2 December 2016

review of the victorian declared wholesale gas market

APA submission to AEMC draft Final report

AEMC Reference GPR0002

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Contents

1 key messages

APA welcomes the opportunity to comment on the AEMC's draft Final report on the proposed reforms to the Victorian Declared Wholesale Gas Market.

APA supports the key policy initiatives leading to this review, notably the unbundling of gas commodity trading from transmission network access, towards developing a deep and liquid market for gas. However, owing largely to the lack of detailed information in the draft final Report, APA cannot say that it necessarily supports the approach to pipeline access.

Incentives preferred over codification

In the months leading up to the publication of the draft Final report, the AEMC has undertaken a number of workshops with industry participants, and a number of bilateral engagement meetings with APA as the owner of the Victorian Transmission System.

Throughout our consultation with the AEMC, we have maintained a principled approach to policy development – that the policy development process should:

1. Articulate the policy objectives;
2. Identify the behaviours sought from the pipeliner that will deliver those policy outcomes;
3. Create incentives for the pipeliner to exhibit those behaviours.

In APA's view, the draft Report has flagged an extensive black-letter Rule approach to market outcomes, as opposed to seeking to implement targeted incentives to accomplish policy goals.

APA is concerned about the approach reflected in the draft Final report, as it leads to extensive codification and legislative burden. The more we try to anticipate future circumstances in an attempt to codify behaviour, the more likely we are to get it wrong and deliver unintended consequences. Moreover, this approach tends to create an extensive and unwieldy legislative burden that increases complexity for market participants, and will create barriers to commercial transactions for years to come.

APA strongly prefers a streamlined legislative framework featuring incentives for the pipeline owner to exhibit behaviours designed to deliver the desired outcomes. In this way, we can avoid hundreds of pages of Rules mandating behaviour.

Under-development of recommendations

APA is also concerned about the under-developed nature of the draft Final recommendations. In particular, the draft Final report has deferred significant framework matters to the Gas Market Reform Group (GMRG), notably:[1]

- "how the level of baseline and above [baseline] capacity would be determined;
- "the capacity products to be made available for sale at each entry and exit point;
- "how baseline and above baseline capacity would be allocated amongst market participants and how secondary trading would be encouraged;
- "how investment in new baseline capacity would be signalled and allocated; and
- "what, if any changes, need to be made to the economic regulatory framework to accommodate the change."

These matters will affect the economic interests of both pipeliner and shippers, and the operation of the market. It will be necessary for these matters to be more developed before industry could be expected to rationally comment on these proposed reforms.

Application of models from other jurisdictions

The AEMC draft Final report is clear that it has based its recommendations on the European entry-exit system. APA is always concerned about lifting

[1] AEMC draft Final report p74.

models from other places and attempting to apply them in the Australian environment. This appears to be the case in this circumstance, as the draft Final report does not address some key features of the VTS gas transmission system, notably:

- how the operation of the virtual hub with continuous balancing will interact with the physical time lag to deliver gas from entry points, such as Longford, to exit points, such as Melbourne; and
- the calculation of the level of "Baseline Capacity", the Southern Hub assumption of instantaneous gas flows, and removal of "congestion uplift".

In summary, the draft Final report contains insufficient analysis of some of the fundamentally important issues. The need for further clarity on these matters was raised several times during bilateral discussions between APA and the AEMC, but it would appear that these matters have not been progressed.

Therefore APA cannot reach a definitive position of support for the proposed model.

APA considers that there are a number of key areas that require more development before APA can reach a conclusion as to whether it can support these reforms:

- allocation of institutional roles, particularly the System Operator role;
- how the AER will determine the levels of baseline entry and exit capacity; and
- mechanics of the entry-exit capacity auction.

There are, however, some areas in which APA is concerned about the direction the AEMC appears to be heading, particularly regarding:

- proposed high level of regulatory intrusion;
- lack of scope for out-performance against regulatory settings (and the considerable scope for under-performance); and
- signals for and certainty of investment.

Barriers created by differing network access models in Australia

One of the stated concerns with the DWGM was the barrier to trade created through a requirement for market participants to interface with two different market models between Victoria and the rest of the Australian gas market. APA acknowledges this barrier as an important driver for reform, but considers that this concern has not been resolved.

APA is concerned that the use of different models for access to transmission network capacity may create a barrier to trade gas between the Northern and Southern hubs. APA has invested heavily in creating a seamless pipeline grid between these two locations with an aim to promoting free and liquid trade in gas. A requirement for shippers to acquire capacity on the Victorian Transmission System under a different framework than that which applies across the rest of the Australian gas transmission network presents transactional barriers to the free and liquid trade of gas.

APA recommends that the Victorian Government and CoAG revisit APA's refined "hub and spoke" model for the VTS as outlined in APA's October 2015 submission to this review.

