Submission to the Productivity Commission
REVIEW OF THE NATIONAL ACCESS REGIME
(PART IIIA OF THE TRADE PRACTICES ACT)
Position Paper

Introduction

Thank you for the opportunity to comment on the Productivity Commission's Position Paper released as part of the Review of the National Access Regime established under Part IIIA of the *Trade Practices Act 1974*.

The introduction of the national access regime (and other associated competition policy reforms) in 1995 was considered by many to be a ground breaking initiative. As noted in your paper, Part IIIA of the Trade Practices Act was the result of a wide-ranging agreement between the Commonwealth and State and Territory Governments. It followed the release of a report by the (Hilmer) Independent Committee of Inquiry that proposed a number of policy reforms aimed at facilitating effective competition. This included establishing of an overarching legislative framework to enable third parties to obtain access to services of certain natural monopoly infrastructure on far and reasonable terms and conditions.

The national access regime embodied in Part IIIA largely reflected the recommendations of the Hilmer report (but differed in a number of respects). It was designed specifically to overcome the problems associated with s.46 of the Trade Practices Act,[1] which did not effectively deal with vertically integrated owners of natural monopoly infrastructure who could take advantage of their market power by denying access to competitors in upstream or downstream markets.

The national access regime has now been in place for over five years, and as such it is timely to review its effectiveness. Having said that it is also worth noting a number of factors that bear on the extent to which a comprehensive review of Part IIIA is possible at this time.

First, the regime is still largely in its infancy and as such the full extent of its application and its shortcomings and benefits are yet to fully manifest themselves. In particular, most of the experience in the application of Part IIIA to date has involved the development and certification of industry specific access regimes. To some extent,

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1 Section 46 of the *Trade Practices Act 1974* provides that a corporation that has a substantial degree of market power shall not take advantage of that power for the purposes of (a) eliminating or substantially damaging a competitor, (b) preventing the entry of a person into that or any other related market, and (c) deterring or preventing a person from engaging in competitive conduct in that or any other market.

it has also involved the assessment of undertakings made to the ACCC. In particular, it is worth noting that there has been very little real experience with declarations and the negotiate-arbitrate model. Indeed, there are no examples of arbitrations conducted by the ACCC of services declared by the NCC.

Second, much of the detail related to the practical application of Part IIIA is embodied in other regulatory instruments. For example, access arrangements related to the electricity and gas industries are specified largely in national codes and have been given effect through different mechanisms under Part IIIA.[2] The Commission's terms of reference do not allow it to review the operation of Part IIIA undertakings (such as the National Electricity Code) or certified access regimes (such as the National Gas Code). However, in practice it is difficult to separate the consideration of the overarching Part IIIA framework from its detailed and practical application in these other instruments.

Nevertheless, the early experience with the regime suggests that aspects of the regime that could be improved. These relate to clarifying the objectives of the regime, strengthening the declaration criteria, and improving the administration, timeliness and consistency of decision-making. This could assist by providing greater certainty for both access providers, investors and third party access seekers.

The purpose of this paper is to provide comments on a number of recommendations in the Commission's Position Paper. The comments provided in this paper are not exhaustive but address some of the issues that have greatest relevance or implications for the Office. In particular, the Office has provided a number of specific comments in relation to:

- its role in the application of various industry specific access regimes that operate in Victoria;
- the importance of ensuring appropriate incentives for achieving efficiency and investment in infrastructure services;
- the desirability of introducing pricing principles into Part IIIA; and
- the merits of the building block regulatory approach versus other productivity based approaches to setting price controls.

The role of the Office in access

The Office is a statutory authority established by the Victorian Government under the *Office of the Regulator-General Act 1994*. It operates as an economic regulator with general responsibilities for pricing, service standards and monitoring anti-competitive conduct in regulated industries such as gas, electricity, ports, rail and export grain handling.

The specific purpose and role of the Office varies from industry to industry given the number of access regimes and specific regulatory arrangements that operate in Victoria. These arrangements include:

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2 The ACCC has approved the National Electricity Code as an undertaking and the NCC has certified the National Gas Code as an effective State and Territory based access regime.

- **Port Shipping Channels:** Under the *Port Services Act 1995,* channel operators must provide access to prescribed shipping channels on fair and reasonable terms and conditions. The Office's role is to resolve access disputes where a channel operator and a person seeking access cannot agree on the terms and conditions of access.
- **Gas:** Third party access to gas distribution and transmission pipelines in Victoria is regulated under the National Third Party Access Code for Natural Gas Pipeline Systems (the Code), pursuant to the *Gas Pipelines (Victoria) Act 1998.*[3] The Code provides a uniform national framework to apply to third party access for all gas pipelines. It also provides for binding resolution of disputes by the regulator.
- **Electricity:** Under the *Electricity Industry Act 1993* and related regulatory instruments, the Office is required to review and decide on price controls for distribution use of system charges to be levied by the five Victorian electricity distributors. Legislative amendments are required to enable the Office (ESC) to conduct future price reviews under the provisions of the *National Electricity Code*.
- **Grain:** The *Grain Handling and Storage Act 1995* establishes that the Geelong and Portland terminals are significant infrastructure facilities, requiring the application of the Competition Principles Agreement. The Office's role is to conduct periodic reviews of whether these facilities continue to be significant infrastructure facilities, requiring access to third parties for grain handling facilities. The Office may determine the terms and conditions of access in the event that a person seeking access to the grain handling facility is unable to agree on terms and conditions of access with the grain handler.
- **Rail:** From 1 July 2001, the *Rail Corporations Act 1996* will provide rail freight operators with access to certain declared rail freight tracks and terminals. The access regime is based on a negotiate-arbitrate model that encourages access seekers and access providers to reach a commercial agreement on the terms of access to declared rail transport services. The Office's role is to resolve disputes about the terms and conditions of access.

