CC resulting from the augmentation, investors would receive a fixed proportional quantity of that AMDQ or AMDQ CC as a surprise uplift hedge

to offset any surprise uplift that they might otherwise have been allocated. The exact proportion of the hedge would depend on modelling of the impact, but is likely to be significantly less than one.

- Once some or all of the augmentation was rolled into the regulated asset base, the surprise uplift hedge for that portion would fall away as the benefit would then be applied across all participants.
- This would bring additional complexity and expense to an already complex uplift calculation.
- The impact of the additional linepack will vary from day to day according to physical conditions on the day so will only ever be an approximation of the real benefit and will be difficult to determine.

4.3.2 Replace AMDQ with capacity rights

- Fundamental change to market design with high costs
- Difficult to get customer support as any proposal would likely require customers to release their right to tariff D authorised MDQ
- Potential long term option more than 5 years for implementation)

4.3.3 Address efficiency issues with the AMDQ transfer process

- Similar or higher cost to do via WebExchanger market interface as for PRT
- Does not address liquidity issue

4.3.4 Change basis for tariff V AMDQ allocation to take in to account GSA

- Difficult to get a valid basis for doing this
- GSA are not currently part of the market, and all major injection sources can supply pipelines other than the DTS. This means that it would be difficult to determine and allocate the correct AMDQ for the DTS.

4.4 Rule Changes to implement PRT model

The proposed rule changes will require AEMO to:

- Transfer the entitlement to the benefits of AMDQ (rule 331A)
- Update trading parties' transportation rights (AMDQ) with the submitted information from PRT to create an adjusted authorised MDQ or adjusted AMDQ CC (rule 240 (3) (c), (d),

and (e)). The rules will require that these adjusted figures must be used by AEMO to calculate ITR (rule 214(d) and 214(e)) and UH.

- Develop, publish and maintain portfolio rights trading procedures to implement the PRT model (rule 331A). The procedures will set out the following:
    - Permitted transfers
    - Available quantity of transferrable portfolio rights
    - PRT nominations including timing, nomination details, allocation methods, and validation
    - Determination of a MP's adjusted authorised MDQ and AMDQ credits
    - Notification to the declared transmission system service provider
    - Restrictions on transfer quantity

4.5 Portfolio Right Trading Procedures

The proposed rule change requires that AEMO make portfolio rights trading procedures to detail how PRT must work. The details of the PRT model that will be set out in the portfolio rights trading procedures include the following:

Transfers between two parties may be registered for periods from one gas day to many. A seller may register multiple transfers to other parties, provided that no greater quantity was transferred than was available to it as at the bid cut off time for each gas day at 5am. The market design would reduce allocated transfers so they did not exceed the available AMDQ quantity. This requires the selling parties to nominate one of the following methodologies to reduce allocated transfers:

- Pro-rata
- Preference

The impact of retrospective transfers of tariff V customers away from a MP would not be considered when determining the transferrable transportation rights. This is consistent with the current treatment of congestion hedge rights and tie breaking rights.

The receiving party would receive all market benefits of the allocated right on the day – that is for injection tie breaking rights at the associated close proximity point and for an uplift hedge to the extent the receiving party had an IHN and had actually injected gas.

The physical ownership of the authorised MDQ or AMDQ CC and any curtailment rights would remain unchanged by any transportation rights trading.

A draft of the PRT Procedures has been reviewed by the GWCF. AEMO will commence consultation on the PRT procedures upon publication of a draft rule change decision by the AEMC

4.6 Additional procedure changes

The following procedures will also require consequential amendments to implement PRT. AEMO will consult on these procedures concurrently with the PRT procedures:

- Gas scheduling procedures
    - Addition of portfolio rights trading procedures to related policies and procedures
    - Adjusted AMDQ replaces authorised MDQ and AMDQ CC under clause 3.6.3, MP hedge nominations information
    - Addition of adjusted AMDQ to clause 4.1.1 operating schedule inputs and clause 4.2.1 pricing schedule inputs
- Uplift payment procedures
    - Additions to definitions of reference hub authorised MDQ and site authorised MDQ to confirm also used for the scheduling of equally beneficial injection and withdrawal bids
    - Addition of AMDQ auction procedures and AMDQ transfer procedures to related policies and procedures
    - Delete clause 2.4 Gas Withdrawals by AEMO for LNG Stock Replenishment as AEMO no longer have LNG reserve storage
    - General tidy up of terminology where required i.e. close proximity injection point instead of system injection point and uplift hedge instead of AMIQ
    - Re-draft of clause 3.2 Allocation of authorised MDQ for tariff V withdrawal points to MPs for clarity
    - Reference to adjusted AMDQ credits and portfolio rights trading procedures added to clause 3.5 Determination of Uplift Hedge with Non-Longford CPP and clause 3.6 Determination of Uplift Hedge with Longford CPP
    - Addition of adjusted authorised MDQ and adjusted AMDQ credits to 3.8 Calculation of AMIQ
- Electronic Communication Procedures
    - Addition of portfolio right trading nominations to section 5.1 which lists the Web Exchanger screens used for MP submissions

Current versions of these procedures can be found at the following link:

http://www.aemo.com.au/Gas/Policies-and-Procedures/Declared-Wholesale-Gas-Market-Rules-and-Procedures

4.7 Consultation

AEMO presented the initial draft portfolio right trading (PRT) model to the GWCF at the June 2012 meeting with an updated model incorporating participants' feedback in September 2012. A cost benefit analysis was also carried out and presented at the October, November and December 2012 meetings where the PRT model was endorsed by the GWCF (see appendix B for links to relevant minutes and papers).

AEMO consulted with individual MPs on their position in relation to AMDQ (surplus or shortfall) by providing them with the (confidential) results of the analysis of their company's AMDQ and AMDQ CC compared to their scheduled injections during winter 2011 and 2012. The resultant MP feedback indicated support for implementation of PRT.