The supply side of the equation

A critical element of the Victorian Government's request has been over looked. In its letter to the AEMC dated 13 May 2016, the Victorian Government requested the AEMC to include in its Final Report:

> *… for the Victorian Government to assess the draft recommendations, the following is required of the AEMC: …*
>
> *3. Respond to questions raised by stakeholders, including requests for further design details, and the following:*
>
> > *i. How can the proposed system of entry and exit rights and the balancing market generate the necessary level of liquidity to support a well-functioning derivatives market given that there are few gas producers in Victoria?*

The AEMC's draft Final report, including the direct response to this question in Table C.1, does not address the question of the small number of producers in

the market. APA is concerned that such a fundamental market feature has not been considered in this draft Final report.

These issues have been raised in the AEMC's industry consultation workshops, and in the bilateral consultation undertaken directly with APA. However, the draft final Report does not appear to have adequately addressed these matters.

In summary, APA considers that the proposed reforms are not sufficiently specified to enable a market participant to reach an informed conclusion as to whether it believes the proposed reforms will meet the stated policy objectives.

While other industry participants may comment on matters relevant to a wide range of issues, APA has restricted its comments to those matters directly affecting pipeline access.

2 institutional roles

APA directs the AEMC to the discussion in the Boston Consulting report "*Design of institutional roles in international gas transmission markets*", previously submitted by APA to this market review.

For a gas transmission system to operate effectively, a number of participants need to perform a range of tasks. These tasks are commonly classified into four key operational roles:

- network ownership;
- network operations;
- system operations; and
- market operations.

The key features of these roles are outlined below.[2]

	Network owner	Network operator	System operator	Market operator
Key roles and responsibilities	• Financial steering through equity ownership	• Planning, building and operating the physical network	• Managing network capacity • Maintaining system balance	• Managing commodity trades through forward and spot market • Ensuring liquidity in commodity markets
Type of regulation	• Typically faces financial incentives to respond to energy regulation	• Ex-ante energy market regulation of system availability, costs, revenues and pricing	• Ex-ante energy market regulation of system access, allowed costs, revenues and prices • Ex-post competition regulation	• Financial market regulation
Key performance indicators	• Returns to shareholders • Outperforming the regulated rate of return	• Adequacy of system capacity • Efficiency of capital and operational expenditure	• Security of system supply • Level of competition in the capacity market • Efficiency of operating expenditure	• Market liquidity and competition
Revenue model	• Company dividends	• Earns regulated tariffs paid by pipeline users	• Earns regulated tariffs paid by gas shippers, often through stamp fees	• Earns fees from market participants

The role of the Network Owner is to provide financial capital, determine business strategy and provide high-level financial oversight of network assets.

[2] See Brognaux, C., Kotnyek, B., Miller, S., and Carter, L. 2016, *Design of institutional roles in international gas transmission markets*, Boston Consulting Group. Available on the AEMC website at http://www.aemc.gov.au/getattachment/075291ba-b383-4dfe-a12e-1469bd98e982/APA-Group-Boston-Consulting-Group.aspx

Importantly, the network owner ultimately bears the financial risk associated with network performance. While the network owner will be subject to relevant local financial regulations, it is not directly regulated by the energy regulator.

The Network Operator is responsible for planning, building and operating the physical gas network over a medium to long-term horizon (from one week to many years ahead) to provide transport capacity to gas shippers. The financial returns of the Network Owner are critically dependent on actions taken by the Network Operator.

The core role for the System Operator is managing network capacity made available by the Network Operator. Other roles include short-term (intra-day) system monitoring, maintaining system security, and managing capacity allocation and system balancing.

The core role for the Market Operator is managing commodity trades on the network. The role of the market operator mostly involves activities that occur over the medium term (on forward markets) and in real time (daily or on spot markets). Unlike the network operator and system operator, the market operator functions in a competitive market.

Different market models are characterised by how these tasks are broken up among market participants.

