

26 February 2010

Dr John Tamblyn
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Australian Energy Markets Commission
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Submitted via website: www.aemc.gov.au

Dear John,

Review into the use of total factor productivity: Preliminary Findings Paper

1. Introduction and overview

Grid Australia welcomes the opportunity to respond to the Commission's Preliminary Findings Paper on its review into the use of total factor productivity (TFP) for the determination of prices and revenue. In particular, Grid Australia supports and welcomes the Commission's analytical approach, which seeks to examine the potential merits and disadvantages of a TFP methodology.

As noted in Grid Australia's earlier submission (dated 27 February 2009) to the Commission's Framework and Issues Paper, Grid Australia supports the Commission's staged approach to the review. Under this approach, draft Rules will only be developed if the Commission concludes that TFP based regulation would contribute to achievement of the National Electricity Objective (NEO) or the National Gas Objective (NGO). Grid Australia noted in its earlier submission that this is particularly appropriate given that TFP based regulation is likely to be much more suited to some industry sectors than others.

From an electricity transmission perspective, there are two principal matters that Grid Australia would like to raise in this submission:

- the Commission has not ruled out the application of TFP-based regulation to electricity transmission despite the lack of any basis for its inclusion, as noted by a range of stakeholders, including Grid Australia; and
- the Commission appears to be contemplating changes, particularly in relation to regulatory reporting and data gathering, that relate to the building block regime. Grid Australia considers that the TFP review should not stray beyond its terms of reference into proposing changes to the building block regime. More importantly, a case for changes to the current building block regime has not been made, particularly in relation to electricity transmission. To the extent that there are issues with the building block regime these need to be

addressed systematically in a staged approach commencing with a clear and accurate articulation of the problems. It is important that the stability required for investment in long lived essential infrastructure is not undermined by a premature review of the building block regime.

In the remainder of this submission, Grid Australia elaborates on these concerns.

2. Applicability of TFP-based regulation to the electricity transmission sector

Grid Australia's earlier submission noted that an important background element to this review is that the Commission has only recently completed a detailed and wide-ranging review of the regulatory arrangements for electricity transmission¹. In that determination, the Commission concurred with the Expert Panel's conclusion that the case for TFP "appears less compelling in electricity transmission, where significant lumpiness of future capital expenditure demands is an important part of the industry landscape"². In fact, in its 2006 final determination on the regulatory framework for transmission, the Commission concluded (amongst other things) that:

- prescribed transmission services should be subject to a revenue cap;
- the revenue cap should be determined using a building block approach;
- industry-wide benchmarks, such as TFP based approaches, are inappropriate given the lumpiness of transmission investment

In its earlier submission, Grid Australia identified two further reasons why the application of TFP based regulation to electricity transmission would be likely to be contrary to the NEO:

- developing a sector-wide X factor to apply to all TNSPs would deliver inappropriate outcomes in terms of revenues, profits and investment. This finding is illustrated by the wide range of X factor outcomes for TNSPs in recent building block decision; and
- TFP based regulation creates data challenges and regulatory uncertainty for TNSPs.

Grid Australia's discussion of these further matters led it to conclude that:

"Grid Australia concurs with the Commission's view that there are serious questions about the suitability of applying TFP based regulation to determine the revenue path of electricity transmission service providers. Moreover, an examination of the AER's most recent revenue cap decisions illustrates that a single sector-wide X factor would deliver inappropriate financial outcomes for TNSPs.

Whilst Grid Australia does not support TFP based regulation in respect of electricity transmission, this does not imply that the regime has no possible role in respect of electricity or gas distribution. Grid Australia notes that the characteristics of the distribution sector may lend itself to TFP based regulation more readily than transmission."

¹ AEMC, Rule Determination, National Electricity Amendment (Economic Regulation of Transmission Services), Rule 2006 No.18, 16 November 2006.

² Ibid, page 40.

In contrast to the distribution sector, the outputs provided by transmission – such as the maintenance of system wide security and the facilitation of competition between supply sources – are more complex and much more difficult to measure. It is also notable that international experience does not involve the application of TFP-based regulation to the transmission sector and it is not being promoted as best practice regulation for networks more generally.

Grid Australia generally concurs with the views expressed by the Australian Pipeline Industry Association (APIA) at the AEMC's Public Forum on 1 February 2010. In particular, for transmission networks TFP-based regulation cannot properly capture genuine differences in individual company's productivity, not least because, as noted above, "outputs" cannot be measured objectively and inputs – in the form of investment increments - are "lumpy". In electricity transmission, TFP-based regulation will not accommodate the likely differences in TNSPs' investment drivers, which depend on State and company-specific factors such as jurisdictional reliability standards; geography; economic growth; planning requirements; asset replacement cycles; and the size, location and type of new generation capacity.

