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Via email: submissions@aemc.gov.au

REVIEW INTO THE USE OF TOTAL FACTOR PRODUCTIVITY FOR THE DETERMINATION OF PRICE AND REVENUES – BUILDING BLOCK QUESTIONNAIRE

Dear Marc

Thank you for the opportunity to participate in the AEMC's Questionnaire to User Groups and Industry Bodies on the Building Block Approach.

The Australian Pipeline Industry Association (APIA) has canvassed the views of its members in preparing its answers and the attached survey can be taken to represent the views of the gas transmission industry as a whole.

In considering issues related to TFP and building block methodology, APIA believes that, to the extent both methodologies may be available for use as regulatory tools, the decision as to which methodology to use should be made by the service provider. APIA believes that the building block methodology is currently more appropriate for gas transmission pipelines given their capital intensive nature, but the choice should ultimately be left to the service provider.

If you require further information please do not hesitate to contact me or Steve Davies, APIA's Policy Adviser, on (02) 6273 0577.

Yours sincerely

CHERYL CARTWRIGHT
Chief Executive

AEMC Total Factor Productivity Review: Questionnaire to User Groups and Industry Bodies on the Building Block Approach

The aim of this questionnaire is to ascertain views from user groups and industry bodies regarding the benefits and costs associated with the building block approach as it is used to determine revenue and prices.

- 1. Are there sufficient incentives within the building block approach for service providers to recover their efficient costs? Are there any significant disincentives with the building block approach?**

Are there sufficient incentives within the building block approach for service providers to recover their efficient costs?

Perhaps this question could be re-phrased. APIA suggests that the question should be whether the building block approach provides appropriate incentives for service providers to seek to improve the efficiency of their costs, i.e. reveal their efficient costs.

To date the focus of economic regulation in Australia has been on improving productive efficiency, and building block regulation has generally been an effective tool in that process. However, efficient costs for a business are unknown and cannot be determined by inspection or analysis. At best, it is possible to establish a range within which efficient costs are likely to occur. As originally conceived, incentive regulation was designed to address this problem. The proposition is that:

- i. businesses will be motivated to improve efficiency if they are given the opportunity to retain the benefits of those efficiencies – improved profit – for some time, thereby revealing their efficient costs; and
- ii. consumers will be better off because the future benefits of these incentive-driven efficiency improvements will be transferred to them over time through lower prices and/or enhanced services.

Under the building blocks approach the firm's price path is set for a period by reference to the firm's forecast costs and the business can earn additional profit by delivering services for less than the forecast cost. However, regulators are given the difficult task of determining the allowed forecast costs by reference to the firm's forecast efficient costs. The result is that consumers are handed the benefits of anticipated efficiency improvements, irrespective of whether they can be delivered, and the firm does not share in any of the benefits created in moving from its current level of costs to "efficient" costs as estimated by the regulator. This is the most problematic part of the building block approach: requiring the regulator to determine the firm's efficient level of costs.

Under this approach to building blocks, the incentive is not to reveal efficient cost but to out-perform the cost levels adopted by the regulator in setting prices. Because efficient costs cannot be known, and despite the best efforts of all involved, there can be no guarantee that the costs, as determined by the regulator, are efficient, more than efficient or less than efficient. Moreover, there is no certainty that the level of costs the regulator estimates to be efficient are achievable, or sustainable. There is a real risk that regulated prices will be set too low, with detrimental consequences for investment and long term asset integrity. It is generally accepted that the cost to society is greater if regulated prices are set too low than if they are set too high.

Importantly, unless the costs used for setting prices are significantly above the true efficient level, there is virtually no loss (that is deadweight loss to the economy) from the approved cost being greater than the true efficient level because of the inelasticity of demand. Moreover the impact on consumers is not significant either, because transmission pipeline transportation charges are typically 10-20% of the delivered gas price and opex is about 20% of transportation costs. At this

level even a deviation between true efficient costs and approved costs of 20% has only a 0.4-0.8% impact on end user prices. However, the impact on incentives to invest in pipeline expansions or extensions is significant because a 20% shortfall in opex reduces returns on equity for a 60% geared pipeline by 10% or more, so that future infrastructure will not achieve the necessary rates of return for the investment to proceed.