The role of the Office in administering each of these access regimes varies considerably according to the industries. For example, the Office's role in the electricity distribution industry is to *set the price controls* to apply to the charges levied for the use of the distribution system. In contrast, the Office's role in access related to certain rail infrastructure is to ensure that rail service operators *provide certain information* to access seekers to enable them to commercially negotiate the terms and conditions of access, with recourse to *binding arbitration* from the Office if required.

In performing its various functions, the Office is guided by its statutory framework under the *Office of the Regulator-General Act 1994* as well as other relevant industry specific legislation and regulatory instruments. The industry-specific legislation includes the *Electricity Industry Act 1993*, The *Gas Industry Act 1994*, the *Rail Corporations Act 1996*, the *Port Services Act 1995* and the *Grain Handling and Storage Act 1995.*

[3] The Office is responsible for regulating access to gas distribution pipelines whereas the ACCC is responsible for regulating access to gas transmission pipelines.

When performing its various functions the Office is required to exercise judgment in reaching balanced regulatory decisions that satisfy often-conflicting statutory objectives and interests. The manner in which the Office exercises this judgment has an important bearing on the commercial viability of the utility businesses, the efficiency and competitiveness of their service to customers and the cost-effectiveness and transparency of the Office's administration of the regulatory framework.

The objectives of Part IIIA

As the Commission has noted, there are currently no objectives set out in Part IIIA. As a result, regulators are required to infer the objectives that are implicit by reference to the declaration criteria set out in cl.44G(2). These criteria appear to emphasise the importance of promoting competition in upstream or downstream markets and avoiding uneconomical duplication of infrastructure. An implied objective of the legislation might be to minimise the abuse of monopoly power.

The strong emphasis in the declaration criteria on promoting competition derives from the general theory that markets characterised by effective competition provide market participants with strong incentives to act in a manner that achieves efficient outcomes and serves the interests of customers. Whilst promoting competition can often lead to greater efficiency, it can also potentially contribute to inefficient long-term investment particularly in markets exhibiting natural monopoly characteristics with greater incentives for short-term efficiencies. For this reason, the Office considers that medium to long-term *efficiency* should be given greater emphasis as the primary objective of Part IIIA, with promoting effective competition seen as one means of achieving more efficient outcomes.

To this end, the Office supports the Commission's recommendation that an objects clause be inserted in to Part IIIA which provides that the primary objective of the national access regime provisions be *to enhance overall economic efficiency.*

The imposition of a regulatory access regime raises important issues related to the property rights of infrastructure owners and the implications of regulated access rights for incentives for investment. It is important to ensure that the legislated obligation to negotiate with third parties is not imposed in circumstances where it is merely convenient rather than necessary to promote the efficient use of infrastructure. In particular, access rights that are applied without proper regard to the fundamental objectives of long-term efficiency have the potential to reduce incentives for infrastructure owners to invest and thereby delay or impede the development of future competition and efficiency, and the benefits thereof for upstream and downstream users.

In its Position Paper, the Commission proposed pricing principles that might be included in Part IIIA for the purpose of, among other things, facilitating efficient investment in infrastructure facilities.[4] In discussing the implications of access pricing, the Commission also identified the following relevant considerations:

[4] The suggested pricing principles included that access price should: generate revenue across a facility's regulated services as a whole that is at least sufficient to meet the efficient long-run costs of providing access to these services including a return on investment commensurate

- the application of the 'return on investment' principle to new investments;
- incentives for efficient investment in new infrastructure facilities; and
- the concept of 'access holidays' for new or greenfields infrastructure investments.

The Office's comments in relation to these issues are set out below.

The 'return on investment' principle and new facility investments

In its Position Paper, the Commission proposed that access prices should cover the efficient long-run costs of access provision, including a return on investment commensurate with the risks involved.[5] The Office supports this notion and seeks to apply this in its regulatory decision making.

The Paper also proposes more generally that given the imprecision of access regulation decisions, regulators should be encouraged to lean more towards facilitating investment than focusing on short term service usage considerations.[6] With reference to the return on investment principle as it applies to new infrastructure investments, the Paper comments (with reference to Box 8.6) that regulators should not 'rule out' returns for successful new infrastructure projects that are higher than those suggested by the project's costs of capital.

The Office notes that in its recent price decisions (particularly its recent Electricity Distribution Price Determination), it has identified and adopted numerous 'conservative' assumptions in favour of the investor. These include conservative assumptions with respect to the estimate of the cost of capital financing, demand forecasts and capital and operating and maintenance expenditure benchmarks.

