

APA Group



East Coast Gas Inquiry

APA Group submission responding to the ACCC issues paper

2 July 2015

Table of contents

1	Introduction	3
2	Gas transmission overview	5
2.1	Overview of Gas Transportation Agreements	5
2.2	Operating gas transmission pipelines	7
3	Changes affecting the domestic gas industry	9
3.1	Question 6 – Factors affecting inter-basin competition	9
4	Access to processing facilities	10
4.1	Question 17 – Gas specification	10
5	Information availability and trading liquidity	10
5.1	Question 37 – International comparisons	10
6	Ownership and regulation of transmission pipelines	11
6.1	Question 40 – Change in prices and service levels	11
6.2	Question 41 – Threat of coverage	13
7	Pipeline services	14
7.1	Question 42 – Development of pipelines	14
7.2	Question 43 – Development of pipeline services	17
7.3	Question 44 – Limitations on ancillary services	18
7.4	Question 45 – Pipeline information	19
8	Terms and conditions for GTAs	20
8.1	Question 47 – GTA terms and conditions	20
9	Pipeline capacity trading	22
9.1	Question 48 – Unmet capacity requests	22
9.2	Question 49 – Capacity platforms	23
9.3	Question 50 – As available services	25
9.4	Question 51 – Competition between shippers and pipeline owners	26
9.5	Question 52 – As available pricing	26
9.6	Question 53 – Measuring available capacity	27
9.7	Question 54 – GTA provisions limiting capacity trading	28
10	The role of storage	28
10.1	Questions 55 – 58 – Storage facilities	28
11	Co-ordination requirements	28
11.1	Question 60 – Impact of contract carriage model	28
11.2	Question 61 – Market carriage and export from Victoria	29

Attachments

Attachment 1 - Capacity Trading Fact Sheet (separate document)

Attachment 2 - In-Pipe Trade Fact Sheet (separate document)

Attachment 3 - Confidential Attachment (separate document)

1 Introduction

APA Group (APA) provides this submission in response to the ACCC's Issues Paper of 4 June 2015. This submission may be published by the ACCC, other than the separate confidential attachment.

The ACCC inquiry is the third major inquiry into the gas industry in the last 18 months, following that of the Productivity Commission and the ongoing East Coast Gas Frameworks Review by the AEMC. APA welcomes the ACCC's intention to obtain a comprehensive understanding of the structure of the gas industry for the purpose of a competition assessment, and to make recommendations, based on facts.

The East Coast gas industry is going through an unprecedented phase of disruption caused by the massive gas demands of the Queensland LNG projects. The competition assessment needs to be a prospective one. In formulating any recommendations arising from this inquiry, it is important for the ACCC to consider whether the issue being addressed may be a transitional one to which the industry is responding appropriately. Prior to making any recommendations the ACCC should consider publishing a draft report on its findings for public comment, particularly if the inquiry leads to public policy recommendations.

From a pipeline transmission perspective, pipeline owners have responded to changing industry dynamics in a manner consistent with what would be expected in workably competitive markets, including investing in pipeline infrastructure, developing new services and competing for new gas routes.

Investment to meet demand

There has been significant pipeline investment, particularly in the last three years as LNG projects have changed the dynamics of the market.

- As recognised by the AEMC in its Stage 1 Draft Report, the substantial investment in the transmission sector has included 13 new pipelines constructed in the last 15 years and a large number of expansions and conversions to bi-directional pipelines.¹
- In the last three years alone, the following pipeline investments have occurred or been announced:
 - three major LNG pipelines to Gladstone have been built;
 - the SWQP has become bi-directional (after initially changing direction in 2012);
 - the BWP has become, and MSP and RBP are in the process of becoming, bi-directional;
 - MAPS has announced it is becoming bi-directional;
 - EGP is adding additional compression;
 - compression expansions at the Wallumbilla and Moomba hubs;
 - capacity expansions on the VTS northern zone and the South West Pipeline; and
 - expansion of the MSP southern lateral.

APA has invested approximately AUD\$1 billion in pipeline expansions in Eastern Australia over the last five years.

¹ AEMC, Stage 1 Draft Report, East Coast Wholesale Gas Market and Pipeline Frameworks Review, 7 May 2015, p 40.

Innovation and efficiency

Pipelines are providing a greater range of services in response to customer needs, particularly greater flexibility to meet changing gas demand.

- APA has entered into a number of multi-pipeline contracts where a shipper can ship gas across multiple pipelines under one contract using one set of daily nominations which provides a seamless service potentially from up to 30 receipt points and 100 delivery points across APA's East Coast gas transportation infrastructure. In the past, to achieve an equivalent outcome, a shipper would have to lodge nominations and manage different contracts, risk allocation, timing and procedures across those individual pipelines.
- Pipeline owners are offering integrated transport and storage services, park and loan services, stand-alone non-firm transport rights, STTM related services and intraday nominations. As gas demand has changed from predictable load patterns, pipelines have innovated and changed their service offerings.
- Pipeline owners have sought to address the market's desire for greater capability to undertake capacity trading. APA, SEA Gas and Jemena have developed secondary trading platforms and services in addition to their contribution to the Bulletin Boards. APA has introduced the ability for shippers to undertake in-pipe trades, where they can trade gas at virtual receipt and delivery points.

Shippers now have a suite of tools across multiple pipelines to manage a portfolio of gas supply arrangements where gas molecules no longer predictably flow only from point A to point B.

Competition

Competition is occurring between pipelines and the pipeline developments.

- As gas flows have shifted from being predominantly southward, significant investments in new capacity and bi-directional capability have been made (including on SWQP, QSN link, MSP, Culcairn, EGP and RBP). Pipelines have responded to these changes in flows and are competing to bring gas northward. For example, MAPS, EGP and the VTS / Interconnect / MSP route have undertaken, or are in the process of undertaking, works to facilitate northward flows.
- Cooper Basin and Queensland gas has competed with Victorian gas for southern markets. As Cooper Basin and Queensland gas has been redirected towards LNG production, Victorian gas is starting to flow northward and the connections of new basins are being considered, including the Northern Territory and the Gunnedah Basin.

APA's business model

APA is not vertically integrated with any of the principal upstream or downstream functions in the gas sector. As such, it has a strong economic incentive to create and sell as many gas transmission services as feasible in a manner that best meets customers' requirements, irrespective of who those customers may be.

APA has a history of growing unitholder returns while maintaining a low risk business model, typical for infrastructure companies. Underpinning this low risk growth business model is a foundation of long term, low risk revenue contracts. The provision of new gas transmission capacity typically involves substantial up front fixed costs and foundation shippers require certainty that these services will be available whenever they are required. Long term firm capacity contracts provide shippers with that certainty and pipeline owners with the confidence of steady, reliable revenue streams enabling the funding of infrastructure and the recovery of large sunk costs. These long term firm contracts are, and will remain, a fundamental underpinning feature of the industry for the foreseeable future.

The industry has shown that it can adapt to unprecedented change in market demands and provide new services and new ways of responding. The range of pipeline services offered and the degree of flexibility and innovation has never been greater.

APA's strategy is to grow its business by expanding its offering of transmission services to meet customer and market demand by using its asset portfolio to develop responsive, valued transportation and storage solutions for customers. Its vision is to be able to move gas seamlessly and efficiently for customers across the East Coast and beyond. APA has confidence that the industry will continue to adjust to a rapidly changing landscape in the most effective way possible. APA supports the concept of reforms which enhance the ability for market driven responses.

2 Gas transmission overview

In the following sections, APA addresses questions relevant to the transmission sector. The information in this section provides important context to those responses.

2.1 Overview of Gas Transportation Agreements

Under the contract carriage model which applies on the East Coast (other than in the DWGM), shippers purchase gas transmission services and other ancillary services from pipeline owners by entering into bilateral contracts with pipeline owners for pipeline services (known as gas transportation contracts or GTAs).

2.1.1 The shippers

The total number of customers (called shippers) that APA contracts with is relatively small in absolute terms. These shippers include gas producers, gas wholesalers, gas retailers, gas generators, LNG project proponents and other industrial and commercial customers. They are generally well-resourced companies which have (or have access to) extensive industry knowledge and experience.

Shippers that agree to enter into GTAs as part of the decision to develop or expand a pipeline are generally known as 'foundation shippers'. By virtue of their long term commitments to take or pay for capacity (irrespective of whether or not it is used on any particular day), foundation shippers have historically underwritten the development and expansion of most pipelines. A number of APA's pipelines have contracts of this kind (many of which pre-date APA's ownership).

However, not all shippers fall into this category (for example, as legacy contracts expire and capacity becomes available). APA has in recent times developed a standard form GTA (see <http://capacitytrading.apa.com.au/> for a summary) which it uses as a base for negotiations on its regulated pipelines, as well as its unregulated and new pipeline expansions and developments. The AER has substantially accepted APA's standard GTA in approving access arrangements on APA's pipelines. The following discussion focusses on the services and terms offered under APA's standard GTA.

2.1.2 Pipeline services

The following are the main pipeline transport services provided by APA. The priority sets out the ranking in which services are provided if there is not sufficient pipeline capacity on a day to meet all the requests for services on that day. The scheduling of services is discussed further below.

Service	Priority	Description of service	Method of charging
Firm	First	APA agrees to transport gas up to an agreed MDQ. ² This is a firm commitment by APA, subject only to operational constraints.	Charges generally comprise a capacity charge based on reserved MDQ and may include a throughput charge

² MDQ or maximum daily quantity is a measure of pipeline capacity being the maximum quantity of gas (GJ/day) which the shipper is entitled to transport on a day.