In considering implementation of PRT, AEMO consulted GWCF on whether procedures and systems would be required to ensure that MPs did not enter trades or portfolio rights that exceeded their AMDQ holding or left them exposed, or provided the ability to pro-rate/prioritise such trades where traded quantities exceeded available AMDQ. Part of the consultation with the GWCF was whether a cap methodology should be included along with the pro-rata and preference methodologies. Although the GWCF felt that a cap methodology would assist in encouraging longer term transfers they believed this benefit did not justify the additional cost and complexity of implementation. The GWCF agreed that the proposed option for a cap was not required.

The GWCF agreed that a new MIBB report was required to assist in bringing interested parties together. The GWCF were not comfortable with publishing MPs' individual AMDQ positions but agreed that a simple MIBB report stating which MPs had a surplus or a shortfall would be suitable (see appendix B for the draft MIBB report design).

Industry has drafted and consulted on a standard bi-lateral PRT contract.

See appendix B for full details of consultation.

5 Proposed Rule

5.1 Proposed rule change

The proposed rule seeks to implement a framework for the establishment of a PRT regime in the Victorian DWGM.

The proposed rule would:

- Create new definitions for:
    - Adjusted authorised MDQ – MPs' authorised MDQ entitlements adjusted as set out under a new rule 327A(1) to take account of the authorised MDQ entitlements it has transferred with other MPs for that gas day in accordance with the portfolio right trading procedures and any associated diversity factors
    - Adjusted AMDQ Credits - MPs AMDQ credit adjusted to take account of the AMDQ credit entitlements it has transferred with other MPs for that gas day in accordance with the portfolio right trading procedures and any associated diversity factors
    - Diversity factor - a factor determined by AEMO by reference to the expected gas consumption at that system point
    - Portfolio Rights Trading Procedures – proposed new procedures required for PRT under a new rule 331A
- Amend definitions for:
    - AMDQ credit to clarify the distinction between AMDQ credit and AMDQ CC
    - Authorised Maximum Interval Quantity (AMIQ) – Amended to reflect AMIQ only has a role in determining uplift payments and not ancillary payments. Clarifies that AMIQ is based on the adjusted quantities of the AMDQ credit and not of the AMDQ CC
    - authorised MDQ – Simplifies the definition
- Amend rule 214(e) – to clarify that it is the adjusted quantities for the AMDQ credit and not of the AMDQ CC used for tie-breaking
- Requires AEMO to develop, publish and maintain portfolio rights trading procedures to implement the PRT model under a new rule 331A. The procedures must include the formulae for calculating a MPs total portfolio rights. The rule will also confirm that a MP may transfer a quantity of their authorised MDQ or AMDQ credits to another person in accordance with the rules and the new portfolio right trading procedures.
- Amend rule 240 Uplift Payments to clarify that AEMO must use the adjusted authorised MDQ or adjusted AMDQ credits when calculating a MPs exposure to uplift payments
- Amend rule 240(3)(c) Uplift Payments - Rule 240(3)(c) currently describes what makes up adjusted authorised MDQ and this is better referred to under a proposed new rule 327A

- Create a new rule 327A Rights Associated with authorised MDQ and AMDQ CC – New rule to clarify the rights and entitlements associated with AMDQ as this is not directly covered in the existing rules.
- Amend rule 331(2) – Move clause to a more relevant location under new rule 327A(3)

5.2 Draft of Proposed Rule

A draft of the proposed rule has been included in Appendix A:

6 How the Proposed Rule Contributes to the National Gas Objective

Before the AEMC can make the Rule change it must apply the rule making test set out in the NGL, which requires it to assess whether the proposed Rule will or is likely to contribute to the NGO. Section 23 of the NGL states the national gas objective (NGO) is:

> ... to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

AEMO considers that the proposed rule is likely to contribute to the NGO for the following reasons:

6.1 Price impact on consumers

The proposed changes will impact price to consumers by:

- promoting more efficient utilisation of the available transportation capacity ultimately deferring the requirements for costly augmentation of the DTS to provide new pipeline capacity. This would avoid an increase in capital base so would contribute to lower transportation tariffs. Increased capacity utilisation would contribute to keeping transportation tariffs lower as more throughput is recovered as tariffs are paid based on GJ.
- providing the ability for MPs to manage their risk exposure via UH and ITR is anticipated to deliver benefits of lower gas prices to consumers (see 6.3).

6.2 Competition

The proposed changes will promote competition in the DWGM by:

- allowing smaller MPs access to transfer transportation rights to manage their emerging risk to short term exposure. The proposal allows flexibility for larger MPs to manage their hedging instruments in the short term as per their emerging requirements. The proposal would make the market a more attractive proposition to potential new entrants knowing

there was a mechanism to access transportation rights to manage their short term exposure as and when required.

- allowing smaller MPs without a spread of injection sources to:
    - Sell short term PRT where their contracted capacity is not required
    - Sell longer term PRT where they have AMDQ but no injections. This gives them the economic benefit of being able to offset their costs of holding AMDQ CC.

6.3 Risk management

The proposed changes will increase certainty of supply under adverse conditions; they will provide participants with greater flexibility to optimise their scheduled injections and uplift hedges to mitigate their risk of uplift payments resulting in more efficient allocation of gas. This will improve participants' ability to manage risk exposure to cost penalties in the market which is anticipated to ultimately deliver benefits of lower gas costs to consumers.

6.4 Transparency

The proposed changes will impact market transparency by:

- broadening the transferrable base; currently authorised MDQ assigned to tariff V sites cannot be transferred, whereas PRT will allow participants to sell unused market rights associated with their tariff V customers.
- establishing a more liquid market for transportation rights as the PRT model allows for flexible term trades and lower entry costs with standardised contracts already developed by both participants and Australian Financial Markets Association (AFMA).

7 Expected Benefits and Costs of the Proposed Rule

AEMO revisited the cost and benefit analysis in July 2013 from the original analysis presented to the GWCF.

7.1 PRT system implementation costs

AEMO total system implementation costs are $500,400 over 5 years (annual cost of $100,080). This cost will be recovered through AEMO DWGM participant fees and is only relevant when assessing total market PRT costs and benefits.