These assumptions recognise the imprecise nature of these matters and the data and information that inform the regulatory decision making process. It also recognises the risks to network performance and investment incentives that can result from imposing unduly onerous price controls on regulated businesses. In aggregate, these assumptions will have resulted in revenue benchmarks and price controls that err on the side of providing the operators of the regulated facilities with the incentive and capacity to meet the medium term investment requirements of their networks.

As recognised by the Commission, regulators generally have to balance a number of often-competing objectives and interests in making their decisions. Only one of these is the need to ensure appropriate incentives for efficient investment. In addition, they must also consider the impact of their decisions on investment and usage incentives and efficient resource allocation in the downstream economy.

Regulators must therefore be careful to avoid any undue leaning towards the provision on investment incentives (to the extent of allowing access prices in excess of the long run costs of service provision). This would create distortions and inefficiencies in the downstream economy, and be contrary to the principal policy objective of the access regulation reforms and the broader objectives of national competition policy. It would

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with the risks involved; and not be so far above costs as to detract significantly from efficient use of services and investment in related markets.

5 p.204.

6 p.XXII.

also expose regulators, operating under a statutory framework, to the potential risk of appeal or legal challenge.

The suggestion in the Commission's Position Paper that regulators may 'rule out' returns on a new investment project that exceed the risk-adjusted cost of capital appears to suggest some misunderstanding of the incentive-based regulatory approach required by the various Australian access regimes and applied by most regulators.

As explained in greater detail later in this submission, the defining feature of CPI-X regulation is that price controls are set at the commencement of the regulatory period based on assumptions about the revenue requirements for the period of an efficiently operated business (including return of and on invested capital). Those price controls then remain unchanged for the regulatory period irrespective of the actual performance of the business.

This no claw back feature of the regulatory approach provides regulated businesses with the incentive to pursue efficiencies and outperform the assumptions embodied in the price controls, including with respect to the cost of capital. Such efficiencies enable the business to earn and retain returns in excess of the assumed cost of capital within the regulatory period, without the risk that the regulator will subsequently disallow them.

The suggestion that regulators might in fact 'rule out' returns for new investments above the projected cost of capital would only occur under a rate of return approach. Under such an approach, regulated prices may be varied by the regulator whenever the regulated business' actual returns get significantly out of line with the regulated rate of return targeted by the regime.

It is necessary to also distinguish between the 'hurdle rates' sought by the managers of infrastructure businesses and the risk-adjusted rates of return required by equity and debt providers (ie. institutional investors and shareholders; and banks and other financial institutions) in the financial market.[7] The CAPM (Capital Asset Pricing Model) focuses on the latter type 'investors' who are assumed to be able to eliminate non-systematic risk by holding diversified portfolios of assets. That is, an efficient capital market will not compensate investors for bearing a risk that they can eliminate costlessly.

The Commission's discussion of this point (in Box 8.6) appears to present some confusion. In particular, it appears to interpret the CAPM 'investor' as the infrastructure business when it refers to the scale of infrastructure projects restricting an investor's capacity to hold a fully diversified portfolio. The CAPM seeks to evaluate the cost of capital faced by the business in raising funds in the capital market. That is, it assumes the risk-adjusted returns required by providers of debt and equity funds in order for them to continue to supply finance to the infrastructure industry given its risk profile. This confusion appears to be carried through to some extent into the first dot point of Box 8.6.

The Office acknowledges that these points address largely theoretical aspects of the basis and application of CAPM in regulatory decision making. However, the

[7] As set out in Box 8.6 of the Commission's Position Paper.

treatment of the concepts of systematic and project specific risk in the Commission's Position Paper may provide a misleading impression that regulators do not consider or give insufficient weight to project specific risk in their decision-making.

The Office's approach is generally to estimate the regulatory cost of capital using the portfolio theory CAPM such that the WACC only incorporates systemic or non-diversified risks, and excludes diversifiable or project specific risks. As previously mentioned, the assumptions adopted in the establishment of the price caps for these projects deal directly with the project specific uncertainties associated with the future demand and market developments and factors that may impact on costs. In certain circumstances, the Office has made conservative assumptions in favour of the regulated businesses given the uncertainty and imprecise nature of those matters.

Incentives for efficient new infrastructure investment

The Office agrees that the risk-adjusted return that infrastructure investors are able to earn on investments through regulated access prices is critical to being able to provide appropriate commercial incentives for investment in new infrastructure. However, the Commission's proposed 'return on investment' principle must be balanced against the potentially adverse consequences of permitting access prices which are significantly in excess of the long-run costs associated with the relevant facility for investment and usage decisions in related markets.

The Office's current methodologies and decisions (and those of most other Australian regulators) have been directed to applying those general economic principles. Accordingly, it is worth considering whether the inclusion of these principles in Part IIIA will, of itself, result in discernible changes in regulatory approaches and decisions. Below the level of principle, the regulatory analyses and decisions involved in balancing investor and user interests are both complex and imprecise and necessarily call for the exercise of judgment by the regulator.

