

Gas Pipeline Regulation – Does it Lead to Lower Prices?

Presented to the Australian Pipeline Industry Association Convention, Canberra, ACT,
29 October – 3 November 1999

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ABSTRACT

Access to almost all Australian natural gas transmission pipelines is regulated by the Australian Competition and Consumer Commission under the various gas pipeline access laws enacted from 1997 and 1999. Many companies have already submitted Access Arrangements and the public consultation process by ACCC is well underway.

Access Arrangements and their supervision by ACCC are supposed to provide means by which all parties who require transport services can gain access to pipelines at published tariffs that are set according to the guidelines described in the National Third Party Access Code for Natural Gas Pipelines. The Code purports to be a surrogate for competition. The end result is supposed to be lower costs for users.

This paper will also demonstrate that there are few, if any, incentives, for a pipeline company to minimise its construction, on-going capital or operating costs, because the Code's cost of service methodology allows most, if not all excess costs to be distributed among the pipeline's customers, particularly those with little or no market power.

Despite its high ideals, gas reform has not delivered the benefits it promised and we now have a regulatory system that does not serve either the pipeline industry or its customers well. Changes to the Code and the industry's approach to regulation could be a long time coming, and in the meantime all facets of the pipeline industry will be adversely affected, along with that most important part of the industry, our customers.

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1 INTRODUCTION

The National Third Party Access Code for Natural Gas Pipeline Systems (the Code) has been in place since November 1997, but its application has been delayed through legislative problems, jurisdictional differences, parochialism and reticence by the pipeline industry. However, the Code is now finding application to the regulation of transmission and distribution pipelines in New South Wales, South Australia, Western Australia and the Northern Territory. It was also applied to Victorian pipelines prior to privatisation under state legislation without the link to other jurisdictions required under the Competition Principles Agreement.

As result, we have some history of its application. This paper examines those limited examples of the application of the Code and concludes that it has not yet delivered on its promises of lower tariffs and increased competition. Indeed, it is likely that it has institutionalised the status quo or permitted higher tariffs, even though the primary aim of the process was to “replicate the competitive market” and thereby remove the opportunity for monopoly rent seeking by pipeline owners.

Those who conceived of the process also gave little thought to the cost of implementing the regulatory regime. Applicants for approval of their Access Arrangements have included the costs of compliance in their operating or capital bases and, as a result, the customers will pay those costs. Some regulators or their government treasury departments are seeking to recover the cost of regulation also. This simply means that customers will pay more for little or no gain in overall tariffs.

Further, there is decreased government support for the principles of competition, and both major political parties have lapsed into recidivism on competition and micro-economic reform. In this environment, there is little hope that amendments can be made to allow the Code to achieve the high ideals of its early proponents and that it must remain as nothing other than heavy handed regulation with little benefit to either the pipeline industry or the community.

2 HISTORY

At its third meeting in February 1994 Council of Australian Governments (CoAG) in relation to free and fair trade in gas agreed:

- *to remove all remaining legislative and regulatory barriers to the free trade of gas both within and across their boundaries by 1 July 1996;*
- *to implement complementary legislation so that a uniform national framework applies to third party access to all gas transmission pipelines both between and within jurisdictions by 1 July 1996;*
- *to adopt AS 2885 to achieve uniform national pipeline construction standards by the end of 1994 or earlier;*
- *not to issue any further open ended exclusive franchises and to develop plans by 1 July 1996 to implement more competitive franchise arrangements;*
- *that approaches to price control and maintenance in the gas industry be considered in the context of agreed national competition policy;*
- *to place their gas utilities on a commercial footing, through corporatisation by 1 July 1996;*
- *to separate publicly owned transmission and distribution activities which are at present vertically integrated and to introduce legislation to ring fence transmission and distribution activities in the private sector by 1 July 1996; and*
- *that reforms to the gas industry to promote free and fair trade be viewed as a package that each Government would move to implement by 1 July 1996.*

At this meeting CoAG also noted that:

- *legislation to promote free and fair trade in gas, through third party access to pipelines, should be developed co-operatively between jurisdictions based on the following principles and implemented by 1 July 1996:*
 - *access to spare capacity on non discriminatory terms and conditions,*
 - *published haulage charges and terms,*
 - *compulsory dispute resolution,*
 - *separate accounting and management control of transmission of gas, and*
 - *ability to monitor gas haulage charges by a relevant authority;*
- *contracts between producers and consumers for the supply of gas, entered into prior to the enactment of gas reform legislation would not be overturned by that legislation*

These recommendations by CoAG were formally agreed to by the jurisdictions in the Competition Principles Agreement in March 1995. As everybody is aware, the timetable set was rather optimistic and has not yet been fully implemented. From a technical aspect, pipeline owners and builders have found to their cost that few states have decided to adopt the Australian Standard AS2885 "Pipelines – Gas and Liquid Petroleum" as the only and definitive standard for the design, construction and operation of pipelines. The development and partial implementation of the new commercial regulatory regimes foreshadowed by these CoAG recommendations has had an equally long and tortuous history.

