9 November 2009

Mike Buckley
General Manager
Network Regulation North Branch
Australian Energy Regulator

Email: nswactgas@aer.gov.au

Dear Mr Buckley

Jemena Gas Networks Proposed Revised Access Arrangement

Please find attached the Australian Pipeline Industry Association's (APIA) submission to the Australian Energy Regulator's (AER) consultation process relating to the Jemena Gas Networks Revised Access Arrangement, submitted to the AER in August 2009.

APIA's submission focuses on the use of the Fama-French Three Factor Model to determine cost of capital, on which the AER has specifically requested comment.

APIA is of the view that the Fama-French model meets the requirements of the National Gas Law and National Gas Rules and should be available as an option for gas infrastructure companies.

Yours sincerely

CHERYL CARTWRIGHT
Chief Executive

APIA Submission on Jemena Gas Networks Proposed Revised Access Arrangement

Introduction

The Australian Pipeline Industry Association (APIA) welcomes the opportunity to make a submission to the Australian Energy Regulator's (AER) consultation process relating to the Jemena Gas Networks Revised Access Arrangement, submitted to the AER in August 2009.

APIA is the peak national body representing the interests of Australia's transmission pipeline sector. APIA's membership is predominantly involved in high-pressure, long-distance gas transmission.

This APIA submission focuses on the Jemena proposal in relation to the use of the Fama–French Three Factor Model to determine the cost of capital. APIA notes that the AER has specifically requested comment on this issue.

Background

Under the National Gas Law (NGL) and the National Gas Rules (NGR), the reference tariffs for a covered pipeline should be set at levels which provide the service provider with the opportunity to recover at least its total costs over an access arrangement period.

Rule 76 of the NGR requires that the total revenue for each year of the access arrangement period be determined using the building block approach, in which one of the building blocks is the return on the capital base for the year;

Rule 87 of the NGR implies that the return is to be calculated by applying a rate of return to the capital base. A broad criterion for deciding on that rate of return is set out in Rule 87(1):

> *The rate of return on capital is to be commensurate with prevailing conditions in the market for funds and the risks involved in providing the reference services.*

Specific factors to be taken into account when determining the rate of return are set out in Rule 87(2) as follows:

> *In determining a rate of return on capital:*
> *(a) it will be assumed that the service provider:*

(i) meets benchmark levels of efficiency; and

(ii) uses a financing structure that meets benchmark standards as to gearing and other financial parameters for a going concern and reflects in other respects best practice; and

(b) a well accepted approach that incorporates the cost of equity and debt, such as a Weighted Average Cost of Capital, is to be used; and a well accepted financial model, such as the Capital Asset Pricing Model, is to be used.

Accordingly, it is a requirement that both the approach and the financial model:

- be well accepted;
- incorporate the cost of equity and cost of debt; and
- produce a value for rate of return that is commensurate for both the prevailing conditions in the market for funds and the risks involved in providing the reference services.

Rule 87(2) suggests, but does not require, that the rate of return be determined as a weighted average of the costs incurred in financing regulated service provision with equity and debt. The costs of equity and debt are, respectively, the rate of return required by providers of equity, and the rate of return required by lenders for the provision of debt finance. (Rule 87(2) does not explicitly contemplate financing with "hybrid" financial assets or with different classes of debt).

The current regulatory model requires that a cost of capital be determined. In the past both regulated gas service providers and regulators have used the Sharpe-Lintner CAPM to determine the cost of equity, and hence the cost of capital.

The NGR do not prescribe the use of the Sharpe-Lintner CAPM. Rule 87 requires that the rate of return on capital be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services and the approach used must be a well accepted model, such as CAPM.

APIA position

The regulator should agree to a service provider's proposal for a well accepted cost of equity model that:

- produces a result that enables a benchmark firm to recover at least its efficient cost of capital,
- to the extent possible, avoids the well accepted shortcomings of the Sharpe-Lintner CAPM, and
- takes account of the prevailing conditions in the market for funds and the risks involved in providing the reference services.

Jemena's use of the Fama-French three factor model

There are a number of approaches to estimating the cost of equity. The Fama-French three factor model is well accepted in academic literature, and APIA understands that it is used in the financial sector. APIA believes the Fama-French model meets the requirements of the NGL and NGR and satisfies the criteria above.

In particular, the Fama-French model generally results in more accurate assessments of the cost of equity than other approaches, including the Sharpe-Lintner CAPM approach. This is very important given Rule 74 (2), which requires that information relevant to price and revenue regulation must represent the best forecast or estimate possible in the circumstances. To the extent that Fama-French is more accurate than other models, Rule 74 would support the use of the Fama-French approach.

In addition, there have been significant developments in the field of asset pricing since the 1960s as financial economists have sought to better understand the role financial assets and asset markets play in the stability and growth of the economy. This has led to a clear understanding of the limitations of the Sharpe-Lintner CAPM, and of the theoretical framework within which it was derived.

APIA believes the AER must seriously consider the use of the Fama-French model as an alternative to the Sharpe-Lintner CAPM. All parties in this process should engage with assessing the proposal and resist using the Sharpe-Lintner approach simply because it is the one with which many industry practitioners feel most comfortable. It is not valid to dismiss the Fama-French model on the basis that its use may be challenging.

APIA recognises that there may be issues in regard to sourcing data for the Fama-French model and APIA does not give unqualified support to the Fama-French model over other approaches. However it is noteworthy that there are also valid concerns with:

- the justification of values for certain elements of the Sharpe-Lintner CAPM; and
- the ability of the Sharpe-Lintner CAPM to best represent the risks in providing reference services.

Conclusion

The Sharpe-Lintner CAPM represents the starting point for some four decades of research into asset pricing, and that research is continuing. The Sharpe-Lintner CAPM is far from being the end result on asset pricing research. This is recognised by academics and corporate finance practitioners.

APIA has no preference as to which model should be accepted by the regulator but notes that the regulator is required to allow models that best represent the prevailing conditions in the market for funds and the risks in providing a reference service, and which are well accepted.

While APIA does not give unqualified support to the Fama-French model over other models, it is of the view that the Fama-French model does meet the requirements of the NGL and NGR.