It follows that while TFP-based regulation may be appropriate for the distribution sectors, the same conclusion is not valid for the transmission sectors. Grid Australia also notes that significant questions remain regarding the design features of the TFP-regime. Until the detailed operational characteristics of the regime are settled, it is not possible to conclude that TFP-based regulation will actually further the NEO or NGO.

The Commission has identified the following tasks that must be undertaken in order to apply TFP regulation appropriately³:

- capital costs are set with reference to meeting financial capital maintenance needs (that is, net present value of the return of and return on capital less any scrap value equals the initial value of the asset);
- growth rates for actual outputs and inputs are a reasonable and unbiased estimate of future growth rates;
- outputs and inputs used in the calculation of TFP for the industry group reflect the service provider's activities (this includes billable and non-billable outputs);
- there is a reasonable comparability on the relationship over time between changes in outputs and changes in inputs between the service providers within the industry group and the service provider subject to the regulatory decision; and
- the measurement of capital input quantity reflects the actual use of capital (that is, the depreciation profile used is consistent with physical asset depreciation).

The Commission comments that;

"If a TFP index can be designed to satisfy the above conditions then it will be able to provide an accurate measure of industry productivity growth and give service providers a reasonable opportunity to recover the efficient costs incurred in the provision of the regulated service."
(AEMC, page 56)

³ AEMC, Preliminary Findings Paper, page 56.

From Grid Australia's perspective, the pre-conditions specified by the Commission set an appropriate hurdle for the application of TFP-based regulation. In particular, if one or more of the above conditions is not satisfied, it follows that the revenues or prices that result from TFP-based regulation may not reflect the forward-looking efficient costs of providing network services. Such an outcome would be inconsistent with the NEO and NGO. Grid Australia's earlier submission expressed concern that most of these conditions could not be met for transmission networks.

Grid Australia is concerned that the Commission's paper does not rigorously or consistently apply its criteria for effective TFP-based regulation. For example, the Commission comments that on the one hand:

"A TFP index must reflect industry productivity to allow the setting of a price path that reflects industry costs. When certain key conditions are met in designing a TFP index (such as consistency with financial capital maintenance objectives, reflection of service provider activities, and comparability between the service provider and the industry group), it should be an accurate measure of industry productivity growth and allow the recovery of efficient industry costs." (AEMC, page 47)

However, the Commission also comments;

"...as transmission outputs may be difficult to value and measure, this may impact on the accuracy of transmission TFP indices. The outputs associated with electricity system security and reliability may also be difficult to measure and value. However, this does not create any disincentive to service providers to improve system security and reliability." (AEMC, page 48)

Grid Australia concurs with the first conclusion above – namely that a TFP index must reflect industry productivity if the price (or revenue) path is to reflect industry costs. However, in the second conclusion above the Commission comments that difficulties in measuring system security and reliability as an output will not create any disincentive to improve system security or reliability. The rationale for this latter proposition is explained by the Commission as follows:

"If the system security output is not allowed for then electricity service providers will have a lower rate of measured TFP growth than would otherwise be the case. To the extent that this results in lower X factors then there may be at least some reward for electricity service providers and some incentive provided to the industry to improve system security and reliability." (AEMC, page 74)

The Commission concludes this section of its paper by commenting that:

"Accordingly, while a TFP methodology has difficulty in valuing service quality and system security as outputs and incorporating relevant quantity measures, the issue is not so significant or unresolvable that a TFP methodology should not be used to determine revenues and prices." (AEMC, page 74)

Contrary to the Commission's comments, TFP-based regulation does not provide an incentive to 'improve' system security and reliability, unless these outputs are included in the price control formulae or otherwise remunerated through an additional incentive mechanism. Grid Australia notes that the Commission appears to accept this point as one of its preliminary findings:

"A TFP methodology does not provide any incentive to maintain or improve the quality of service provided by an electricity or gas service provider. This output is currently effectively unpriced and there are difficulties with including reliability and other common service quality indicators as outputs in a TFP index. However, this issue can be managed. Until a solution to

measuring and valuing service quality outputs is found, the most appropriate course of action is to rely on an external service incentive scheme, as is currently done with the building block approach.” (AEMC, page 73)

Grid Australia is concerned that the Commission’s paper appears to adopt inconsistent positions on whether the accurate measurement of TFP should be a pre-condition for adopting TFP-based regulation. Grid Australia maintains its earlier view that the difficulties in measuring TFP for transmission networks, together with the challenges associated with lumpy capital expenditure, renders TFP-based regulation inappropriate for the electricity transmission sector.