7.2 Industry set up costs

MPs are not obliged to change systems to accommodate PRT, so will only use the PRT if they have a cost benefit in doing so. MPs will need to assess the cost of entering in to a PRT agreement against the potential cost of contracting for additional AMDQ CC and augmentation of the system.

Industry is developing a standard PRT contract to reduce trading costs for MPs.

7.3 Total market costs and benefits

The objectives of PRT are to:

- Provide MPs with easier access to the benefits of AMDQ where there is insufficient amount to cover their GSA. MPs want the benefits of AMDQ to gain a physical hedge by providing them with ITR and to create a financial hedge against congestion uplift in the form of an UH; and
- Establish a more liquid market for the trading of transportation rights as the PRT model allows for short term trades and the development of standardised contracts to lower costs.

Ultimately, through enabling greater utilisation of existing pipeline capacity, PRT may defer the requirements for new pipeline capacity.

To evaluate the net benefits of PRT, the net present value (NPV) of PRT system implementation costs is compared with the benefits of avoided system augmentation.

The following assumptions are used in the analysis:

- The rate of return on investment is 8.5% pa.
- Total PRT system implementation costs are $500,400. This translates into a NPV of $453,424 over 5 years.
- The cost of system augmentation is assumed to equal the price paid for an Iona credit certificate or 15.58 $/GJ/yr (based on 2011 tender of Iona AMDQ CC). This is equivalent to a NPV of 48.07 $/GJ over 5 years with a lead time of 3 years assumed for system augmentation project.
- NPV is:
    - Capital expenditure year 0 depreciated over 5 years with interest on the declining balance
    - Operational expenditure on project in year 0

- Since contract negotiations costs are required for both PRT or contracting AMDQ CC with APA GasNet (for new system capacity from system augmentation projects) these costs are not included in the analysis.

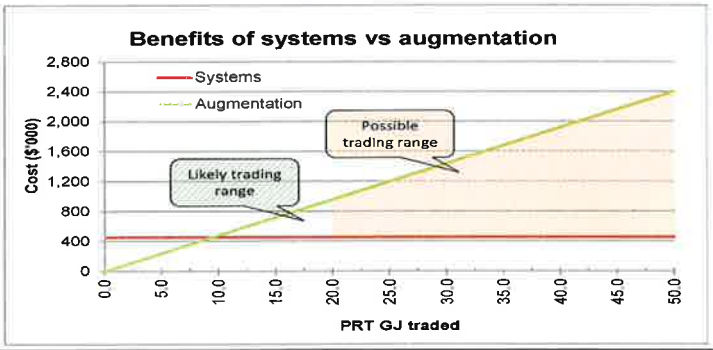
The NPV of PRT total costs and benefits are presented in Table 2 and Figure 1 for a range of traded quantities between 0 TJ and 40 TJ. The results show that:

- Net positive benefits can be achieved if total traded quantities are greater than 9.5 TJ.
- Total net benefits of up to $508,000 can be expected if the total traded quantity increases to 20 TJ.
- The net benefits increase to $1.469 million if the total traded quantity increases to 40 TJ.

Table 2—NPV of PRT net benefits ($1,000)*

Traded TJ	PRT costs	Benefits	Net benefits
0	$453.4	$0	-$453
5	$453.4	$240	-$213
10	$453.4	$481	$27
15	$453.4	$721	$268
20	$453.4	$961	$508
25	$453.4	$1,202	$748
30	$453.4	$1,442	$989
35	$453.4	$1,682	$1,229
40	$453.4	$1,923	$1,469

Figure 1—NPV of PRT total costs and benefits



The cost and benefit analysis demonstrates that the PRT proposal is likely to return positive net market benefits if the traded quantity is over 10 TJ for each year over the lifetime of the project (assumed to be 5 years). The analysis of MPs' AMDQ portfolio projected for 2013 suggests that the likely trading range between 15 TJ and 20 TJ can be achieved subject to MPs' appetite for PRT, trading objectives and strategies. A higher trading range between 20 TJ and 40 TJ is possible.

At 15TJ, the table shows a net benefit NPV of approximately $268,000 over 5 years.

A sensitivity analysis on the rate of return showed that the breakeven point reduced by 700GJ if the rate of return reduced by 2% to 6.5%, and increased by 800GJ to 10,500GJ for a 2% increase. As these are still less than the likely trading range of 15 to 20TJ, there is limited sensitivity to the rate of return.

A sensitivity analysis on the project cost showed that a 20% increase in project costs would result in a breakeven point of 10,800GJ – again well below the expected trading range.

With a combined 2% increase in of the rate of return and a 20% cost overrun, the breakeven point increased from 9,500GJ to 11,700GJ – again below the expected trading range.

7.4 Parties adversely affected by PRT

AEMO has identified that those MPs who do not have enough AMDQ to generate an uplift hedge and are unable or unwilling to enter into a PRT agreement to cover their shortfall could be adversely affected by PRT. If injection tie breaking is required, they will receive a lower share of available injections. This potentially increases their imbalance (greater payment to the market, or lower payment from the market) and reduces their AMIQ (increases AMIQ exceedance and consequently congestion uplift exposure in event of ancillary payments).

Additionally, all MPs may be affected by PRT in the event of ancillary payments. Where ancillary payments are required, holders of PRT will reduce their AMIQ exceedance, meaning greater quantities of common uplift are recovered from all MP in proportion to their withdrawals.

However, the ability to take up PRT is open to all MP, so if an MP decides their risk of increased exposure is greater than the cost of acquiring PRT they may limit their adverse exposure.

Appendix A: Draft Rule

This draft is based on version 18 of the National Gas Rules.