In March 1995 officers or consultants from each of the nine jurisdictions and representatives of the gas and pipeline industries formed the Gas Reform Task Force and the Gas Reform Implementation Group (GRIG) under the direction of the Gas Reform Section of the Commonwealth Department of Primary Industries and Energy. GRIG was presided over by a consultant. Like any committee formed from the disparate arms of government in Australia and guided by consultants with particular agenda, the creation and implementation of the National Third Party Access Code for Natural Gas Pipeline Systems (the Code) was difficult and byzantine. The Code was completed in its current form and agreed to by the jurisdictions in November 1997. Many industry participants were so frustrated by the process that they acquiesced to its implementation on the basis that its faults could be overcome in the Code revision process. In the event, and despite many acknowledged short-comings, the Code remains unchanged, particularly in respect of some of the very important commercial aspects that have significant influence on decisions to proceed with pipeline projects.

The Code covered both transmission and distribution pipeline systems, against the advice of APIA and other industry groups. This added to its complication and to the number of interested parties involved in its creation. The Code initially stated that the Australian Competition and Consumer Commission was to be the regulator for both transmission and distribution, but this was opposed by most of the states who wished to maintain regulatory control over gas prices to voters. As a result, regulatory control is split between ACCC and state based regulators for transmission and distribution, respectively. Despite the close interaction between some regulators, this separation is a recipe for inconsistencies and use of precedents by disaffected parties.

GRIG determined that the Code would be given legislative force through lead legislation passed by the South Australian Parliament in late 1997¹ and assented to on 18 December 1997. However, Western Australia decided that it would not follow the precedents set by the other jurisdictions, and has set up its own regulatory system based on the Code but enacted through legislation that is somewhat different from that used by the other jurisdictions. The Western Australian Minister for Energy introduced the legislation into the WA Parliament in June 1998, with the words "...the introduction of the Bill as complementary legislation enables Western Australia to retain a balance between Australia-wide consistency and the State's flexibility to deal with its unique regional differences."

At the time of preparing this paper, Victoria and Queensland had not implemented the Code through the legislative process. As a result, inconsistencies between states continue to be a source of confusion and cost for the pipeline industry.

3 IMPLEMENTATION OF THE CODE AND HAULAGE TARIFFS

While the Code and its associated legislation provide the means by which parties can seek access to pipelines, the reality is that the Code is providing a vehicle for the

¹ Gas Pipelines Access (South Australia) Act 1997

maintenance of pipeline owners' revenue streams with scant regard for either the value of the services provided or the delivered price of gas. The very prescriptiveness of the Code makes it possible for pipeline and distribution system owners to encourage regulators, such as IPART and the ACCC, to place an approving stamp on monopoly rent seeking. This unintended result acts against market growth and forces higher prices on customers.

Section 8 of the Code defines the tariff setting methodology:

8.1 *A Reference Tariff and Reference Tariff Policy should be designed with a view to achieving the following objectives:*

- (a) *providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service;*
- (b) *replicating the outcome of a competitive market;*
- (c) *ensuring the safe and reliable operation of the Pipeline;*
- (d) *not distorting investment decisions in Pipeline transportation systems or in upstream and downstream industries;*
- (e) *efficiency in the level and structure of the Reference Tariff; and*
- (f) *providing an incentive to the Service Provider to reduce costs and to develop the market for Reference and other Services.*

Taking each paragraph in turn:

- (a) *providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service;*

The “efficient cost of delivering the reference service” is further explained in Section 8.4:

Cost of Service: *The Total Revenue is equal to the cost of providing all Services (some of which may be the forecast of such costs), and with this cost to be calculated on the basis of:*

- (a) *a return (**Rate of Return**) on the value of the capital assets that form the Covered Pipeline (**Capital Base**);*

- (b) *depreciation of the Capital Base (**Depreciation**); and*
- (c) *the operating, maintenance and other non-capital costs incurred in providing all Services provided by the Covered Pipeline (**Non-Capital Costs**).*

In the examples of the Access Arrangements put forward to both ACCC and IPART so far, the inputs to the calculation of cost of service have been adjusted to maintain the revenue stream previously enjoyed by the pipeline owners under monopoly service arrangements. Since the Office of the Regulator General in Victoria determined that a rate of return (real, pre-tax) of 7.75% pa was reasonable in the low risk environment of the newly privatised Victorian gas distribution companies, the item “Capital Base” has become the component of the cost of service equation that is most vulnerable to adjustment to suit the required revenue stream.

