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GAS TRANSMISSION PIPELINE CAPACITY TRADING - CONSULTATION REGULATION IMPACT STATEMENT

Origin Energy Limited (Origin) welcomes the opportunity to comment on the Standing Council on Energy and Resources (SCER) Officials' Consultation Regulation Impact Statement (RIS) on gas transmission pipeline capacity trading.

Origin notes the Consultation RIS has been prompted by SCER's decision on 14 December 2012 to consider more broadly whether there are further policy options that could facilitate increased trade in gas transmission pipeline capacity in the eastern gas market.¹ We appreciate this initiative is intended to support continued gas market development through improved market operations. Generally, while Origin supports incremental improvements that enable more effective and efficient market operations, we consider regulatory intervention should only be pursued where a significant and clear market failure has been identified that warrants intervention.

The east coast gas industry operates as a strongly interconnected system that links upstream gas producers with downstream energy customers. In this system, high pressure transmission pipelines spanning over 20,000 kilometres from Northern Queensland to Tasmania transport gas from production fields to major demand centres.² While transmission, and by extension transport capacity, is an important component of the supply chain, the entire system is a physical market based on the underlying gas commodity. As such, market development should focus on ensuring an effective market underpinned by efficient operations across the entire supply chain. Such an approach encourages competitively priced and reliable supply in the long-term interest of end use customers.

In the context of pipeline capacity trading, the Consultation RIS does not set out clearly the scope of challenges being identified. This makes it difficult for industry to distinguish between perceived and real shortfalls with current arrangements and the materiality of these issues. It also makes it challenging for industry to identify targeted or more holistic options that respond in a proportionate and efficient way.

When determining the need for and, as appropriate, the scope of policy options to promote pipeline capacity trading, it is important to be clear up front on what the objectives of any developments are. Articulating and, where possible, quantifying the materiality of any challenges experienced today, as well as the potential opportunities, is also important when it comes to evaluating targeted responses. With this context, the

¹ SCER 2012, *Meeting Communiqué*, 14 December, p. 3.

² Australian Energy Regulator 2012, *State of the Energy Market 2012*, 20 December, p. 104.

market has an opportunity to consider and respond prior to the Government considering the need for a regulatory solution or intervention. Given the significant changes underway in the east coast gas market, it is important that any potential changes in capacity trading arrangements complement - and not impede - this broader market development.

The following sections expand on this position through a discussion of the following issues:

- what is gas transmission capacity;
- how do participants use transmission capacity;
- current arrangements for capacity trading;
- the need for improvements to capacity trading; and
- the implications of a regulatory option aimed at increasing capacity trading.

1. What is gas transmission capacity?

Typically, retailers purchase gas from gas producers (through a Gas Supply Agreement or GSA) and then contract with pipelines to transport their gas (through a Gas Transport Agreement or GTA) from the producer to various delivery points to meet customer demand.³ These delivery points could be to:

- other connecting pipelines;
- directly to large customers, such as gas-fired electricity generators or major industrials; or
- facilitated trading markets, such as the Declared Wholesale Gas Market (DWGM) in Victoria or the Short Term Trading Markets (STTM) in New South Wales, South Australia and Queensland.

The length and terms of GTAs can vary depending on the parties involved but they are usually long-term (i.e. 10-15 years) and provide the buyer with 'firm' capacity (i.e. the gas shipper has a contractual right to inject, move and withdraw gas within a pipeline and this gas is expected to be available at all times on a non-interruptible basis). A GTA also specifies the maximum daily quantity (MDQ) of gas that may be transported along the pipeline under prescribed terms and conditions. Firm contracts tend to have a high upfront establishment cost, but a comparatively low 'throughput' or usage charge. This reflects the premium users pay to make sure capacity is available on a day, but then recognises the economies of regular use.