Part 19 Declared Wholesale Gas Market Rules

Division 1 Preliminary

200 Definitions

In this Part:

adjusted authorised MDQ means, for a Market Participant on any gas day, the Market Participant's authorised MDQ entitlements as set out under rule 327A(1) adjusted to take account of the authorised MDQ entitlements it has traded with other Market Participants for that gas day in accordance with the portfolio right trading procedures and any associated diversity factors.

adjusted AMDQ credit means, for a Market Participant on any gas day, the Market Participant's AMDQ credit adjusted to take account of the AMDQ credit entitlements it has traded with other Market Participants for that gas day in accordance with the portfolio right trading procedures and any associated diversity factors.

AMDQ credit means the quantity of gas ~~whole or part of an AMDQ credit certificate~~ that a Market Participant nominates to AEMO to apply for the purposes of rule 214 or 240, being the whole or part of the quantity of an AMDQ credit certificate issued to that Market Participant. ~~in the determination of ancillary payments and uplift payments in accordance with rules 239 and 240.~~

AMIQ or **Authorised Maximum Interval Quantity** means the quantity of adjusted authorised MDQ or adjusted AMDQ credit ~~certificates~~ used in the determination of ~~ancillary payments and~~ uplift payments for a Market Participant for each scheduling interval of the gas day, as determined in accordance with the uplift payment p~~P~~rocedures ~~under rules 239 and 240~~.

authorised MDQ means ~~in respect of a Customer, the maximum daily~~ a quantity of gas, expressed in GJ/day, which is allocated ~~authorised~~ by AEMO to a Customer or a Market Participant under Division 4, Subdivision 3. ~~to be withdrawn by or on behalf of that Customer from the declared transmission system, in accordance with an allocation under rule 328, 329 or 330~~.

diversity factor means, in respect of authorised MDQ or AMDQ credit associated with a specified system point, a factor determined by AEMO by reference to the expected gas consumption at that system point.

portfolio right trading procedures means the Procedures made under rule 331(A).

211 Timing of submissions by Market Participants

(1) By 11:00 am on the day that is 2 days before the day on which a gas day commences, a Market Participant:

(a) must submit to AEMO:

(i) demand forecasts required under this subdivision for the gas day; and

(ii) bids in respect of controllable quantities of gas for the gas day.

(b) **[Deleted]**

(2) If the basis for a submission for a gas day made under subrule (1) or previously resubmitted under this subrule changes, it must be resubmitted to AEMO by whichever of the following is the next to occur:

(a) 7:00 am on the day before the day on which the gas day commences;

(b) 5:00 am on the day on which the gas day commences.

Note:

After the time specified in rule 211(2)(b), updates may only be made to demand forecasts and bids in accordance with subrules (4) to (6).

(2A) By 5:00 am on the day on which the gas day commences, a Market Participant may submit to AEMO:

(a) by close proximity injection point only, an injection hedge nomination or agency injection hedge nomination;

(b) a nomination of adjusted authorised MDQ or adjusted AMDQ credit; or

(c) an AMIQ profile,

for the gas day.

Note:

After the time specified in rule 211(2A), updates may only be made to nominations of adjusted authorised MDQ or adjusted AMDQ credit, or an AMIQ profile, in accordance with subrules (4), (5A), (5B) or (5C).

(3) On the day before the day on which a gas day commences, a Market Participant may submit updated demand forecasts or bids for that gas day:

(a) by 3:00 pm for inclusion in the updated operating schedule to be published at 4:00 pm on that day; or

(b) by 10:00 pm for inclusion in the updated operating schedule to be published at midnight.

(4) On a gas day, a Market Participant may submit updated demand forecasts, bids, nominations of adjusted authorised MDQ or adjusted AMDQ credit, or an updated AMIQ profile for that gas day:

(a) by 9:00 am for inclusion in the updated operating schedule to be published at 10:00 am on that day; or

(b) by 1:00 pm for inclusion in the updated operating schedule to be published at 2:00 pm on that day; or

(c) by 5:00 pm for inclusion in the updated operating schedule to be published at 6:00 pm on that day; or

(d) by 9:00 pm for inclusion in the updated operating schedule to be published at 10:00 pm on that day.

(5) An updated bid submitted under subrule (4) must be for the whole of the gas day, and must be consistent with the quantity scheduled in respect of that bid for the current and preceding scheduling intervals on that gas day.

(5A) An updated nomination of adjusted authorised MDQ or adjusted AMDQ credit to a system injection point submitted under subrule (4) must be greater than or equal to the lesser of:

(a) the current nomination of adjusted authorised MDQ or adjusted AMDQ credit, whichever is relevant, to that system injection point; and

(b) the total quantity of gas scheduled for injection at that system injection point by that Market Participant for the current and preceding scheduling intervals of the gas day.

(5B) An updated AMIQ profile submitted under subrule (4) must be for the whole of the gas day, and must incorporate the AMIQ profile most recently nominated for the current and preceding scheduling intervals of the gas day.

(5C) For the avoidance of doubt, the last AMIQ profile submitted by a Market Participant for a gas day is used to determine the AMIQ of that Market Participant for the purposes of rule 240(3).

(6) An updated demand forecast submitted under subrule (4) must be made by hour for the scheduling horizon commencing at the relevant standard schedule time.

(7) Injection hedge nominations, agency injection hedge nominations, nominations of adjusted authorised MDQ or adjusted AMDQ credit and AMIQ profiles are confidential information.

214 Priority of bids in the scheduling process

For the purpose of scheduling under rule 215, if two or more bids are equally beneficial for scheduling, then AEMO must as far as practicable apply the following principles:

(a) an increase in the amount of gas injected in accordance with an injection bid should be scheduled before scheduling a reduction in gas withdrawn under a withdrawal bid;

(b) subject to paragraph (d), where two or more injection bids are equally beneficial, those injection bids should be scheduled to the same extent;

(c) subject to paragraph (e), where two or more withdrawal bids are equally beneficial, those withdrawal bids should be scheduled to the same extent;

(d) where two or more injection bids are equally beneficial, then those injection bids that are associated with adjusted AMDQ credit ~~certificates~~ or adjusted authorised MDQ should be scheduled before other injection bids that are not associated with adjusted AMDQ credit ~~certificates~~ or adjusted authorised MDQ; ~~and~~

(e) where two or more withdrawal bids are equally beneficial, then those withdrawal bids that are associated with adjusted AMDQ credit ~~certificates~~ or adjusted authorised MDQ should be scheduled before other withdrawal bids that are not associated with adjusted AMDQ credit ~~certificates~~or adjusted authorised MDQ.

