26 March 2015

John Pierce
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Submitted online: www.aemc.gov.au

Dear Mr Pierce

EAST COAST WHOLESALE GAS MARKET AND PIPELINE FRAMEWORKS REVIEW

Origin Energy Limited (Origin) welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC's) public forum paper in relation to its east coast wholesale gas market and pipeline frameworks review.

With extensive operations across the east coast of Australia, Origin has a keen interest in ensuring a highly efficient and effective gas market. We welcome the AEMC's review as a means to holistically consider the continued appropriateness of, and opportunities for enhancements to, the facilitated gas markets and gas transportation arrangements.

Broadly, Origin considers the facilitated markets and transportation arrangements are working as intended but there is scope for improvements. The remainder of this submission outlines our thoughts as follows:

- Facilitated markets – developments should simplify unnecessarily complex elements, improve liquidity and participation and review opportunities to harmonise and coordinate across markets where appropriate.
- Transmission pipelines – we should assess the scope of current challenges in capacity trading and explore a multi-pipeline voluntary trading platform before consideration is given to large-scale market design changes.

Importantly, the consideration of any amendment to either the facilitated markets or transportation arrangements should involve industry throughout the process and any decision to progress any amendment should be informed by a robust cost-benefit analysis. Given the tight timeframes to deliver reports to the Council of Australian Governments Energy Council, we need to guarantee any advice is complete and any recommendations are fully developed and costed. We should ensure market developments continue to promote efficient market operations and investment, preserve existing rights, facilitate competition, minimise costs and avoid unwarranted regulatory intervention.

Should you have any questions or wish to discuss this information further, please contact Lillian Patterson on lillian.patterson@originenergy.com.au or (02) 9503 5375.

Yours sincerely,

Steve Reid
Manager, Wholesale Regulatory Policy

1 Facilitated Markets

Origin considers the facilitated markets are generally working well and provide an effective mechanism for trading imbalances. Box 1 details examples where the markets provided Origin with flexible options to manage our portfolio and access better cost options.

Box 1: Examples where the Facilitated Markets have been Accessed for Portfolio Purposes

Example 1 – Ramp Gas
Under a gas supply contract, Origin had an extra 10TJ of ramp gas it had to take on an upcoming gas day (D+1). Nearly all options to move this gas had been exhausted, leaving only two options: (1) run Roma Power Station uneconomically; or (2) sell the gas on the market. The first option was unattractive as prevailing electricity prices showed that running Roma would be at a loss because it was below its short run marginal cost (SRMC). The second option involved selling the gas in the Short Term Trading Market (STTM) at the Brisbane hub. The price received in the Brisbane hub would still result in a loss but as a cost minimisation strategy, the loss on the STTM was less than the loss from running Roma, i.e. less than SRMC.

Example 2 – Power Station Outage
Eraring Power Station was running four units at full load when one of the units tripped off. We were advised the unit was unlikely to return within the next 48 hours leaving Origin 600MW shorted than it expected in the electricity market. This required us to replace the lost capacity. Uranquinty Power Station could be turned on to replace the 600MW of electricity but there was insufficient gas available on the Moomba to Sydney Pipeline to run Uranquinty. Origin chose to purchase 25TJ of gas from the Victorian Declared Wholesale Gas Market (DWGM) to fuel the power station. By being able to access gas at short notice, the price paid on the market was cheaper than what we could have otherwise provided by injecting additional gas from Longford.

The markets are, however, complex to operate in, particularly the STTM and DWGM. We suggest a key principle to guide this review process is to simplify the unnecessarily complex elements of the markets, specifically through improving risk management. In this way, we can hope to reduce costs, improve pricing and encourage participation and competition.

In our view, a key means to improve the manageability of risk in the STTM and DWGM is to ensure all market costs are incorporated into the market price. The current pricing structure is not truly reflective of market costs. There are a number of prices associated with trading in the markets on any given day which increase operating costs and give rise to risks that cannot be effectively hedged. Simplifying and enhancing the transparency of market prices could effectively allow complexity to be transferred from the primary market into the secondary market. This could also facilitate better price discovery through the development of volume weighted average prices in each market that take into account ex ante and balancing prices.