Firm transportation agreements are not the only form of capacity available for a participant. In circumstances where a pipeline has unused capacity after satisfying any firm capacity obligations, that capacity can be on-sold by the pipeline operator for use by other shippers. This type of capacity is either 'as available' or 'interruptible' as there is no guarantee that the gas will be transported if the pipeline is constrained. The existence of other forms of capacity is important from an optimisation perspective. While a pipeline may be highly contracted from a capacity perspective, interruptible services allow participants to access capacity when others are not making use of their firm rights. Given as available services are, by definition, uncertain, participants tend to pay a lower upfront cost to establish rights to access the pipeline, but then pay a higher throughput charge.

³ Some large industrial consumers and producers directly enter into GTAs with a pipeline owner to transport gas rather than having to buy from or sell to a shipper.

Use of pipeline capacity is not solely for the purpose of moving gas from one point to another. There are also a number of ancillary services on a pipeline. Pipeline operators supply various imbalance and storage products such as linepack, park and loan and imbalance services and STTM market operator services that enable shippers to manage their load requirements in an efficient manner.

2. How is transmission capacity used?

The main reason for contracting firm capacity is to provide a shipper with certainty around transporting gas to its customer demand. In Origin's case, our transmission requirements reflect our underlying portfolio requirements. We contract capacity to meet our retail customer load as well as to transport gas for use in our gas-fired electricity generators. Typically, shippers prefer firm capacity rights as use of capacity is assured.

If it should emerge that there is insufficient capacity on an existing pipeline to meet long-term firm portfolio requirements, a shipper may negotiate with a pipeline owner to expand an existing pipeline or construct a new one. In such a situation, a shipper may underwrite the pipeline owner's investment through a foundation contract that offers them long-term firm capacity rights albeit at a premium in comparison to accessing existing capacity. This framework has delivered considerable investment in recent years. The Australian Energy Regulator's *State of the Energy Market 2012* notes significant investment in the regulated and unregulated transmission sector has occurred since 2010 and that a number of major projects are under construction or have been announced for development.⁴ Examples include the QSN Link and expanded capacity on the South West Queensland Pipeline (SWQP) and the construction of a number of pipelines to support liquefied natural gas (LNG) exports in Queensland.⁵

Capacity investment requires a long term outlook. Daily transportation requirements, however, are much more dynamic and complex. A shipper's capacity portfolio needs to provide it with the flexibility to respond to changing supply and demand patterns across a day.

For any shipper, particularly those that operate across a number of states and/or have gas-fired generation assets, transmission capacity is an important mechanism that affords them flexibility to respond to changes in the market on a day. For example, should there be an unexpected supply shortfall due to a production outage, a participant that has a flexible capacity position could source that gas from another location and transport that gas to its intended destination through other pipelines. Similarly, when weather changes result in increased electricity use on a day, a shipper that has a flexible capacity position could use that capacity to transport gas to its gas-fired generators. Capacity is an important energy balancing service that allows supply and demand in both the gas and electricity markets to balance and clear.

⁴ Australian Energy Regulator 2012, *State of the Energy Market 2012*, 20 December, p. 112.

⁵ Epic Energy commissioned the QSN Link and expanded capacity on the SWQP in 2009, to enable gas delivery between Queensland and the southern states. A \$760 million stage 3 expansion of the SWQP was completed in 2012. The expansion loops the existing 937 kilometre pipeline by building an adjacent pipeline that effectively doubles capacity. Construction is underway on three major transmission pipelines in Queensland (each around 400 kilometres in length) to transport gas from the Surat-Bowen Basin to Gladstone for processing and export as LNG.

3. Current arrangements for capacity trading

Variable demand factors and the potential for outages and other disruptions to influence supply conditions mean there may be times when market participants require additional capacity above their contracted capacity rights and other times when they have excess capacity that could be sold to another participant on a short-term basis.