Subdivision 6 Settlements

239 Ancillary payments

(1) Subject to subrule (2), AEMO must make Procedures (**ancillary payment procedures**) governing the determination of ancillary payments.

(2) If ~~AMDQ~~ adjusted authorised MDQ or adjusted AMDQ credit has been nominated as a hedge against uplift payments, scheduled injections supporting the nominated adjusted authorised MDQ or adjusted AMDQ credit ~~AMDQ~~ do not qualify for ancillary payments.

(3) Subject to subrules (4), (5) and (6), any Market Participant who is given a scheduling instruction to inject or withdraw more gas than the quantity of gas that the Market Participant was scheduled to inject or withdraw under the relevant pricing schedule, is entitled to receive an ancillary payment in accordance with this rule.

(4) Ancillary payments payable to a Market Participant who is scheduled to inject or withdraw less gas under the relevant pricing schedule than the quantity required in the relevant scheduling instruction are limited to the quantities of gas injected or withdrawn in accordance with the relevant scheduling instruction, as the case may be.

(5) If and for so long as any of the following apply:

(a) the administered price cap applies; or

(b) AEMO has declared a system force majeure event has occurred; or

(c) AEMO has suspended the Market under rule 347;

then, for the purposes of determining ancillary payments payable to a Market Participant under this rule, the price steps of the relevant bids must be limited to the administered price cap.

(6) If a Market Participant is instructed by AEMO to inject or withdraw a quantity of gas less than the amount of gas specified for injection or withdrawal (as the case may be) by that Market Participant in the pricing schedule, that Market Participant is not entitled to be paid ancillary payments for that amount.

(7) AEMO must determine and publish the estimated total ancillary payments for each scheduling horizon when publishing the operating schedule and pricing schedule applicable to that scheduling horizon.

240 Uplift payments

(1) Subject to subrule (2), AEMO must make Procedures (**uplift payment procedures**) governing the determination of:

(a) an estimate of the portion (if any) of any ancillary payments in respect of a gas day in accordance with rule 239 which are attributable to daily and within day transmission constraints;

(b) an estimate of the total size in GJ of the daily and within day transmission constraint (if any) giving rise to the portion of ancillary payments estimated in accordance with paragraph (a); and

(c) with respect to any ancillary payments, the uplift payments payable by or to each declared transmission system service provider and Market Participant.

(2) In making the uplift payment procedures, AEMO must apply the following principles:

(a) uplift payments are to be allocated so far as practicable to the cause;

(b) in allocating uplift payments arising from events occasioning daily transmission constraints AEMO must take into account the extent to which a Market Participant's AMIQ is exceeded by the sum of its forecast demand and scheduled withdrawals;

(c) operational gas is excluded from allocation of uplift payments.

(3) AEMO must determine the AMIQ for each Market Participant for each scheduling interval in accordance with the uplift payment procedures and those procedures must take account of:

(a) AMIQ profiles submitted by that Market Participant for the gas day;

(b) threshold limits determined by AEMO to limit the AMIQ for each scheduling interval of the gas day;

(c) adjusted authorised MDQ of that Market Participant; ~~and Customers supplied by it, including:~~

~~(i) authorised MDQ of sites that are tariff D withdrawal points for which the Market Participant is identified in the metering register as the Market Participant responsible, at the relevant time, for settling accounts relating to those withdrawal points;~~

~~(ii) diversity factors associated with those sites;~~

~~(iii) authorised MDQ of that Market Participant which is not assigned to tariff D withdrawal points or tariff V withdrawal points;~~

(iv) ~~an assignment of authorised MDQ for tariff V withdrawal points on the basis of the Market Participant's share of total withdrawals of Customers supplied from tariff V withdrawal points in accordance with those procedures;~~

(d) adjusted AMDQ credit ~~certificates~~ of that Market Participant ~~and Customers supplied by it~~;

(e) scheduled injections from close proximity injection points to a system injection point associated with adjusted authorised MDQ or adjusted AMDQ credit ~~certificates~~;

(f) injection hedge nominations by that Market Participant and agency injection hedge nominations as applicable to that Market Participant for the gas day.

(4) A Market Participant must pay or be paid uplift payments in respect of withdrawals of gas by that Market Participant or by Customers who purchase gas from that Market Participant in accordance with the principles of subrule (2) and the uplift payment procedures.

(5) Nothing in subrule (4) precludes a Retailer from recovering from its Customers the amount of any liability to pay uplift payments in respect of withdrawals of gas by those Customers.

(6) Subject to subrule (7), the declared transmission system service provider must pay or be paid uplift payments calculated in accordance with the principles of subrule (2), the quantity determined under subrule (9)(a), and the uplift payment procedures.

(7) Where the amount of uplift payment attributable to the failure of the declared transmission system service provider to fulfil its obligations under its service envelope agreement in any gas day exceeds any applicable limit on the declared transmission system service provider's liability for uplift payments under its service envelope agreement, then Market Participants must pay or be paid the uplift payment amount in excess of the applicable limit and in accordance with the uplift payment procedures.

(8) As soon as reasonably practicable, AEMO must publish details of total amounts of ancillary payments to be made in respect of each gas day and the portions of those ancillary payments which are due to transmission constraints, if any.

(9) If, in accordance with the uplift payment procedures, AEMO determines that any part of any ancillary payments which are payable in respect of a gas day is attributable to a transmission constraint, then AEMO must also determine and publish:

(a) after taking into consideration the service envelope agreement, the extent (measured in GJ) to which that transmission constraint was caused by the failure of the declared transmission system service provider to fulfil its obligations under its service envelope agreement in that trading interval;

(b) the aggregate of any quantities of gas withdrawn at tariff D withdrawal points in that trading interval in excess of the authorised MDQ applicable to those tariff D withdrawal points;

(c) the aggregate quantity of gas, if any, withdrawn at all tariff V withdrawal points in that trading interval in excess of the aggregate authorised MDQ applicable to those tariff V withdrawal points; and

(d) the aggregate quantity of gas withdrawn at all tariff D withdrawal points in that trading interval.

