

APIA submission to the Energy Reform Implementation Group - 4 August 2006

Overview

The Australian Pipeline Industry Association (APIA) represents the gas transmission pipeline industry in Australia. APIA welcomes the opportunity to provide a statement to the Energy Reform Implementation Group (ERIG).

While the focus of ERIG will be the National Electricity Market (NEM), this will, of necessity include electricity transmission because of its pivotal role in the NEM. APIA appreciates the indication (at the Canberra briefing) that possible implications for gas transmission will be considered before recommendations are made. APIA also appreciates the decision by ERIG to include members of APIA on the Working Groups.

The ERIG Issues Paper signals that recommendations regarding market structure may impact on the gas market due to perceived linkages between gas and electricity markets. APIA believes that, where the review focuses on “energy markets”, there should be a clear well-informed understanding and evaluation of the impact of any changes on the gas market, including on gas transmission.

Differences between gas and electricity transmission

At the outset it should be noted that policies and market structures that are appropriate for electricity transmission reflect the heavily integrated nature of the NEM and the integrating role of the electricity transmission grid. These policies and structures are often not appropriate for gas transmission. APIA urges ERIG to have due regard to the differences between gas and electricity transmission and the impacts on the gas transmission industry of any recommendations that ERIG makes in relation to electricity.

The gas industry varies significantly from the electricity industry in terms of its economic drivers and challenges. These are evident in the differences at all levels of the two industries. In relation to transmission, for example, gas transmission economics vary from electricity transmission in the following ways:

- *Physical* – gas has different physical characteristics from electricity; specifically pipelines also act as storage vessels for gas, allowing demand fluctuations to be met by stored supply. This differs from the situation in electricity where production and consumption are instantaneously matched; gas in transmission pipelines in a majority of cases flows in one direction (ie point-to-point) while in electricity transmission, the electricity will flow multi-directionally through a network (ie any to any).
- *Market operations* – the role of the electricity grid in the operation of the market is significantly different from gas transmission pipelines:
 - The electricity transmission grid has a key role integrating the electricity market, acting as a geographically spread pool into which generators supply power while distribution networks draw electricity from it to supply customers. In contrast, while gas transmission pipelines are essential for delivery of gas to market, they tend to link individual producers to market centres over long distances with varying degrees of interconnection.
 - The pivotal role of the electricity transmission grid makes the impact of failure, either of a generator or an element of the transmission grid, both immediate and significant to large sections of the electricity market. Immediate correction of market supply/demand imbalances is critical due to the instantaneous nature of electricity flows. The impact of the failure of a pipeline element or producer may not reach the market for gas, due to the storage ability of pipelines and because the system is not interdependent in the same way that the electricity system is.
- *Market arrangements* - gas has less complicated market and dispatch arrangements. This is because gas has:
 - inherently more predictable long-term flows and demand (due in part to the contracting regime that exists in gas);
 - much lower variability of short- and medium-term flows;
 - fewer instances of congestion, and generally, congestion is more predictable and manageable;
 - no complex network and flow interactions such as that which occurs in the electricity industry;
- *Investment* – gas pipeline investment is typically entrepreneurial in nature and is underpinned by bilateral contracts for pipeline capacity. Almost all major gas pipelines in Australia are owned by the private sector. By contrast, the majority of electricity transmission investment (excluding market interconnectors) is centrally planned and recovered by inclusion into network asset bases. Return on investment in gas transmission is directly related to throughput achieved on pipelines, whereas electricity investment returns are averaged through regulated pricing approaches.

- *Coordination and Planning* - central co-ordination and planning is required in electricity because of the integrated nature of the electricity grid, which is not the case with gas transmission. For example, there is a greater risk of NEM system failure if technical standards are not met.
- *Inputs* - gas is a fuel source for electricity production. In most States, gas is generally an input into electricity production rather than a competing energy source (in many new power station proposals gas is competing with other fuels such as coal or hydro).

A fully national electricity transmission grid

APIA supports market-driven co-ordination of the gas industry rather than a more centrally planned and regulated approach. Historically, electricity transmission has developed on a quasi centrally planned basis, in part due to government ownership and control, but also due to factors that have tended to inhibit market driven outcomes. By contrast, investment in gas has developed on a largely private and market basis, underpinned by bilateral contracts which have provided the security for future investment in gas transmission. In addition, gas transmission is not impeded by price complications arising from the difficulties of pricing any-to-any connectivity, for example around issues such as regional versus nodal pricing. Pricing in gas transmission largely proceeds on a point-to-point basis.

Market processes have provided a practical environment for development of gas transmission pipelines. Typically, pipeline investment has grown in response to demand, where that demand is supplied under long-term contracts. This suggests that barriers to investment and contracting associated with electricity markets, which may indicate a need for central planning to facilitate interstate investments, are not applicable in the gas transmission industry.

APIA notes the recommendations of the Gas Market Leaders Group (GMLG) in the National Gas Market Development Plan in relation to an independent market operator and the short-term trading market. Nevertheless, we also note that, given the above issues, the GMLG considered this approach should not be implemented while the cost and policy implications are not fully understood and tested.

The ERIG Issues Paper suggests there may be impediments to investment in electricity transmission infrastructure, particularly infrastructure that connects regions. While not commenting on whether impediments in electricity indicate the need for central planning arrangements; APIA asks ERIG to note that there is sound evidence that the market has not failed in delivering gas pipelines to serve the market. While investment in gas transmission infrastructure in recent years has led to increased competition among gas producers, gas pipeliners and gas retailers and this has been a market-driven response to increases in demand, because of the regulatory environment, the pipelines that have been constructed were built to meet capacity, rather than allowing

for future increases in demand. It would be more efficient for pipelines to be constructed with extra capacity initially, which would allow for future demand, rather than being built for current capacity and facing the higher cost of expensive expansion when demand increases. These less-than-efficient outcomes are the result of regulatory uncertainty caused by the current Gas Access Regime (GAR). APIA trusts that new and proposed changes to the GAR will provide some reduction in uncertainty.