2.1 institutional roles in the DWGM

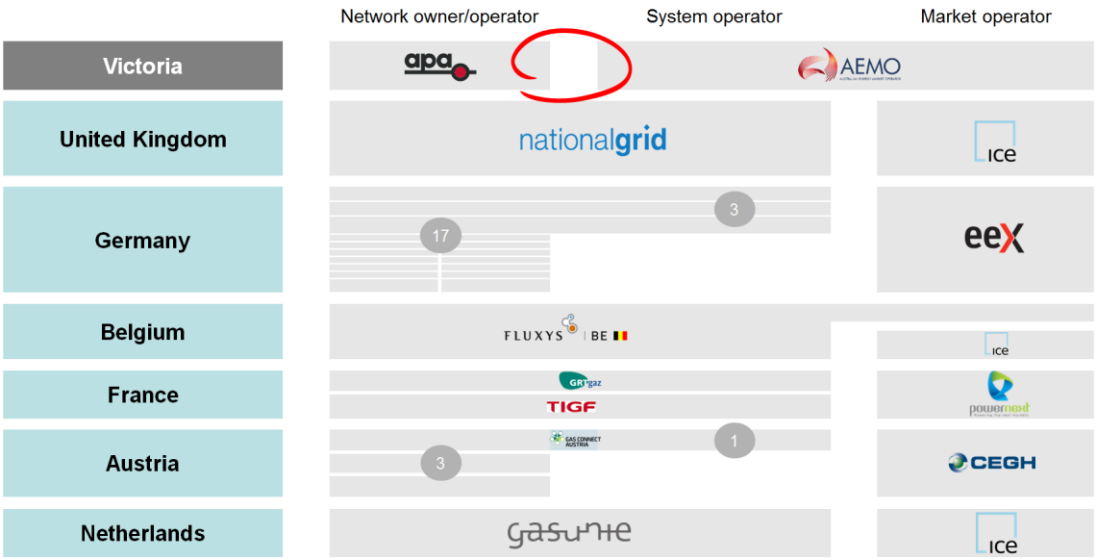
Due to the globally unique nature of the DWGM, in which access to the transmission system is bundled with the market-based dispatch of gas, AEMO fills the combined role of System Operator and Market Operator.

Under the current mandatory DWGM structure, the combined System Operator / Market Operator matches obligatory injection and withdrawal bids to manage gas dispatch and allocation of pipeline capacity. In contrast, the Market Operator in an entry-exit system and voluntary Southern Hub will also need to facilitate voluntary trading deals between market participants. There is scope for conflict (or perception of conflict) if the activities of the System Operator can be seen to influence market outcomes.

This marks a considerable change in focus and requires a different skill set to that which is currently utilised under the AEMO's combined DWGM System Operator / Market Operator role.

2.2 institutional roles in the European entry-exit model

As discussed in the Boston Consulting report commissioned by APA and posted on the AEMC website, a key feature of the application of the European entry-exit model is that the Network Owner performs the role of System Operator, and the Market Operator roles are separated in virtually all European jurisdictions incorporating the entry-exit model.



APA considers that it is important to understand the policy reasoning that has resulted in the combination of the System Operator and Market Operator roles in the DWGM, and the separation of these roles in the European application of the entry-exit system. This analysis has not been undertaken anywhere in the AEMC's market review, and is not addressed in the draft Final report.

2.3 separation of system operator and market operator role

The referenced Boston Consulting report outlines the functions performed by the System Operator and Market Operator and identifies why these roles have been segregated in the European model.

Compared with electricity operations, gas system operations tend to rely more on physical network management actions (for example, through operating compressors). In contrast, electricity system operations tend to rely on market-based mechanisms (such as ancillary services markets). International experience suggests this can lead gas and electricity markets to develop along different paths:

- in electricity systems, owing to the market-based management of the system, System Operators will generally be combined with the Market Operator role, and separated from Network Operators and Owners, and;
- in gas systems, owing to the physical management of a gas system, the Network Operator and System Operator roles will generally be combined, while separating them from the Market Operator role.

In Victoria, the DWGM was created following the reforms that resulted in the National Electricity Market – the DWGM is modelled on the electricity market implemented just before.[3] In this respect, it is not surprising that the System Operator and Market Operator roles have been combined. However, this combination of roles is a remnant of a different approach to the market than proposed under the Southern Hub and entry-exit model for access to pipeline capacity.

2.4 implications for shippers seeking to access pipeline capacity

Under the AEMC proposal, the Network Service Provider (Pipeline Owner) is responsible for selling capacity up to the baseline capacity; the System Operator (AEMO in the AEMC's recommendation) is responsible for making any capacity above the baseline available, on an interruptible basis.

[3] See Jeff D Makholm *The Political Economy of Pipelines: A Century of Comparative Institutional Development*. University of Chicago Press, April 2012.

APA agrees with the AEMC that the System Operator is the correct entity to be responsible for selling capacity above the baseline capacity. The System Operator is in the best position to know, on any given day, whether the system is capable of accommodating a shipper's request for pipeline capacity.

However, the current recommendation, to separate the Pipeline Owner from the System Operator roles, could require a shipper seeking access to capacity to be required to purchase that capacity from two different vendors – from the Pipeline Owner up to the level of the baseline capacity, and from the System Operator for any capacity above the baseline capacity.

In APA's experience, a shipper seeking access to the pipeline network may be unaware of the level of AER-determined baseline capacity at any particular entry or exit point, and the level of baseline capacity contracted, in order to know whether to approach the Pipeline Owner or System Operator (or both) to seek access to the desired capacity on a given day. In short, a shipper seeking access to pipeline capacity would not be aware whether the capacity it seeks is available on a firm basis (below Baseline Capacity), an interruptible basis (above Baseline Capacity), or some combination of the two.

