

Return on Infrastructure Assets – ACCC perspective

National Power Investment Forum

5 February 1999

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>> - ACCC Perspective".

Introduction

Today I have been asked to speak on the ACCC's perspective on return on infrastructure assets. As you would be aware the ACCC released its final decision in December on the Victorian gas transmission network. Given its relevance and immediacy, the following discussion uses the gas industry and the Victorian decision to highlight a number of issues associated with the regulation of infrastructure industries. I would like to begin by briefly covering why governments regulate infrastructure industries and provide some perspective from the Commission's wider regulatory role.

Why do we regulate?

Why pay special regulatory attention to infrastructure industries, particularly when the direction of reforms is to make their services increasingly contestable, and to foster inter-product competition?

Markets in these industries operate at different functional levels. At some levels, firms are in a position of market power due to being a natural monopoly, in that it is uneconomic to duplicate their facilities, and users are unable to exercise effective bargaining power. Commercial decisions to duplicate gas pipelines, for example, are taken infrequently. In respect of the upstream sector of the gas industry, the ACCC has noted that there is material in the public arena from producers and officials indicating that, for the particular fields and facilities considered, it is more efficient and less costly to toll product through existing facilities than to construct a new plant.¹

Where there is sufficient competition within an industry, prices will be constrained, quality will be maximised and externalities of services minimised. In such an environment it is unnecessary and inefficient to superimpose regulation, except transitionally. Where competition is not feasible, there is a case for regulating infrastructure at bottleneck points in the supply chain. Access to transmission infrastructure is for example typically necessary in order to compete in the retail market. Given the natural monopoly characteristics of pipelines, regulation of access to transmission pipelines is usually necessary to facilitate competition in markets above and below the pipeline.

¹ Refer R C M McDonough, Mines and Energy South Australia, *Economics of Gas Field Developments in the Cooper Basin after 1999*, APPEA Journal, 1997; and Santos Ltd & ors, *Application to the Trade Practices Commission for Authorisation No. A90560*, 18 February 1994, Annexure 2, par 70; both cited in the ACCC's *Submission to the Review of the Cooper Basin (Ratification) Act*, June 1997, page 49.

There is a policy intention post-Hilmer to create more diverse markets generally, for instance, by permitting energy end-users to gain access to transmission systems so that they can deal directly with initial suppliers. Infrastructure industries are often characterised by degrees of vertical integration. Without regulation of infrastructure services it is unlikely that purchasers would have sufficient bargaining power to obtain access on fair commercial terms, bargaining power being a function of the number of options available rather than simply of size. Hence the development of regimes to negotiate terms and conditions of access, and the associated development of ring-fencing regimes where there are diseconomies or simply disagreement as to the merits of structurally separating vertically-integrated suppliers.

In these circumstances, in the ACCC's view, appropriate regulation of such essential facilities is necessary; they are essential facilities because users upstream or downstream of the facility have limited options, for significant periods of time, to switch products in response to differential price changes. In fact, in the case of gas, there is a significant rising baseload of demand² which, were there not regulation of essential facilities, would give increasing scope for the capture of monopoly rents, particularly if there is vertical integration by ownership or contract, which gives incentives to exercise that market power. That is not to say that a legislated approach is the only possible way to regulate facilities - a voluntary code-based approach is an alternative as long as it delivers workable access outcomes and maintains commercial incentives for efficient investment.

Where there is not yet sufficient competition in the provision of goods or services, there remains a case for 'safety net' price control in the transition from monopoly supply, as is reflected in the National Third Party Access Code for Natural Gas Pipelines.

Best Practice Regulation

The ACCC recognises that in a regulated environment the actions of the regulator can influence the assessment of risk and expected returns by introducing elements of uncertainty and risk. Regulatory uncertainty weakens incentives for efficient behaviour, so that a higher rate of return is required for investment.

In order to minimise regulatory risk, the ACCC is committed to achieving best practice regulation and has adopted a set of guiding principles that will underpin its regulatory work. The principles set out below have been identified by the Regulators' Forum³ as essential elements required to achieve best practice regulation, and adopted by the ACCC. The principles describe high level goals for regulators to aim for, rather than specifying quantifiable performance measures. The ACCC intends to be guided by these principles but recognises that at times some of the principles may conflict with each other, for example flexibility and consistency may not always be jointly achievable. In such cases the ACCC will use its discretion in decision making, although always with the aim of achieving the best possible regulatory outcome in a transparent manner.

The key principles specified by the Regulators' Forum are:

² Illustrated in the Australian Gas Association's *Supply and Demand Study - Participants' Report*, Canberra, May 1997.