Subdivision 3 MDQ Authorisation

327A Rights associated with authorised MDQ and AMDQ credit certificates

(1) A Market Participant who:

(a) is identified in the metering register as the Market Participant responsible for settling accounts relating to a tariff D withdrawal point with allocated authorised MDQ;

(b) has authorised MDQ allocated to it under this subdivision in relation to tariff V withdrawal points; or

(c) otherwise holds authorised MDQ or AMDQ credit certificates under this subdivision;

is entitled to the benefits arising from the application of the relevant authorised MDQ or AMDQ credit in accordance with rules 214 and 240.

(2) If curtailment is required, the quantity of authorised MDQ or AMDQ credits allocated to Customers is to be taken into account subject to and in accordance with rule 343(2).

(3) A person that has acquired authorised MDQ or AMDQ credit certificates in accordance with this Subdivision may transfer the whole or a part of its authorised MDQ or AMDQ credit certificates to another person in accordance with the AMDQ transfer procedures.

(4) A Market Participant may transfer to another Market Participant an entitlement to the benefits referred to in subrule (1) associated with a quantity of authorised MDQ or AMDQ credit (without transferring the authorised MDQ or related AMDQ certificates themselves) in accordance with the portfolio trading right procedures.

331 AMDQ tTransfer procedures ~~of authorised MDQ or AMDQ credit certificates~~

~~(1)~~ AEMO must make Procedures (**AMDQ transfer procedures**) for the transfer of authorised MDQ or AMDQ credit certificates between parties. ~~in accordance with this rule.~~

(2) ~~A person that has acquired authorised MDQ or AMDQ credit certificates in accordance with this Subdivision may transfer the whole or a part of its that authorised MDQ or AMDQ credit certificates to another person in accordance with this rule and subject to the AMDQ transfer procedures.~~

331A Portfolio right trading procedures

AEMO must make Procedures (portfolio right trading procedures) for the transfer of entitlements to the benefits associated with a quantity of authorised MDQ or AMDQ credit between Market Participants.

Appendix B: Public Consultation

- GWCF 11-095-04 Transmission Capacity Issues in the DWGM was presented to the GWCF 166 on 19 July 2011. The paper can be found at:

  http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-Meeting-July

- GWCF 11-095-09 Market Design Initiatives Recommended by TCWG was presented at GWCF 169 21 February 2012. The paper can be found at:

  http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-Meeting-169_21-February-2012

- GWCF 12-095-02 Proposal for Portfolio Rights Trading was presented at GWCF 174 on 18 September 2012. The paper and minutes can be found at:

  http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-Meeting-174_18-September-2012

- GWCF 12-095-03 PRT Cost & Benefit Analysis, GWCF 12-095-04 PRT Requirements Checklist, and GWCF 12-095-05 PRT MIBB report of AMDQ Surplus and Shortfall were presented at GWCF 175 on 23 October 2012. Papers and minutes can be found at:

  http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-Meeting-175_23-October-2012

- GWCF 12-095-06 PRT Updated Cost & Benefit Analysis and GWCF 12-095-07 PRT MIBB Report MP Trading Capacity were presented at GWCF 176 on 20 November 2012. Papers and minutes can be found at:

  http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-Meeting-176_20-November-2012

- GWCF 12-095-08 PRT Updated Cost & Benefit Analysis v2 was presented at GWCF 177 on 17 December 2012. The paper and minutes can be found at:

  http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-Meeting-177_17-December-2012

- GWCF 13-095-01 PRT Draft Rule and procedure Instructions was presented at the GWCF 178 in February 2013. Version 2 was circulated via email for comment to the GWCF in March 2013. Version 2 can be found at:

  http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-178_12-February-2013

- By request of the GWCF AEMO prepared an information sheet on PRT which was presented at the GWCF 179 held on 9 April 2013. A copy of the information sheet can be found at:

  http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-Meeting-179_09-April-2013

Appendix C: Transportation Arrangements in the DWGM

Authorised MDQ and AMDQ credit certificates

The DWGM operates under a 'Market Carriage' model, where transportation rights come in the form of Authorised Maximum Daily Quantity (authorised MDQ) and AMDQ CC. These are collectively termed AMDQ.

AMDQ provide MPs with physical and financial rights including:

- Reduced uplift payments—Market Participants can use part or all of their authorised MDQ or AMDQ CC as UHs against congestion uplift charges.
- Priority in scheduled injections (also known as injection ITR)—when there are equally priced injection bids those associated with authorised MDQ or AMDQ CC will be scheduled first.
- Priority in scheduled withdrawals (also known as withdrawal tie-breaking rights)—when there are equally priced controllable withdrawal bids those associated with authorised MDQ or AMDQ CC will be scheduled first. This can now happen at Culcairn for exports to NSW.

AMDQ provide site customers with curtailment 'protection' rights—in the event of transmission constraints resulting in supply shortfalls, unauthorised customers, where operationally practicable, will have their gas supply curtailed ahead of customer sites with AMDQ.

Allocation of authorised MDQ

Most large industrial and commercial customers hold authorised MDQ allocated to their sites. The allocated quantities were determined based on their 1998 pre-gas market contracted MDQ (daily maximum withdrawal quantity).

The initial allocation of authorised MDQ occurred in 1998, prior to the commencement of the wholesale market and when Longford was the only source of gas supply for the DTS with the exception of peak shaving gas from the Dandenong LNG plant.

The total authorised MDQ was set equal to the Longford to Melbourne pipeline maximum capacity of 990TJ/day and allocated to the following existing and committed new loads (at that time):

- Tariff D customer sites—large customer sites typically with demand exceeding 10TJ per year. The authorised MDQ allocated to each site was set equal to their contract MDQ.