Service	Priority	Description of service	Method of charging
			based on actual usage.
As available	Second	If APA confirms available capacity on the following day, the service is then firm for that day.	Charges comprise throughput charges based on actual usage.
Authorised overrun	Third	APA may agree to a shipper with a firm service transporting quantities in excess of its MDQ. The service can be interrupted on the day even if it has been scheduled.	Charges comprise throughput charges based on actual usage.
Interruptible	Fourth	APA will endeavour to transport quantities nominated by the shipper on any day, without obligation to guarantee any capacity and with the right to curtail the service if the pipeline becomes capacity constrained or higher priority services are required.	Charges comprise throughput charges based on actual usage. The service can be offered as a stand-alone service with a minimum bill.
Backhaul	N/A	APA will transport gas in the direction opposed to the prevailing flow of the pipeline. In practice, the service provides a means of "netting off" the scheduled requests to transport gas in the opposite direction. It is not a firm service, even if scheduled, because it depends on sufficient forward flows.	Charges comprise throughput charges based on actual usage.

The following are the main non-transport services provided by APA.

Service	Description of service	Method of charging
Parking service	APA will make available pipeline capacity (up to the Parking Allowance) for the shipper to store gas until required. Users of this service seek to manage their gas portfolio for any number of reasons including accommodating supply or demand peaks and troughs or for market trading. The service also allows APA to maximise pipeline utilisation. The service may be provided on a firm or interruptible basis.	The charge is generally a monthly service charge which is reduced pro rata if the service is unavailable.
Loan service	APA will make gas from its base line pack (up to the Loan Allowance) available to the shipper subject to an obligation to replenish. The service may be provided on a firm or interruptible basis.	The charge is generally a monthly service charge which is reduced pro rata if the service is unavailable.
Redirection services	APA will redirect gas received to or on account of a shipper to another part of its pipeline network for delivery, either physically or notionally.	Charges comprise throughput charges based on actual usage.
Pressure services	APA will pressurise the shipper's gas to enable it to enter other, higher pressure pipelines or facilities. The service may be provided on a firm or interruptible basis.	Charges comprise daily capacity and/or throughput charges based on reserved MDQ depending on the nature of the service.
Capacity trading	APA will facilitate the trading of firm capacity on the pipeline between different shippers. Title to gas is not affected. This is explained in more detail in Q 47.	Charge per MDQ traded. If no other services are provided, there is a monthly fee.
In-pipe trades	APA will facilitate the trading of physical gas in transit between different shippers. Capacity rights are not affected. This is explained in more detail in Q 47.	Charge per GJ traded.

While APA offers a range of pipeline services, the vast majority of its pipeline revenue relates to the provision of firm transport services. Approximately 75 to 95 per cent of the revenue received under APA's contracts is in the form of a pipeline capacity reservation tariff.

2.1.3 Nominations and scheduling

Shippers request services by making nominations. Shippers must nominate the amounts of gas they would like to receipt and deliver under the firm service a month in advance, but may change these nominations up to 2.30pm or 4.00pm on the day prior, depending on the location of the pipeline. Nominations for other services must be received by up to 2.30pm or 4.00pm on the day prior, again depending on the location of the pipeline. The 'gas day' is a 24 hour period commencing 8.00am in Queensland, 6.30am in New South Wales and 6.00am in Victoria and South Australia.

APA schedules the gas a day ahead, i.e. it determines how much gas will be transported or other services delivered to each shipper, depending on the nominations received from all the shippers and in accordance with the priorities and limitations for each service described above. The shippers are informed of their scheduled volumes before the start of the gas day. AEMO publishes the aggregated delivery nominations by zone on the Bulletin Board for each gas day and aggregated forecast deliveries by zone for subsequent gas days.

On a gas day, a shipper can request a change to its nomination (an intraday nomination) but due to other contractual commitments in respect of capacity on the relevant pipelines, APA is not under a firm obligation to accept the change. A charge may apply where an intraday nomination is accepted, which varies depending on when it is accepted on the day.

2.1.4 Relativities of transmission charges

The delivered price of gas for an end-user buyer includes the following:

- the ex-plant price: the price at which the producers sell gas to the shippers (following production);
- the transmission price: the price charged for haulage (including capacity) on gas transmission pipelines;
- the distribution charge: if the buyer is connected to the local distribution network;
- the retailer's margin: where the gas is being acquired from a gas retailer; and
- market charges: the costs connected with buying and selling gas in wholesale markets such as the DWGM and STTM.

Gas transmission charges have been relatively flat in real terms year on year. They typically make up 3 to 8 per cent of a residential gas bill.³ This percentage will be higher for industrial users and gas fired power stations.

2.2 Operating gas transmission pipelines

Gas transmission pipelines operate within a technical envelope and limitations, which can affect the capacity of the pipeline to provide services. For example:

- **Nameplate capacity** – This is the maximum quantity of gas that can be transported on a firm basis through a pipeline on a day under normal operating conditions. Capacity is dependent on a number of factors including pipeline diameter, length and operating pressure.

³ AER, State of the Energy Market 2014, p 117.

- **Operating pressure and line-pack** – Gas must be highly pressurized to enable it to travel through a pipeline. Each pipeline has a minimum and maximum operating pressure. The higher the pressure, the more gas in the pipeline. If a pipeline is over-pressurized, then it could exceed upper safe pressure limits. There must be a minimum amount of gas or line pack in the pipeline to enable gas to flow.
- **Compression** – Pipelines operate at different pressures. Accordingly, where pipelines of different pressures connect, it can be necessary to pressurize the gas from the lower pressure pipeline to enable it to enter the higher pressure pipeline. Additionally, to ensure that the gas flowing through a pipeline remains pressurized, compression of gas periodically along the pipe is sometimes required. This is done by compressor stations. The gas enters the compressor station, where it is compressed by either a turbine or reciprocating engine.
- **Pressure control v flow control pipelines** – Pressure control refers to regulating the pipeline pressure from an upstream point to the required pressure downstream. Under pressure control, flow will vary to meet demand while the downstream pressure remains constant (within limits). Flow control relates to regulating the flowrate within a pipeline or from one pipeline system to another. Under flow control, the flowrate will remain constant and the downstream pressure will vary as demand changes (within limits).
- **Control rooms** – To ensure service obligations are met, sophisticated control systems monitor and control the gas as it travels through sections of the pipeline via a SCADA (Supervisory Control and Data Acquisition) system. Centralised gas control rooms collect, assimilate and manage data received from monitoring points and compressor stations along the pipe. Compressors can be remotely started and stopped and valves opened or closed to manage the operability of the pipeline according to the daily requirements.
- **Receipt and delivery points** – Receipt and delivery points are the specified flanges or joints at which customers deliver gas to pipeline owners, or at which pipeline owners deliver gas to customers, respectively under a GTA. Gas quantities and gas pressure at receipt and delivery points are subject to minimum and maximum limits based on the physical capacity of those points and the ability of the pipeline to receipt or deliver gas to those points. This ability is often a function of the physical capacity and contractual commitments at other receipt or delivery points on the pipeline.
- **Gas metering** – Various metering devices are installed at receipt and delivery points along the pipeline to measure the volumes of gas entering and exiting the pipeline. Metering devices include orifice plate, ultrasonic, turbine and Coriolis meters.
- **Gas chromatographs** – A gas chromatograph is installed at each receipt point and some delivery points to determine the composition of the gas entering and exiting the pipeline. The gas composition is monitored by the SCADA system and can be viewed in real time to ensure the gas conforms to the applicable standard.
- **Transmitters** – Various electronic transmitters are installed at locations along the pipeline. These devices include pressure and temperature transmitters that accurately record data from the pipeline.
- **Flow computers** – Flow computers are electronic devices that calculate the physical flows through the pipeline system using data recorded from the gas meters, gas chromatographs and pressure and temperature transmitters.

3 Changes affecting the domestic gas industry

3.1 Question 6 – Factors affecting inter-basin competition

Q 6 What factors affect the scope of inter-basin competition between gas producers in Eastern Australia? What are the circumstances in which such competition is viable and which it is not viable? Provide examples.

The interconnected nature of the Eastern Australian pipeline network means it is possible for gas to be supplied from multiple sources using a variety of increasingly interconnected and bi-directional transport routes.

One of the recent features of the industry is the change in direction of gas flows, customers seeking supply from a variety of sources and the use of multiple pipelines to deliver gas. Pipelines have responded to these changes:

- APA is receiving transport queries from customers looking at alternate sources of gas. For example, Queensland customers have sought supply from Victoria. AGL has recently acquired supply of gas from Gippsland to supply its New South Wales load which has required further compression of the EGP.
- There is evidence that Victorian gas will supply Queensland loads, including LNG demand. APA, Jemena and Epic are all undertaking works to their pipelines to enable northward flows of gas.
- In response to these demands, a number of pipelines have been recently, or are in the process of being, converted to bi-directional gas flows and have additional interconnection and compression facilities (see answer to Q 42 which includes a list of recent pipeline developments).
- Traditionally, one of the issues with a multiple pipeline route could be the time and effort required for shippers to negotiate and manage that transport route, i.e. matching rights, risk allocation and nominations across different pipelines and contracts. In response to this APA is offering and negotiating multi-asset GTAs with shippers under which the shipper can haul gas across multiple pipelines under a single contract (see section 4 of the Confidential Attachment for more details). However, pipeline / regime interface issues have been an issue with shipping Victorian gas northward using the VTS as discussed in Q 61.

There is also the potential for new basins to be connected to the Eastern Australian network:

- APA, among other pipeline companies, is tendering to build the North East Gas Interconnector which is a pipeline linking the Northern Territory and the East Coast. The tender process being run by the Northern Territory Government is well advanced with final proposals from shortlisted bidders due in September 2015 and the successful proponent announced shortly thereafter. In the future, this pipeline will provide for the flow of Northern Territory gas into the East Coast. See http://dcm.nt.gov.au/territory_economy/north_east_gas_interconnector
- Santos' Narrabri Gas Project proposes to develop tenements in north-west New South Wales and connect those fields via a pipeline running south from the Narrabri area to link up with existing pipeline infrastructure. If the project proceeds, once connected to existing pipelines, this gas will be able to compete in the Sydney market and other markets further afield.