³ The Regulators' Forum was established in 1997 by the ACCC in conjunction with a number of Commonwealth and State/Territory regulatory agencies and policy advisers.

- **CONSULTATION:**
Consultation assists regulators to understand the implications of their decisions on industry participants, and enables stakeholders to discuss the impact of regulation and suggests alternatives and improvements. The ACCC will encourage consultation between itself, industry stakeholders and other interested parties to help address information imbalances, and foster open discussion of regulatory issues and decisions.
- **PREDICTABILITY:**
Predictability is essential for utilities to feel confident that they can plan for the future and that their investments will not be threatened by unexpected changes in the regulatory environment. The ACCC will not revise policies or revisit decisions without implementing the communication and consultation policies adopted.
- **CONSISTENCY:**
The ACCC will make consistent regulatory decisions across industries, time and jurisdictions unless there are compelling arguments for pursuing different approaches.
- **FLEXIBILITY:**
The ACCC will be flexible enough to use a mix of regulatory tools and allow the regulatory approach to evolve over time in response to new developments and innovations.

Victorian gas access arrangements

Having hopefully provided some useful background, I now turn to the main topic of my speech and which I have been asked to speak on today.

Regulation of rates of return on infrastructure assets such as pipelines is topical in light of the Commission's decision on the proposed access arrangements of the Victorian gas transmission pipelines. Of all the issues contained in the Commission's Draft Decision, released last May, it was the rate of return which generated the most discussion among industry participants.

This is not surprising because the rate of return is a critical parameter in determining the network owner's required revenue and reference tariffs for third party access. However, it is not the only issue and no discussion would be complete without including other related matters – such as other cost components that make up the required revenue, and valuation of assets.

As you would be aware the Commission has just completed its assessment of the Victorian access arrangement. I would like to discuss the main issues arising out of this assessment. The Commission's assessment of the proposed access arrangements is within the context of broader reforms to the Victorian gas industry initiated by the Victorian Government to foster competition. Those reforms include the restructuring of the previously State-owned monopoly into transmission, distribution and retailing businesses ahead of their likely privatisation and the progressive introduction of contestability into the gas market. Moreover, the Victorian Government has chosen a market carriage capacity management system for the transmission pipelines over the more traditional contract carriage system.

The Commission's assessment of the proposed access arrangements has been conducted in accordance with the requirements of the Victorian Gas Code, introduced in advance of the National Code by the Victorian Government to expedite its reform process.

The Commission undertook an extensive public consultation process to assist in its assessment of the proposed access arrangements. In addition to the information provided by the applicants, the Commission sought input from interested parties and consultants – firstly in relation to the proposed access arrangements themselves and then in relation to the Commission's Draft Decision. The Commission also held public forums in July to discuss its Draft Decisions on the proposed access arrangements and authorisation of the market rules. An entire day was devoted solely to discussing rate of return issues.

Cost of Capital

Network assets are recognised as natural monopolies with the potential, in the absence of regulation, for monopoly profits to be earned. A cornerstone of the reform process is that third party access pricing should replicate a competitive market. The purpose of setting a regulatory rate of return and asset base is to determine appropriate reference tariffs for third party access. The objective of the regulator in setting the rate of return is to strike a rate of return that restricts excessive profits, but at the same time does not discourage efficient investment.

In the case of the Victorian access arrangements for transmission pipelines, the applicant's approach was to base the weighted average cost of capital on the Capital Asset Pricing Model (CAPM). This approach is consistent with the Gas Code and was accepted by the Commission.

In that case the Commission approved a real pre-tax WACC of 7.75 per cent, which is equivalent to nominal post-tax return on equity of 13.2 per cent. The 7.75 per cent WACC approved by the Commission in its Final Decision was higher than the 7 per cent proposed by the Commission in its Draft Decision. The difference can be accounted for principally because of two factors.

Risk factors – Beta

The first factor concerns the risk associated with the Victorian gas transmission pipelines. In its Draft Decision the Commission proposed an equity beta (a measure of market, or non-diversifiable, risk) of 0.85. However, it was argued by some parties that some allowances should be made for the unique risk faced by the network owner. The Longford incident in September of last year illustrated the unique risk faced by the network owner. One method could have been to accommodate the unique risk in the cash flows. However, in view of the difficulties in quantifying such risks, the Commission decided to choose a level of beta at the top end of the plausible range. Accordingly, in its Final Decision, the Commission estimated the beta to be 1.2.

