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

Dear Mr Pierce

GPR0003: Wholesale Gas Markets Discussion Paper

Santos welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC) Wholesale Gas Markets Discussion Paper. The Eastern Australian wholesale market design has evolved from isolated state based systems to an interconnected system capable of transporting gas to and from each region within it.

It is this unique history and set of circumstances that also need to be considered when a review of new market designs, especially when we look to overseas markets as a reference point. The European and US wholesale gas markets are very different to Eastern Australia's in population, number of demand centres, distance and pipeline infrastructure to name a few. However these differences are often overlooked in discussions of the benefits of their respective wholesale gas market designs. These markets can, and should be, used as a reference point, but the Australian local conditions will often mean that they cannot be directly replicated, or not without significant cost.

Santos is supportive of COAG's Vision for a liquid wholesale gas market and sees great merit in the ensuing benefits including: the creation of a market reference price for gas and the creation of a financial forward contract to assist in risk management. This outcome of the Vision is clear, although achieving this Vision will take time and all the consequences / effects of the changes required to get us there need to be clearly articulated and costed to ensure the future state is achieved without significant disadvantage to any market participants.

This submission responds to specific areas Santos believes are important for the AEMC to consider when assessing the wholesale gas market design options for Eastern Australia.

Importance of Bilateral Contracts:

Santos, like other exploration and production companies, spends hundreds of millions of dollars to develop gas fields once they have been proven economic to do so and a market for the gas has been established. Such investment decisions can only be made if there is also a sale contract secured for all or a proportion of the expected gas output. The proportion of contracting required often depends on the size of the field and the risk appetite of the company's Board. Without the guaranteed revenue stream that a long term bilateral Gas Supply Agreement (**GSA**) provides, Santos would not be able to gain Board approval to move to a Final Investment Decision (**FID**) for the development. It is essential to manage price and volume risk.

The COAG Energy Council's Vision provides for a diminishing level of output from a gas development being sold via long term bilateral contracts due to increased market liquidity and transparency. This future state is possible when a liquid trading market has longer term forward contracts that are actively traded, enabling gas producer to choose to sell forward via a traded product or via a bilateral contract. However without this liquid forward market, producers will continue to need the financial surety of bilateral agreements to underwrite development. We also note that bilateral contracts are still the preferred method of procuring gas by industrial customers increasing certainty by reducing price and volume risk.

Santos has also entered into significant bilateral pipeline Gas Transport Agreements (**GTA**) to ensure firm delivery of gas to customers. Under the current market structure such contracts are necessary to guarantee firm delivery to an end user when not selling ex-field. These long term arrangements effectively use the Shipper's balance sheet to guarantee a revenue stream and subsequent return for the pipeline through take or pay arrangements. Pipeline owners do not share the production risk that upstream and downstream users do, despite taking a sizable portion of the available margin. This is an area that Santos believes a more mature market, consistent with the COAG Vision, could be developed to ensure that those who take the risk have the opportunity to share in more of the rewards.

Change will not be costless:

As previously discussed all options will require an assessment of the collective costs and benefits. Once decided there will be those participants that will have a valid claim to compensation - especially if these decisions result in a change away from the current contract carriage access to a more regulated, open access framework.

Santos has underwritten, at significant cost, major positions on many of Eastern Australia's transmission pipelines, as this was the only mechanism available to secure the firm pipeline capacity needed to meet existing and future contracts as well as facilitate movement of gas between regions where economically beneficial to do so. This investment has been in the form of both the time taken to negotiate arrangements and physical construction of facilities to allow gas to access a pipeline. Any change to this current pipeline capacity arrangement, Santos would expect that it was to be adequately compensated and in a "no worse off" position in relation to the transportation of its gas and the asset of firm capacity in the future.

Assessment criteria

To be able to determine the most appropriate market design the assessment criteria should be reviewed and weighted accordingly. If increasing liquidity was the only

criterion, then moving to a virtual hub design such as Concept 3 would maximise the number of trades in the Northern and Southern virtual hubs, rather than splitting trades throughout the East Coast. This design would also be the most easily accessible to new entrant market makers as there would be no requirement for complex negotiated pipeline discussions. Moreover, the entry and exit model helps simplify this from a trading view point: if a trader saw an arbitrage opportunity trading gas from South to North then this could in theory, be facilitated quickly and efficiently. This concept also has the benefit of a consistent framework throughout Eastern Australia, as opposed to the current over complex structure of DWGM, STTM and GSHs. Removing the requirement for separate balancing markets is also a simplification that would benefit the market.