Currently, there are a number of mechanisms that allow a shipper to trade capacity in such circumstances. These are relevant to an assessment of the need for any additional capacity trading mechanisms as they indicate the flexible market arrangements that currently exist as alternatives to holding a firm capacity contract. Origin has historically and continues to use the range of capacity trading mechanisms currently available on a number of different pipelines.

a) Novation and bare transfers

As described in the Consultation RIS, trade in secondary pipeline capacity is generally undertaken by either novation or bare transfer.⁶ Novation is a permanent transfer of MDQ whereby a shipper assigns all or part of their capacity to a third party and the assignee must enter into a new GTA with the pipeline owner for the assigned capacity. A bare transfer is a temporary transfer of MDQ from a contract holder (seller) to a trading right holder (buyer) where the contract holder continues to be responsible to the pipeline operator for all financial and operational obligations.

b) Delivered products

Capacity requirements are generally driven by underlying commodity requirements. For example, a market participant may need to purchase extra gas or may have extra gas that they wish to sell and therefore requires capacity to transport that gas. Given this, a market participant may want to trade a delivered product whereby it buys or sells the gas commodity at a particular location bundled with the transport to deliver the gas to that location.

c) Imbalance transfers

An imbalance transfer is effectively a spot trade that includes transport as it relates to gas that has been transported along a pipeline. For example, if a shipper has an imbalance of 5 TJ on a particular pipeline, it can sell 5 TJ to another shipper in order to avoid an imbalance charge.

d) Gas swaps

Gas swaps are not strictly a capacity trading mechanism but rather a way in which producers and shippers can bypass or minimise the use of transmission pipelines to deliver gas. At its simplest, a gas swap requires two transactions involving two parties agreeing to exchange delivery obligations at two different locations. By entering such a contract, this can negate the need to physically transport the gas from one location to the other along a transmission pipeline.

⁶ SCER Officials 2013, *Gas Transmission Pipeline Capacity Consultation RIS*, 15 May, p. 18.

4. Need for improvements to capacity trading

When determining the scope for policy options to promote pipeline capacity trading, it is important to be clear on what the objectives of any developments are. This includes identifying the perceived (or real) shortfalls with the current arrangements that are viewed to impede perspective opportunities. This is important for the market to understand so it can consider and respond prior to the Government considering the need for a regulatory solution or intervention. Articulating and, where possible, quantifying the materiality of any challenges experienced today, as well as the potential opportunities, is also important when it comes to evaluating targeted responses. The absence of this important context makes it difficult to respond to the RIS and consider whether the range of options put forward is appropriate or whether there are alternative market responses that may deliver a more efficient outcome.

a) Need for improved capacity trading based on data analysis

The Consultation RIS uses information from the Gas Bulletin Board to suggest there are a number of pipelines that have considerable volumes of unused capacity during certain periods while the remaining pipelines have some, although lesser, volumes of unused capacity. The Consultation RIS also notes that APA Group and SEAGas generally do not have firm capacity available on their pipelines and Jemena has some firm capacity available on its Eastern Gas Pipeline.⁷ Our understanding is that there is firm capacity available on almost all pipelines. However based on information in the Consultation RIS, it is possible to form the conclusion that there may be a lack of an effective market for trading unused pipeline capacity that may be contributing to the inefficient utilisation of existing pipeline infrastructure because capacity utilisation does not strictly match up with contracted capacity.

Origin, however, cautions against such a simplistic view as pipeline capacity is a constantly changing feature of gas markets that cannot be assessed using aggregate daily gas flow information and nameplate capacity from the Gas Bulletin Board. Taking such a view is unlikely to produce an accurate overview of market dynamics, which in turn does not lend itself to the identification of an accurate problem. There are a number of changing supply and demand factors during a day that affect capacity utilisation. As a result, it is likely that although a pipeline may appear underutilised when looking at daily data, capacity utilisation will fluctuate throughout the day depending on prevailing market conditions.

At a minimum, we recommend that any comparison of actual flows against capacity looks at: hourly data, which would show greater capacity utilisation at different times during the day; and actual pipeline capacity available on a day, which reflects any outages or maintenance rather than purely nameplate capacity. Such a comparison can also highlight the interaction between different pipelines. As most demand centres are serviced by more than one pipeline, this provides shippers with a number of different options to move gas around the transmission network. While one pipeline may be fully utilised at one point in time, there are still other alternatives to move gas to the same destination.