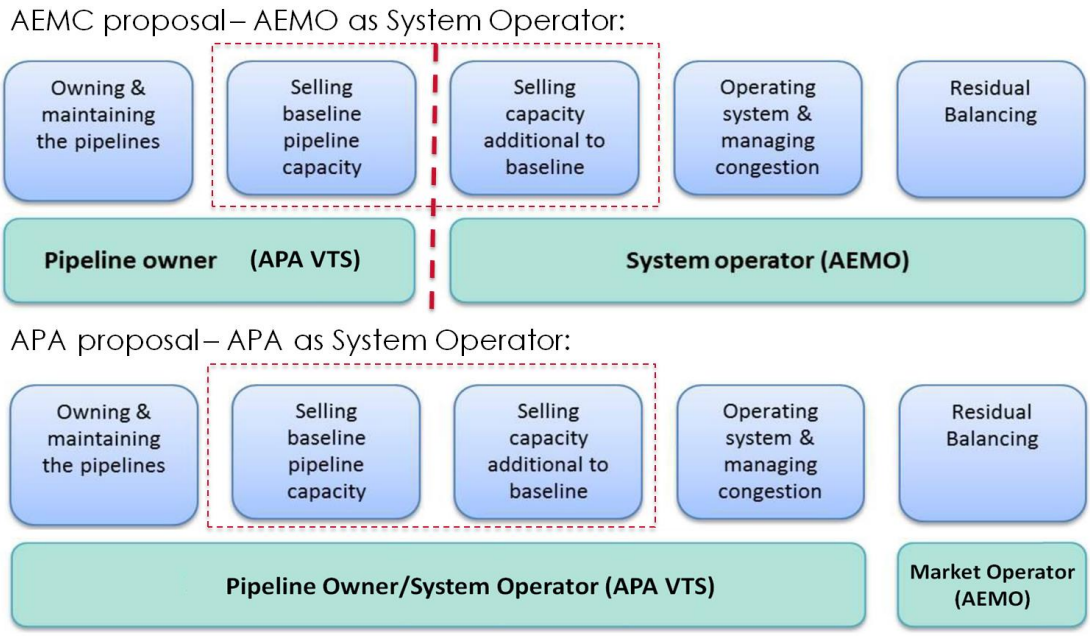
In APA's view, a requirement for a shipper to approach two different sellers to seek access to a desired level of pipeline capacity is likely to serve as a significant detriment to market liquidity.

APA proposes that this function (sale of pipeline capacity) is better accommodated in a single transaction. Having sold that system capacity, it will be important for the Pipeline Owner / System Operator to be able to configure and operate the network in such a way as to be able to deliver that capacity.

For example, it is not clear how the separation of roles (sale of Baseline and Above-baseline Capacity) could accommodate a scenario in which the shipper was able to secure Firm entry capacity (at its desired entry point) from the Pipeline Owner, but was only able to secure Interruptible exit capacity (at its desired exit point) from the System Operator. An important consideration would be the status of the Firm entry capacity should the Interruptible exit capacity be curtailed. APA considers that a transaction

where all pipeline capacity is purchased from the Pipeline Owner/System Operator would be better able to accommodate such a circumstance.

APA proposes that it should serve in the Pipeline Owner and System Operator roles, consistent with the application of the model European entry-exit system, as this is the most consistent with the successful implementation of an entry-exit approach to the allocation of pipeline capacity.



2.5 APA as System Operator

APA considers that it is in a better position to commercially manage congestion than is AEMO. The main reason for this, acknowledged by the AEMC, is that AEMO, as a not-for-profit organisation, is not driven by the financial incentives that can guide the behaviour of a profit-minded business.

A ready example is APA's capability (and AEMO's apparent unwillingness) to use contractual curtailment agreements as a tool to manage congestion. Under this approach APA could enter into commercial arrangements to ask shippers to voluntarily curtail consumption on critical peak days, in exchange for a pre-negotiated fee. APA considers that such an approach to

congestion management would be far less costly to shippers than the alternative of building out system congestion for infrequently utilised capacity.

APA considers that its incentives to commercially manage any congestion are much more effective than can be applied to AEMO as a not-for-profit organisation.

In APA's view, the Victorian Transmission System as operated by APA (in contrast to that as operated by AEMO) would be subject to less capital expenditure to manage infrequent peaks, and would be more efficiently utilised over time.

2.6 exclusion from consideration in AEMC analysis

APA considers that the combination of the Network Operator and System Operator roles (and the separation of the System Operator and Market Operator roles) in the European model is based on good and sound policy reasoning. Yet this does not appear to have been investigated by the AEMC in this review or in the draft Final report.

While APA is always concerned about transporting regulatory frameworks from one jurisdiction to another, it considers that it is important to examine the question of why a model was designed with a particular allocation of institutional responsibilities. The AEMC has side-stepped this question entirely and simply assumed that the entry-exit model will work effectively in Victoria under a globally unique set of institutional roles that are distinctive to the DWGM (ie with AEMO as both the system and market operator).