1.1 STTM

In the STTM, there are a number of prices that complicate participants' ability to manage market risks. These prices include:

- market operator services (MOS) to balance net deviations in the market and is comprised of two components:
    - MOS service payment, which is paid to MOS providers on a pay-as-bid basis for both increase and decrease MOS in the market; and
    - MOS commodity payment for providing increase MOS or MOS commodity charge for decrease MOS, which values the additional gas that was delivered or stored on the pipeline at the ex ante market price set two days after the gas day (D+2) for which the MOS was allocated.

- short and long deviation payments, for which the pricing structure incorporates the average increase or decrease MOS cost respectively;
- contingency gas, which has not been required to date; and
- the settlement surplus or shortfall that is allocated at the end of the month.

Origin strongly supports improving the current arrangements so that each gas day is self-contained and participants are then able to manage risk on a single day without reference to other days. This could be facilitated by developing daily settlement and daily balancing arrangements. Such an arrangement would allow a single price for ex ante and a direct pricing mechanism for balancing volumes. This in turn could improve participants' ability to understand their risk exposure on a daily basis as all market and deviation charges would be referenced to these daily prices.

This amendment to the STTM would need to evaluate the pricing method for MOS to ensure deviating participants pay the full economic value of the balancing service. We suggest the MOS service payment should be valued at the marginal clearing price rather than the pay-as-bid price since the marginal clearing price is a more correct and efficient cost of daily balancing gas.

1.2 DWGM

Similar to the STTM, risk in the DWGM is not embedded in the market price. Simplifying the pricing structure could take the form of linking ancillary payments and uplift charges back to the market price. When additional injections of gas are scheduled by the Australian Energy Market Operator (AEMO) to meet local or short-term requirements within a day, this gas is at a higher price than the prevailing market price. The participants that provide this gas are compensated through ancillary payments. Uplift charges are the mechanism used to recover the cost of ancillary payments from market participants. Incorporating ancillary payments and uplift charges into the market price would improve participants' ability to assess and hence hedge their risk.

Origin notes the existence of the ASX Victorian Wholesale Gas Futures product but considers this to be of limited effectiveness given that it can only be used to hedge against the ex ante market price and not uplift charges. Reforming DWGM pricing could improve the value of this product and facilitate a robust derivatives market, which would be a positive development to enhance risk management in the market.

The AEMC's paper notes concerns regarding the ability to use the Victorian Declared Transmission System (DTS) to export gas from Victoria, particularly into New South Wales (NSW) via Culcairn. While this has been alleviated somewhat by greater transparency in AEMO's operations at Culcairn and recent capacity expansions, the issue remains that withdrawal capacity at Culcairn is directly affected by DTS demand. As a result, exports are more susceptible to curtailment than other forms of demand. Origin is of the view that exports should be considered equally with DTS demand as this supports the principle that gas should flow to its highest value use. Consequently, amendments to the current arrangements for how AEMO manages the DTS and gas exports are justified.

1.3 Wallumbilla Gas Supply Hub

Although only a year old, the Wallumbilla gas supply hub (GSH) is already outperforming expectations and has seen more trading activity than was anticipated prior to commencement. As a result, AEMO's GSH reference group is considering an ambitious program of potential future developments. Origin supports the GSH reference group's investigations of future developments. We note this group has already agreed to the introduction of a monthly product and ASX futures products in the first half of 2015. We also note it is exploring the value of an extension of the GSH to Moomba as well as a single trading product at Wallumbilla.

Origin considers the focus for the GSH should be on improving participation and liquidity. A Moomba hub could facilitate this as there are gas market participants situated off the Moomba to Adelaide Pipeline and Moomba to Sydney Pipeline that could, and have indicated would, trade at Moomba but do not currently trade at Wallumbilla. These participants have also indicated they have no intention of trading at Wallumbilla in the foreseeable future, even if pipeline capacity was available to them to do so as they are unwilling to pay to move gas from Moomba to Wallumbilla. Given these comments from southern state participants that are not trading in the Wallumbilla hub, we see potential value in a Moomba hub from increased participation and liquidity but as long as it does not impose additional costs on existing GSH trading participants through increased exchange fees or increased variable transaction fees for the traded products. We appreciate it is AEMO's intention that there will be no additional cost to existing Wallumbilla participants from the implementation of a Moomba hub.