However if minimal regulatory intervention was a high priority then moving to a full virtual hub model would be weighted down as this concept would require significant restructuring of the pipeline capacity market - possibly moving it to a monopoly provider to ensure the virtual hub was balanced at all times and ensuring that there were adequate investment signals to expand pipelines as required.

These tensions between increasing accessibility and the scale of change required for implementation will need to be considered before any preferred position can be reached. This paper is provoking important discussions between all market participants and policy makers.

However there are a couple of fundamental areas that these markets will require to enable a more liquid market, these are:

It is essential for any market that there is sufficient additional supply to increase liquidity. With oil prices low, available capital in short supply as well as impediments in developing onshore projects in Victoria and NSW there is limited availability of uncontracted supply. These issues, which are outside the remit of this review, must be addressed in order to further the COAG Vision of increased market transparency and liquidity

The other major impediment to liquidity is the ability to transport gas to and from a desired destination, which in turn reflects the nature of the transmission pipeline regime across Eastern Australia. In Santos' experience it is possible with the current structure to arrange the movement of gas around Eastern Australia, however the shipper needs to pay for any alterations to the network in full through a toll. This initial toll, in some instances, does not account for any future use of this same infrastructure and revenue of the pipeline or compression after the initial term. There have also been occasions where Santos has been required to pay multiple times for the same infrastructure, without any consideration for already having firm capacity on that pipeline. In all of these occasions the decision to enter into the GTA or not becomes one of economics and in each occasion more of the value shifts to the pipeline owner rather than to the party taking the risk and looking to find arbitrage opportunities.

Historical context for UK and US market designs and lessons for Australia

Much has been written, including by AEMC regarding how history can determine a market design. Using the US as an example of a physical hub and UK of a virtual hub, the differences come down to an important factor: the historical transmission pipeline access arrangements they have operating prior to the hub design being implemented.

The US market has thousands of participants and due to the nature of the relatively shallow gas reserves there are more than 5,000 onshore natural gas producers, all needing to transport their gas to various markets. The vast network of pipeline infrastructure enables producers to readily transport their gas to demand centres. A number of regulatory developments enabled open access to this pipeline infrastructure. Significant onshore supply sources coupled with large and numerous demand centres, resulted in multiple pipeline options for shippers to gain access to enabling delivery to many supply hubs. This dynamic enabled the emergence of a physical gas supply hubs across the nation.

The US gas market shows how regional price disparities arise and how the arbitrage opportunities between the different regional hub prices can drive investment in pipelines capacity in order to resolve these price disparities. The risk for any new pipeline investment is shared by both the pipeline owner and shippers as take or pay arrangements have been banned. It is the competition in the pipeline network and the size and scale of demand centres that have enabled the physical market structure to flourish.

The UK market, by contrast, had a very different evolution, with the all transmission pipeline network being owned and managed by National Grid, a monopoly provider of this service. In fact most of the European countries that have successfully implemented the virtual hub model have all had one monopoly provider managing the transmission pipeline system. The National Balancing Point (**NBP**) was established as the virtual pricing point for the UK's virtual hub. The NBP price reflects the commodity price in the entire area without geographic differentials due to transport costs. The transport costs are applied separately by the transmission service operator (National Grid) and regulated by the UK's energy regulator.

Both hubs work because in the US and UK because they have evolved from the unique set of market conditions, demand and historic infrastructure, although neither are a natural fit for the Australian market without knowing what changes are proposed to the pipeline capacity market, these pipeline reforms really are the missing link that is required before a recommendation on the market design can be determined - this is also the next phase of AEMC review.

In the Australian context we have already one physical Gas Supply Hub (GSH) in its infancy (Wallumbilla GSH) which is working well and one in planning phase (Moomba GSH). These physical hubs will facilitate trading and access to markets for those who have excess gas on a short term basis and will help grow the secondary market.

Too many physical hubs will split the buyers and will result in very thin trading on some hubs. Eastern Australia does not have the demand or trading counterparties to warrant this. However, a more radical virtual hub design would require significant changes to the pipeline capacity market and there are questions whether there is sufficient pipeline capacity to enable the ready movement of gas around large virtual hubs through the entry and exit model.

Santos is supportive of all initiatives that will result in a more liquid and transparent market and believe that this AEMC review is critical for guiding the next evolution of wholesale gas markets. But it will be an evolution. Close consideration of the Eastern Australian market's historical design will be essential to enable a successful implementation of the future state design.

Santos looks forward to engaging with you further during the course of this Review

Should you have any questions in relation to this submission, please contact me at matt.sherwell@santos.com or on (08) 8116 5824.

Yours sincerely

Matt Sherwell

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