While APA acknowledges that the current set of institutional roles is appropriate under the DWGM market structure (which bundles pipeline access with gas market dispatch), it does not follow that this set of institutional roles is workable under an entry-exit model.

APA is disappointed that the AEMC has chosen not to turn its mind to this critical question. In APA's view, failure to investigate the question on institutional roles runs the risk of implementing a model that could well be structurally doomed to fail.

3 balancing

The draft Final report proposes a model featuring a mandatory continuous balancing regime at the virtual Southern Hub. The System Operator would be responsible for residual balancing to maintain an appropriate system wide balance.

APA is concerned that the proposed approach to system balancing assumes away some of the key physical features of the VTS, and that this failure to acknowledge the physical features of the system could have a significant impact on the workability of the proposed balancing regime.

3.1 the virtual hub and physical system configuration

The AEMC draft Final report states:[4]

> *For the purposes of balancing, the virtual hub would cover the transmission system with no distinction – gas injected at all entry and gas withdrawn at all exit points would be treated as being the same once inside the hub.*

One of the unstated prerequisites to this model is a simplifying assumption that gas flows freely and instantaneously from and to any points within the virtual Hub.

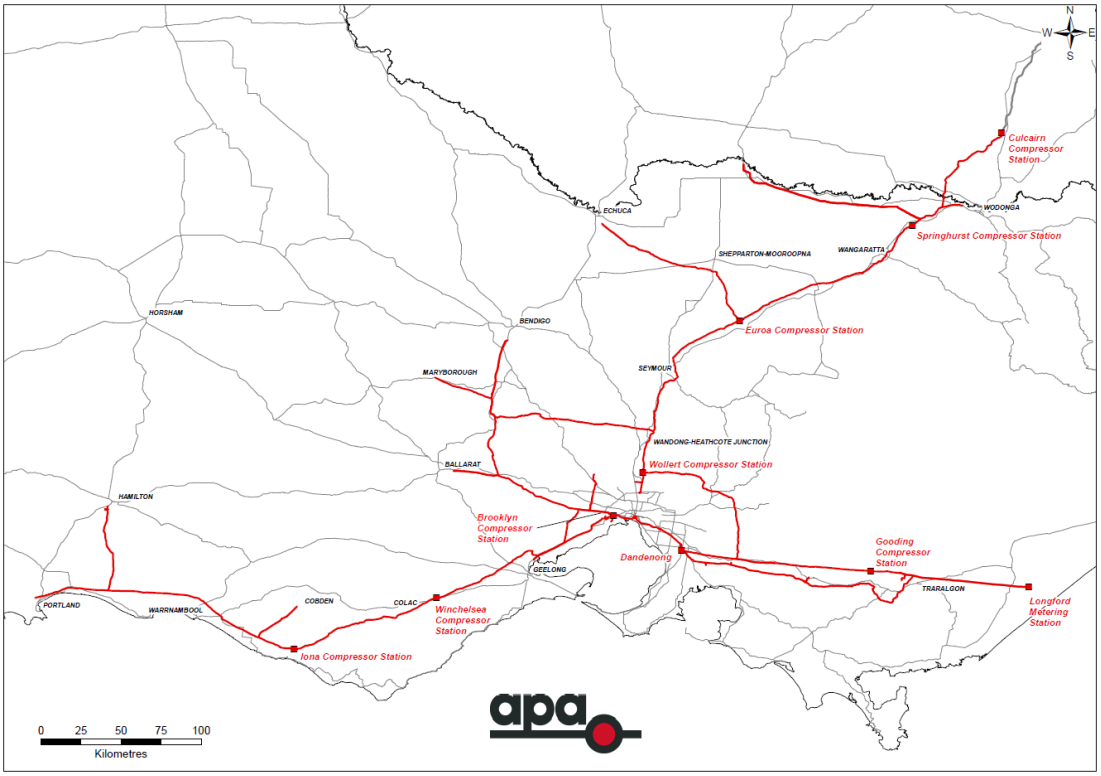
This is not new – the current DWGM Pricing Schedule makes this assumption (for pricing purposes) as well. However, the current DWGM also features an Operating Schedule which reflects the physical characteristics of the system. Where the Operating Schedule cannot physically deliver gas in line with the assumption inherent in the Pricing Schedule, congestion management activity is undertaken and the costs associated with that activity are recovered through uplift payments.

This dichotomy, between the pricing assumptions inherent in the AEMC's vision of the entry-exit model and the physical characteristics of the system as reflected in the current DWGM Operating Schedule, does not appear to have been given the attention required.

[4] AEMC draft Final report p62.

Below is a map of the Victorian Transmission System. Gas enters the system at one of three injection points (Longford, Iona and Culcairn) and must travel to load locations in the greater Melbourne region or other exit points.

Figure 3.1 – the Victorian Transmission System



The physical distances in the VTS between injection and consumption points are significant:

- 174 km from the Longford injection point to the Dandenong City Gate;
- 202 km from the Iona injection point to the Brooklyn Compressor Station;
- 322 km from the Culcairn injection point to the Wollert Compressor Station.