If this example was re-run with a smaller margin of error (say a 10% underestimate by the regulator) the impact on end users would be 0.2–0.4%, but the result for the pipeline business would still be that returns on investment are materially below its hurdle rate. It must also be remembered that firms will definitely not invest below their hurdle rate and may not invest even if the return is close to their hurdle rate. This is because many businesses are capital constrained and will optimise their returns by investing in the portfolio of projects that will deliver the maximum return.

The effect on pipeline investment of under-estimating costs is potentially significant for regulated pipelines. The risk that the regulator will determine costs that are less than the firm's true efficient costs remains a deterrent as long as regulators are required to determine forecast costs by reference to the efficient costs.

Are there any significant disincentives with the building block approach?

Energy infrastructure businesses are facing significant change over coming years and the focus now needs to move from improving productive efficiency to improving dynamic efficiency. Live issues include responding to a carbon constrained world; ensuring energy security; a greater emphasis on demand-side management; smart meters (for electricity distribution); and the introduction of new market structures (for gas).

For gas transmission there are also new sources of gas being developed (especially from coal seam gas) and prospective new markets to be served (such as LNG export facilities). All of these developments require responses, including substantial investments in assets and/or research and development.

For covered transmission pipelines the disincentives of the building block approach are a component of what can be characterised more generally as “regulatory risk”. Principal concerns in addition to that explained above are:

- Excess capacity, while prudent at the time the investment was made, could be stranded by the regulator. The industry's response to this risk is to build covered pipeline expansions and new pipelines with little, if any, excess capacity. The result is a missed opportunity to provide additional capacity for growth at the time of initial construction when it can be undertaken more economically. The economic costs of investing in a piecemeal manner are significant because of the very beneficial economies of scale associated with pipelines. Depending on the pipe size range, the capacity of a pipeline may be doubled by going up one pipe size, yet the cost of an additional pipe size is likely to be as little as 10-20%, rather than building to capacity and revisiting the site to expand by looping or increasing capacity at a later date. This additional 10-20% expenditure can generally be justified unless growth is forecast to occur a long way in the future.
- Regulated returns are likely to be pared back when/if a project that was originally assessed to be high risk is, in the end, successful. The result would then be that, over the pipeline's life, returns are below the level on which the original investment was justified.
- More generally, the rigidity of building block regulation inhibits commercial innovation.

These risks are reflected in the fact that many companies in the industry have availed themselves of scheme options that do not involve building blocks price regulation. Many major pipelines are now uncovered, either since commissioning or as a result of revocation, and two others that were formerly covered are now subject to light regulation. Most uncovered pipelines maintain published policies, principles and terms of access, which mitigates the risk of coverage. Access disputes have been rare and no dispute has yet gone to formal arbitration. This can be contrasted with the number of regulatory decisions for covered pipelines (as well as network infrastructure) that have gone to appeal. No pipeline owner has volunteered or would volunteer for coverage as a protective strategy.

2. What are the benefits of the building block approach in setting revenue and prices for regulated services? What are the draw-backs with the current building block approach in setting revenue and prices for regulated services?

In general terms, the benefits of building blocks are that:

- The businesses understand and apply the building blocks in doing business. They determine if a project will proceed using business cases based on building blocks. They manage their business on the basis of building blocks.
- Lay people understand building blocks. They understand capex, opex, asset values and rates of return.
- Policy makers are comforted that they can defend a system in which a natural monopoly achieves its economic costs (plus or minus) including a reasonable profit and is rewarded for doing a good job. That is, being efficient and reliable.
- It is based on reported facts. That is, cost in a company's accounts, which is information that is normally reported to shareholders.
- If the regulator did not have to determine whether forecast costs were efficient there would be no problem. As long as there is a sensible suite of incentives for companies to constantly be seeking to improve efficiency, maintain an appropriate level of reliability and innovate to respond to changes in technology, gas markets and other policy and external concerns, the building blocks approach is fine.

The drawbacks are as described in response to questions 1 above, i.e. that the current requirement for regulators to forecast costs by reference to the firm's efficient costs has high associated risks.