4 Access to processing facilities

4.1 Question 17 – Gas specification

Q.17 Do gas specification requirements materially affect the supply of gas for different uses? Is any divergence of gas specifications between Queensland LNG and other uses a barrier to trading gas within Eastern Australia (e.g. due to processing cost differences)? If so explain how.

APA's GTAs on East Coast pipelines require shippers to supply gas that meets the Australian Standard "AS 4564 – specification for general purpose natural gas" (2005) (Australian Standard). Shippers are contractually obliged to supply gas meeting the Australian Standard and APA is contractually obliged to deliver gas within the Australian Standard.

See section 5 of the Confidential Attachment for further details.

5 Information availability and trading liquidity

5.1 Question 37 – International comparisons

Q.37 To what extent are international comparisons relevant to the supply of gas and associated services in Eastern Australia? Are there any lessons from reforms in the US, the EU or elsewhere that may be relevant for Australia? What reforms or measures adopted in the US or the EU are not likely to work in Eastern Australia, and why? Are there any intermediate trading models between the US/EU trading markets and bilateral contracting that could improve information flow and increase trading liquidity in Eastern Australia?

5.1.1 Relevance of international experience

APA monitors industry developments in international markets. When developing its capacity trading platform, APA looked at the approaches and mechanisms in the UK and US. However, caution should be exercised before assuming that US and EU experiences or models can be translated without modification to Australia. The Australian gas market is much smaller than the US and EU markets and will remain so for the foreseeable future.

In relation to transmission, there are also significant physical differences between Australian pipelines and pipelines in the US and EU. In general, Eastern Australian pipelines are long, low capacity pipelines with much greater capacity to deal with variations between aggregate deliveries and receipts than overseas markets. This is primarily due to lower demand, relatively high line pack volumes and longer distances between supply and demand centres. For example, the MSP has line pack levels that could provide several days' worth of deliveries. In contrast, networks in North America and Europe require tight balancing of receipts and deliveries to ensure system stability given the high deliveries and relatively low line pack volumes.

5.1.2 Market evolution

APA considers that the industry is taking "intermediate" steps to facilitate trading.

- APA and other pipelines have recently introduced new services and other measures to support additional capacity trading, which have already improved information flow and

increased liquidity. In addition, a number of other policy decisions to support capacity trading have been made but are still to be implemented.⁴

- These services include APA's capacity trading website, which provides shippers with an additional way to access or sell contracted capacity (see Q 49). The information currently published on the website includes (amongst other things) nameplate and operational capacity, daily nominations, contracted capacity, daily utilisation and available capacity for the CGP, MSP, RBP and SWQP. This information is updated regularly.
- Significant information is also currently available through the AEMO Natural Gas Market Bulletin Board which is in the process of being redeveloped.⁵ APA supports the recommendation by the AEMC to make the Bulletin Board a more comprehensive source of information subject to market benefits outweighing the costs of publishing the information.

As discussed in Q 40, there has been limited secondary trading using the capacity platforms to date. However, time is required for new mechanisms like these to gain traction. Currently, only one of the six proposed LNG trains at Gladstone has been commissioned. APA expects the advent of new flexible demand from LNG producers when their trains are commissioned has the potential to stimulate the market given the much larger gas flows. The new mechanisms and information should be given an opportunity to work.

Further, the AEMC will consider the extent to which approaches used in the US and EU markets might be applicable to Australian circumstances in stage 2 of its East Coast Wholesale Gas Market and Pipeline Frameworks Review. APA considers that this is the most appropriate forum for considering these issues further.⁶

6 Ownership and regulation of transmission pipelines

6.1 Question 40 – Change in prices and service levels

Q.40 Have users observed an increase in the price of pipeline services or deterioration in the terms on which pipeline services are provided? If so, to what extent is this due to increased concentration in ownership of transmission pipelines, decreased economic regulation or other factors? Provide specific examples of changes to prices/terms over the relevant period.

The ACCC queries whether increased concentration or reduced economic regulation has resulted in a deterioration in service quality or increase in prices. APA considers that the contrary is the case. In APA's case, it has been able to use its asset portfolio (particularly following the acquisition of the SWQP in 2012) to provide better services and enhance operational efficiencies.

There has been innovation and the offering of new pipeline services which has, in APA's case, been facilitated by using its assets in an integrated approach. APA's GTAs now include the following services which were not as prevalent or did not exist five years ago:

- multi-asset GTAs (see section 4 of the Confidential Attachment);
- transmission routes using both the VTS and contract carriage pipelines;
- park and loan services (in addition to imbalance tolerances);

⁴ See APA Submission to AEMC Public Forum – East Coast Wholesale Gas Market and Pipeline Frameworks Review, 26 March 2015, 6.2 and AEMC Stage 1 Draft Report – East Coast Wholesale Gas Market and Pipeline Frameworks Review, 4.2.1.

⁵ See APA Submission to AEMC Public Forum – East Coast Wholesale Gas Market and Pipeline Frameworks Review, 26 March 2015, 6.2.

⁶ See AEMC Stage 1 Draft Report – East Coast Wholesale Gas Market and Pipeline Frameworks Review, 3.4.1.

- integrated storage services;
- STTM related services;
- bi-directional and redirection services (such as those provided at the Wallumbilla hub – see Q 43);
- compression services;
- in-pipe trading;
- capacity trading (see Q 49 for more detail); and
- intra-day nomination rights.

APA also provides more non-firm transport (in addition to the flexibility already provided by authorised overrun services) and backhaul services than previously was the case, reflecting the changing nature of gas flows. APA has entered into a number of non-firm transport service only GTAs as set out in section 4 of the Confidential Attachment.

These services are all offered in APA's standard GTA which applies across all APA's East Coast transmission pipelines (other than the VTS). The AER has approved the substance of APA's standard GTA in the access arrangements for AGP in 2011 and RBP in 2012 and therefore, there is consistency of terms irrespective of the regulated status of the pipeline.

A number of shippers have entered into GTAs based on APA's standard GTA (as negotiated with each shipper). Under the standard GTA, new pipeline services, new receipt/delivery points or changes to existing pipeline services can be provided for by way of variation to a shipper's existing GTA rather than having to negotiate and enter into a new GTA. This reduces the time, effort and transaction costs associated with amending or acquiring additional pipeline services. In addition, the existence of standardised terms across APA's pipelines means that shippers have more flexibility to match rights, risk allocation and nominations across different pipelines.

APA has pro-actively incorporated features that allow for the flexible redirection of gas between sources and connected pipelines. Shippers now have a range of pipeline services which provide flexibility to manage their gas portfolios (see section 3 of the Confidential Attachment).

In relation to pricing, APA's charges for pipeline services have generally remained constant year on year, subject to movements in line with CPI.

APA's ownership of transmission pipelines across the East Coast has also enabled it to provide cost-effective investment solutions to create new capacity and capture operational efficiencies. For example:

- APA created new capacity and compression services at Moomba in relation to the MSP through the reconfiguration of the compressors servicing the SWQP at Moomba. These works enabled gas in the MSP to be compressed for delivery into the Moomba gas treatment plant and subsequently injected into the SWQP by using one of the backup compressors servicing the SWQP. This additional flexibility for gas movements at a relatively low cost was only made possible by reason of APA's common ownership of the MSP, SWQP and APA's compression station at Moomba. Otherwise, it would have required new compression at Moomba to achieve the same result.
- APA has offered parking services using the spare capacity on its pipelines to store gas. For example, it has used storage capacity on the MSP to provide shippers with an ability to reinject gas into the VTS or into the Sydney STTM as a means to manage the volatility of those markets.

6.2 Question 41 – Threat of coverage

Q.41 With so few transmission pipelines now covered by economic regulation, does the threat of coverage still place a constraint on pipeline owners' behaviour?

There appears to be an implicit assumption in this question that the threat of coverage is not a constraint because pipelines have managed to have coverage revoked or have obtained a no coverage declaration. Some context is required:

- A pipeline can only have coverage revoked by going through a public revocation process with the National Competition Council (NCC) and establishing to the Minister's satisfaction that the pipeline does not satisfy the coverage criteria. That is, the pipeline should not be regulated.
- Similarly, with the three LNG pipelines that have obtained no coverage declarations, they have had to undertake a public process with the NCC to establish that one or more coverage criteria do not apply.
- Regulation is a second best outcome to competition. One of the reasons that a number of pipelines have obtained revocation of coverage is the competition provided by other pipelines. Thus, the MSP was able to obtain partial revocation of coverage based on the competition from the EGP and the EGP was able to avoid coverage on similar grounds. MAPS was able to obtain revocation of coverage based on competition from SEA Gas and pipelines servicing Moomba.
- Of the remaining APA pipelines not discussed above, the VTS, RBP and Central Ranges Pipeline are subject to full regulation while the CGP, part of the MSP and the Central West Pipeline are subject to light regulation. The only other East Coast transmission pipelines owned by APA are the SWQP and BWP which are unregulated. Both pipelines are subject to long term foundation contracts.

APA is not aware of any claims or evidence that East Coast pipelines are in a position to exercise market power. Moreover, APA considers the information provided in response to Q 40 would suggest the opposite and that pipelines are responding to market forces.

Nevertheless, the threat of regulation and in particular, the uncertainty of the regulatory process, as well as the associated costs are taken very seriously by APA. APA is well aware:

- of the reality that any person can make an application to the NCC seeking a determination that one of its pipelines should be covered;
- of the threat of an access dispute and resulting arbitration (particularly, for light regulation pipelines);
- that shippers are particularly well placed to bring, or threaten to bring, a coverage application. They are generally large, well-resourced and experienced participants in the gas markets with significant knowledge of the economics of gas transmission and a long term perspective in relation to contracting for gas supplies and transmission; and
- of the costs that regulation imposes.

The credible threat of regulation provides shippers with an additional degree of countervailing power in their negotiations with pipeline owners.