The general economic principles proposed by the Commission will be equally applicable for both marginal investments associated with augmenting an established infrastructure facility (eg. augmenting an established transmission link or distribution network) and for greenfields infrastructure investments (eg. a new electricity transmission line).

Differences are likely to arise between the risk exposures of an investment in augmenting a mature facility compared to a greenfields facility that may impact on both the investor's required rate of return and the access regulation approaches that are appropriate. Because of the importance of greenfields investments in expanding the interconnection of Australia's reasonably immature infrastructure networks (thereby promoting both competition and efficiency in essential utility markets), the remainder of this section focuses on the issue of incentives for new infrastructure investment projects.

Greenfields investments can be distinguished from investments at the margin to augment mature facilities (such as the established Victorian electricity and gas distribution networks) in the following terms:

- they typically involve large, upfront capital investments that will be largely sunk on completion;
- the future markets to be served by the facilities are uncertain;[8] and
- investments in sunk asset bottleneck facilities of this kind can also expose the investor to post investment opportunistic behaviour by upstream and downstream users of the facility (and possibly by regulators) in the absence of contractual or other arrangements to safeguard the investor's position.

Accordingly, greenfields infrastructure investments with large upfront sunk costs are usually underwritten to a large extent by long-term foundation contracts which assure the investor of a sufficient throughput to make the project feasible. Nevertheless, stranded asset risk often remains to the extent that the capacity to earn a rate of return on the investment ultimately depends on the extent to which the future market for the services of the facility develops and is sustained.

Greenfields infrastructure investors have expressed concern that the decisions of regulators operating under the framework of Part IIIA or the various subsidiary regulatory codes may not deal appropriately with the investment risks faced by greenfields infrastructure projects. For example, concerns have been expressed that:

- regulatory resetting of access prices will remove any upside from their investments every five years, but leave them with all the downside risk; and
- regulators may discourage greenfields investments if they simply apply the approach they have adopted for their cost of capital and access pricing decisions on established infrastructure facilities.

However, it should be noted that some of the existing regulatory instruments already provide regulators with the flexibility to use a range of approaches when dealing with the greenfields investment issue as part of their access pricing decisions. For example:

- the competitive tendering provisions of the national gas access code provide for a franchise bidding approach to be adopted (ie. competition for the right to supply a future market). Under this approach, the successful tenderer offers the lowest access price for a specified access service and the resulting 'franchise contract' governs the price and terms of access for 15 years before any regulatory review is required under the normal provisions of the code. There is evidence of these approaches having been used in the past (eg. PNG pipeline, Victorian country town distribution). While the franchise bidding approach can be used to address some of the greenfields investment concerns, they may not always suit the commercial aspirations of individual investors seeking to be first to address an infrastructure market opportunity. Concerns have also been expressed about the detailed regulatory oversight required for tendering processes.
- Part IIIA and the National Gas and Electricity Codes allow regulators the flexibility to adopt longer regulatory review periods than five years. This can have advantages where the future market is underdeveloped at the time of investment

[8] As a result, the businesses' expectations may either not be realised to the extent forecast (and thereby result in a significant downside risk that the asset may be stranded in future). Alternatively, it may result in the businesses benefiting from more favourable market conditions than anticipated.

and there is a significant stranded asset risk. A longer review period (say 10 or 15 years) enables investors to retain any upside profits arising from favourable market developments (such as demand growth and scale economies) for a longer period before a regulatory review considers the extent to which those gains should be passed through to users. The investor remains exposed to the downside market risk (as is appropriate). The so-called asymmetric risk associated with more regular regulatory review can be reduced or eliminated by extending the regulatory period. The ACCC has adopted this approach in relation to AGL's Central West Pipeline, where a 10-year regulatory period was used to recognise the stranded asset risk associated with an uncertain future market.

- Part IIIA and the National Electricity and Gas Codes also provide the flexibility for regulators to allow facility investors to capitalise losses incurred early in the economic life of an investment and/or to backload the recovery of capital invested until the market for the facility's services has been established. The Office has adopted this approach in relation to certain investments involving the reticulation of gas to country towns. This approach has also been used by the ACCC.

These examples indicate that some of the existing industry access regimes already permit regulators to adopt more flexible approaches in regulating greenfields infrastructure investments and that regulators are utilising that flexibility to some extent in their regulatory decisions. Nevertheless, there is scope for further development of both the regulatory frameworks and the decision-making approaches of regulators in relation to this important issue.

However, the Office considers that the development of improved regulatory approaches and incentives for efficient new infrastructure investments is complex and is not simply a matter of approving access prices that incorporate a higher return.

Access holidays for greenfields investments

In its Position Paper, the Commission endorsed the concept of 'access holidays' for new facilities investments. However, it did not discuss the concept or the circumstances in which it should apply in any detail.

A number of gas businesses have argued that access holidays should apply where new investments are underwritten in foundation contracts (between the investor and typically large and well-informed service users). They have argued that in such cases the investment will be efficient where well-informed access users have negotiated contracts on commercial terms that meet their requirements and those of the investor. They contend that third party access prices should be based in the 'competitive' or market-based' tariffs that are negotiated in those foundation contracts. In these circumstances, they maintain that there will be little public benefit (and the risk of public detriment) from subjecting the facility to ongoing regulatory oversight.