As gas must physically travel from the injection to delivery points, these distances mean that there is a significant time lag between the time injections are made at (for example) Longford and the time the gas is available for consumption in Melbourne. The time lag for gas to travel

between the Longford injection point to the Melbourne consumption points is the order of 4-6 hours.[5]

A feature of the Victorian Transmission System is its exposure to sudden and unpredictable weather variation. In particular, when an unexpected southerly cold front blows into Melbourne, temperatures can fall suddenly and significantly, causing sharp increases in gas demand in the Melbourne metro area.

One of the ways this sharp increase in gas demand is accommodated is by injecting LNG into the metro system from the LNG tank at the Dandenong City Gate. This tank was built to accommodate these sudden, but not infrequent, increases in gas demand in the Melbourne metro area.

APA is concerned that the Southern Virtual Hub, and the related approach to balancing, assumes away these significant physical characteristics of the system.

3.2 ongoing scope for uplift charges

Under the DWGM, these sudden increases in gas demand are accommodated by injection of LNG from the Dandenong LNG facility to maintain pressure in the network. The costs associated with this "out-of-merit-order" dispatch are then recovered from market participants. It is noteworthy that only the marginal cost of LNG injection is recovered from the market – the "uplift" mechanism means that injection of LNG does not impact the settlement price for all market transactions.

The circumstance described above is known as "common uplift", because it is caused by unpredictable weather conditions and therefore not attributable to the actions of particular market participants.[6]

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[5] This time lag is even greater (10-12 hours) on a low demand day, as pipeline operating pressures are lower. Should a gas-fired generator commence operations on a hot (low gas demand) day, significant congestion management activity could be required to accommodate this load, notwithstanding that the generator could be perfectly in balance under the "instantaneous gas transportation" assumption.

[6] For a discussion of the different types of uplift payments, see K Lowe Consulting, *Gas Market Scoping Study*, A report for the AEMC, July 2013, p. 56.

Under the proposed Southern Virtual Hub with continuous balancing, these physical features will still exist. There will still be unpredictable increases in demand, the time lag to transport gas from an injection to a demand point will still bind, and LNG will still need to be injected to maintain system pressures.

However, it is possible that this circumstance will arise when market participants are "virtually" in balance (in that their injections to and withdrawals from the virtual hub align) but not physically in balance, owing to the time lag associated with transporting gas from the injection point to the demand point.

Under the AEMC's proposed approach, the injection of LNG to maintain system pressures in the Melbourne metro area would be considered to be a system security measure.[7]

However, under the AEMC proposed approach, the cost of these measures would be recovered from those market participants who are out of balance at the time the measures were required to be undertaken.[8]

The problem, not addressed by the AEMC draft Final report, arises when all market participants are perfectly balanced at the virtual hub at the time these measures are undertaken.[9]

APA considers that this feature of the network will mean that there will remain some scope for the System Operator to incur costs to maintain system security. However, the continuous balancing regime envisioned in the AEMC draft Final report does not provide a mechanism to adequately accommodate this feature of the network.

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[7] AEMC draft Final report, p61.

[8] AEMC draft Final report p70.

[9] There is an additional (unintended?) consequence in the case of a market participant who happens to be the only party slightly short at the time system security operations are undertaken (owing to the gas transmission time lag discussed above), even though the level of its imbalance would not have caused the system security action to be undertaken. In this case, that market participant could face the entire cost of the system security activity, notwithstanding that the cause of the system security was not related to its imbalance.

3.3 a clean price of gas?

The costs of the system security measures described above will need to be recovered from market participants in some way. In the absence of a balancing driver, it is likely that the recovery mechanism will be somewhat arbitrary. It would appear that the same non-avoidable and non-allocable system security costs will occur under the AEMC model as does currently under the DWGM.

APA questions, then, whether the virtual Hub and continuous balancing model advocated by the AEMC will indeed deliver the "clean" price of gas desired by market participants and required for hedging and development of financial products. To the extent the price of gas (or its transport) can be "infected" by these uplift costs, the AEMC's proposed market model will not deliver the clean price of gas required to support exchange-based trading and the development of derivative financial market products.

It is not obvious, then, that the proposed reforms will have achieved one of their key policy objectives.

In the absence of some policy consideration of how the proposed model will accommodate the features of the network, APA cannot reach a conclusion as to whether or not it supports the proposed reforms.

4 pipeline capacity

Because entry and exit capacity is bought independently, and because the Southern hub covers the entire VTS footprint, the technical calculation of the Baseline Capacity will be critical. The AEMC draft Final report envisions that the Baseline Capacity would be determined using a probabilistic load flow model,[10] such that the Baseline Capacity will not be set at the absolute minimum to accommodate all possible flows, yet should reduce the risk of the Service provider being physically unable to deliver.

