



24 September 2008

Mr Chris Pattas
General Manager
Network Regulation South Branch
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Via email to: AERinquiry@aer.gov.au

Dear Mr Pattas

Review of the weighted average cost of capital (WACC) parameters for electricity transmission and distribution

The Australian Pipeline Industry Association (APIA) welcomes the opportunity to respond to the review of the weighted average cost parameters for electricity transmission and distribution (the Review) released by the Australian Energy Regulator (AER) on 6 August 2008.

While the Review does not directly affect gas transmission pipelines, issues related to the determination of regulated rates of return are of broader concern to regulated gas transmission pipeline companies. This is particularly relevant at this time because of the pending round of revisions to current Access Arrangements for regulated transmission pipelines, commencing in 2009 under the National Gas Law. The AER has commented that this Review may have relevance to the assessment of Access Arrangements under the NGL. Accordingly, APIA has prepared the following submission to deal specifically with matters relating to gas transmission pipelines.

APIA has also been working with the Energy Networks Association (ENA) and Grid Australia to provide a detailed, joint submission on the issues surrounding the determination of the rate of return for electricity infrastructure. APIA strongly endorses the joint submission.

APIA is concerned that the AER may mechanistically adopt the outcomes of the Review as a basis for future rate of return assessments in other industries, including gas transmission pipelines. Transferring rate of return outcomes should be undertaken with great care, as there are fundamental operational, market, financing and economic differences between the electricity industry and other infrastructure industries, and any rate of return decision by the AER must take into account the attributes and unique features and risks of each industry.

We look forward to your response.

Yours sincerely

CHERYL CARTWRIGHT
Chief Executive

23 September 2008

APIA Response to the Australian Energy Regulator's Review of the weighted average cost of capital (WACC) parameters for electricity transmission and distribution

1. Introduction

The Australian Pipeline Industry Association (APIA) welcomes the opportunity to comment on the Australian Energy Regulator's (AER) Rate of Return Issues Paper, released as part of the AER's review of rate of return parameters applicable to the regulated electricity infrastructure industry (the Review).

APIA is the peak national body representing the interests of Australia's high-pressure transmission pipeline industry. APIA's current membership is predominantly involved in the high-pressure transmission of oil and gas, however, the Association also includes members of companies and individuals involved in the transmission via pipelines of other products, including water.

APIA members own regulated pipelines which currently have an aggregate regulatory value of approximately \$3,600 million¹. These businesses also have stated forecast capital expenditure in respect of these pipelines in excess of \$1,500m².

While the Review does not directly and immediately affect gas transmission pipelines, issues related to the determination of regulated rates of return are of broader concern to regulated gas transmission pipeline companies. This is particularly relevant at this time, given the pending round of revisions to current Access Arrangements for regulated transmission pipelines that will commence in 2009 under the National Gas Law.

The AER has acknowledged that this Review may have relevance to the assessment of Access Arrangements under the NGL. Accordingly, the gas transmission pipelines have a legitimate interest in this Review.

2. Support for Joint Submission

APIA has been working with the Energy Networks Association (ENA) and Grid Australia to provide a detailed response on the issues surrounding the determination of the rate of return for electricity infrastructure in the form of a Joint Submission³.

APIA strongly endorses the Joint Submission to the Review.

¹ This value is the sum of the Capital Bases for non light regulation pipelines, as stated in the current Access Arrangements for these pipelines. For some of these pipelines the values will be altered due to capital investment, depreciation and inflation affects.

² Based on the forecast capital expenditure in gas transmission pipeline Access Arrangements and additional investments occurring which were not taken into account at the time of the respective Access Arrangements

³ Joint Submission by the Energy Networks Association, the Australian Pipeline Industry Association and Grid Australia, "Network Industry Submission AER Issues Paper – Review of WACC parameters for electricity transmission and distribution" September 2008.

To supplement the Joint Submission, industry bodies, such as APIA, are making separate submissions to address industry-specific issues. This submission outlines the specific issues and concerns for the regulated gas transmission pipeline industry.