As a general proposition, the Office has some sympathy with this 'consenting adults' approach. That is, if the user wants the service, the provider is willing to provide it, and they have agreed prices and conditions of service, there is some legitimacy to the notion that there may be less of a role for regulators to review and possibly change their negotiated outcome.

However, the Office believes that the Commission should consider the access holidays concept more carefully before giving it unconditional support. For example the following public interest considerations need to be addressed, among others:

- To what extent is the facility in question, and the terms and conditions of access, subject to effective commercial or competitive discipline such that the 'market-based' outcome can be considered to be efficient?
- Are the tariffs negotiated in foundation contracts likely to reflect an efficient relationship between prices and costs, including a risk-adjusted return on investment? Alternatively, is the downstream market environment such that the tariffs may include significant monopoly rent taking or sharing?
- What will be the position in relation to access prices charged to subsequent third parties that seek access to the pipeline? What impact should subsequent demand growth and access to economies of scale have on tariffs charged for third parties?

An examination of these and other relevant considerations would provide a more informed basis for the Commission to express a view on whether the concept of an 'access holiday' has a role to play under Part IIIA and in the regulation of access to essential facilities more generally. If a case was established in favour of access holidays, there would still be a number of practical issues to consider including the principles and criteria determining:

- whether an access holiday is warranted;
- the length of any such holiday; and
- the circumstances under which direct access regulation should be resumed.

Pricing principles

In its Position Paper, the Commission proposed that Part IIIA should include a number of pricing principles to guide access arbitration and pricing decisions. In particular, it argued that the lack of guiding pricing principles greatly reduces the framework's value and its capacity to encourage convergence in the pricing approaches adopted under various industry regimes.

The Commission has proposed that Part IIIA should include a set of pricing principles to provide greater clarity to regulators and certainty for regulated businesses and access seekers on the approach to be taken to setting prices. It argued that this, in turn, would potentially improve the operation of the negotiation-arbitration framework. The specific pricing principles suggested were that access prices should:

- "Generate revenue across a facility's regulated services as a whole that is at least sufficient to meet the efficient long run of providing access to these services, including a return on investment commensurate with the risks involved;
- Not be so far above costs as to detract significantly from efficient use of services and investment in related markets;
- Encourage multi-part tariffs and allow price discrimination when it aids efficient; and
- Not allow a vertically integrated access provider to set terms and conditions that discriminate in favour of its downstream operations, unless the cost of providing access to other operators is higher."

In assessing the desirability of the inclusion of pricing objectives and principles in Part IIIA, it is worth noting that the inclusion of pricing principles in the overarching framework would have a number of implications for the existing arrangements:

- Detailed principles and factors guiding the access pricing arrangements already exist in a number of legislative instruments specific to particular industries. For example, both the National Electricity Code and the National Gas Code contain pricing principles that guide decision-making by regulators in assessing access arrangements in those respective industries. Indeed, the pricing principles contained in part E of chapter 6 of the National Electricity Code are very specific, detailed and technical (and as noted below, are constraining in their approach); and
- In some cases, differences in the pricing principles specified in these regulatory instruments are intended to reflect differences in the technical or market characteristics of the utility sectors to which they are applied or differences in the regulatory approaches deemed appropriate for those sectors; and
- If high level, generic pricing principles are to be specified in Part IIIA, they should not be such as to impede or over-ride the capacity of regulators to cater to such sector-specific characteristics.

Regulatory decision-making in natural monopoly infrastructure markets is characterised by 'information asymmetry' and 'principal–agent' problems. As a result, the practical usefulness of such generic pricing principles will depend on the extent to which they recognise the need for regulatory approaches that address effectively these issues.

The Office supports the objective of providing greater clarity and certainty in Part IIIA regarding the general regulatory approach to be taken in regulating the pricing of natural monopoly infrastructure services. However, in view of the pricing principles and approaches specified in other sector-specific legislative instruments, it will be important to manage effectively the tension between:

- pricing principles that are so general and high level as to be meaningless and provide very little additional certainty; and
- pricing principles that are so detailed and specific as to constrain the approaches taken by regulators in being able to address the specific issues relevant to that particular industries.

In considering the Commission's proposed pricing objectives, the Office believes that it is worthwhile distinguishing between objectives that apply to regulators in designing and implementing price controls and those that apply to the design of tariffs and structures. The first two principles would appear to be relevant to access prices as a whole, whereas the second two appear to relate to the structure of access prices.

In terms of tariffs and tariff structures, the Office is generally of the view that this task is best left to regulated entities within an appropriate framework of incentives and price controls. To this end, it has adopted a form of price control for electricity distribution whereby the price caps (X factors) are applied to a basket of tariffs. The Office has also incorporated principles for efficient pricing into the formal price

controls and information requirements designed to ensure that the regulated firms provide sufficient information to customers about their respective tariff policies.

The objectives relating more to price levels as a whole raise issues relating to the approach taken by regulators to set these levels through the establishment of periodic price caps. As such, these issues are discussed below in the section that responds to the Paper's comments on the merits of the building blocks approach relative to methods that rely exclusively on productivity measures such as Total Factor Productivity (TFP).