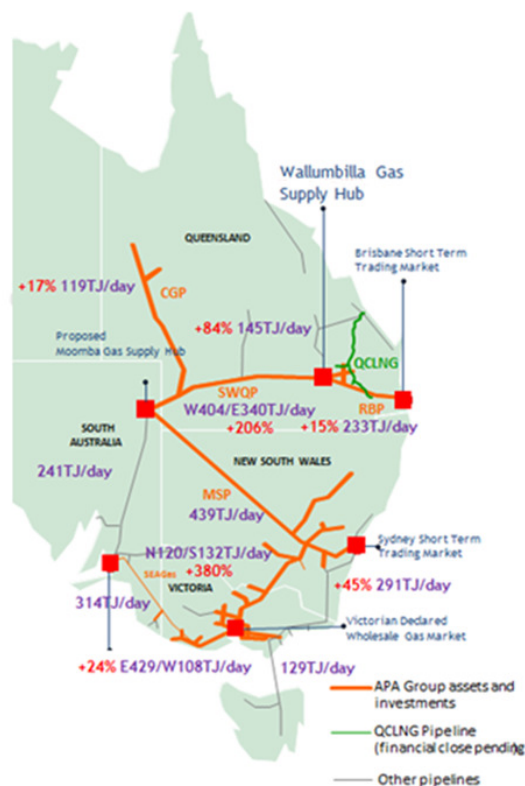
7 Pipeline services

7.1 Question 42 – Development of pipelines

Q.42 Are pipelines being developed or enhanced to meet producer and shipper needs? Please provide examples of experiences in securing changes to pipelines to meet changes in supply and demand for gas.

7.1.1 East Coast pipeline developments

The pipeline sector has responded to meet, and in some cases pre-empt, changing shipper needs, including those arising from the development of the LNG plants in Queensland. The AEMC Stage 1 Draft Report recognised the substantial investment in the transmission sector with 13 new pipelines constructed in the last 15 years and a large number of expansions and conversions to bi-directional pipelines.⁷ The percentage increases reflected in the map below relate to increases in pipeline capacities since 2008 (noting that further capacity has since been added to the VNI).



- 2000
 - Single pipeline to Sydney
 - Single pipeline to Adelaide
 - No link between northern and southern markets
 - DWGM had been introduced in 1998
- 2004
 - 2 pipelines to Sydney (EGP commissioned in Aug 2000)
 - Tasmanian Gas Pipeline commissioned in Oct 2002
 - 2 pipelines to Adelaide (SEAGas commissioned in Jan 2004)
- 2008
 - Northern and southern markets linked – Moomba to Ballera pipeline (2008)
 - Highly constrained link between Victoria and NSW (14TJ/day)
- 2012
 - Berwyndale Wallumbilla Pipeline commissioned in 2009
 - Sydney and Adelaide STTM started (Sept 2010)
 - Brisbane STTM started (Dec 2011)
 - SWQP changes direction (now east to west)
- 2015
 - LNG pipelines built (one operational 2015)
 - Start of Wallumbilla Gas Supply Hub (2014)
 - SWQP changes direction (again) (Sept / Oct 2015)
 - MSP bidirectional (likely to change flow direction)
 - RBP bidirectional (likely to change flow direction)

7.1.2 Development of APA pipelines

APA capital expenditure on expansion projects on the East Coast for the period FY 2008 to FY 2015 has been approximately AUD \$1 billion. This excludes the SWQP expansion expenditure of over \$1 billion during the period 2008 and 2012 and prior to APA's acquisition of Epic.

⁷ AEMC, Stage 1 Draft Report, East Coast Wholesale Gas Market and Pipeline Frameworks Review, 7 May 2015, p 40.

Some of the expansion projects over this period include:

Pipeline	Expansion descriptions	MDQ Increase (TJ/d)	% increase in MDQ	Purpose
RBP	Dalby compression, MAOP upgrade and looping	25	12%	Increase the eastern flow capacity
	Bi directional flow between Wallumbilla and Argyle / Windibri (being the mid-point of the RBP)	120 (western flow)	52%	Provide western flow from mid-RBP to Wallumbilla
MSP	5 year capacity (pressure) upgrade, compression at Marsden, mainline compressor configuration modifications, mainline compressor configuration modifications	39	10%	Increase MAOP and capacity
	New receipt point from EGP at Wilton. This new receipt point is currently under construction and has not yet been commissioned.	N/A	N/A	Allow delivery of gas from the EGP into the MSP Provide security of supply for Sydney
SWQP	(2014) construction of Moomba compression station and flow reversal of SWQP to eastern haul	343 eastern flow	90%	Santos eastern haul services AGL eastern haul services to Ballera and Wallumbilla Origin reversal of MDQ
	(2014/2015) Wallumbilla compression and construction of lean gas redirection facility	N/A	N/A	Provides redirection of CSG sources to LNG shippers and rich gas sources to Brisbane and Gladstone industrials Compression of SWQP gas into GLNG's Comet Ridge pipeline
	(2015) Establishment of bi-directional flow between SWQP and RBP	N/A	N/A	Provide flows between SWQP and RBP
	(2015) Modification of Moomba compressor station to allow bi-directional flow between MSP and SWQP	N/A	N/A	Provides capability to reverse flow the MSP to allow delivery into Moomba to Adelaide Pipeline and/or Moomba gas processing plant for redelivery of processed lean gas into SWQP
VTS	South West Pipeline expansion and Winchelsea compression	76	21%	Increase capacity on the SWP Generated MDQ credits
	Victorian Northern Interconnect – constructed and approved	104	743%	APA has expanded the northern capacity through Culcairn a number of times and made the capacity bi-direction on behalf of a number of shippers from its original capacity of 14TJ/d
BWP	(2015) Bi-directional flow	170	100%	Allow eastern and western flow between Wallumbilla to Berwyndale

APA has undertaken these works in response to shippers' needs. For example, to enable gas from Victoria to be delivered into the SWQP and then to Wallumbilla, the following key augmentations to, and investments in, APA's grid were, or will be, undertaken:

- an augmentation program which enabled the MSP to have bi-directional flow capability;

- the EGP owned by Jemena will be connected to the MSP at Wilton to enable gas to be delivered into the MSP and into the network if required. These works will facilitate northern gas flows using the EGP;
- APA is supporting a direct connection between SEA Gas and MAPS so that gas flowing northward can avoid having to use the Adelaide distribution network; and
- reconfiguration of the SWQP Moomba compression facility (including modification of APA's compression station at Moomba) to enable gas in the MSP to be compressed into the Moomba gas treatment plant and subsequently injected into the SWQP.

See section 6 of the Confidential Attachment for further details.

While APA generally requires new investment to be underwritten by long term contracts, where it has judged the market will require services APA has, on certain occasions, invested capital in projects on an "at risk" basis without that capital being substantially underwritten by the end user entering into long term contracts. See section 6 of the Confidential Attachment.

7.1.3 Future projects

APA is also currently considering a number of major capital investments to meet future demand:

- As discussed in Q 48, APA ran a public "open season" process to obtain expressions of interest to expand the SWQP and the capacity between the MSP and SWQP.⁸ The proposed expansion involves the progressive installation of additional compressors at Moomba, Ballera, scraper station 2 and Cooladdi. As highlighted in APA's submission on the AEMC Stage 1 Draft Report, this is an example of a new formalised investment process where APA undertakes a public 'expressions of interest' process for new capacity wherever possible to ensure that any capacity expansion captures all available demand. APA is currently funding the initial front end engineering and approvals work to provide APA with sufficient information on the scope and cost of the required expansions.
- APA is tendering to build the North East Gas Interconnector which will connect Northern Territory gas fields to the East Coast. APA undertook, at its own cost, a feasibility study which provided a sound understating of the gas production potential in the Territory and South Australia and actual demand from potential buyers on the East Coast, as well as addressing land access and engineering issues.

See section 6 of the Confidential Attachment for further details on major capital investments being considered by APA.

The above focusses on APA's activities but other pipeline owners are competing with APA to invest in pipeline infrastructure. This all demonstrates that pipeline owners have an incentive to invest in and expand capacity to meet the market. This incentive, when combined with the contract carriage model, where the investment is wholly or substantially underwritten by shippers who require the services, has operated well to provide timely and appropriate investment and to provide necessary capacity to the market. The AEMC Stage 1 Draft Report recognises that much of the transmission investment has been made possible by such bilateral arrangements.⁹

⁸ An open season is a period of time in which potential customers are invited to submit their interest in new pipeline services, allowing the pipeline owner to understand customers' aggregated demand needs, assisting in securing lowest cost expansion projects.

7.2 Question 43 – Development of pipeline services

Q.43 Are pipeline services (including emerging hub facility service requirements in Wallumbilla) adequately evolving to meet user requirements? If not, explain which services are lacking on which pipelines and the effect of that on users.

7.2.1 Evolution of pipeline services

See Q 40 in relation to new pipeline services introduced by APA to meet the changing needs of shippers.

7.2.2 Wallumbilla hub services

APA is supporting the development of hub services to support the Wallumbilla Gas Supply Hub (GSH).

The RBP, SWQP, QGP and other pipelines intersect at Wallumbilla. The transit of gas between each of these pipelines is physically limited as each pipeline operates under different pressures. This means that achieving different gas flow paths across the Wallumbilla facility may require compression or redirection of gas. The Wallumbilla facility has developed over time to meet specific shipper needs to flow gas between these pipelines, and currently firm compression services to transfer gas between different pipelines are fully contracted to shippers.

The Wallumbilla GSH is intended to promote the trading of gas at Wallumbilla. Currently, the GSH operates across three separate nodes. Hub services are services which would support trading of gas between the nodes to create a single trading point.