3. Overarching Matters to be afforded significant weight by the AER in the Review

There are a number of critical and overarching matters which must be taken into account by the AER in undertaking the Review. These critical matters are as follows:

Challenges of Meeting Ongoing Demand and Asset Replacement Requirements

Demand for energy is likely to increase to such an extent in the next 10 years that new investment will be required in both brownfield and greenfield energy infrastructure assets. Investment decisions will need to be made in the near future to ensure infrastructure is in service in time to meet the forecast growth in demand. Given the long-lived nature of these assets, and the fact that the regulatory framework only allows recovery of the investment over the life of these assets, there is a need for regulatory certainty as well as regulated rates of return that are at a level sufficient to promote the required investment.

These investment requirements are crystallising at a time when there has been a steep increase in global competition for infrastructure capital. If it is more attractive to invest in other jurisdictions and in other industries, there is a risk that capital will not be available for investment in Australia.

Environmental Policy Challenges

The recently released Green Paper on the Carbon Pollution Reduction Scheme (CPRS) has set a framework which has the potential to create significant additional risks for infrastructure owners. Not only has the CPRS the potential to induce a comprehensive redesign of the energy supply system, there is also a real risk that, following gas and electricity industry investment, demand will not be as great as previously forecast as the CPRS requires some energy users to reduce their total energy use or requires some energy intensive industries offshore, thus stranding energy infrastructure investments.

Capital Market Challenges

The world economy has entered a period of financial uncertainty, which is leading to difficulties in accessing sufficient debt and equity capital, and when such capital can be accessed it is increasingly more expensive.

While the Review has the potential to be focussed on theoretical issues, energy infrastructure businesses must raise capital in the challenging world of capital markets. APIA believes that the outcomes of the Review need to be based on robust evidence which, in turn, is founded on current capital market data.

Moreover, the outcomes of the Review must recognise the fact that, at this time, capital markets are unstable, particularly in regard to infrastructure investment. APIA strongly believes that the AER should take account of this instability in considering appropriate rates of return. In particular it should be recognised that, given current financial market instability, any downward change in rates of return has the potential to change risk profiles and credit ratings, further increasing the actual cost of capital to infrastructure providers.

It should be recognised that there are numerous national and international infrastructure projects seeking funding. There is a finite amount of capital available for infrastructure development – low rates of return will result in infrastructure investor capital being directed away from Australian energy infrastructure projects. This issue is exacerbated by the continuing globalisation of financial markets; there is now increasing international competition for scarce capital for infrastructure.

In summary, the Review has the potential to substantially increase funding pressure on businesses when such pressure is already being substantially escalated by market conditions. The AER must take this pressure into account when making its determination.

Overall, APIA believes that, in the context of gas transmission pipelines, these issues are best addressed by determining a reasonable range for variables and selecting an estimate at the higher end of the range to allow flexibility if markets change.

4. Application of Review Findings Across Energy Infrastructure Industries

Differences in Energy Infrastructure Industries

APIA submits that the AER cannot justify setting values for any of the WACC parameters lower than the values presently set for electricity businesses. WACC parameters for gas transmission pipelines should be determined at the time of an Access Arrangement proposal, taking into consideration evidence at the time of the proposal. The values of asset specific variables, such as equity beta and credit ratings, will potentially differ from the values of these variables established for electricity infrastructure due to differing risks applying to both the industry and the individual assets.

Given the focus on “streamlining” gas and electricity industries under the National Gas Law, APIA is concerned that the AER may apply the outcomes of this Review to the regulatory approvals process in other industries, particularly the processes for assessing revisions to Access Arrangements for regulated gas transmission pipelines under the NGL.

General concerns of APIA include:

- rate of return methodologies that might be deemed applicable to other industries, may be incorrectly and inappropriately transferred to regulatory processes involving transmission pipelines; and
- specific rate of return input variables, such as beta values or credit ratings, that might be deemed applicable to other industries, may be established in the Review and then inappropriately transferred to the regulatory processes involving pipelines.

APIA believes that the transfer of any findings of this Review to Access Arrangements for regulated transmission pipelines undertaken under the NGL should be subject to detailed consideration, having regard to:

- the legislative scope of the Access Arrangements undertaken under the NGL; and
- the specific circumstances applicable to the pipelines subject to these Access Arrangements.