The most popular candidate for the determination of the capital base is the Depreciated Optimised Replacement Cost (DORC). This allows a pipeline owner to have an independent consultant review the pipeline system and determine its replacement cost, taking into account certain economies that may be had through technological advances and through rearrangement and re-sizing of facilities. The owner then decides upon a depreciation schedule and determines the DORC.

There are several examples from the recent submissions of Access Arrangements to ACCC where there are significant discrepancies between the various capital values derived from actual costs, purchase prices and so-called replacement costs:

East Australian Pipelines Limited

Optimised Replacement Cost ² (1/7/00):	\$1058 million
Depreciated Optimised Replacement Cost ² (1/7/00):	\$666 million
Purchase Price ² (1/7/94):	\$534 million
Depreciated Actual Cost ³ (1/7/94)	\$194 million

Epic Energy South Australia Pty Ltd

Optimised Replacement Cost ⁴ (31/12/98):	\$572 million
Depreciated Optimised Replacement Cost ⁴ (31/12/98):	\$358 million
Purchase Price ⁵ (1/7/95):	\$304 million
Depreciated Book Value ⁴ (31/12/98)	\$319 million
Depreciated Actual Cost ⁵ (1/7/95)	\$42 million

² Source: EAPL Access Information 5 May 1999 submitted to ACCC

³ Pipeline Authority Annual Report 1993-94

⁴ Source: Epic Energy South Australia Access Arrangement Information 1 April 1999 submitted to ACCC

⁵ Pipelines Authority of South Australia Annual Report 1994-95

NT Gas Pty Ltd

Optimised Replacement Cost ⁶ (30/6/99):	\$319 million
Depreciated Optimised Replacement Cost ⁶ (30/6/99):	\$266 million
Construction Cost ⁶ (1/7/86):	\$325 million
Depreciated Actual Cost ⁶ (1/7/95)	\$235 million

Perhaps the most significant aspect of these figures is the wide separation between DORC and DAC, except in the case of NT Gas, where one would have expected the DAC to be much lower, based on the limited life and volume of the gas reserves in the Amadeus Basin.

The capital base can also be adjusted to cover gold-plating, excessive capital costs because of poor design, superfluous operating facilities and inappropriate capital replacement policies. Because of information asymmetry, neither the regulators nor the public are aware of these aspects. New pipelines can be over-built and gold plated in anticipation of a return on investment because the owners of pipelines will always be able to secure the services of independent consultants who will attest to the necessity of such excesses, often citing safety as the driver. In short, there is nothing in the Code or the regulatory process that puts a brake on capital spending either during construction or on-going operation.

It is well known that FERC regulated companies in the United States devote considerable energy to the maintenance of the capital base between review events. This behaviour is reinforced by application of U.S. pipeline engineering standards, which require pressure de-rating or pipeline replacement when changes in class location (population density) occur. The Australian community of pipeline users is fortunate to have the Australian Pipeline Standard AS2885, which allows the pipeline owner to provide secondary protection in such areas and thus save immense capital costs and possible service interruption. As a result, this particular avenue of capital base maintenance is not available to Australian pipeline owners.

It is easy to understand the behaviour of those companies who seek to maintain their capital bases by various means. The rigorous application of the depreciated capital base will ultimately lead to a pipeline which has no value – it has depreciated to zero; it cannot earn a rate of return and its only revenue is its operating cost. The owner of such a pipeline will have no incentive to provide services to its customers. Like any item of productive capital plant, pipelines have continuing inherent value and this must be recognised by the regulatory process, otherwise significant market and investment distortions will occur.

(b) replicating the outcome of a competitive market;

The Code purports to force monopoly pipeline owners to price their services at rates that would apply if there were some competitive tension. This is naive. In fact the majority of Access Arrangements presented so far are based on maintenance of the

⁶ Source: NT Gas Access Arrangement Information 25 June 1999 submitted to ACCC

status quo of revenue, rather than a careful review of the competitive position of their customers. It would seem that both gas producers and pipeline owners are oblivious to the plight of their customers who are competing on both global and national markets. This is no more clearly portrayed than in a comparison between the gas distribution system tariffs for similar industries in the Melbourne and Sydney metropolitan areas, shown in Table 1.