While a Moomba hub is a potentially valuable extension to the existing arrangements, participation at Moomba will most likely continue to be limited to physical participants only as it is at Wallumbilla. In our view, a more valuable future development to improve participation and liquidity is to encourage the participation of non-physical participants such as financial institutions. This in turn will require balancing services to allow them to close out their positions, which is linked to a single trading product at Wallumbilla. GSH reference group discussions on a single trading product have noted that under a number of the models being considered for a single product regime, balancing services are a likely prerequisite as physical risk could be greater given the increased challenge of delivering trades across the hub. Origin supports the current process to develop and assess the merits of a single product at Wallumbilla, including the need for services such as balancing services to facilitate the single product. We note, however, the complexity and potentially large costs associated with a single trading product and consider any decision to progress with a single trading zone needs to ensure the benefits from increased participation and liquidity outweigh these costs.

In light of the success of the Wallumbilla GSH, Origin suggests there is a strong impetus to cease operations of the Brisbane STTM. The Brisbane STTM is unique in that it is supplied by a single transmission pipeline, the Roma to Brisbane Pipeline, which flows through Wallumbilla. With the commencement of the Wallumbilla GSH, we see little need for a balancing market at Brisbane as balancing could take place further up the transmission pipeline at Wallumbilla. Removing the Brisbane hub would also enhance liquidity at Wallumbilla. Origin has undertaken a preliminary investigation into how such an arrangement could work and would be happy to share this with the AEMC as part of its review process.

1.4 Cross Market Elements

In Origin's view, there is limited value to a large scale overhaul of the gas markets to harmonise them under one single design. Such an exercise would be extremely costly and unlikely to deliver a commensurate level of benefit. Overseas examples such as Europe show that markets can be integrated effectively without requiring a single market model across those markets.

There is, however, scope to coordinate elements across the different markets that could improve participants' ability to operate in the markets, particularly through reducing operating costs. A starting point could be to harmonise gas days as there are currently three gas day start times: 6am in Victoria; 6.30am in NSW and South Australia; and 8am in Queensland. In addition, for participants that operate in the different facilitated markets and the National Electricity Market (NEM), the NEM day start time is 4am. Harmonising start times would reduce the cost of operating across markets.

Cross-market participants are also required to provide collateral to meet their prudential requirements separately for each market. We appreciate AEMO's Gas Wholesale Consultative Forum has been considering cross-market prudentials for the STTM and DWGM but we consider there may be benefit in expanding this to the GSH and NEM. Looking to net prudential requirements across different

markets could assist to reduce costs of operating in the markets, particularly if collateral costs increase as a result of potential gas price increases.

Finally, there are different market parameters (i.e. market price cap and cumulative price threshold) across the STTM, DWGM and NEM. These should be reviewed to assess whether greater consistency of market parameters is appropriate.

The formulation and presentation of data varies across the facilitated markets. This complicates operations and increases the cost of participating in the markets. Origin suggests there may be value in a review of the data provided in the markets. Issues to address could include:

- definitions – e.g. imbalances and how they are calculated are different in the STTM and DWGM so it would be beneficial to have different names to distinguish between the two markets;
- consistency – e.g. in reports provided by AEMO, the representation of cashflows differ and it can be difficult to determine if a cashflow is to a participant or from the participant. This should be amended such that a negative cashflow always represents cashflow from AEMO to a participant and vice versa for a positive cashflow;
- timeliness – e.g. ensuring data is received in a timely manner across all markets; and
- format – a standardised gas market format for how data is provided and received could replace the current arrangement whereby data is provided and received in different ways and across different platforms from different organisations.

2 Transmission Pipelines

Market participants broadly agree that capacity trading is desirable. There are, however, differing views on the extent to which changes are required to current arrangements. In the first instance, the AEMC should investigate the challenges faced by capacity seekers in the existing market to understand why current arrangements have been unable to meet their needs. Articulating and, where possible, quantifying the materiality of any challenges experienced today is necessary to understand why there is a view that current arrangements are preventing an efficient level of pipeline utilisation.