Tax rate

The other principal factor resulting in the increase in WACC concerned the appropriate tax rate. In its Draft Decision, the Commission estimated the effective tax rate at 25 per cent. This approach was criticised at the WACC public forum on the grounds that it was inappropriate to estimate the effective tax rate over the life of assets which have lives ranging

from 30 to 50 years. In view of this uncertainty it was suggested to the Commission that it would be more appropriate to use the statutory tax rate instead of an estimation of the effective rate. Subsequently, the Commission adopted the statutory rate of 36 per cent in its Final Decision.

Main differences with applicant

The 7.75 per cent WACC approved by the Commission is less than the 8 per cent proposed by the applicants. The approach adopted by the applicants included a number of assumptions regarding the appropriate values of certain parameters. These included: the expected inflation rate; cost of debt; the level of gearing; the risk-free rate; the market risk premium; taxation issues; risk factors; and the conversion formula.

The Commission disagreed with the applicants over the treatment of several of these parameters. Consequently, the Commission settled on a rate of return less than that submitted by the applicants. It is not my intention to discuss all the issues raised, but I will focus on some of the more significant ones.

Risk free rate

One reason was the different treatment of the risk free rate. The applicants proposed a nominal risk free rate 8 per cent, which was based on a twelve-month historical average. However, in keeping with the provisions of the Gas Code that require the cost of capital to reflect current market rates, the Commission decided that a more contemporary figure would be appropriate. Accordingly, the Commission settled on a risk free rate of 6 per cent, which was based on an eight-week average.

Market risk premium

A further difference concerned the market risk premium. The applicants proposed a risk premium of 6.5 per cent, which is the mid-point of the traditionally accepted range of 6 to 7 per cent. However, the Commission believes that a forward looking approach is more appropriate and considers that there is reason to believe that the market risk premium may be falling, owing to factors such as the current stable inflationary environment and the value of franking credits following the introduction of imputation. Therefore the Commission adopted a market risk premium of 6 per cent, which is at the lower end of the plausible range.

Conversion formula

Another factor concerned the conversion formula proposed by the applicants to derive a real pre-tax WACC from the CAPM input assumptions. Specifically, the applicant's approach was to start with a nominal post-tax WACC then gross-up for taxation and in a second step adjust for inflation to derive a real pre-tax figure. In a report commissioned by the Victorian Office of the Regulator-General, Macquarie Risk Advisory Services suggested reversing the order. However, the Commission used computer models to simulate cash flows consistent with a nominal return on equity of 13.2 per cent. The value of the real pre-tax WACC consistent with this outcome is 7.75 per cent, which lies between the values suggested by the conversion formula proposed by the applicant and that suggested by Macquarie.

Regulatory scheme is incentive based

The Gas Code requires that the service provider is able to retain some or all of the returns which exceed regulated returns during the access arrangement period. In the case of the Victorian gas transmission pipelines, the Commission is not imposing rate of return regulation on the network owner. Such a regime does little to encourage efficiency improvements and indeed may encourage inefficiencies in the form of “gold-plating” of assets.

The regulatory framework being put in place in the Victorian gas industry is incentive-based regulation that will allow owners to earn potentially higher returns than the regulatory rate of return. This is fundamental to the Victorian gas access arrangements. The incentives work in a number of ways:

- Firstly, the incentives encourage growth in the market. Any additional revenue earned by the facility owner during the first five years from volumes being higher than those forecast will be added straight to the owner’s bottom line. It is only in the next regulatory period that the owner will be required to share those gains with users;
- The incentives encourage improvements in efficiency by reducing operating costs. Again, any difference between actual and forecast costs will go straight to the bottom line; and
- The incentives encourage reductions in capital costs. The access arrangements allow tariffs to be based on forecast capital costs. In the event that the owner can deliver the same level of service at a lower capital cost than that forecast – dynamic efficiency in other words – the owner will receive the benefit.

All these components of the incentive mechanism mean that the facility owner has the potential to earn a rate of return greater than the regulated rate of return.

As you are aware the Victorian Government is in the process of privatising its gas assets. During the assessment of the proposed access arrangements, and in particular in relation to the Commission’s Draft Decision, the rate of return proposed by the Commission was criticised as being too low to encourage investment. In light of this, the question arises whether a nominal post-tax rate of return of 13.2 per cent is too low to attract investment in the Victorian gas assets.

The Commission considers that 13.2 per cent compares favourably with other investment opportunities. In its submission, the Australian Council for the Infrastructure Development quoted an average, post-tax return on equity of 10.6 per cent over the past five years for the top 30 listed companies in Australia.⁴

It has also been suggested that only passive rather than entrepreneurial investors will be attracted to the Victorian gas industry. However, I must emphasise that the incentives which I discussed earlier provide the network owner with the potential to earn a return in excess of the regulated return.