This type of comparison is likely to provide a different picture of capacity utilisation and the availability of unutilised but contracted capacity. This capacity utilisation picture must then also be balanced against the needs of those participants seeking capacity, for

⁷ SCER Officials 2013, *Gas Transmission Pipeline Capacity Consultation RIS*, 15 May, p. 16.

example whether those participants are looking for capacity at peak periods when it is less likely to be available. Once an accurate picture is established, it is then possible to better identify any potential issues that may exist.

b) Need for improved capacity trading based on experience

The Consultation RIS notes that:

“anecdotal evidence suggests that information failure and/or competition failure and the lack of an effective market for trading unused pipeline capacity is causing inefficient gas market outcomes, slowing moves to improve market liquidity and transparency. This may be contributing to the inefficient utilisation of existing infrastructure”.⁸

Existing shippers have a commercial incentive to on-sell any unused capacity today to make a return on their sunk cost, particularly if they have paid a premium to underwrite investment in an expansion or new pipeline. It is even conceivable that if capacity was particularly constrained and its value was sufficiently high, a shipper could have an incentive to sell their capacity to another participant instead of using it for their own purposes. Market arrangements are sufficiently flexible and incentives exist for shippers to provide capacity to the market if demand exists.

As a shipper, Origin is open to requests to trade unutilised but contracted capacity. We have partaken in capacity trades and other contractual arrangements that include capacity in the past. It is our experience, however, that there has been limited demand for access to this type of capacity. As such, our preliminary view is that any concerns that may have been raised to date around capacity trading may be a result of a lack of transparency whereby a participant seeking capacity may have limited awareness of suitable counterparties or their contact details.

It is worth noting that the Gas Bulletin Board currently has a facility to allow for the listing of supply and capacity offers; however, this facility has not been utilised to date.⁹ Origin and the Australian Energy Market Operator (AEMO) have been working together to improve the capability of this facility as currently, there is a limitation in that the party seeking to buy or sell capacity must be the assigned operator of the plant in question. As a consequence, shippers are excluded from being able to list spare capacity as they are not the operators of the pipeline. While this limitation may explain why the facility has not been used to date, this is unlikely to be the sole reason as AEMO has not previously received requests to use the facility. Irrespective of this, Origin and AEMO will shortly commence testing of an amended facility that will allow a participant to list capacity on an asset that it does not operate. AEMO will make the facility available to the market after testing has been completed. Improving this facility may assist those parties seeking capacity to more easily contact suitable counterparties.

c) Further clarification required

Origin appreciates that transparency around suitable counterparties may not be the only issue to access short term capacity. However, without a more detailed understanding of the current problems, it is difficult to understand why current arrangements have been unable to meet their needs and hence, what the market could do to address them. For

⁸ SCER Officials 2013, *Gas Transmission Pipeline Capacity Consultation RIS*, 15 May, p. iii.

⁹ VENCORP 2008, *National Gas Market Bulletin Board Participant Build Pack*, 1 July, pp. 29-30.

example, do the current issues relate to: the amount of capacity available for short term transport or the times at which it is available; the time it takes to negotiate a short term transport contract; the price at which these services are available; other unidentified aspects? Providing greater clarity around the types of capacity trades participants are seeking can help industry identify the most practical and effective options.

5. The implications of a regulatory option aimed at increasing capacity trading

Starting with a clearly defined problem allows for the assessment of possible regulatory options, including whether in fact any such option is justified.

a) Is fundamental change necessary?

It is essential that market developments are focused on enhancing current arrangements in order that participants can continue to operate efficiently in, and adapt appropriately to, the changing gas environment in coming years. A suboptimal outcome would be to institute a regulatory change that increases costs and risks in the market with little associated benefit.

Clearly articulating any problem in current capacity trading arrangements will allow for the robust evaluation of any proposed capacity trading options. If a material problem is ascertained, Origin strongly suggests any decision to amend current regulatory arrangements is based on sound cost-benefit analysis. In addition, any change should not introduce any inefficiency into both short-term and long-term decision making in the gas market.