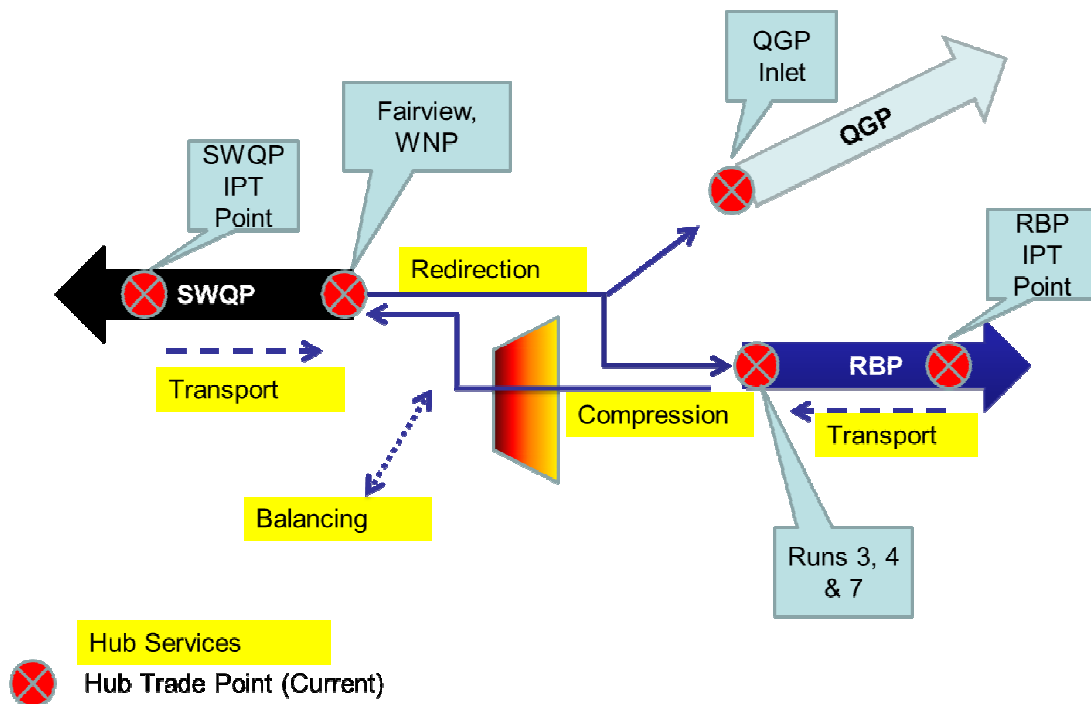
In order to trade gas through the Wallumbilla Gas Supply Hub at a single trading point, some or all of the various ancillary hub services set out below may be required:

- **redirection** – the actual or notional transportation of gas between receipt and delivery points. In the case of Wallumbilla this may require transportation and/or pressure reduction between physical points within the compound. This service is available to all shippers as per the terms and conditions of their GTAs and is currently made available to all shippers with the same degree of firmness;
- **compression** – the physical increasing of gas pressure to meet the inlet requirements of different pipeline systems. For Wallumbilla, compression is typically required for services to shift gas west on SWQP when it is receipted at points other than Fairview. At Wallumbilla the firm compression services are currently fully contracted on a firm basis, however services are available to shippers on an interruptible basis as per the terms of their agreements; and/or
- **transportation** – the transport of gas on a pipeline between receipt and delivery points including both virtual and physical points.

APA has progressively invested in new capacity and compression services to provide flexibility for gas movements around Wallumbilla since 2005 when CSG from the Spring Gully was first introduced into the SWQP. Since then, APA has connected at least six other sources of CSG into Wallumbilla via its interconnected bi-directional pipelines at the request of several different suppliers.

A further service which could assist some shippers would be a balancing service to exactly match trades to the settled quantity by supplying additional or removing excess gas from the system to ensure trade allocations are matched. This could be achieved by changes to receipt or delivery nominations, storage services or line pack park and loan services.

The simplified diagram below shows the types of services and potentially the combinations of services that could be required at Wallumbilla.



The number, combination and magnitude of services required on each day will depend on the final market schedules and the resulting physical locations of net gas delivery and receipt requirements.

Despite the physical and contractual limitations associated with the Wallumbilla Gas Supply Hub, in APA's experience the majority of shippers operating at Wallumbilla already have access to hub services under contract to the extent that they need them and therefore, do not require further hub services through the Wallumbilla Gas Supply Hub.

Additional compression could be constructed to offer compression services on a firm basis. The indicative cost to undertake these works is in the order of \$100 million for an additional 100TJ/d of installed capacity. These prospective works have been discussed at the AEMO Gas Supply Hub Reference Group meetings but are not being pursued at this stage as there is insufficient interest from shippers to support the investment.

Even in the absence of these works, APA supports the development of hub services for existing and future shippers who do not currently have contracted services. APA is continuing to work with market participants and AEMO on the design of a hub and believes that a simple hub service that allows for trading across the three pipelines and integrates the three trading nodes would increase liquidity and be a relatively low cost solution.

7.3 Question 44 – Limitations on ancillary services

Q.44 Are there any restrictions or limitations on the supply of specific ancillary pipeline services that are affecting competition in the supply or acquisition of gas? Do restrictions or limitations vary by location or by pipeline owner?

In paragraph 82, the ACCC defines ancillary services to be ones which manage variations in demand being imbalance and overrun services and intraday nominations. It should be noted that a shipper's ability to manage variations in gas demand is not limited to pipeline options – they include underground storage, flexible gas supply agreements, power station tolling arrangements, gas swaps and the like.

Ancillary services can generally only be obtained in conjunction with a transportation service and in some cases are directly linked to the transport service. Most of these services are subject to negotiated contractual limits. For example:

- Authorised overruns are defined by reference to a percentage of the firm MDQ contracted.
- APA does not characterise imbalances as a service but rather an agreed tolerance before imbalance charges apply so as to reflect the fact that perfect matching of injections and withdrawals on any given day can be operationally difficult for shippers to achieve.
- In some, but not all, cases there are contractual limits on intraday nominations but, in any case, APA is not under a firm obligation to schedule them.

In determining the contractual limits, APA has to be mindful of effects on pipeline capacity and the subsequent impact on other shipper's contracted services and the ability to operate the pipeline. For example, if imbalance tolerances are high, then this may impact on transport services, storage capacity and line pack if used by all shippers at the same time.

As discussed in section 2.2, pipelines must be operated within a technical envelope and the interaction of different services has to be considered in both the contracting and operating of pipelines. The extent to which ancillary services are available on any pipeline will depend on its pre-existing contractual commitments and technical limitations. APA is unable to provide direct evidence on how the availability of ancillary services impacts the supply or acquisition of gas, but notes that APA has actively developed and offered such ancillary services where available and continues to do so. APA considers that these restrictions are reasonable and it considers it unlikely they would have a material impact on competition for the supply or acquisition of gas.

7.4 Question 45 – Pipeline information

Q.45 Is the level of available information on gas flows sufficient to support competition across pipeline services? Provide any examples where timely availability of information on gas pipeline conditions would have influenced which pipeline was used to transport gas. What are the costs/barriers to providing more disaggregated information?

In paragraph 82, the ACCC notes that gas flow information is reported at a 24 hour daily level and some participants (e.g. LNG proponents) have suggested that more real time gas data may be required to manage their portfolios and any surplus or shortfalls in gas.

A considerable amount of pipeline information is already available including through the Bulletin Board and APA's capacity trading website.¹⁰ In addition, a number of other policy decisions to support capacity trading have been made but are still to be implemented. This includes the proposed rule change that will require the provision of additional information to support capacity trading.¹¹

APA supports the provision of further information that facilitates the efficient operation and development of the market.

However, the provision of more information is not a costless exercise. For example, there have been requests for more real time information as noted above but it is important to understand exactly what information is being sought and for what purpose. The provision of real-time information would involve additional costs associated with collecting, processing, validating and transmitting data.¹² The most significant of these costs would be in relation to data processing and

¹⁰ See response to question 37 above.

¹¹ See APA Submission to AEMC Public Forum – East Coast Wholesale Gas Market and Pipeline Frameworks Review, 26 March 2015, 6.2.3.

¹² Providing more disaggregated information also raises confidentiality issues, particularly for receipt and delivery points that service a small number of customers. This was considered by the AEMC in its draft Stage 1 Report, p 151.

validation. Currently some remote metered sites are only polled on a daily basis to retrieve data. In order to provide real-time information, significant upgrades to telemetry data processing systems would be required. In addition, data is typically required to undergo a series of automated and manual validations before it can be published. Increasing the frequency of data provision would dramatically increase the costs associated with these validations. Further, there is no clear mechanism to recover these costs under the existing negotiated contracts with shippers.

The benefit of providing additional information needs to be weighed against the costs. APA believes that the principal criteria for each information disclosure requirement should be net public benefit.¹³ In this regard, APA considers it will be very helpful for the ACCC to obtain factual examples where additional data would or could have changed outcomes. APA has not been made aware of any such circumstances by its current or prospective customers. In undertaking this exercise, the ACCC should also consider the following:

- while the question considers pipeline information, the ACCC should also consider whether more disclosure from processing plants and the LNG facilities would assist in fully understanding the gas supply and demand dynamics; and
- if the purpose of more information is to facilitate short term gas commodity and pipeline capacity trading, it would be useful for it to obtain factual examples showing lack of information is a key inhibitor to trading occurring.

The AEMC is considering these issues and APA agrees with its recommendation that “*any additional reporting obligations should be targeted, fit for purpose and proportionate to the issue it is intended to address*”.¹⁴ The ACCC’s fact findings have the potential to greatly inform this issue.

APA has also previously highlighted the benefits that can be gained through improving the presentation of existing information¹⁵ and supports (amongst other things) the AEMC’s recommendation to make the Bulletin Board a more comprehensive source of information.¹⁶ These measures should be given an opportunity to work while the AEMC undertakes further work on this issue in its Stage 2 review.

