



15 September 2015

Mr John Pierce
Australian Energy Market Commission
Level 6, 201 Elizabeth Street
Sydney NSW 2000

Online submission via www.aemc.gov.au

Dear Mr Pierce

RE: Wholesale Gas Markets Discussion Paper (Ref GPR0003)

GDF SUEZ Australian Energy (GDFSAE) appreciates the opportunity to make a submission in response to the Australian Energy Market Commission's (AEMC) East Coast Wholesale Gas Markets and Pipeline Frameworks Review Wholesale Gas Markets Discussion Paper (Discussion Paper).

The development of gas markets on the Australian east coast has up until recently, tended to be in response to localised growth and needs. In 1999 the Victorian Wholesale Gas Market was introduced to enable trading based on injections into and withdrawals from the Victorian gas transmission system that links multiple producers, major users and retailers. The Victorian market was updated in 2007 with the introduction of intra-day trading.

In 2010 the Short Term Trading Market (STTM) was introduced for the Sydney and Adelaide hubs, with the Brisbane STTM hub subsequently coming on line in 2011. The STTM is a market-based wholesale gas balancing mechanism that uses bids, offers and forecasts to determine delivery schedules for the pipelines, transmission users and the hubs. The market sets daily market prices and settles each hub based on the schedules and deviations from schedules. AEMO operates the STTM but does not operate the physical pipeline or network assets.

The Wallumbilla gas supply hub was introduced in 2014 and provides a low-cost, voluntary electronic trading platform to provide for buying and selling of gas at interconnecting transmission pipelines.

AEMO are now giving consideration to potential changes to the Wallumbilla supply hub to combine the existing three separate physical delivery points to create a single trading hub. AEMO have also given consideration to the potential establishment of a new trading hub at Moomba in South Australia.

Each of these developments has been considered in the context of specific needs relevant to a geographic area and local regulatory and governance arrangements. As a result, there are now a number of different trading hub designs in use across the Australian east coast. This creates complexity, particularly for any participant that operates across more than one trading hub.

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These complexities and pricing risks associated with the range of facilitated markets limits their overall value. Participants typically aim to match their market position to their long-term contract positions to minimise their exposure to pricing risk. This in turn tends to reduce the liquidity of the facilitated markets.

Since these different gas hubs were developed, there has been considerable transformation in the Australian gas industry, particularly with the emergence of substantial coal seam gas supply, most notably in Queensland, and the development of large LNG terminals and export facilities at Gladstone. These developments are fundamentally changing the nature and scale of the Australian east coast gas industry.

Exactly how these fundamental changes to the east coast gas industry will play out is still a matter for debate, but it is clear that the volume of gas trades will increase dramatically, and wholesale gas prices will be subject to international as well as domestic influences. These changes will further strengthen the drivers for improving gas market price transparency and providing more effective trading and risk management facilities.

The challenges in considering the most appropriate wholesale gas market design include being able to ensure that the ongoing needs of existing participants and agreements are met, whilst also encouraging new entrants to participate in the gas markets before having to commit to long-term bilateral contracts. All this needs to be done in an environment which is undergoing substantial gas demand growth and linkage to international markets.

In considering the three conceptual designs put forward in the Discussion Paper, GDFSAE suggests that there is an important trade-off to be considered between achieving greater liquidity (through larger virtual hubs), and ensuring effective locational signals for investment and trade (through localised physical hubs or concentrated virtual hubs). These competing needs must be considered within the context of the Australian east coast gas industry and its various regulatory, contractual and commercial realities.

Another important general consideration is that reducing the complexity and risk of facilitated markets is likely to improve participation and promote market liquidity.

At its December 2014 meeting, the COAG Energy Council outlined its vision for Australia's future gas market:

“The Council’s vision is for the establishment of a liquid wholesale gas market that provides market signals for investment and supply, where responses to those signals are facilitated by a supportive investment and regulatory environment, where trade is focused at a point that best serves the needs of participants, where an efficient reference price is established, and producers, consumers and trading markets are connected to infrastructure that enables participants the opportunity to readily trade between locations and arbitrage trading opportunities.”