In the absence of such a process, introducing a regulatory option to increase capacity trading may result in inefficient market outcomes. For example, it may reduce participants' current flexibility to use their contracted capacity to respond to changes in the gas market on a day. This would introduce a market failure where one did not previously exist.

Transmission pipelines are a highly capital intensive investment that are often underwritten by long-term capacity contracts. Imposing a regulatory capacity trading option on the market may have an adverse impact on investment, both in terms of investments already made and any potential future investments required. For the former, this could be in the form of sovereign risk issues where the rights of existing capacity holders could be potentially compromised. For the latter, this could affect the efficiency of future investments as intervention may dampen signals that a long-term solution is required to address a persistent constraint on a pipeline or it may hinder commercial incentives to underwrite investment.

b) Changes underway

While the Consultation RIS process progresses, Origin and AEMO will continue finalising the change explained above to allow all participants to list offers to buy and sell capacity on the Gas Bulletin Board. We anticipate that initially this facility may not list actual volumes on offer but could at least provide the contact details of counterparties who are interested in trading capacity on the various transmission pipelines. For those seeking transport services in particular, this can provide greater visibility around who to approach. As demand for these services increases, industry can then identify options to further streamline trade.

c) *Focus options for change on where there are real value opportunities*

As mentioned at the start of this submission, we support market developments that focus on ensuring an effective market underpinned by efficient operations across the entire supply chain. This raises the question as to which part of the supply chain could be changed in order to realise the most value from a change, particular given the evolving gas landscape. Any regulatory market change needs to be cognisant that participants need flexibility to manage the changing supply and demand dynamic and this flexibility may be diminished by a large number of concurrent or consecutive changes to different areas of the market.

In the aim of ensuring market developments are focused on the areas which will produce the biggest market benefit in an evolving gas landscape, Origin considers the most value opportunities lie in strengthening the quality of the price signals in the facilitated markets. If a holistic view is taken of the east coast gas market and the scope for its development, we see less value from developing further transmission capacity trading options where there continue to be limitations in the design of the end use markets, such as participants' current inability to manage effectively risks in the facilitated markets.

Given this, Origin recommends that SCER allows industry to identify options that can strengthen the quality of the current facilitated markets. Improving price signals in these markets can enhance the transparency of the value of capacity for both existing and prospective market participants.

6. Timing of further reviews and developments

The Consultation RIS proposes that the status quo be maintained until after the Wallumbilla Gas Supply Hub has been operational for a period of one year. At that time, it proposes that a review be undertaken to assess the level of demand for unused pipeline capacity and whether or not adequate unused capacity has been offered to the market.¹⁰

Origin cautions against using experience in the Wallumbilla Gas Supply Hub as a signal of capacity trading requirements more broadly. Firstly, this hub is not only a new trading hub but also a markedly different concept of trading hub compared to the DWGM and STTM. Time will be needed for the market to evolve and mature and for participation in the market to develop. A year of experience may be too early to assess its operations. Secondly, Wallumbilla is a single point within the east coast gas market. Experience there should not be taken as indicative of experience across the whole east coast.

Origin considers focus should be directed to a holistic gas market review. Capacity trading could then form part of this review. The Department of Resources, Energy and Tourism and the Bureau of Resource and Energy Economics' Study on the Eastern Australian Domestic Gas Market, for which Terms of Reference were released in May 2013, could be an appropriate review in which to consider capacity trading as part of a bigger focus on enhancing the efficiency and effectiveness of the east coast gas market.

¹⁰ SCER Officials 2013, *Gas Transmission Pipeline Capacity Consultation RIS*, 15 May, p. 43.

7. Further information

Gas transmission pipeline capacity is an important but complex feature of the east coast gas industry. As such, Origin is happy to assist SCER at any point to develop its understanding of this issue and discuss further any detail of this submission. Please contact Hannah Heath (Manager, Wholesale Regulatory Policy) on (02) 9503 5500 or hannah.heath@originenergy.com.au if you have any questions or would like to organise a direct discussion between Origin and SCER officials.

Yours sincerely,



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