Whilst the pricing principles proposed by the Commission appear to provide regulator's with significant discretion, it is not clear to what extent they would provide infrastructure owners and access seekers with much greater clarity about the detailed approach to be taken to pricing issues.

It is also unclear whether they would address effectively the tension referred to above in the absence of a more comprehensive review of detailed pricing principles and approaches embodied in industry-specific regulatory access regimes that currently apply to essential infrastructure such as electricity, gas and rail.[9] Indeed, embodying high level generic pricing principles in Part IIIA without having comprehensively reviewed the efficiency and effectiveness of existing pricing arrangements in other regulatory instruments is likely to provide little additional guidance for regulators and certainty for infrastructure owners and users.

Accordingly, the Office suggests that there is a need to review other regulatory instruments such as the National Electricity Code and the National Gas Code at the same time as defining the set of high level principles that could potentially be embodied in Part IIIA. This would ensure that there was greater consistency between the overarching framework and the regulatory instruments lying underneath, as well as improve the efficiency and effectiveness of the detailed approaches taken to pricing in specific industries.

Setting prices using the building block versus other approaches

In its Position Paper, the Commission identified what it considered to be flaws in the building block approach currently being adopted by a number of Australian regulators. These included:

- "the approach is clearly information intensive and intrusive, which participants claimed reduces incentives for good performance";
- "the need to forecast future costs, and to validate proposed capital expenditure, could lead to the regulator having a significant influence over the running of the business"; and
- "price caps based on the building block approach tend to merge into rate of return regulation. Subsequent efforts to the regulator to address the downside of rate of return regulation – incentives to 'gold plate' assets and pad costs - can in turn lead to more intrusive regulation …".[10]

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9 Indeed, regulators (such as IPART) have expressed concerns about the pricing principles and other aspects of the national regulatory framework applying to electricity and gas are restrictive and do not promote efficient outcomes.

10 p.212.

On the basis of these concerns, the Commission proposed that there should be a presumption in Part IIIA in favour of the sole reliance on 'productivity' indices (eg. TFP or DEA) or 'external benchmarks' based approach to set the price caps governing access to the services of essential infrastructure. In addition, it has proposed that if regulators adopt a 'building block' approach to set price caps, they should bear the onus of *demonstrating why alternative productivity based approaches would not be feasible to adjust that cap, at least in periods between cost based resets*.

The Office agrees that the methodology for setting price caps needs to evolve in more efficient directions with experience, and that greater use of industry-wide productivity-based indexes and benchmarks are likely to play an important role in that evolution.

However, in order to adopt a strong policy and statutory position in favour of the productivity-based approach, there is a need to first subject that methodology to the same degree of critical scrutiny that has been applied to the building block model currently adopted by most Australian regulators.

To this end, the Commission's analysis and conclusions on this matter would be improved if it conducted a more detailed and even-handed evaluation of the alternative methodologies under consideration. In particular, it should have regard to both the theoretical properties and as the operational properties for practical regulatory decision-making.

The building block methodology is currently the preferred approach of most regulators with Australia. As such, it is to be expected that it has been subject to considerable debate and criticism, particularly by the owners of regulated infrastructure businesses. The alternative productivity based methodology supported by the Commission and others has rarely if ever been applied in practice in Australia, and is, to some extent, the 'counter-factual' in this debate. Perhaps for that reason it does not appear to have been subject to the same scrutiny by the Commission, particularly in relation to the data and other operational requirements that must be addressed to apply it in practice.

In the course of its consultation on the 2001 Electricity Distribution Price Review, the Office identified a number of practical reasons for adopting a building block approach for that review in preference to productivity-based approaches (such as TFP or DEA), namely:

- the absence of robust, comparable historical data on the cost and productivity circumstances for typical electricity distribution businesses, not only in Victoria but also throughout Australia, which can be used to develop credible benchmarks;
- the extent to which some distribution businesses enjoy more or less advantageous operating environments relative to others;
- the medium-term financial consequences of the privatisation asset value adjustments set out in the *Victorian Electricity Supply Industry Tariff Order*; and

- the requirements of the legal and regulatory regime under which the Office operates.[11]

The Office therefore suggests that a more detailed analysis of the advantages and disadvantages of both the building blocks and productivity-based approaches should be undertaken by the Commission in order to do justice to this important debate and to reach policy conclusions on the basis of it. This should include the following:

- a thorough assessment of the theoretical and practical characteristics of the building block model;
- a clearer specification of what the Commission means by the productivity-based model;
- an equally detailed analysis of the theoretical and operational properties of that model, including the data and analytical requirements, and approach to controlling for firm-specific, geographic, network or other characteristics; and
- consideration of the potential for further development in regulatory approaches by means of more effective use of incentive mechanisms and productivity benchmarks and reduced reliance on detailed firm-specific data.

In determining its own approach to pricing in Victoria, the Office's foremost concern has been to apply the legal and regulatory framework that guides its decisions in a balanced and reasonable manner. In particular, a number of legislative instruments related to particular industries require the Office to adopt a CPI-X incentive-based approach to determine the price controls to apply to those services.[12]

Contrasting the building block and external benchmarking approaches

The objective of the building block approach is to ensure that regulated prices reflect efficient, forward-looking costs (thus preventing monopoly pricing and promoting allocative efficiency), while also protecting the medium-term interests of consumers and facilitating a financially viable industry. It also aims to provide regulated businesses with sustained incentives to increase productivity and reduce costs over time (thus promoting technical and dynamic efficiency).