Clearly, for gas transmission pipelines, market-based outcomes have proven and will continue to prove superior to centrally planned outcomes. Ensuring that the anticipated changes to the GAR (ie that the monitoring regime is truly light-handed and reducing the heavy-handedness of direct price regulation) are effective will also improve the effectiveness of the market-based processes for gas transmission pipeline development. The success of market processes in delivering new transmission investment in the gas industry may provide some useful insight for ERIG's deliberations on the electricity industry.

APIA notes that very different regulatory frameworks currently govern electricity and gas transmission. These different frameworks are appropriate given the different product characteristics and market circumstances of the two industries.

One particular point of difference is that electricity transmission assets within the NEM (excluding market interconnectors) are automatically subject to regulation, with major new investment subject to the Regulatory Test prior to gaining regulatory approval. Thus, recovery of the majority of electricity transmission investment is sought by way of inclusion of the investment in large interconnected, regulated networks. In effect, regulated electricity transmission assets have a largely guaranteed return, very limited stranding risk and are generally immune from competition. In the electricity industry, this places a high degree of pressure on regulators to develop mechanisms to ensure new electricity transmission is efficient, and that the price of transmission is appropriately reflected in pricing signals.

This situation is in direct contrast to gas transmission pipelines where it is generally not possible to avoid the impact of a non-performing investment decision by price allocation across a network of assets. In addition, gas pipelines are at risk of being stranded due to field depletion or end-users seeking supplies from alternative fields, moving sites or closing sites. Pipelines are also more likely to be constructed to meet the needs of a small number of large end users, particularly pipelines serving mining provinces. The market-driven approach in gas transmission means pipeliners bear greater risk, and ensures they are very focussed on ensuring new investment is economic and underpinned by emerging and existing demand. The market approach ensures there is less or no need for complex second-order regulatory mechanisms.

APIA has some concerns about the treatment of deep electricity transmission capital costs and the impact this may have on locational investment decisions of power generation plants. Where there is no obligation for generators to pay for deep

electricity transmission capital costs, they may not take these costs fully into account when choosing where to build. This reduces the competitive advantages represented by gas-fired generators over coal-fired generators, because gas is generally much cheaper to transport than is coal (rail transport is expensive), and thus gas-fired generators are more flexible in terms of location. Further to this, there are remaining issues around ensuring embedded generation (which is typically gas-fired) receives proper recognition in the National Electricity Rules for avoided TUOS and network support payments. The arrangements for these payments are not sufficiently clear and certain, and are particularly problematic in relation to underpinning new gas-fired generation investment.

Market Structures

Recent changes in the broader energy sector include:

- the growth of vertically integrated generation and retailing businesses, which can manage market risk; and
- continuing consolidation of infrastructure businesses as infrastructure investment vehicles emerge.

Both these changes reflect firms' assessments of the 'least cost' way of managing market risk. These trends do not necessarily raise competition issues. Importantly, they do not prevent new entrants from building a pipeline, supported by end-user contracts, in competition with existing pipelines. To the extent that there are competition concerns, these may be dealt with via the possibility of the pipeline being covered by the Gas Code or via the *Trade Practices Act* (depending on the issue).

APIA considers that, while there is competitive tension between gas and electricity at the point of end use, it can be shown that gas transmission does not usually compete with electricity transmission.

Financial markets

The gas market has different characteristics and history from the electricity market and is at an early stage of development. Consequently, it is not as liquid nor as deep as the electricity market (that is, there are fewer counter-parties). The necessary implication is that there is substantially less scope for the development of viable daily financial markets than there is in electricity. Market risks are underpinned by bilateral contracts and, due to fewer issues in terms of market imbalances, the gas market has overwhelmingly lower price volatility. Demand volatility is buffered by linepack. Also, given pipeline end use is generally less weather dependent than electricity use, on many pipelines volatility is less of an issue.

Further, supply and pricing risks are managed by long-term bilateral contracts which underpin new investment in transmission and effectively operate as hedges. The gas industry relies critically on such arrangements, which bring substantial efficiency to the gas markets and would be undermined by pressures to unwind such arrangements and develop short-term trading markets. Ironically, it is the electricity industry, relying as it does on shorter-term arrangements, which has difficulty developing sufficiently long-term hedging arrangements to underpin the development of new electricity generating and transmission assets.

APIA believes that deeper and more complex wholesale market mechanisms will develop in the gas market over time as demand grows. There are no barriers to the development of such mechanisms, and incentives exist for all participants in the market to encourage the development of such market mechanisms. Progressive (rather than artificial) developments based on demand can be expected to deliver the greatest efficiency in the markets.

Summary

Gas transmission has very different market and operational characteristics from electricity transmission and APIA urges ERIG to consider the impact that its recommendations for electricity transmission will have on the gas transmission industry.

APIA supports market-based approaches to investment, planning and industry structure as found in the gas industry, wherever these are feasible. Notwithstanding barriers created by the Gas Access Regime, the investment in gas transmission pipelines in recent years, and the increased competition that has occurred, has been a market-driven response to emerging demand. While some issues may exist for electricity in terms of impediments to a fully integrated national electricity market, these issues are not evident in gas markets. There may be ways in which market forces can be harnessed for the effective and efficient development of the electricity transmission grid.

APIA trusts that ERIG, in its important role in the development of energy policy, will be fully cognisant of implications for the gas transmission industry when making its decisions in regard to electricity transmission.