8 Terms and conditions for GTAs

8.1 Question 47 – GTA terms and conditions

Q.47 Are there contractual terms and conditions in gas transportation contracts that are limiting competition in the supply of pipeline services (including secondary trading of capacity)? If so, explain what those terms are, the rationale for them and their effect on pipeline users.

Pipeline services can be purchased from:

- APA – as noted above, APA has developed a standard GTA that it uses as a base for its contract negotiations on all its East Coast pipelines (other than the VTS). The AER has approved the substance of the terms and conditions contained in APA’s standard gas transportation agreement as part of the RBP and Amadeus Gas Pipeline access arrangements; or

¹³ See APA Submission to AEMC East Coast Wholesale Gas Market and Pipeline Frameworks Review, 29 May 2015, 6.5.2.

¹⁴ See AEMC Stage 1 Draft Report – East Coast Wholesale Gas Market and Pipeline Frameworks Review, p.157 and section 8 generally.

¹⁵ See APA Submission to AEMC East Coast Wholesale Gas Market and Pipeline Frameworks Review, 29 May 2015, 6.5.1.

¹⁶ See APA Submission to AEMC East Coast Wholesale Gas Market and Pipeline Frameworks Review, 29 May 2015, p 3 and section 6 generally.

- from a shipper (ie through secondary trading) – in which case the terms and conditions of the standard GTAs have been developed to support this trading through a number of mechanisms set out below.

Under the APA standard GTA, capacity can effectively be traded by way of assignment, bare transfer, assignment of MDQ entitlement or under APA's capacity trading service. Additionally, the transfer of physical gas may be facilitated by the in-pipe trade service. The distinction between these different forms of trading are set out below.

- **Bare transfers** – A shipper may (without the need for APA's consent) subcontract all or any contracted capacity under its gas transportation agreement, for either short or long term periods. For regulated pipelines only, the shipper must give notice to APA of the transfer.¹⁷ Under a bare transfer the shipper's rights against and obligations to APA remain unaffected i.e. the shipper remains responsible to APA for rights and obligations under the GTA. Notwithstanding that the bare transfer provision under the standard GTA is only triggered if the relevant pipeline is subject to an access arrangement, there is no express prohibition on bare transfers (or a notice requirement) in the standard GTA for unregulated pipelines. As such, bare transfers can occur without APA's consent irrespective of whether the particular pipeline is covered or uncovered. Bare transfers on unregulated pipelines are not visible to pipeline operators as they occur between shippers and appear as utilisation of the pipeline by the transferring shipper (that is, it cannot be distinguished from primary capacity utilisation).
- **Assignment** – A shipper may dispose of an interest in the standard GTA with the prior written consent of APA, which must not be unreasonably withheld in the case of a technically and financially capable assignee.¹⁸ Under an assignment, the shipper is released from all rights and obligations it assigns and the assignee is then responsible to APA.
- **Assignment of MDQ entitlement** – A shipper may permanently assign its receipt point MDQ or delivery point MDQ (or both) with the prior written consent of APA, which must not be unreasonably withheld provided that specified criteria are met.¹⁹ For an assignment of an MDQ entitlement to occur, the shippers involved in the transfer must not be in default of the agreement, the relevant receipt / delivery point to be assigned must be the same or if not, the shippers must meet APA's reasonable requirements, the assignee must confirm that it has made all necessary arrangements with producers for the purchase of gas and APA's costs of constructing any additional facilities required must be borne by the assignor or the assignee.
- **Capacity trading service** – APA facilitates the trading of firm capacity on the pipeline between different shippers under the capacity trading service. Shippers may advertise capacity on the APA grid utilising APA's capacity trading platform and trade parts or all of their firm capacity for any period of time at a bilaterally negotiated price. As such, capacity trades are independent arrangements between shippers who have gas transportation agreements with a capacity trading service, facilitated by APA. An overview of the capacity trading service is set out in Attachment 1. Section 9.2.2 explains the benefits of this service over bare transfers.
- **In-pipe trade service** – APA facilitates the trading of gas commodity in transit or being stored in the pipeline between different shippers under the in-pipe trade service, rather than at a physical receipt or delivery point. Shippers can nominate to purchase and receive gas quantities from a 'virtual' receipt point within the pipeline in accordance with APA's standard nomination processes. Shippers selling gas can then nominate to deliver the requested amount of gas and requests for in-pipe trades are accepted or rejected based on availability of service on the day. In-pipe trades provide a tool for shippers to manage their imbalances

¹⁷ Clause 28.3, APA standard GTA

¹⁸ Clause 28.2, APA standard GTA

¹⁹ Clause 28.4, APA standard GTA

and reduce imbalance charges. An overview of the in-pipe trade service is set out in Attachment 2.

- **Receipt and delivery points** – APA’s current standard GTAs generally allow for the addition of receipt and delivery points and/or reallocation of capacity between various receipt and delivery points subject to the availability of capacity at those points and in the relevant pipeline. Such changes can be constrained by the physical operating limits of the pipeline.

The capacity trading service and in-pipe service are currently actively provided by APA on the RBP and SWQP and are available on other pipelines subject to customer demand. SEA Gas is also providing a capacity trading service.

9 Pipeline capacity trading

9.1 Question 48 – Unmet capacity requests

Q.48 Are you aware of any instances where pipeline capacity was sought but not made available or alternatively not able to be procured in time? Provide details, including whether that capacity was sought from pipeline operators or shippers.

There is a difference in primary capacity (being capacity directly acquired from the pipeline owner) and secondary capacity (being capacity that is acquired from a shipper). As secondary capacity trading involves shipper to shipper transactions (even if facilitated by APA’s capacity trading platform), APA’s answer to this question relates to requests APA has received for primary capacity.

APA receives a number of enquiries in relation to services on its pipelines. APA is not aware of any recent instances (at least in the last two years) where it has not offered to make services available to a potential shipper who has made a serious enquiry for services. If there is no uncontracted capacity available or physical limitations, APA believes it has provided options to the potential shipper in every case by offering non-firm services or, where there is a commercial case for both APA and the shipper, offering capacity through an expansion. This is consistent with APA’s strong incentive to offer and expand services when it has a reasonable prospect of recovering its costs. APA is not vertically integrated with any of the principal upstream and downstream functions in the gas sector and has no reason to hold up a profitable business opportunity.

The unavailability of firm capacity and the necessity to undertake an expansion to meet requests for firm services is only really an issue on the BWP (eastern haul), RBP (eastern haul) and on the SWQP (eastern haul) as they are fully contracted in those directions. See section 2 of the Confidential Attachment.

However, it is not always commercially viable to expand a pipeline or section of pipeline where the request is only for a small part of the capacity created by an expansion (capacity expansions often require significant capital expenditure and create substantial capacity when compression is involved) or for very short term requirements. Nonetheless, APA does work with shippers to explore all expansion options with the view to providing capacity to meet shipper requirements. Open seasons may assist in identifying where needs of multiple shippers can be aggregated to create a commercial viable expansion option.

For example in relation to the RBP and SWQP:

- APA has sought to facilitate trading of firm capacity on the RBP and is offering and contracting for non-firm services on the SWQP and RBP. See section 4 of the Confidential Attachment in relation to the provision of services that APA has made available on the RBP and SWQP, primarily as part of multi-asset GTAs.
- In February 2015, APA invited expressions of interest from potential shippers for either eastern haul or western haul gas transportation services on the SWQP between Moomba

and Wallumbilla, as well as any other services including as available or storage services they may require. This was a non-discriminatory process and provided for the allocation of new firm capacity to those who valued it. APA received a number of expressions of interest for services of different quantities and for varying periods of time. APA's original timetable involved negotiating and executing GTAs for expansion capacity by 31 August 2015. APA is still undertaking scoping studies based on the responses to determine required works, indicative pricing and timing. APA will be responding to interested parties on the process shortly.

More generally, APA has been contracting for non-firm services on both pipelines which are fully contracted on a firm basis and pipelines with spare firm capacity in response to different demands from shippers. See section 3 of the Confidential Attachment for further details.

9.2 Question 49 – Capacity platforms

Q.49 To what extent are the new capacity listing platforms offered by APA and Jemena, or the current rule change proposal to the AEMC to enhance capacity information, likely to assist in the development of efficient capacity trading? If so, how?

9.2.1 APA's capacity trading service

After consultation with participants, APA launched its capacity trading service in March 2014 comprising:

- a trading website (<http://capacitytrading.apa.com.au/capacitytrading.aspx>) which is an information portal enabling shippers to access detailed information about available capacity, nominations, utilisation, trading opportunities (bids and offers) and contact details for trading parties for APA pipelines; and
- a capacity trading service in the APA standard GTA and an offer to include that service in existing GTAs.

The information posted on APA's website is able to be used to conduct bare transfers (without APA's involvement), or the trading parties can choose to use APA's capacity trading service which offers an "operational" capacity transfer. Under the arrangements established under the APA platform:

- a shipper with available capacity may submit an offer by means of the platform to temporarily transfer some or all of its firm MDQ;
- a shipper requiring capacity may submit a bid for capacity on offer, and provided that bid is accepted, the relevant capacity is transferred by means of the platform; and
- under the platform, the shipper selling capacity retains the obligation to pay the applicable tariff under its GTA associated with the firm capacity transferred and negotiates a price for that capacity with the successful shipper. However, the shipper selling capacity is not required to administer nominations made by the successful bidding shipper.


See Attachment 1 which includes a fact sheet on the service.