- The New South Wales Interconnect, Wimmera pipeline, Murray Valley towns and DTS compressors.[1] [2]
- The balance of the 990TJ was assigned as a tariff V block of authorised MDQ to all residential and small to medium sized commercial and industrial customers, i.e. tariff V sites. AEMO updates each MP's allocation of the tariff V block authorised MDQ based on their share of the total tariff V peak day demand. This process is run annually after each winter. MPs' winter allocated tariff V authorised MDQ is adjusted daily to reflect each MP's net gain of customers occurring on each business day. The daily update is run between 10:00pm and 11:00pm on each business day.

MPs obtain the financial benefits (UH protection and injection and withdrawal tie-breaking rights) of authorised MDQ by supplying to tariff D and V customers holding these transportation rights.

MPs who wish to acquire authorised MDQ can do the following:

- Negotiate with holders of authorised MDQ to have an agreed quantity of the allocations to be transferred. Transfers can happen from a customer site to another customer site, or a customer site to the reference hub, or at the hub.
- Bid for and purchase spare authorised MDQ at auctions conducted by AEMO from time to time.
- Supply gas to tariff V customers and get allocated a share of tariff V block authorised MDQ.

Allocations of AMDQ credit certificates

The DTS has been extended and expanded since 1998 and now includes the New South Wales Interconnect, the South West Pipeline, the connection of the Western Transmission System, the Brooklyn-Lara Loop and the Bass Gas project. As these new pipelines entered the market, AMDQ CC were created to provide similar rights to the authorised MDQ on the Longford to Melbourne pipeline.

AEMO and the DTS service provider have entered into a Service Envelope Agreement (SEA) which determines, amongst other things, transportation capacity and the associated AMDQ CC of existing and new pipelines. The SEA also defines the obligations of each party in relation to the delivery of the agreed pipeline capacity.

MPs who wish to acquire AMDQ CC can:

- Negotiate with holders of AMDQ CC to have the agreed quantity transferred at the hub.

[1] The Wimmera pipeline is owned by Coastal Gas Pipelines Victoria Ltd ("Coastal"). The Wimmera pipeline services the towns of Ararat, Stawell and Horsham in Western Victoria. The Wimmera Pipeline is now connected to the DTS.
[2] The quantity of authorised MDQ originally allocated to the Murray Valley towns was auctioned off in 2008.

- Contract with the DTS service provider for AMDQ CC or privately expand the DTS capacity.

AEMO allocates AMDQ CC to Market Participants as directed by the DTS service provider.

MPs can nominate to AEMO the quantity of the AMDQ CC to allocate to customer sites or the Reference Hub. The term AMDQ credit is used to refer to the AMDQ CC nomination.

Transfer of authorised MDQ and AMDQ credit certificates

AEMO implemented the AMDQ transfer algorithm to facilitate transfers of AMDQ at the reference hub, between tariff D sites, or from a tariff D site to reference hub. Trading of authorised MDQ occurs outside the DWGM and via bilateral contracts between customers, customers and MPs, or between MPs.

Follow the link below for more details of the Victorian Wholesale Gas Market AMDQ Transfer Procedure

http://www.aemo.com.au/en/Gas/Wholesale-Gas-Markets/Victorian-Wholesale-Market/~/media/Files/Other/vicwholesalegas/AMDQ_Transfer_Procedures_Wholesale_Market_Victoria_v2%20pdf.ashx

Auction of authorised MDQ

AEMO conducts periodic auctions of spare authorised MDQ—unclaimed authorised MDQ resulting from site closures and surrendered to AEMO.

Follow the link below for more details of the Victorian Wholesale Gas Market AMDQ Auction Procedure.

http://www.aemo.com.au/en/Gas/Wholesale-Gas-Markets/Victorian-Wholesale-Market/~/media/Files/Other/vicwholesalegas/1091-0048%20pdf.ashx

AMDQ, Uplift Hedge and AMIQ

An UH is the amount of an MP's authorised MDQ and AMDQ CC used to create a congestion UH. To create the intended amount of UH, MPs must inject sufficient gas from the relevant system injection points (SIPs).

For the purpose of determining UH, system injection points are grouped into close proximity injection points (CPP). For example, injections under various contracts at Vic Hub and Longford are considered to be injected from the Longford injection point. Likewise, injections from various sources at Iona (for example, SEA Gas and Iona underground storage) are all deemed to be from Iona.

MPs are also required to nominate an authorised maximum interval quantity (AMIQ) profile to convert the total UH quantity into interval quantities known as AMIQ for each scheduling interval.

The first AMIQ profile for a given gas day must be submitted by MPs before 5am of that day. The profile can be updated at each subsequent schedule.

AMIQ profiles are subject to a set of maximum limits that can be assigned for each scheduling interval. These limits are set based on a winter peak day demand profile defined in AEMO's system planning criteria. If the submitted profile for the gas day is outside the allowable limits they will be rejected.

The submitted AMIQ profile must comply with the AMIQ upper and lower limits (0%) for each scheduling interval. For example, the maximum allowable amount that can be nominated for the 6:00 AM and 10:00 AM scheduling intervals is 25.8%. However, if the full 25.8% is nominated for the 6:00 AM scheduling interval, only 16.8% can be nominated for the 10:00 AM scheduling interval because the maximum for these two scheduling intervals is 42.6%. See details in Table 7.

Table 5 AMIQ profile limits

<table>
<tr><th>6 AM – 10 AM</th><th>10 AM – 2 PM</th><th>2 PM – 6 PM</th><th>6 PM – 10 PM</th><th>10 PM – 6 AM</th></tr>
<tr><td colspan="5">100%</td></tr>
<tr><td colspan="4">78.4%</td><td>42.6%</td></tr>
<tr><td colspan="2">42.6%</td><td colspan="2">41.8%</td><td>42.6%</td></tr>
<tr><td>25.8%</td><td>25.8%</td><td>25.8%</td><td>25.8%</td><td>42.6%</td></tr>
</table>

Injection tie-breaking rights

MPs can nominate their authorised MDQ or AMDQ credits (as a percentage AMDQ% of their total AMDQ) to each individual SIP at the CPP for the purpose of generating ITR. The latter are used for prioritising tied injection bids with equal bid prices.