User	Sydney (\$/GJ capacity)	Melbourne (\$/GJ capacity)
Large City Office Block	1.46	0.28
Commercial Laundry	1.04	0.19
Metal Forging Shop	1.65	0.31
Brickworks	0.41	0.08
Chemical Plant	0.94	0.11

Table 1: Comparison of Gas Distribution Costs between Melbourne and Sydney⁷

The figures in Table 1 make it quite clear where an energy intensive industry should locate. The large discrepancies should be of concern to the New South Wales government and gas retailers hoping to grow their markets in the Sydney region.

The large differences can be explained in part by the lower level of utilisation of the Sydney pipeline assets; but should such over-capitalisation be rewarded? In a competitive environment, the owner of the under-utilised asset would write off some of the asset value to a level that matched its true value in the market. The large capital write-offs by BHP represent the most obvious and recent example of such an approach.

There is nothing in the Code that requires the pipeline owner to make capital adjustments to suit the market's needs. As a result the Code cannot replicate a competitive market.

(c) ensuring the safe and reliable operation of the Pipeline;

In a way, this requirement is out of place in a commercial code and is well covered by state petroleum pipeline legislation and the Australian Standard – Pipelines – Gas and Liquid Petroleum – AS2885. In the context of the National Third Party Access Code for Natural Gas Pipeline Systems, this requirement may be used as a reason to justify additional capital costs – see above.

(d) not distorting investment decisions in Pipeline transportation systems or in upstream and downstream industries;

These matters have not been sufficiently well addressed in either the Access Arrangements submitted or in the Issues papers prepared by ACCC or IPART. As

⁷ Sources: AGL Gas Networks Proposed Access Arrangement first submitted to IPART in January 1999 and Access Arrangements for various Melbourne gas distributors

described above, investment decisions by energy intensive industries will be distorted by the large differential between the distribution system tariffs of Sydney and Melbourne. Such industries would be well advised to locate their plants near a transmission line, if they choose the Sydney region. It is unfortunate that those who submit Access Arrangements do so with such a narrow view of the market for their services and only pay lip service to market development and growth by the use of pro-competitive tariffs.

(e) efficiency in the level and structure of the Reference Tariff;

If the Reference Tariff is to be used as an efficient means of maintaining a revenue stream, then it has failed to meet the primary requirement of delivering energy to the community in the most efficient manner. The Code has been created as a specific industry and government response to the requirements of the Trade Practices Act, the over-riding purpose of which is “*to enhance the welfare of Australians through the promotion of competition and fair trading and provision for consumer protection*”⁸. It is difficult to see how this is consistent with the demonstrated aims of the current Access Arrangements, which concentrate more on maximisation of returns from their current markets, rather than growing Australia’s industrial base and enhancing welfare.

It is unfortunate that the Australian pipeline industry has so quickly developed an adversarial relationship with its regulators, rather than a cooperative approach (not “regulator capture”) which would almost certainly result in less cost and improved returns to pipeline owners, while growing the gas market to the benefit the Australian economy and environment.

(f) providing an incentive to the Service Provider to reduce costs and to develop the market for Reference and other Services.

Provided the regulator accepts the Service Provider’s required revenue steam proposed in the Access Arrangement Information, then there is no incentive for the Service Provider to reduce cost for anything other than as an improvement to profits. Once an Access Arrangement is in place, there is no reason why improvements in operating efficiency should be passed on to shippers through lower tariffs. Market development seems to have taken second place in all the Access Arrangements tabled so far.

The focus of the Code is short-term. This forces pipeline owners to seek higher returns in the early life of a pipeline when throughput is low by setting high tariffs. The high tariffs restrain growth and the Australian community is the loser. It is better to take a long-term view and to seek to increase revenues by market growth.

⁸ Trade Practices Act 1974 Section 2

4 CONCLUSIONS

The newly emerged regulatory regime for natural gas pipeline systems has not delivered on its promises to provide “a light handed approach to regulating gas pipelines with oversight by a general body at a national level, rather than by a number of State/Territory bodies⁹”. Instead, Australia has inherited a heavy-handed process, driven by a prescriptive Code and, as a result, developed an adversarial relationship between the regulator and the regulated. Unless changes to the Code are implemented soon and pipeline owners develop an innovative approach to pricing access to pipelines, both the industry and its customers will suffer inefficiencies and inappropriate financial decisions. Worse still, Australia will continue to be less competitive at an international level with respect to delivered gas prices.

The challenge confronting the pipeline industry is to address the shortcomings of the Code and modify the prescriptive approach adopted so far in the application of cost of service tariff setting methodologies. It will be necessary to develop new and innovative responses to the regulatory process to ensure that pipelines continue to be worthwhile and profitable investments, while at the same time providing competitive and flexible services to enhance Australia’s international competitiveness in a global market for commodities and tradeable goods.

⁹ Industry Commission report 1990 *Energy Generation and Distribution*