The revenues derived from implementing the X factors are therefore expected to be sufficient to enable efficient distributors to operate and invest in their networks, service debts and remunerate shareholders. The X factors represent the percentage by which current prices need to change in order to align future prices with the revenue benchmark determined for an efficiently operated business using the building blocks

[11] Office of the Regulator-General 1998, *Finalising the Framework,* 2001 Electricity Distribution Price Review, December, p.19.

[12] The *Victorian Electricity Supply Industry Tariff Order 1995* specifies that the Office must use price based regulation adopting a CPI-X approach in setting the price controls (X factors) limiting the charges levied by electricity distributors for the use of their networks. It also requires the Office to provide incentives for them to operate efficiently and to ensure a fair sharing of benefits with customers. Similarly, for gas distribution services, the *Gas Industry Tariff Order 1998* specifies the need to adopt a CPI-X approach, but otherwise leaves the Office with considerable discretion about the precise approach to be taken to determining the X factors.

approach. The price controls then remain unchanged for a specified period (usually a period of around five years).

The incentive properties of different approaches to setting price controls are important when comparing the relative merits of these approaches. The incentives to pursue efficiency gains under a building block approach are achieved by:

- the commitment not to re-open the price caps for a fixed period (eg. five years);
- an efficiency carryover amount that rewards a regulated business for previous efficiencies at subsequent reviews.

It is the absence of these incentives (and the presence of others) that distinguish the building block approach from rate of return regulation. More specifically, under a rate of return regime, the regulator has the ability to adjust prices when higher than expected profits are observed. Likewise, firms have the ability to seek price rises when costs are higher than expected. Incentives to achieve efficiency gains are dampened because of the risk that a regulator may, at any time, pass all of the gains on to consumers. Similarly, the burden for inefficient firms of having to endure lower profits than anticipated for the remainder of a price cap period is weakened with the ability of firms to seek a reset at any time after prices have been set under a rate of return regime.

The Position Paper implies that the building block approach will lead to the downside of rate or return regulation – incentives to gold plate assets and pad costs, which in turn can lead to 'even more intrusive' regulation. Noting the incentive properties mentioned above, it is not evident that regulated firms will respond to such a regime by gold-plating assets and cost padding. Every dollar in excess of the revenue benchmarks spent during the price cap period will incur a 'penalty' in the form of lower profits within the period and a foregone 'efficiency carryover' amount.

If there is an attempt by the Office in its application of the building block approach to address the potential problems of gold plating and cost padding, it is through the careful design and implementation of incentive mechanisms to supplement the inherent incentives of a five-year price cap regime. That is, mechanisms that allow regulators to draw an inference that firms will only incur expenditure when it is prudent and efficient to do so, without the need for detailed examination of past investments.

The claim in the Position Paper that price caps based on a building block approach tend to merge into rate of return regulation has not been supported with informed and balanced analysis. In particular, it should be subject to more detailed scrutiny in light of the incentive properties of each regime. This is particularly the case if such a claim is based on the adverse effects of relying on certain information sources used to establish price caps rather than from the way these controls impact on the commercial incentives and conduct of regulated businesses.

Further, if the source and nature of information is used to support the claim that the building block approach is in effect rate of return regulation there is a risk of reducing the analysis to a view that they simply 'look the same', rather than evaluating the differences in their operational features and incentive properties. As noted below, the productivity-based approach is also data intensive and requires a similar input/output

data set to the building blocks approach. However, the operational features of the two approaches are different and they should be subjected to appropriate analysis if policy recommendations are to be based on a view as to their relative merits.

The alternative to using the building block approach that has been put forward is to set the 'X' element in a 'CPI-X' approach by reference exclusively to industry and/or economy-wide productivity measures. The application of such an approach relies on estimates of external or industry-wide indicators such as total factor productivity or data envelopment analysis to reset 'X' every regulatory period, irrespective of the relationship over time between the costs and revenues of the regulated businesses.

An important issue for consideration in evaluating the productivity-based approach relative to other methodologies is the extent to which X factors are set with reference to the features of the firm specific operating environment (eg. different geographical, population distribution or network characteristics) as well as industry-wide productivity performance. A number of distributors emphasised the need to correct for these factors during the 2001 Electricity Distribution Price Review.

It is worth examining how the sole reliance on a TFP-based approach would account for these differences. One view is that such an approach would account for these differences in the establishment of the opening position, leaving the TFP-based approach to roll forward annual rates of productivity change. Again, the view was expressed during the Office's 2001 Electricity Distribution Price Review that this would be an unacceptable approach and that little weight could be placed on the extent to which the opening positions accounted for different environmental factors.