Such a review should also consider the range of services available. These services include as available and interruptible and demonstrate pipeliners are responsive to changing market conditions as these offerings are driven by the requirements of shippers. These services are available across a number of pipelines. We note there are times when holders of these services have been unable to flow gas due to a physical constraint on the pipeline. Such a circumstance would indicate a physical issue potentially requiring new investment rather than a capacity utilisation issue.

A guiding principle for any proposed change should be that there is no diminishing of property rights for existing capacity holders. Origin considers there may be merit in a multi-pipeline voluntary trading platform but cautions against any more interventionist market design changes.

2.1 Capacity Trading Platform

Given the large upfront capital costs of development, producers and pipeliners require revenue certainty for which they have sought long-term contracts for both commodity and haulage:

- gas producers sell gas under gas supply agreements either directly to end users such as large-scale industrial consumers, power generators and energy retailers; and
- pipeliners underwrite the construction of new pipelines or major expansions in pipeline capacity with long-term contracts with shippers known as gas transportation agreements.

This arrangement has not only been necessary for producers and pipeliners but also for shippers that move the gas to retailers and consumers that have long-term and reasonably certain gas requirements and commitments. In Origin's case, our transmission capacity 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 generators. We also manage it on a daily basis to ensure we have the flexibility to respond to changing supply and demand patterns across a day and across the market.

In recent years and particularly with the advent of the liquefied natural gas export sector on the east coast, there have been increased discussions around short-term capacity trading to take advantage of more opportunistic prospects in the market. Currently, existing shippers have a commercial incentive to on-sell any unused capacity to make a return on their sunk cost, particularly if they have paid a premium to underwrite investment in an expansion or new pipeline. Given contractual arrangements reflect peak needs of users, unutilised capacity is most likely to be available outside of peak periods, which may not align with when a capacity seeker requires it. It is, however, 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.

Origin has, and continues to, trade capacity on a number of pipelines. In some cases this has been through conventional capacity trading arrangements such as novations and bare transfers but it has also been through more sophisticated arrangements such as delivered products, imbalance transfers and gas swaps. These trades have often been at the request of a counterparty seeking capacity. Such requests are infrequent but when received, we always engage with the counterparty to assess the feasibility of the request against our portfolio requirements.

While the market is small and there are only a handful of market participants, Origin sees potential in enhancements to existing capacity trading arrangements. This could take the form of a voluntary capacity trading platform. We note the capacity listing services already provided by the APA Group and through AEMO's Trayport system. While these are notable developments, the existence of two different systems in and of itself complicates matters. Origin believes a single voluntary platform that covers all pipelines in one place and facilitates the easy identification of suitable capacity trading opportunities could be beneficial to the market. This platform would be supported by standardised capacity trading products and contracts and would likely require all shippers to sign agreements with the platform operator, pipeliners and presumably all potential counterparties.

We suggest a working group of all relevant stakeholders be established to fully develop and cost this proposal as participants need to be assured that any perceived benefits outweigh the costs associated with implementation and ongoing operation. This working group would need to consider all relevant features of the capacity trading model including:

- product range – e.g. daily through to quarterly or six monthly timeframes;
- credit requirements – e.g. credit ratings and collateral;
- operational issues – e.g. which party will undertake nominations;
- responsibilities – e.g. which party has responsibility for gas deliveries; and
- payment arrangements – e.g. how and when payment will be made from the buyer to seller.

This platform could also be useful for primary capacity as a means to register requests for primary capacity, view positions in capacity queues and conduct capacity auctions. It could also provide a means for the centralised and standardised reporting of available capacity information that some pipeline operators currently publish on their website. This information could include a list of current shippers on a pipeline as well as information on maximum pipeline flows, aggregate capacity already sold and any available capacity. We expect the platform could also display historical information on the amount of capacity traded through the platform and at what price.

Origin considers this approach is the most cost-effective way to encourage capacity trading that preserves existing capacity rights and will not adversely impact future investment. Existing capacity

holders have invested in firm capacity and this approach should not compromise these rights. In addition, as long-term capacity contracts are necessary to underwrite investments in both expansions to existing pipelines and the construction of new pipelines, this approach should not affect the efficiency of future investments as it should not hinder commercial incentives to underwrite investment or dampen signals that a long-term solution is required to address a persistent constraint on a pipeline.