There should not be a simplistic or mechanistic transfer of cost of capital variables between industries without consideration of the differences between the electricity infrastructure industry and the gas pipeline industry. These differences include fundamental policy,

operational, market, financing and economic differences which impact on the risks faced by each industry.

Policies and market structures that are appropriate for electricity transmission and distribution 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.

Other differences include⁴:

- **Physical differences** - gas and gas transmission pipelines have different physical characteristics from electricity and electricity assets. In particular:
 - Storage - pipelines act as storage vessels for gas.
 - Flow - in a majority of transmission pipelines gas flows in one direction, while in electricity transmission, the electricity moves multi-directionally.
 - Recoverability - the provision of electricity is instantaneous whereas for gas there is a time lag. The ability of electricity to be available when a generation plant comes back on line is almost immediate; this is not the case for gas.
 - Compressibility - gas is physically compressible. This impacts on investments considerations relating to pipeline expansion.
- **Locational differences** - gas transmission pipelines connect naturally occurring gas fields with end users. As such, there is little discretion as to where pipelines are located. However, as electricity is generated rather than extracted, there is greater discretion as to where electricity generation and transmission assets are located.
- **Market operations and arrangements differences** - the gas market has a different role and structure from the electricity market.
 - Role of the grid - the role of the electricity grid in the operation of the market is significantly different from the role of gas transmission pipelines. The electricity transmission grid has a key role integrating the electricity market. In contrast gas transmission pipelines have a lesser integration role as they tend to link individual production regions to market centres over long distances with varying degrees of interconnection.
 - Market dispatch arrangements - gas has less complicated market and dispatch arrangements as gas has more predictable flows and demand due to the contracting regime that exists in gas, the ability to use storage and fewer complex network interactions.
- **Investment differences** - gas pipeline investment is typically entrepreneurial in nature and is underpinned by commercially negotiated bilateral contracts for pipeline capacity. The commercial contracting approach results in pipeliners being focused on ensuring new investment is economic and underpinned by emerging and existing contracted demand. Electricity transmission and distribution investment is more likely than gas investment to be driven by planning and regulatory obligations and is less likely underpinned by explicit contracts.
- **End use markets** - gas usage is dominated by power generation, including power generation for the mining sector, and major industrial users such as fertiliser plants and

⁴ This listing of differences is not exhaustive, it is simply intended to demonstrate that any assumption that gas and electricity transmission are identical is incorrect and that in policy considerations, including rate of return considerations, sector specific factors should take prominence over a simplistic assumption that gas and electricity transmission are identical.

mineral processing plants. In regard to competition with electricity, in most states, gas is generally an input into electricity production rather than a competing energy source. Electricity usage is much more widely spread across different geographical and demographic markets. In addition, most gas end use markets have at least a degree of competition with alternative fuels or end user production options.

- **Investment Recovery and Stranding** - recovery of the majority of electricity transmission and distribution investment is achieved by including the investment in interconnected, regulated networks. Recovery of gas transmission investment is often more problematic due to the point-to-point nature of gas assets and the concentration of gas end users. These factors mean that non performing gas transmission investments are more easily identified and stranded. In addition, gas pipelines are also at risk of being stranded due to field depletion or large end-users seeking supplies from alternative fields, moving sites or closing sites.

These differences warrant different values for certain parameters for gas transmission pipelines

In addition to the physical and commercial differences above, any rate of return decisions relating to pipeline infrastructure must be determined in the context of the legislative regime which applies to transmission pipelines. It is noted that the NGL, while generally developed to align to the NEL, has some important differences, in particular APIA believes that it give regulated pipelines less discretion as it has diminished the primacy of the “propose-respond” regulatory scheme.

The differences between the NEL and NGL implicitly recognise the potential for the risk profiles of the gas and electricity transmission industries to be different and any consideration of gas transmission rates of return should recognise this.

Therefore any assumption that regulatory outcomes in the electricity transmission and distribution industry are directly transferable to the gas transmission industry is incorrect. In considering rate of return issues, the industry specific factors should take prominence over a simplistic assumption that risk factors in gas and electricity transmission are identical.