This raises a further issue that is worthy of more consideration, which is the claim that the building block approach is information intensive and intrusive, and that TFP-based approaches are superior in terms of simplicity and transparency. External benchmarking approaches such as TFP and DEA analysis are used in the United States to determine the X factors as part of CPI-X price cap regulation filings for the electricity and telecommunications industries. However, the Office is unaware of any regulators in Australia that rely on these approaches in determining the price controls to apply to regulated industries.

The Office understands that robust TFP analyses require a reasonably lengthy time series of data for the industry in question. Further, that TFP analyses in the US typically incorporate data that stretches back to the 1960s and beyond. The type of data commonly used to perform such analyses in the US is not available for regulated businesses in Victoria or other jurisdictions.

In Victoria, this largely reflects the relatively recent privatisation and restructuring of regulated industries such as gas and electricity. More broadly, it also reflects the lack of rigorously defined performance indicators and reliable information collection systems for regulated infrastructure businesses in Australia generally.

In addition to the data requirements, the Office also understands that there are well-developed institutional arrangements to support the use of TFP analysis in regulatory decision-making in those jurisdictions where it has been applied. For example, in the US, years of rate cases have established precedents for interpreting data, and resulted

in the progressive development of detailed cost allocation rules, data collection processes and verification procedures.

While the building block approach might be regarded by some as being information intensive, it is not evident that a TFP-based approach would be any less information intensive. This proposition should be examined, not simply from the point of view of what information would be required to undertake a TFP *study*, but also in terms of considering what exactly would need to be done to fully implement a TFP *regime* capable of being used to make regulatory decisions. That regime would also need to be capable of withstanding legal challenge, meeting the requirements of policy and legislation and satisfying the aspirations of users and the community for balanced, transparent consultative regulatory decision-making.

The external or productivity based approach is said to allow greater deviation of prices from the specific costs of any individual regulated entity. This is arguably one of the more important considerations when assessing the practical merits of the different approaches. The Position Paper itself states that pricing principles should impose certain requirements on access pricing, three of which include references to costs. For instance, the requirement to:

- generate revenues that meet the long-run efficient cost of providing access to services;
- not be so far above costs as to detract from efficient use of services; and
- not discriminate between users unless the cost of providing access to them differs.

The Position Paper adopts a presumption that regulators should rely solely (or even predominantly) on a TFP-based approach to price regulation, the merits of which are said to be that regulators need not have regard to the costs of specific access providers. The Office is of the view that the Position Paper would be improved if it included a discussion of how adopting such an approach would ensure in practice that regulators could comply with the Commission’s proposed objectives for the regulation of access pricing.

In addition, consideration should be given to the extent to which under a productivity-based approach there would be a need to review the relationship between costs and prices that has emerged for the industry and for individual regulated businesses. For example, adverse movements in the cost/price relationship over time may be threatening the financial viability of the industry and unduly favourable changes may be delivering significant monopoly rents with detrimental effects on allocative efficiency and the position of downstream industries and final customers. That is, should a productivity-based, TFP regulatory approach simply be put on ‘automatic pilot’ or should there be periodic (building block) reviews of its performance in relation to the objectives of the policy and statutory framework.

Some concluding remarks

The basic themes of the building block approach are consistent with mainstream international and Australian practice in the regulation of network industries. In particular, it is consistent with the methodology and analysis that underpinned the Victorian Government’s initial 1995-2000 price determination for electricity

distributors and proposed gas distribution Access Arrangements for the period 1998-2002.

More generally, both the national electricity and gas codes embody a strong presumption that regulated prices should be determined on the basis of forward-looking revenue benchmarks. Accordingly, changes to those codes would be required to give effect to the inclusion in Part IIIA of a presumption in favour of the productivity-based approach. In the electricity sector in particular, both the ACCC and IPART have applied a building block approach to determine regulated prices for TransGrid and the NSW distributors respectively. In doing so, they have also been careful to ensure that positive incentives exist for efficient investment and operation along the lines of those introduced by the Office.

The Office is not opposed to having regard to external benchmarks or productivity-based measures when setting the X factors. However, it questions whether exclusive reliance on such a model at this point in time would deliver regulatory outcomes consistent with its objectives under the statutory framework irrespective of the merits of the different approaches. The lack of historical and comparable data in the Victorian gas and electricity industry as a result of privatisation and reform in the last decade suggests that there would be a number of practical constraints, notwithstanding questions about the relative theoretical properties of the different approaches.

With greater experience with the regulatory framework, including greater consistency in financial reporting, improved collection of historical cost based information and further debate on the appropriate benchmarks and benchmarking techniques to be adopted, these approaches may be worthy of further consideration at future reviews.

The Regulators' Forum has identified the need for regulators around the country to work together to establish more consistent performance indicators and benchmarks to enable some form of (albeit crude) benchmarking to occur. This will enable regulators to develop more robust techniques that may assist them in meeting their statutory objectives to balance the interests of regulated businesses and customers.

The Office considers that the Commission's proposed recommendation to require regulators to adopt external benchmarks or productivity-based approaches in pricing is premature and has identified a number of issues that it believes require further examination.

The Office suggests that a more appropriate recommendation may be to urge jurisdictional regulators, regulated businesses and other bodies (such as the Productivity Commission itself) to work together to examine these issues and to develop consistent performance measurement and reporting arrangements across jurisdictions.