3. What is the nature and quantum of the costs (in dollar figures and as a percentage of total regulated revenue) that you incur in preparing and participating in an assessment of a revenue/regulatory proposal or access arrangement proposal? Please comment on direct costs (for example, staff, use of external experts and legal advice) and indirect costs (such as corporate overheads).

For a large, complex asset such as a network or large transmission pipeline, with a capital base of over \$500 million and revenue of approximately \$100 million per annum, the cost of each access arrangement review could be approximately \$2 million. The direct costs could be expected to include:

- Legal fees (say up to \$500,000)
- Consultancy costs (say up to \$500,000)
- Costs of internal staff and contractors – including regulatory managers, analysts, accountants, lawyers, various technical managers etc (say up to \$1,000,000)

These costs are often publicly available in Access Arrangement processes.

There are also indirect costs such as corporate overheads and the opportunity cost of diverting staff from productive projects that they may otherwise be working on. Perhaps more importantly, there is also the cost of management being more concerned about protecting itself from what the next regulatory review may produce, rather than focussing on improving the business.

A significant proportion of regulatory costs are fixed, so that the cost of building block regulation will be a larger proportion of revenue for a small pipeline or network than for a large company. For example, the cost of an access arrangement review for a small pipeline or network with a capital base well under \$100 million and revenues of approximately \$10 million per annum, is likely to be of the order of \$500,000.

Smaller operations may be more likely to qualify for light regulation, thereby avoiding the bulk of these costs.

Note that the above cost estimates do not include costs incurred by regulators and other interested parties.

4. Are there any recent national reforms (for example, changes to the National Electricity Rules or MCE reforms) that have improved or detracted from the application of the building block approach?

The gas transmission industry comes under the NGL and NGR which replaced the Gas Pipelines Access Law and National Gas Code on 1 July 2008 following a protracted period of intensive consultation. There were a number of positive outcomes, including:

- Establishment of clearly articulated Objectives and Pricing Principles to guide regulatory decisions, which should reduce uncertainty about how building blocks are to be applied.
- Strengthening of the coverage criteria, which reduces the likelihood that assets will be regulated unnecessarily.
- Clearer definition of the AER's discretion in its decision-making role, which is likely to produce greater certainty about decisions.
- Introduction of the light regulation option, so that building blocks/heavy regulation is applied only where justified.

A pipeline that qualifies for light regulation is not required to submit an access arrangement. Two pipelines (the covered section of the Moomba-Sydney Pipeline and the Carpentaria Gas Pipeline) have moved to regulation under these arrangements rather than the full regulatory approach.

On the negative side, rights of appeal are now more restrictive which increases the risk that the building blocks method may be applied inappropriately.

The NGL and NGR also confer significantly wider powers on the AER than were available to regulators under the old GPAL and Code, particularly in the areas of investigation and information gathering. It would be most unfortunate if the AER decided to apply those powers simply because the powers have been granted, rather than because of appropriate circumstances. The possibility of detailed annual reporting being required between regulatory reviews (not a feature of the previous regime), has the potential to undermine the structure of incentive regulation, under which the business is left to focus on becoming more efficient, developing solutions to new problems and developing new pipelines. Instead there would be greater regulatory intrusion and micro-management of businesses through the regulatory process. Such outcomes are counter-productive.

The industry has no experience yet of how the new NGL regime will work in practice for covered transmission pipelines.¹ Much will depend on how the AER approaches its role and whether it has an informed perspective of gas transmission and an appropriate approach to carrying out its responsibilities under the NGL and NGR. The AER must be able to maintain a broad focus that differentiates the important outcomes from the unimportant and recognises the potential conflicts between those outcomes.

5. To what extent do you consider that the determination process for revenue, prices or access arrangements to be adversarial in nature?

The determination process has become demonstrably adversarial and forensic. The number of regulatory decisions (electricity and gas; transmission and distribution) that have gone to appeal attest to this. There are also a significant number of other cases whereby decisions might have been appealed, possibly successfully, but where the business concerned has decided against proceeding for a variety of reasons including cost. As noted above, this contrasts with the situation for uncovered pipelines where no access dispute has yet gone to formal arbitration.