APA has some concerns about the methodology to determine and approve the level of Baseline Capacity, and the approaches for shippers to gain access to that capacity, as discussed below.

4.1 determining the level of baseline capacity

The AEMC envisions that the level of Baseline Capacity would be determined through a transparent process.[11]

The capacity of the VTS is currently determined using the "common computer model" required in s5.2(d) of the Service Envelope Agreement under s91BE of the National Gas Law. This is a sophisticated engineering model, which requires specialist skills to interpret. It is not clear that industry participants would be able to make informed commentary on the application and operation of that model.

However, APA considers that there is scope for industry participants and the AER to provide useful commentary on some of the key input parameters to the shared model, such as the level of system security and the consequences of demand exceeding that level (eg curtailment).

AEMO and APA jointly maintain an internal working document[12] which outlines the key input assumptions that drive the determination of system

[10] AEMC draft Final report p76.

[11] AEMC draft Final report p75.

[12] APA and AEMO, "Guidelines for the Determination of the Victorian Gas Declared Transmission System Capacity".

capacity. While this document includes a number of technical parameters that are not suitable for industry participant comment, there may be scope for industry participants to comment on some of the other input parameter assumptions in determining the Baseline Capacity.

APA is concerned about the technical capability of the AER, an economic regulator, to interpret the engineering-based calculation of pipeline capacity in order to capably make an assessment of the reasonableness of the APA VTS proposal. While the AER may consider it reasonable to have the shared model subject to an independent review by a qualified engineering consultant, its assessment would necessarily be limited to the reasonableness of the input parameters. The AEMC recommendation that the economic regulator perform this role appears to be a carryover from the UK implementation of the entry-exit model. However, it should be noted that OFGEM acts as a technical regulator; this is not true of the AER, who does not have this capability.

APA is concerned that the framework proposed by the AEMC does not address the relationship between the level of Baseline Capacity determined by the AER and the amount of liability carried by APA VTS as the System Owner. In particular, APA would be most concerned if the proposed framework placed greater liability on the System Owner without the tools to manage that exposure (for example if AEMO were to be retained as the System Operator[13]).

APA is willing to accept responsibility for those matters within its control. For example, APA VTS currently assumes liability for constraints where they arise from any failure to adequately maintain the system, but not for failure by AEMO in its operation of the system, system shortfalls where all APA facilities are operational, or for market outcomes related to factors that lead to congestion uplift where system security measures are required.

The AEMC draft Final report envisions that the level of Baseline Capacity would be set at a level at which it was likely that some congestion management activity may be required (and some congestion management

[13] This is currently managed under the DWGM through a cap on the liability exposure of the (non-operating) pipeline owner.

costs incurred).[14] APA would be concerned if the AER-determined level of Baseline Capacity imposed liability exposure on APA through a regulatory procedure, which it was not able to manage.

4.2 access to pipeline capacity

4.2.1 interaction between reference tariff and auction process

APA accepts that the VTS will remain subject to economic regulation under an entry-exit model. While the exact framework remains to be decided, a key feature of this is that APA VTS will likely be required to submit an access arrangement to the AER for approval. This access arrangement will need to include a definition of the Reference Services to be offered by the VTS, and the Reference Tariffs for those Reference Services. The Reference Tariffs will depend critically on the load and demand forecasts for the Reference Services.

The AEMC's draft Final report envisions that entry and exit capacity would be sold (separately) through an auction process, with different auction processes run for entry and exit capacity for different durations. Moreover, it envisions that some shippers may choose to match their purchases of entry and exit capacity at particular points, some will be subject to the dynamic allocation of exit capacity at distribution network exit points, some may choose to buy only entry capacity (selling their gas on the Southern Hub) while others may choose to purchase only exit capacity (buying their gas from the Southern Hub).

There is considerable uncertainty as to how much capacity will be made available for auction of different durations, and how this will relate to the load and demand forecast on which tariffs are based. Moreover, the AEMC proposes that a proportion of the baseline capacity be reserved for shorter-term auctions.[15] It will be very difficult to develop a reasonable load and demand forecast, and Reference Tariffs resulting therefrom.

[14] AEMC draft Final Report p75.

[15] AEMC draft Final report p78.

This will be important, as the Reference Tariff will form the reserve price for the auction process.[16]

APA considers that the uncertain relationships between the level of AER-determined Baseline Capacity, the AER-approved load and demand forecast, Reference Tariffs and the operation of the capacity auction presents risks to the Pipeline Owner that are not reflected in the current DWGM regime.

4.2.2 *sale of baseline and above-baseline capacity*

The AEMC draft Final report envisions a number of different mechanisms for shippers to gain access to pipeline capacity:

- capacity auctions of varying frequency for terms of varying duration, using a variety of auction procedures;[17]
- some fixed amount of capacity to be held back from the normal auction process for short term auction;[18]
- day-ahead auction of Reserved but Unutilised capacity through a short term Use-It-Or-Lose-It mechanism;[19] and
- day-ahead or within-day auction of interruptible capacity (only available from the System Operator) when demand at an entry or exit point exceeds the Baseline Capacity at that entry or exit point.[20]

APA notes that, in the context of the East Coast Pipeline Frameworks Review, the AEMC identified these among the range of congestion management techniques that had been applied in other jurisdictions. But importantly, no jurisdiction appears to have been identified as having applied all of them at once.