9.2.2 Benefits of the capacity trading service

The operational transfer service offers a number of benefits over the Bulletin Board and the use of bare transfers:

- The Bulletin Board only provides a capacity listing service on which listings to buy or sell transmission capacity can be entered by Trading or Viewing Participants for any East Coast gas transmission pipeline. Similar to APA's platform, it is a listing-only service with capacity

transactions bilaterally negotiated and settled outside of the Bulletin Board. For example, on 12 June 2015, there was one listing:

Listing Company	Side	Price (\$/GJ)	Quantity (GJ)	Pipeline	Receipt Point	Delivery Point	Product Type	From-To Date
 Origin Energy Retail Ltd	Offer	\$1.75	2000	RBP	Run 3	tbd	Firm Transportation	28/06/2015 - 12/07/2015

- In contrast to a bare transfer and Bulletin Board facilitated trades, the operational obligations for the traded capacity are transferred to the buyer, who deals directly with APA in relation to the use of that capacity (e.g. it makes the nominations directly rather than the seller making nominations on the buyer's behalf). This removes one of the concerns of the buying shipper in that they may be providing nomination information to a competitor and also provides a more appropriate allocation of risk in that the buyer is responsible for variance and imbalance charges, off specification gas risk and the like.

Under a bare transfer, the shippers effectively have to negotiate a “back to back” arrangement between them. Under the capacity trading service, the negotiation is more confined as to quantity of the trade and the terms of the payment by the buyer to the seller for the trade. This is because shippers must have a GTA with APA to utilise the capacity trading service (to govern the operational terms of the use of the traded MDQ, establish system access etc). For shippers who are not existing shippers on a pipeline, APA offers a “zero” MDQ GTA to enable them to acquire MDQ from other shippers. If the shipper does not acquire any other services (e.g. interruptible services) under that GTA, then there is a modest monthly charge.

9.2.3 Availability of capacity trading services

The capacity platform offered by APA facilitates capacity trading to occur on APA's major East Coast contract carriage pipelines. Currently, the capacity trading service (i.e. the operational capacity trading) is offered by APA on the RBP and SWQP and APA will extend the capacity trading service to other pipelines in the future if there is demand. SEA Gas also provides a capacity trading service.

The capacity trading service only applies to firm MDQ. However, APA is currently undertaking the required APA system changes to provide for the facilitated trade of the compression service at Moomba. This would allow compression services to be traded using a similar model to APA's capacity trading service allowing the buyer to separately nominate compression services procured through secondary markets through APA's systems.

9.2.4 Utilisation of capacity trading services

There has only been one capacity trade on APA's pipelines using the service since the service was introduced – see section 7 of the Confidential Attachment. Notwithstanding the limited use of the capacity trading service, a number of shippers have elected to include this service within their GTAs with a view to conducting future trades (see section 7 of the Confidential Attachment).

The lack of use of the capacity trading service to date has been somewhat disappointing given the significant cost to establish it. The platform was set up in the expectation that it would be of benefit to shippers who have contracted firm MDQ on a pipeline but are not using that capacity, as they would have an incentive to trade in order to defray their fixed costs. From APA's perspective, capacity trading would mitigate the concern that shippers may have in entering into long term GTAs for firm capacity.

However, the platform is relatively new and shippers do have a number of other options in this space, including assignment, bare transfers, in-pipe transfers and gas swaps:

- There are very few assignments of APA's GTAs. When they do occur, they are generally linked to the sale of a business.
- APA has limited visibility of bare transfers. None have been notified under GTAs for covered pipelines. Anecdotally, APA understands they do occur but has no evidence of the scale or frequency of such transfers. Given the benefits of capacity trading outlined above

over bare transfers, APA would expect that shippers have an incentive to use the capacity trading service rather than bare transfers.

- In-pipe transfers do occur more frequently and provide shippers with a low cost method of transferring gas between one and other.
- APA has no visibility of gas swaps which occur without involvement of the pipeline.

APA does expect to see a growth in demand for both the capacity trading platform and associated service as the gas market continues to evolve and the impact of LNG plant developments is realised. Once the three LNG projects are commissioned, it may be that there will be extra demand as those projects manage complex portfolios. Future growth in the Wallumbilla hub may also drive further capacity trading. APA considers its trading platform and capacity trading service will in time be a valuable additional tool for shippers to manage their gas demand. Accordingly, APA intends to continue to explore opportunities to expand the APA website in respect of the scope and accessibility of information to further support the market.

9.2.5 AEMC Rule Change and Bulletin Board

APA supports further development and improvement of the Bulletin Board and the provision of additional information where it can be established that the efficiency benefits to the market (including facilitating trading) outweigh the costs. See Q 45.

9.3 Question 50 – As available services

Q.50 To what extent, or under what conditions, are the ‘as available services’ offered by pipeline operators a substitute for capacity trade entered into with a shipper? If not, provide reasons.

The question is linked to paragraphs 85 and 86 which query whether acquiring as available services from the pipeline operator mitigates against possible hoarding of contracted firm capacity by participants on a fully contracted pipeline. It should be noted that acquiring firm capacity from another shipper or non-firm services from the pipeline owner are not the prospective shipper’s only options – see Q 51.

The fundamental difference between firm and non-firm transport services (such as, as available and interruptible services) is the likelihood that gas will actually be transported and the charging structure applicable to each service (see section 2).

Therefore, while they provide the same service if scheduled and delivered on a day, the extent of substitutability will depend on a number of factors, including:

- the nature of the load – where the GTA is required to service a predictable, steady load such as retail load, industrial processes or business as usual operation of LNG plants, the shipper will generally require a firm service. The majority of service requests sought from APA continue to be for firm services;
- the utilisation of the pipeline – a shipper will have more confidence that a non-firm service will be provided where a pipeline has historic utilisation rates that are below 100% (even if contracted) but takes the risk that those services may not be available on a “peak” day;
- the timing of the service – the degree of uncertainty regarding whether a non-firm service will result in gas actually being transported will generally fall over time as more information comes to hand, such as the spare capacity on a given pipeline in the days before capacity is required having regard to what is published on the Bulletin Board; and
- the contract cost – firm shippers are required to pay capacity charges, which are payable whether they use the capacity or not, to “book” the pipeline. This can be a substantial financial commitment depending on the length of the contract. Some shippers may not

want take or pay commitments if they only need the capacity on a contingent or short term basis.

Accordingly, the degree of substitutability will depend on the shipper and its needs.

9.4 Question 51 – Competition between shippers and pipeline owners

Q.51 How effective is competition between shippers and pipeline owners for the provision of contracted but unutilised capacity? If it is not effective, what factors are impeding competition?

Where a pipeline is fully contracted on a firm basis, a prospective shipper has a number of options:

- contract with the pipeline owner for firm services by entering into a GTA which in whole or in part underwrites a capacity expansion;
- contract with the pipeline owner for a non-firm service;
- acquire services from another firm shipper who is not utilising its capacity – that shipper should have an incentive to trade to defray its fixed costs. This can be done by way of assignment, bare transfer, transfer of MDQ entitlement or the use of a capacity trading service (see Q 47);
- acquire delivered gas at the relevant delivery point from another shipper or sell gas to another shipper at the pipeline receipt point;
- potentially an in-pipe trade, but the prospective shipper would already need to be a shipper on the pipeline; and
- enter into swaps to transact around the pipeline.

Shippers who have contracted firm capacity on a fully contracted pipeline, and who are not utilising that capacity, should have an advantage over the pipeline owner in that the pipeline owner is limited to offering:

- expansion capacity which would generally require the scoping and building of the works and negotiating a contract; or
- non-firm services which may not provide the degree of certainty that a prospective shipper requires. In APA's experience, most shippers still prefer the certainty of firm services.

As noted in Q 49, APA does not have visibility of the extent of bare transfers, delivered commodity sales and swaps so cannot comment on the extent to which shippers are actually providing alternatives to contracting with it. However, APA has entered into a number of interruptible service GTAs in the last few years – see sections 3 and 4 of the Confidential Attachment.

9.5 Question 52 – As available pricing

Q.52 Are the prices charged for capacity trades and 'as available services' what you would expect to observe in a workably competitive market?

When APA provides as available services, it is generally selling a portion of a shippers' firm capacity which they have not nominated to use on that day. A shipper is able to trade their firm capacity without intervention from APA to another shipper on the pipeline. APA has limited visibility as to the extent of such trading but where it does occur, the 'prices charged' for that capacity trade are

determined as the outcome of bilateral negotiations between two shippers. APA is not privy to the price at which such a trade takes place.

In relation to the pricing of as available services, APA's 'as available' service is offered to shippers that already hold contracts for firm capacity on the relevant pipeline. The 'as available' service is provided as part of the bundle of services offered in return for the commitment by a shipper to take or pay for firm capacity. As noted elsewhere in this submission, long term commitments are critical to underwriting pipeline investment – the as available service would not exist were it not for shippers agreeing to purchase firm capacity over the long term.

Any analysis of the price for 'as available' services cannot proceed in isolation to firm and interruptible services. A material change in the price for one type of service is likely to affect the 'equilibrium' price for others. Ultimately, the pricing differential reflects a balance between:

- the need to recover the cost of investment in long-lived assets, which tends to the sale of firm services;
- the need for shippers to guarantee long term access to services, which also tends to the purchase of firm services; and
- the desirability of a pipeline owner to maximise its utilisation on any given day (which tends to non-firm services), but not to the extent that the viability of the initial investment is undermined (which threatens the very existence of non-firm services).

It is also not valid to do simple comparisons of the \$/GJ price for a particular firm service and the \$/GJ price to transport gas over the same route on an 'as available' basis. Firm services must be paid for each and every day of the year, irrespective of the extent to which they may be utilised. By contrast, an as available service over the same route is only paid for when the gas is transported.

For these reasons, there is limited utility in exploring the question as to whether or not the price of 'as available' services is consistent with what might be expected to be observed in a workably competitive market. In APA's view, the more important analysis is the nature and extent of close substitutes for the combination of firm and 'as available' services that are typically offered under a GTA. These include the various means for acquiring transferred capacity (whether on a short or long term basis), as well as contracting for new, firm capacity.

9.6 Question 53 – Measuring available capacity

Q.53 How should available pipeline capacity be measured?

What constitutes available capacity depends on the time that the assessment is made.