The AMDQ nomination WEX was implemented in May 2012 to facilitate the dynamic AMDQ nomination process. See NGR 214 (d).

Withdrawal tie-breaking rights

MPs can nominate a portion of their authorised MDQ and AMDQ credits to each individual SIP at the CPP for the purpose of generating withdrawal tie-breaking rights. The latter are used for prioritising tied withdrawal bids with equal bid prices. Some MPs have allocated some of their authorised MDQ to support exports to New South Wales at the Culcairn SIP. See NGR 214(e).

Curtailment rights

Tariff D sites with allocated authorised MDQ and AMDQ CC have limited protection against curtailment in emergency cases. This means tariff D sites with no or insufficient AMDQ will be curtailed ahead of those with AMDQ.

Appendix D: Draft Portfolio Rights Trading Procedures

A draft of the proposed portfolio rights trading procedures has been provided with this submission and can also be located at:

http://www.aemo.com.au/Gas/Resources/Working-Groups/Gas-Wholesale-Consultative-Forum/GWCF-178_12-February-2013

Appendix E: Portfolio Rights Trading Model

The proposed PRT model will allow:

- MPs to register the required market information using a new participant interface – the PRT nomination WebExchanger (WEX) or Web Service; and
- The market systems to update trading parties' transportation rights (AMDQ) with the submitted information from PRT.

This will be done by adding two new modules to the integrated system for updating AMDQ, determining ITR, and determining UH.

PRT Nomination WebExchanger/Web Service

Nominations

A transferor MP can enter into PRT contracts with one or multiple transferee MPs. The transferor MP is required to submit details of the transfers using the PRT nomination screen.

The proposed rules for PRT nominations are:

- A transferor MP can transfer AMDQ to one or more transferee MPs in one transaction.
- A transferee MP can receive PRT from one transferor MP in a single transaction, but can receive multiple transactions.
- Transferee MPs must confirm the nominations for these to take effect.
- Daily nominations are permitted—no intraday renominations are currently proposed because of the difficulty and complexity to track the amount of portfolio rights transferred through the gas day.
- Nominations are by close proximity injection point (CPP). Transferor MPs can only make nominations at CPP where they have non-zero AMDQ allocations.
- Nominations must be submitted before the start of AEMO process for updating MPs' day-ahead available authorised MDQ (step 1 shown in Figure 1).[3]
- Transferor MPs must provide details of the nominations including:
    - Transferee MPs' details.
    - Location of the transfers (CPP).
    - Applicable date range—transferor MPs can submit standing nominations for a range of gas dates.

[3] Possibly 9pm D-1 for D+0 nomination. Details will be confirmed.

- Transfer quantities (whole GJ)—quantities cannot exceed transferor's available AMDQ prior to the transfer.
- Allocation method—Pro-rata or preference (similar to AIHN). The nominated allocation method only applies if the total nominated quantities exceed the pre-transfer available AMDQ

  - Pro-rata.

  This is the default method.

  Under this option, AMDQ will be allocated proportionately (in percentage terms) among all transferee participants based on the nominated PRT quantities.

  A transferee MP can only be nominated once for that CPP in the PRT nomination

  - Preference

  Under this option, AMDQ will be allocated in the order in which transferee MPs appear in the nomination. The available AMDQ is first allocated to the first transferee MP at the top of the list. If there is AMDQ available, it is then allocated to the second transferee MP, and so forth down the list. The allocation process continues down the list until all the available AMDQ is fully allocated.

  A transferee MP can be nominated multiple times (unlimited for that CPP for this nomination type

7.4.1.1 Confirmation of Nominations

After a transferor MP submits a PRT nomination, the transferee MPs are notified by e-mail or when they next log in to the PRT WEX.

The transferee MP uses the PRT confirmation function in WEX to confirm (accept) the PRT nomination. The PRT nomination must be confirmed before it can be applied. Confirmation must be received before 5:00 AM on the nominated commencement date. When confirmed by the transferee MP, the transferee MP is notified by e-mail of the acceptance.

Update Available AMDQ after PRT

MPs' AMDQ must be updated to reflect the transferred (in and out) quantities. This process will be run after PRT nominations are confirmed and take effect. The AMDQ quantity for each MP will be updated to take account of:

- Its available AMDQ quantity prior to PRT.
- The total quantity of AMDQ it has received from all transferor MPs.
- The total quantity of AMDQ it has transferred to all transferee MPs.

For each MP, the updated (post-transfer available AMDQ Q) is calculated as per the following formula.

Q = pre-transfer available AMDQ *plus*

total AMDQ transferred in *less*

total AMDQ transferred out

The total amount of AMDQ transferred out cannot exceed the pre-transfer available AMDQ or the capped quantity if specified.

The updated available AMDQ will be available to MPs for creating UH and ITR at the CPP

Glossary

Term or Abbreviation	Explanation
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AIHN	Agency Injection Hedge Nomination
AMDQ	Collective term for authorised MDQ and AMDQ credit certificates
AMDQ CC	AMDQ credit certificates
AMIQ	Authorised Maximum Interval Quantity
CPP	Close Proximity Injection Points
DTS	Declared Transmission System
DWGM	Declared Wholesale Gas Market
GWCF	Gas Wholesale Consultative Forum
IHN	Injection Hedge Nomination
IHR	Injection Hedge Right
ITR	Injection Tie-breaking Right
MP	Market Participant
MSOR	Market and System Operations Rules
NGL	National Gas Law
NGO	The National Gas Objective as stated in section 23 of the NGL
NGR	National Gas Rules
PRT	Portfolio Rights Trading
SIP	System Injection Point
TCWG	Transmission Capacity Working Group
UH	Uplift Hedge