The AEMC have broken this vision down into the following three key outcomes:

- Establish an efficient and transparent gas reference price
- Participants able to readily trade gas between hub locations
- Investment in infrastructure that responds to market signals and is facilitated by a supportive regulatory framework

GDFSAE is in general agreement with the AEMC’s summary of the COAG Energy Council’s vision statement, but notes the point that “trade is focused at a point that best serves the needs of participants” is

not captured in the AEMC's three points. This point is potentially quite important as it could avoid an outcome where a market hub is created at a location that does not meet industry needs and therefore has low volumes of trade.

GDFSAE has given consideration to the three conceptual models put forward by the AEMC in the Discussion Paper, noting that with only high level descriptions available on each concept, there are many matters of detail that would need to be thought through before any accurate assessment can be made. With these limitations in mind, GDFSAE provides the following comments on the three conceptual models put forward:

Concept 1 – Multiple physical hub locations

GDFSAE is inclined to be more supportive of this model compared to the other two, as it represents a reasonable evolution of the existing arrangements and has the potential to provide a good balance of liquidity and locational signals.

GDFSAE notes that the concept 1 model proposes that the existing DWGM be broken up into three new hubs – two trading hubs at Longford and Iona, along with a balancing hub at Melbourne. GDFSAE is attracted to this idea from the point of view that it provides a more effective locational signal for new investment, and should be more able to deal with pipeline congestion than the current DWGM.

GDFSAE suggests that under concept 1, consideration should also be given to including a hub at Culcairn, which is becoming increasingly important to gas flows between Victoria and NSW.

There are many questions that this proposal opens up including what impact would it have on pipeline regulation in Victoria, and how pipeline operations would be managed. It is also noted that with a separate work stream specifically considering the DWGM design, it is perhaps premature to consider this proposal seriously until that work stream has been further advanced.

Although the concept 1 model is based on physical hubs, it is noted that AEMO are currently considering options to consolidate the existing three Wallumbilla physical nodes into a virtual single hub. GDFSAE suggests that if this proposal is seen to have merit and proceeds, then this should be incorporated into the concept 1 model.

GDFSAE is not uncomfortable with a model that draws on physical and virtual options depending on the location and users' needs at the relevant locations. For instance, the desire to increase liquidity in Queensland differs to the poor locational signals in the DWGM and thus it is not inappropriate to consider different outcomes in those locations within the context of a wider coordinated market.

Concept 2 - Northern and southern virtual hub, with balancing at Adelaide and Sydney

Concept 2 is quite similar to concept 1, with the main difference being that the Victorian market is retained as a virtual hub, although most likely of a different design to the current DWGM. GDFSAE is less supportive of this model as it does not provide sufficient granularity in terms of location signals for new investment.

GDFSAE believes that there is already evidence that the current DWGM is not effective in providing sufficient investment signals as AEMO have recently had to revise their operating procedures to constrain flows in the south west due to capacity limitations that have not been addressed.

GDFSAE has a query regarding the proposed virtual hub that incorporates the Wallumbilla supply hub as well as the Brisbane demand hub. Although the trading details are yet to be determined, GDFSAE assumes that the final design would retain a voluntary option for participants to seek supply of gas from the hub, but

would also retain the current gross trading of all gas withdrawn from Brisbane. GDFSAE suggests that this combination of voluntary and mandatory trading at a single virtual hub might pose some challenges.

Concept 3 - Two large virtual hubs covering the east coast

Concept 3 is not favoured by GDFSAE as it would require complex regulatory changes including how to incorporate a mixture of market and contract carriage pipelines. Locational signals would be all but lost, and service costs to facilitate such large virtual hubs would be prohibitive. All of these issues would also introduce substantial new and unmanageable risks for market participants which would act as disincentives for market participation.

Alternative concept

In addition to the three conceptual models put forward in the AEMC discussion paper, GDFSAE would like to offer an alternative concept for consideration.

The concept is to move towards a national gas market arrangement that would mirror many aspects of the National Electricity Market (NEM).