In relation to the determination of regulated rates of return for gas pipeline infrastructure, these should be determined at the time an Access Arrangement proposal is submitted for approval, taking into consideration evidence and arguments put forward at this time and based on the legislative regime applicable to the asset concerned. For regulated gas transmission pipelines the values of asset specific variables, such as equity beta and credit ratings, will potentially differ from the values of these variables established for electricity infrastructure.

APIA believes that an equity beta of 1.0, as put forward in the Joint Submission is an appropriate beta for the electricity transmission and distribution network industry. However, equity betas for gas transmission pipelines should be considered, having regard to the relevant gas industry regulatory framework (including but not limited to the NGL), the physical and commercial differences between electricity and gas, as outlined above and the individual assets themselves.

Similarly APIA recognises that a credit rating of BBB+ (S&P equivalent) as outlined in the Joint Submission applies to the electricity transmission and distribution network industry. Credit ratings for gas transmission pipelines should be considered on the risk issues which are relevant to individual pipelines and should be considered within the relevant regulatory

framework. In that respect, it is noted that recent regulatory decisions for gas transmission pipelines have set a credit rating ranging from BBB- to BBB+ (S&P equivalent).

While APIA identifies some parameters, such as equity beta and credit rating, as not being transferable, APIA recognises that some parameters and methodologies can be broadly transferable. These include market wide parameters, such as market risk premium and gamma. However under the NGL, these parameters are to be determined at the time of the Access Arrangement, thus, as new information arises, these parameter values might legitimately change from the parameter values determined in the Review.

Gas infrastructure is a reasonable, although not perfect comparator.

While regulatory outcomes in the electricity transmission and distribution industry are not directly transferable to the gas transmission industry, APIA recognises that in the Review process the AER is required to assess market data and identify comparator businesses. APIA believes that gas infrastructure businesses can be reasonable comparators for electricity businesses in some circumstances. The joint submission identifies where gas transmission industry data is a reasonable comparator. However this data should not be viewed as a perfect comparator as the circumstances applying to the gas transmission industry often differ from the electricity transmission industry. For example, many gas transmission pipelines are not price regulated, or they serve end use markets with distinctive characteristics such as power generation or mining sites.

Thus, while observable data relating regulated gas infrastructure and gas infrastructure businesses is a reasonable input to use in the Review, the outcomes of the Review should not be mechanically applied to individual gas assets without considering the particular circumstances of the individual pipeline.

Transferability of Variables Across Infrastructure Industries

APIA recognises that there are certain principles associated with the determination of cost of capital that may be appropriate to apply uniformly across industries.

These include:

- principles relating to CAPM and WACC methodology;
- bond rate analysis, and inflation analysis and forecasting;
- market risk premium (“MRP”) methodology and calculation; and
- gamma methodology and calculation.

APIA strongly supports and endorses the reasoning and conclusions of the Joint Submission on these matters.

APIA particularly supports the following aspects of the Joint Submission on these matters:

Mark Risk Premium

As outlined in the Joint Submission there, is no persuasive evidence to support a reduction in the currently adopted MRP value of 6 per cent. This 6 per cent MRP is predicated on imputation credits having no value to investors. However, if imputation credits have a substantial positive value, there is convincing and persuasive evidence that 6 per cent is not appropriate to use as the estimate of the MRP and, instead, the expected return on a broad based market portfolio would be 7 per cent.

Gamma

As outlined in the Joint Submission the empirical evidence is persuasive and suggests that the actual value of gamma is less than the currently adopted value of 0.5. Recent evidence suggests that the distribution rate is 0.71, while dividend drop-off studies suggest that the market value of imputation credits is between 0.2 and 0.35, with a point estimate of 0.28. Consequently, the most recent evidence suggests a gamma of 0.2.

However, this evidence also shows that investors do not value cash dividends at their face value, whereas the CAPM, as it has been previously applied by the AER, values dividends at their face value. Therefore, there needs to be further adjustments to the previously established WACC approach in order to ensure that it delivers a return that provides regulated businesses with a reasonable opportunity to recover the true and efficient cost of capital. There are several ways this may be done.