The adversarial nature of the process has a number of drivers: the perceptions of the regulator and businesses of each other and of the legitimacy of their respective positions; high levels of suspicion between the regulator and the businesses; the perceived need of the regulator to actively demonstrate that it is active; and the businesses' desire to get the best decision possible. However, the process exacerbates these tensions by requiring the regulator to determine the efficient costs of the business. It does this in several ways:

- In order to determine the efficient level of costs of the business the regulator – not always a business person – is required to understand the operation of the business. While the regulator may have this role in order to constrain the business's appropriate tendency to seek the best outcome possible, it is straying into the role of actually managing the business. This must inherently create conflict.
- The task of determining the efficient costs of an energy infrastructure business cannot be performed unless it is accepted that efficient costs can only be known within a fairly wide range. If this is not accepted by regulators – and the wording in the Rules ensures this point can be easily missed – the result is dispute and conflict; as is always the case where there is uncertain ground between two parties.
- Only allowing efficient costs is a flawed approach because, as identified above, if the regulator does find the actual efficient costs, the result will be that the incentive will be nullified. This is because if the business operates at this level it is only able to get the regulatory rate of return, or if it seeks to reduce costs below the efficient level the result will be a network that is not properly maintained. The results of such underspending may not manifest themselves for five to ten years or more, but it will be the end users of the network who bear the cost through unreliability or higher expenses at that time.

Clearly, the answer to this is to move away from the requirement for regulators to forecast efficient costs. This could be undertaken by simply focusing on incentive mechanisms to deliver efficiency improvements so that the regulator is not required to estimate efficient costs at all. A possible qualifier for this, to provide comfort to policy makers, would be that the costs of the businesses should be within the range of cost efficiency of their peers. Given the very significant improvements in efficiency over the past 10 years since the introduction of the NEL/NER and

¹ The first reviews under the new regime are about to commence for the Jemena Gas Network in NSW and the ActewAGL gas network in the ACT. The first gas transmission pipeline review (for the Central Ranges Pipeline in NSW) is scheduled to commence in 2010.

GPAL/Gas Code (now NGL/NGR)² it is reasonable to assume that the costs of energy infrastructure businesses are within a band that can be considered broadly efficient.

The task now is to provide an environment where businesses can respond to the very significant challenges of climate change and technology development that Australia faces. An adversarial regulatory environment will not be conducive to achieving these outcomes.

6. Since 1998, have you participated in a review (merits or judicial) or appeals regarding a distribution and transmission revenue or access arrangement decision made by a regulator? If so, what were the costs involved in participating in such a process?

The following gas transmission pipeline decisions have been taken to review/appeal (this list may not be comprehensive).

ACCESS ARRANGEMENT	
ACCC/AER	REVIEWED/APPEALED
GasNet system – 2003-2007 access arrangement	[2003] ACompT 6 (23 December 2003)
Moomba to Adelaide pipeline system (Epic Energy) – 2002-2005 access arrangement	[2002] ACompT 4 (27 November 2002) [2003] ACompT 5 (10 December 2003)
Moomba to Sydney pipeline system (EAPL) – 2004-2009 access arrangement	[2004] ACompT 8 (8 July 2004) [2005] ACompT 1 (18 March 2005) [2005] ACompT 3 (3 May 2005) [2006] FCAFC 83 (2 June 2006) East Australian Pipeline Pty Limited v Australian Competition and Consumer Commission [2007] HCA 44
Wallumbilla to Rockhampton pipeline system (Duke and Epic Energy)	[2003] ACompT 2 (10 May 2002)
ERA/OffGAR	
Dampier to Bunbury Natural Gas Pipeline (DBP) – revised Access Arrangement for 2005-2010	[2006] GRB(WA) No. 2 of 2005 (18 July 2006)
Dampier to Bunbury Natural Gas Pipeline –2000-2004 access arrangement	(2002) 25 WAR 511 [2004] GRB(WA) No's 1, 2, 3 of 2004

For the GasNet appeal in 2003, the cost was approximately \$1 million to GasNet. This was a relatively small appeal compared with the MSP and some of the West Australian matters.

² The NGL and NGR have yet to be adopted in WA. The ERA is conducting the Goldfields Gas Pipeline review presently under way in WA, under the National Gas Code.