⁴ Originally sourced from a presentation by Mr Phillip Ruthven, Executive Chairman, IBIS Business Information Pty Ltd, to CEDA on 16 June 1998.

Moreover, it is interesting to note recent cases of the sale of other infrastructure assets, such as Victorian electricity distributors and the Dampier to Bunbury gas pipeline. And even more recently, the purchase by Texas Utilities of the Victorian gas distributor/retailer, Westar-Kinetik Energy for \$1.6 billion, which was reported to be in excess of the most optimistic forecasts of \$1.4 billion. These cases suggest that the purchasers are able to take advantage of synergies with other segments of their business.

A further factor to consider is that the use of a pre-tax, rather than a post-tax, WACC when coupled with accelerated depreciation will result in higher cash flows, and therefore a higher effective rate of return, in earlier years and a lower return in later years. The owner of the facility has responsibility for future tax liabilities, and a consequent lower return in later years would not be justification for the network owner to argue for an increase in the rate of return.

What are the implications for new investment and other utilities? It is important to bear in mind that the regulatory regime being put in place in Victoria, including the rate of return, relates to the gas pipelines in Victoria only. Any proposed access arrangements for other gas pipelines in Australia will be considered on their merits.

A further point to consider is that the rate of return approved by the Commission relates to sunk assets. Any “greenfields” projects will be considered on their merits in accordance with the associated risks. In those situations there is another option under the Code which may be used to determine reference tariffs for new investment. That mechanism is the competitive tendering process, which was used recently for the pipeline from PNG to Queensland. Under the tender process, a regulated rate of return is not used to determine reference tariffs. Instead, reference tariffs are determined competitively and normally the tenderer proposing the lowest tariffs would win the contract. Such tariffs have an implied rate of return, which is determined by the market and not the regulator.

Initial Capital Base

Any discussion of rates of return would not be complete without a discussion of the manner in which assets are valued. Clearly the required revenue depends not only on the rate of return, but the value of assets to which the rate of return applies. The applicants proposed that the value of the transmission assets (the initial capital base) should be equivalent to the Depreciated Optimised Replacement Cost (or DORC) of those assets.

DORC represents the upper limit of the value of the initial capital base under the Code, depreciated actual costs (or DAC) being the lower limit. The Commission supported the applicants’ valuation of the initial capital base and this was seen by some as endorsement by the Commission of the DORC methodology for valuing assets. This is not the case. The Commission’s consideration of the valuation of the initial capital base was not an endorsement of the DORC methodology. The Code list 11 factors which the regulator should consider in determining the value of the initial capital base and, as I just mentioned, the DORC methodology provides an upper limit to that valuation.

Many interested parties, particularly users, argued that DAC should have been the valuation methodology used. This is not surprising, given that use of DAC would have resulted in the lowest possible tariffs to users. However, the Commission as regulator is required to take into account the legitimate interests of the owner and the public interest, including economic efficiency, as well as the interests of users.

In its assessment of the valuation of the initial capital base, one of the factors under the Code that the regulator is required to consider is the level of tariffs in the past and the resulting historical returns to the network owner. Some users argued that they had already paid for the assets in question. However, an analysis by Commission staff and the Victorian Office of the Regulator-General suggested that an economic return had not been earned in the past and, if the asset valuation were adjusted accordingly, a valuation in excess of DORC may have been justifiable. Which is why the Commission settled on a valuation equivalent to DORC, because as the upper limit allowed under the Code, it was the considered the most appropriate on this occasion. It is not an endorsement of the DORC methodology generally and it should not be taken as a precedent. Each case will be considered on its own merits.

Components of total revenue

While I have dealt today almost exclusively with rates of return it is important to keep in mind that pricing for infrastructure access should allow the network owner to earn total revenue based on the economic costs of providing services. The rate of return on the value of the assets is only one of the components of the revenue stream required by the regulated entity. The others include depreciation costs and the operating, maintenance and other non-capital costs associated with the assets.

In conclusion, I would like to restate the importance of appropriate regulation of bottle neck facilities. The Commission's primary aim is to facilitate competition wherever feasible. Where competition is not feasible due to natural monopoly, for example, incentive regulation is in societies' interests. The Commission is committed to the principles of best practice regulation of consultation, predicability, consistency and flexibility in its assessment of access arrangements. I hope the discussion of the Victorian gas decision has clarified your understanding of how the Commission came to the decision it did. I would reiterate that the Commission will treat each matter as it arises on its merits. If the circumstances are different, the outcomes may also be different. Thank you.