One way is to make an adjustment to the market risk premium, rounding it up to 7% instead of the previous approach of rounding it down to 6%.

Another way is that, given the benefit from imputation credits offsets the 'penalty' associated with the payment of dividends, one effect could be off set against the other by setting gamma at zero.

Either of the above approaches (a gamma of 0.2 and an MRP of 7%; or a gamma of zero and an MRP of 6%) is acceptable.

Overall, under the NGL, market based parameters such as market risk premium and gamma are determined at the time of the Access Arrangement. Thus, as new information on these parameter values arises, these values may legitimately change from the parameter values determined in the Review.

5. The Nature and Level of the Rate of Return

Imprecision in Determining Regulated Rates of Return

In using a CAPM-based WACC approach to estimate a rate of return, much of the input data, such as the data used in assessing equity betas, is imprecise. This can be seen in a number of the reports prepared by industry experts and appended to the Joint Submission.

Given the uncertainty in calculating values for some of the inputs to the rate of return, a possible approach to addressing this issue with regard to gas transmission pipeline infrastructure is that a reasonable range of variable estimates can be derived. Clearly, seeking to determine a single point estimate will not align with the statutory criteria to be applied under the NGL.

Impact of Determination on Long Term Investment Levels

Given that imprecision exists, the determination of parameter values and a consequent rate of return should not be undertaken without consideration of the impact the determination would have on long term investment levels. In particular, regulators should take account of the reasonableness of the resulting cost of equity and debt and the risk that rate of return does not adequately compensate investors for all risks relating to the investment in regulated infrastructure.

This is particularly important given the national energy policy objectives⁵ of promoting efficient investment in, and efficient operation of, energy infrastructure for the long-term interests of consumers. The rate of return is a critical element in ensuring regulatory agencies act to meet this objective.

This objective can only be met if there is an efficient and continuing level of investment in gas transmission infrastructure. Such investment will only occur if rates of return are sufficient to support investment in new and replacement assets. Thus the rate of return needs to be at a level which encourages rational and planned investment that benefits customers in the long term. Any regulatory decision on rates of return which does not sufficiently consider the long-term investment implications of the decision is likely to result in a degradation of infrastructure.

To ensure investment levels are maintained, the rate of return input variables should be drawn from the upper end of the range of estimates. A rate of return variable chosen from the lower end of the range will not promote investment.

Underinvestment in the maintenance and economic expansion of energy infrastructure would have a detrimental effect on long-term system operation and security of supply. The impacts of such underinvestment cannot be easily reversed.

A rate of return from the upper end of the range may encourage some overinvestment, however, this would result in spare capacity which would either be sold at a discount or be stranded by regulators if it remained empty (until used by a growing market). A rate of return from the lower end of the range would encourage underinvestment and, over time, this would result in a restriction of energy supply to consumers. Of these outcomes, the first option is less disruptive to users and potential users.

APIA believes that the challenges facing energy infrastructure industries are best addressed by determining a reasonable range for variables and selecting an estimate at the higher end of the range to allow flexibility if markets change.

6. Conclusion

The rate of return allowed is fundamental to future investment in energy infrastructure, particularly pipeline infrastructure. To ensure consumers across Australia can benefit from the provision of reliable and competitively priced energy, it is critical that energy infrastructure is reliable and investment in this infrastructure is maintained and increased.

The rate of return should be determined with a view towards long-term investment and policy objectives.

While projections suggest that there will be a need to invest in infrastructure to meet forecast demand, policy developments currently under consideration by government (such as policies to address climate change) could have an adverse impact on the demand for energy and/or the

⁵ The National Electricity Objective is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, safety, reliability and security of supply of electricity; and the reliability, safety and security of the national electricity system. Similarly the National Gas Objective is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas

price of supplying energy. Accordingly, investors are facing additional risks in making investment decisions.

APIA is concerned that the AER may mechanistically adopt the outcomes of the Review as a basis for future rate of return assessments in other industries, including gas transmission pipelines. Transferring rate of return outcomes should be undertaken with great care, as there are fundamental operational, market, financing and economic differences between the electricity industry and other infrastructure industries, and any rate of return decision by the AER must take into account the attributes and unique features and risks of each industry.