Prior to scheduling occurring for a gas day (see section 2), the term "available capacity" is likely to mean the capacity available on the pipeline to be contracted on a firm basis on a directional basis. This is the nameplate capacity of the pipeline less the contracted firm MDQ (subject to any pipeline capacity restrictions, eg maintenance). This would not include as available or interruptible capacity which has been contracted because a new firm service would generally take priority over those contracted services.

Once scheduling has occurred on a gas day, the available capacity is likely to mean the capacity of the pipeline to provide further services on the gas day after satisfying the nominations for services (including as available and interruptible) that have been scheduled.

9.7 Question 54 – GTA provisions limiting capacity trading

Q.54 Are there any provisions in gas transportation agreements which limit or impede effective capacity trading? What are those provisions and how do they work to limit or impede capacity trading?

Refer to Q 47 which provides a summary of the contractual mechanisms relating to trading capacity. As outlined elsewhere in this submission, APA has proactively sought to facilitate capacity trading by provision of information and the development of the capacity trading service.

10 The role of storage

10.1 Questions 55 – 58 – Storage facilities

Q.55 How do industry participants use gas storage? Is this changing or likely to change given the gas industry re-structure? If so, explain why.

Q.56 Are there adequate levels of gas storage in Eastern Australia? Does the market provide adequate locational and investment signals for adequate storage? If not, why not? Would new storage assist in supply, including during transitional and peak periods? If so, where would it be placed?

Q.57 Are there adequate opportunities for third parties to access storage facilities? Do third parties have sufficient information to negotiate access on reasonable terms?

Q.58 Are there barriers to the development of new storage facilities or expansion of existing storage capacity?

APA offers pipeline storage services where available. Generally, this is the provision of parking services using the spare capacity of the pipeline to store gas but this is inherently limited. Spare capacity in a pipeline can be viewed in terms of throughput (flow) or storage. However, storage comes at the expense of throughput and vice versa. Therefore, the more capacity is utilised for transport, the less that capacity is available for storage. Each pipeline has a different storage to throughput ratio depending upon contractual flows, length and diameter of the pipeline. As noted above, APA has been able to use its interconnected assets to provide additional storage options for shippers on one pipeline by using storage capacity on interconnected pipelines.

APA also owns the Dandenong LNG facility which provides an “insurance” product to the participants in the DWGM. The services from the facility are provided to the wider market periodically through an open tender process.

11 Co-ordination requirements

11.1 Question 60 – Impact of contract carriage model

Q.60 Does the contract carriage model affect the level of upstream and/or downstream competition in the supply or acquisition of gas or other ancillary services (besides transportation services)? If so, how?

APA considers that the contract carriage model facilitates competition in upstream and downstream markets by providing the certainty regarding the availability of gas transport services that shippers require while providing the flexibility required to enable the development and sale of ancillary services.

The contract carriage model allows pipeline owners to facilitate the development of services to meet customer demands. For example, pipeline owners play an active role in ensuring that gas supplied by their pipelines can compete on a delivered price basis (i.e. the wholesale gas price plus the transportation cost) at a particular supply location with:

- gas supplied by other pipelines, which can mean having to accept a lower transportation tariff to accommodate a higher gas supply charge; and
- other energy sources that can be supplied to that location, which again can mean having to accept a lower transportation tariff.

Under the contract carriage model, pipeline owners can also offer a broad range of services that extend beyond the simple transportation of gas, and can offer storage and other risk management services, as well as short term capacity and trading facilities. This provides scope for innovation in service offering, for example through the development of specific products to assist the trade of capacity amongst shippers.

As noted in the ACCC Issues Paper, the significant investment that has occurred in the transmission sector in the last 15 years has facilitated the delivery of gas from a number of basins to a single delivery point and the transportation of gas across multiple pipelines. Much of this investment has been made possible by bilateral contracting arrangements.

This has occurred within a supportive regulatory regime that provides for both third party access to pipeline infrastructure and recognises the primacy of contract, which has allowed for the commercial development of new capacity through bilateral arrangements. While this regulation has its drawbacks, the underlying structure of the regulatory regime applied to contract carriage pipelines draws an appropriate balance between access and investment through its basis in contractual arrangements.

There is a key link between the ability of parties to contract for firm capacity rights, and the incentives for both pipeline owners and shippers to invest in infrastructure and plant that relies on those firm rights. This development underpins market development and economic growth.

11.2 Question 61 – Market carriage and export from Victoria

Q.61 Does the need to co-ordinate between the different carriage models affect decisions made by market participants as to whether to engage in the transportation of gas in and out of Victoria? If so, how?

11.2.1 DWGM and VTS

The market carriage model was initially introduced in Victoria in 1999 to facilitate trading and balancing arrangements for gas market participants at all levels (retailers, generators, industrial users and producers) so as to:

- support full retail contestability – by encouraging new entry by retailers that would not have to enter into long term GTAs and would have equivalent access to that of incumbent shippers; and
- encourage diversity of supply and upstream competition – by providing greater transparency of pricing.²⁰

When introduced, the DWGM was intended to provide additional market options to complement the trade of wholesale gas through bilateral contracts.²¹

²⁰ AEMC, Stage 1 Draft Report, East Coast Wholesale Gas Market and Pipeline Frameworks Review, 7 May 2015, p 102, citing K Lowe Consulting Gas Market Scoping Study, a report for the AEMC, July 2013, p.11.

The market carriage model used in the DWGM provides open access to the VTS by using the outcomes of the market bidding process run by AEMO to schedule injections and withdrawals. In contrast to the contract carriage model, shippers on the VTS cannot reserve capacity. They can obtain:

- Authorised Maximum Daily Quantity or AMDQ, which provides withdrawal rights for customers and market participants for gas transported on the VTS from Longford. The amount of AMDQ reflects the original capacity of the system when the market was introduced (in effect the capacity of the Longford injection point).
- AMDQ Credit Certificates which are functionality equivalent to AMDQ but are created as a result of subsequent capacity increases to the VTS such as that provided by the South West Pipeline.

Although there are some differences, both are generally referred to generically as “AMDQ” and provide a level of certainty to holders of being able to transport gas on the VTS by providing a package of financial and market benefits and priority if there is a tie in injection bids.

11.2.2 DWGM and exports

APA's GTAs include transmission routes using both the VTS and contract carriage pipelines. To assist shippers in managing difficulties which can arise from the interaction of the VTS with other pipeline services and facilitate northward flows, APA has offered new pipeline services with greater flexibility and undertaken capacity expansions on the VTS.

APA has entered into a number of contracts with shippers to export gas from Victoria but has had to proactively find various solutions and pricing models to do so. For example, it has in some cases mitigated the risks from the VTS by using contract carriage pipeline storage. Pipeline storage supports non-firm exports from the VTS and provides shippers with an ability to reinject gas into the VTS as a means to manage the volatility of the market.

Notwithstanding that shippers now have a greater range of pipeline services which provide additional flexibility, the operation of the DWGM and its interaction with pipelines other than the VTS can create complexity and risks for APA and shippers in seeking to transport gas out of Victoria using the VTS.

Historically, shippers were unable to match AMDQ within the DWGM with firm transportation rights on interconnected pipelines. In effect, although a shipper might have a firm contract on the MSP which connects to the VTS, a non-firm shipper on that pipeline could effectively trump the firm shipper by use of its AMDQ on the VTS. This issue was addressed in 2014 through an AEMO Procedure change. This Procedure change was a significant step forward in supporting flows across the DWGM and into interconnected pipelines. It has allowed APA to provide services to shippers that more closely resemble those that can be offered by its competitors, in particular the Eastern Gas Pipeline for services to Sydney.

²¹ AEMC, Stage 1 Draft Report, East Coast Wholesale Gas Market and Pipeline Frameworks Review, 7 May 2015, p ii and 2.

However, other market co-ordination issues remain.

- As a result of market based allocation of capacity, organic changes in demand in parts of the VTS impact the capacity elsewhere in the system. The impact, driven in large part by AEMO's Operating Procedures, is that contracted AMDQ capacity at Culcairn (being the point at which the MSP interconnects with the VTS to enable flows with New South Wales) can increase, or be 'eroded' as demand changes within the VTS. For example, where Victorian demand increases, additional capacity at Culcairn must be continually 'topped up' by new investment in order to maintain allocated (contracted) AMDQ levels. This erosion increases the risks faced by shippers in contracting AMDQ credit certificates at Culcairn by increasing the risk that capacity constraints will be applied within the DWGM that limits capacity at Culcairn such that they will not be able to access their full contracted capacity.
- An exporting shipper with sufficient AMDQ is exposed to the DWGM market price for any imbalances between its injections and withdrawals into the VTS and ancillary payments, which cannot be fully hedged.
- The application of system security requirements in the National Gas Rules for the DWGM, and AEMO Procedures(which focus on security within the DWGM) biases market operation towards meeting Victorian gas demand. This means that AEMO makes gas supply and allocation decisions in the name of system security for the DWGM (which under the Rules they must maintain) which prejudices gas supplies to other markets, in particular gas supplies to New South Wales. Ultimately, in an emergency, gas supplies to non-Victorian customers are less firm than supplies to customers within Victoria.

Abbreviations

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AMDQ	Authorised Maximum Daily Quantity
BWP	Berwyndale Wallumbilla Pipeline
CGP	Carpentaria Gas Pipeline
CSG	Coal seam gas
COAG	Council of Australian Governments
CSG	Coal Seam Gas
DWGM	Declared Wholesale Gas Market
EGP	Eastern Gas Pipeline
GSH	Wallumbilla Gas Supply Hub
GTA	Gas Transportation Agreement
LNG	Liquefied Natural Gas
MOS	Market Operator Service
MSP	Moomba Sydney Pipeline
NCC	National Competition Council
RBP	Roma Brisbane Pipeline
SCADA	Supervisory Control and Data Acquisition
STTM	Short Term Trading Market
SWQP	South West Queensland Pipeline including the QSN link between Ballera and Moomba
VNI	Victorian Northern Interconnect
VTS	Victorian Transmission System