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[16] AEMC draft Final report p78.

[17] The AEMC has deferred consideration of the nature of capacity products to the GMRG (AEMC draft Final Report p79).

[18] AEMC draft Final report p78.

[19] AEMC draft Final report p81.

[20] AEMC draft Final report p80.

APA considers that this myriad of capacity sale procedures (including different auction procedures for different capacity products) introduces scope for confusion among market participants. Plus, all these mechanisms work together to suppress the demand for long term contracting, which will impact investment.

For example, there is an apparent conflict between the proposal to hold back a proportion of capacity for short term auction, and simultaneously holding an auction for Reserved but Unutilised capacity. APA is concerned that the AEMC proposal envisions applying a zero reserve price to the auction of Reserved but Unutilised capacity (as is the recommendation in the Pipeline Frameworks Review) on a pipeline that (by virtue of the capacity held back from auction) is not contractually constrained. APA considers that this would undermine the market for longer term capacity sales, and introduce an additional level of revenue risk uncertainty to the Pipeline Owner.

4.2.3 implications for shippers seeking access to capacity

In APA's experience, gas shippers seeking access to pipeline capacity on a given day seek to transact for that capacity in as streamlined a way as possible. Under the AEMC proposed approach, the shipper is faced with a number of considerations in its desire to access pipeline capacity:

- the transaction costs associated with buying capacity at auction for a longer term, or more frequent purchases for shorter durations;
- the advantages and disadvantages of waiting to purchase capacity from the pool held back for short term sales, acknowledging the uncertainty that this may be over-subscribed;
- whether to wait to purchase capacity at the zero-reserve auction of Reserved but Unutilised capacity;
- whether the capacity it seeks to purchase will be available as Firm capacity, or whether the capacity requested will be above the Baseline Capacity for that entry or exit point, and only be available on an Interruptible basis.

APA considers that it is unreasonable to expect a shipper to maintain visibility of the level of Baseline Capacity and the amount previously purchased at

auction for differing durations in making a decision about purchasing capacity on a particular day. While APA notes the AEMC recommendation that all primary capacity should be purchased though a common platform,[21] this introduces a significantly higher degree of shipper involvement in the transaction, and the commensurate costs and associated risks to those shippers.

4.3 capacity expansions

APA acknowledges that one of the key failings of the DWGM has been the ability of shippers to sponsor capacity augmentations through long term transportation agreements. The lack of property rights in the DWGM (ie tradeable "ownership" of contracted capacity) creates significant free-rider issues which means that shippers are not prepared to commit to utilise (and pay for) capacity expansions. Capacity expansions are generally undertaken through the regulatory process, and the costs of those expansions tend to be socialised widely across network users.

However, APA and AEMO had developed an effective process, using Authorised Maximum Daily Quantity Credit Certificates (AMDQcc), which allowed shippers to commit to transporting gas over specified periods, which provided sufficient revenue certainty to allow capacity expansions to proceed. However, the Rule changes implemented by the AEMC in its recent *DWGM - AMDQ allocation* Rule change removes this mechanism supporting capacity expansion, re-introducing the barriers to investment inherent in the DWGM.

The AEMC draft final Report purports to address this issue by creating "ownership" rights - tradeable entry and exit rights.[22] Under this framework, the AEMC posits, shippers can enter into bilateral negotiations with the Pipeline Owner to undertake augmentation of the system, and sell the resulting entry and exit rights to the sponsoring shipper.

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[21] AEMC draft Final report p77.

[22] It should be noted that the entry-exit system is a "Contract Carriage" model in the context of the National Gas Rules.

APA accepts that introducing the scope for bilateral negotiation in support of capacity augmentation is a positive step forward.

However, because the entry-exit system envisions that entry and exit capacity will be purchased independently, the model does not specify a flow path for gas. This means that the bilateral negotiation will support augmentation at the entry or exit point, but will not support "deep" augmentation in the network to allow gas to flow from the augmented entry point to the augmented exit point.

The costs of "deep" augmentation, even though it may be required to support a particular shipper's desire to ship volumes of gas between specified entry and exit points,[23] will need to be socialised across the system, causing tariffs for all shippers (and ultimately retail customers) to rise.

APA considers that the free-rider issues associated with the DWGM will be somewhat reduced under the entry-exit model, but not eliminated as would be the case under a contract carriage approach which specifies a particular flow path.

[23] An augmentation at injection point A may allow for gas to exit at exit points B, C and D, but not necessarily to the shipper's desired exit point Z.