Under such an arrangement, GDFSAE suggests that multiple gas market zones would be established to provide locational pricing signals. The gas balance at each zone as well as the movement of gas between the zones would be centrally scheduled by a single gas scheduling engine with an objective of overall optimisation subject to physical constraints.

The current market carriage pipeline model would be replaced by a set of arrangements that allow market participants to purchase financial transfer rights between the gas zones, much like the current settlement residue auction process for regulated interconnectors in the NEM¹.

The shippers with contractual rights under the current contract carriage model would retain these rights, which could be traded through a capacity trading mechanism. These contractual rights could be offered into the central gas scheduling engine with a volume and a transfer price, much like the current dispatch process for de-regulated interconnectors in the NEM.

The gas scheduling engine would then optimise all bids and offers, including gas transfer offers, and identify schedules for gas injections and withdrawals at each zone, as well as scheduled transfers between zones. Each gas zone would have its own clearing price, which would provide a locational signal to inform participants and potential new entrants or investors.

All zones would be balancing markets with any imbalances cashed out by way of bid stack as soon as reasonably possible – i.e. no ex post adjustments or uplift payments. The market design should also incorporate the ability to use off market match trades for any point in the future between counterparties and be settled by the market operator, with this occurring for intraday trades or for a day in the future.

AEMC Questions

In the AEMC Discussion Paper, the AEMC have posed a number of specific questions which GDFSAE have considered as outlined below.

¹ The settlements residue auction process allows NEM participants to acquire rights to the financial residues which arise due to price differences between NEM regions.

Over the next 10 years, how do industry participants see their gas sales and procurement activities changing?

Rapid increase in export of LNG with potential for sudden and significant changes impacting on the gas market whenever LNG terminal operations increase or decrease. Participants will therefore need flexible trading arrangements that allow sufficient visibility of these dynamic changes, and trading facilities to allow participants to adjust their physical and financial positions.

Do the current market arrangements adequately support participants' needs?

Market arrangements have evolved incrementally to meet the needs of participants and stakeholders. With the dramatic growth now underway in the gas industry it is unlikely that the incremental development process will be sufficient to meet future needs for liquidity, transparency, trading options, etc.

Are gas trading markets expected to become more important in ensuring the efficient allocation of gas?

Although it is likely that large volumes of gas export will be covered by long term contracts, it is also likely that these high gas volumes will be subject to short term variability. The impact of this will be more effectively managed if there are efficient trading mechanisms in place. This will also provide more effective locational signals to encourage new investment.

How many and what type of wholesale gas trading markets are required to meet the Energy Council's Vision and how should this be assessed?

The number and type of markets needs to be carefully selected to encourage sufficient liquidity and trading capability, along with sufficient granularity for effective investment signals. Reducing trading complexity as far as reasonably possible is likely to promote increased liquidity and emergence of secondary markets.

Does having multiple gas hubs contribute to or detract from the objective of achieving a liquid wholesale gas market and why?

All else being equal, having fewer/larger virtual hubs would provide greater liquidity, but would also increase complexity (balancing, pipeline regulation etc). Larger virtual hubs will be less effective in providing locational pricing signals for new investment. In reality, different locations may have different needs that may need to develop over time. A virtual producer hub may have merit now for instance but may evolve over time.

What are the main barriers to achieving a liquid wholesale gas market on the east coast and are regulatory solutions required?

Current impediments include the current mixture of market models, complex STTM and DWGM design, complex gas pricing (subject to imbalance charges etc) and facilitated market risk that is difficult to hedge.

Could the virtual gas hub design concepts set out in section 8 be feasibly implemented on the east coast of Australia? If not, what barriers exist?

GDFSAE believe concept 3 is not feasible (at least in the medium term), as it would require substantial regulatory change to many pipelines, and require significant hub services to be established. Concept 1 is regarded as the most feasible.

Do existing contractual rights and/or issues around cross border trade preclude any particular gas hub designs?

These issues are likely to be very substantial under concept 3.

GDFSAE trusts that the comments provided in this response are of assistance to the AEMC in its deliberations. Should you wish to discuss any aspects of this submission, please do not hesitate to contact me on, telephone, 03 9617 8331.

Yours sincerely,



Chris Deague
Wholesale Regulations Manager