2.2 Regulatory Intervention

Discussions on capacity trading often refer to overseas experiences for guidance, in particular the European Union which has undergone a series of reforms over the last few years that include capacity trading platforms as well as stricter capacity utilisation regimes. Origin suggests a voluntary capacity trading platform should be considered and implemented before attention is given to large-scale market design changes such as the oversell and buyback mechanism recently implemented in Europe.

In any assessment of market developments it is appropriate they occur on a staged basis where future steps are only taken where justified. As a principle, regulatory interventions should only be pursued where a significant and clear market failure has been identified that warrants intervention and experience with other intermediary steps have proven unsuccessful. Any calls to implement a strong regulatory intervention such as oversell and buyback without first putting in place a capacity trading mechanism that allows for easier identification and completion of capacity trades are premature. Only after a capacity trading mechanism has been implemented and we have sufficient experience with it can an assessment be made as to whether a market failure exists and a market change is needed. Jumping straight to regulatory intervention without first implementing and experiencing the market mechanism which it is intended to facilitate is a disproportionate response.

Origin is concerned that calls for more interventionist capacity market regimes such as oversell and buyback have not adequately been tested as to their appropriateness to the Australian context. Below are some initial areas that warrant further investigation should there be any future assessment of this mechanism:

- Flexibility – A shipper's capacity portfolio needs to provide it with the flexibility to respond to changing supply and demand patterns on a day. The right of a shipper to use capacity in a matter it deems necessary to manage its portfolio is incredibly valuable and is one of the key reasons for purchasing firm capacity. The oversell and buyback mechanism may infringe on this right and impact a shipper's ability to respond flexibly over the course of a day. An inability to use its own capacity holdings to respond to changed market conditions and instead having to resort to a market mechanism to buyback its own capacity introduces complexity and cost where it did not previously exist.
- Investment – The oversell and buyback mechanism may impact participants' willingness to contract firm capacity and therefore have perverse implications for investment signals and decisions. We caution against any arrangement that may impede the efficient investment in Australian pipelines that has happened to date. For example, in November 2013 APA Group announced further expansions to the Victoria-NSW interconnect following an extension to its gas transportation agreement with Lumo Energy. This was in addition to the expansions required for Origin, announced in September 2013, and Energy Australia, announced in October 2013.[1] An oversell and buyback mechanism may dissuade participants from underwriting investments such as these to avoid a possible free-rider concern. This also relates to the more regulated nature of European transmission pipelines. Regulated tariffs are a feature of European capacity markets and contrast sharply with the largely unregulated nature of transmission pipelines on the east coast. Given revenues in Europe are set to allow

[1] APA Group, *APA to further expand VIC NSW interconnect*, 4 November 2013, www.apa.com.au/investor-centre/news/asxmedia-releases/2013/apa-to-further-expand-vic-nsw-interconnect.aspx.

companies to recover their costs and deliver efficient investment, it is unclear how an oversell and buyback mechanism could work in an unregulated environment.

- Entry-exit system – Under the European entry-exit system, the Transmission System Operator (TSO, which is akin to a pipeline operator in Australia) sells entry capacity to enter the gas transmission system and exit capacity to leave the gas transmission system. Entry and exit capacity are sold independently from one another so that there is no concept of a path of the gas flow. The Australian system is based on a point-to-point system where the path of the gas flow is an important factor. As a result, consideration would need to be given to the operability of oversell and buyback in a point-to-point setting.
- TSO estimation of capacity use – The oversell and buyback mechanism requires the TSO to estimate available capacity in order to determine how much it may be willing on-sell on a firm basis. Australian pipeliners already have an incentive to oversell non-firm capacity on a probabilistic basis. An important question for Australian pipeliners is whether they are able to adjust their processes to estimate both their firm and non-firm oversell offerings confidently and without having to incur large costs to upgrade systems and train personnel. We understand European TSOs tend to be conservative in estimating the amount of capacity that would be available. If pipeliners assume a conservative strategy in order to avoid having to buyback capacity when it is oversold, this does not suggest the mechanism is particularly efficient. In addition, given the point-to-point system in Australia, we caution that estimating available capacity could not be easily done with certainty.