Grid Australia concurs with the view expressed in the APIA’s presentation at the Commission’s public forum on 1 February 2010, that the Commission has sufficient grounds to make a firm conclusion now that TFP-based regulation should not apply to the electricity and gas transmission sectors. In the interests of clarity and certainty, Grid Australia encourages the Commission to provide a clear statement that there is no clear case that TFP-based regulation should apply to electricity transmission. Such a statement would ensure that the costs of developing transmission-specific TFP rules for Chapter 6A can be avoided.

3. Criticisms of an options for reforming the building block regime

Information Asymmetry

The Commission’s paper includes a number of criticisms of the building block regime. Information asymmetry is a particular concern noted by the Commission:

“The problems with the current building block approaches are about more than the need to strengthen incentives for efficiency. A key disadvantage of the current arrangements is the ability of a service provider to use its information advantage strategically to exploit the regulatory process to increase its profits to the disadvantage of consumers. The inadequacy of the current regulatory reporting requirements seems to add to this problem.” (AEMC, page 85)

The Commission proposes that a better, more consistent data-set should be specified to address the problems associated with information asymmetry:

“Initial focus should be on a work program to establish a better, more consistent data-set. This Review has highlighted the inadequate nature of the current regulatory reporting requirements. This is a problem for market efficiency and cost reflective regulation irrespective of whether a TFP methodology is applied. Establishing well targeted and consistent regulatory data reporting requirements will not only facilitate the possible introduction of a TFP methodology but would also support the more effective application of the building block approach in the event that a TFP methodology is not applied.” (AEMC, page xi)

Grid Australia does not agree with the Commission that the current regulatory reporting requirements are inadequate or that information asymmetry is a serious concern. The National Electricity Law and Chapter 6A of the National Electricity Rules provide the AER with powers to gather the information it requires to conduct a revenue review using the building block approach. Grid Australia further notes that the development of the National Electricity Law and National Electricity Rules followed an extensive period of consultation, including input from a panel of experts. Against this background, Grid Australia would be surprised if the building block regime were inadequate. In fact, the Commission’s Revenue Rule determination for transmission

companies (dated November 2006) explicitly recognised and addressed the matter of information asymmetry⁴:

“It is recognised, however, that the task of determining a revenue requirement based on forecasts is a difficult one that involves substantial information asymmetry between well informed service providers and the less informed regulator. In order to reduce this information asymmetry and encourage the TNSPs to reveal their efficient costs, the revenue cap regulatory model incorporates a suite of incentive mechanisms. For example, the Rule seeks to ensure that a TNSP has the incentive to provide a well developed and thorough revenue proposal to the regulator. It also seeks to provide a balanced approach between providing incentives to achieve cost efficiencies with appropriate incentives to maintain service quality and reliability. Similarly, incentives to achieve cost efficiencies should be designed to encourage efficient choices between capital and operating expenditure and between short term and long term investments. It is essential that this balance in the incentives regime is maintained in order to avoid unintended inefficiencies.”

It has certainly been the experience of Grid Australia members involved in revenue cap reviews in the limited time since the commencement of Chapter 6A that the incentives to provide well developed and thorough revenue proposals are indeed strong. These incentives have been further strengthened by the merit review provisions in the National Electricity Law, where a network service provider would be significantly disadvantaged if it failed to meet an information request from the AER.

The Commission also recognised the need to develop a balanced set of arrangements, which ensured that the overall package satisfied the National Electricity Objective. Grid Australia acknowledges that potential opportunities may exist for targeted incremental improvements to the building blocks. However, the Commission’s concerns regarding information asymmetry are not supported by evidence.

Building Blocks

Grid Australia notes the Commission’s focus on possible building block reform appears to be driven partly by its view that TFP-based regulation will take a number of years to introduce:

“However, there are risks with this approach of including a TFP methodology into the NER and NGR. It will take at least eight years before data is sufficient to permit a TFP methodology. In the meantime, significant changes in the industry may occur that could have implications on the effectiveness of a TFP methodology. An important consideration, for example, will be the suitability of applying a TFP methodology in the context of the challenges for service providers arising from the introduction of climate change policies. Also once a TFP methodology is implemented, it is possible that no service provider would decide to opt in.

As a result, it may be appropriate to consider whether there are amendments or other alternatives to the current form of the building block approach that could improve regulatory outcomes. Such changes may also be suitable for the transmission sectors. To facilitate discussion with industry on this, we are releasing a report by The Brattle Group which outlines options to reforming the regulatory framework. We seek stakeholder views on whether such

⁴ AEMC, Economic Regulation of Transmission Services, Rule Determination No.18, November 2006, page xiii.

alternatives should be explored before a commitment to a TFP methodology is made.” (AEMC, page xii)

The possibility of significant delays in the introduction of TFP-based regulation does not, of itself, justify modifications to the building block regime. Furthermore, it is important to reiterate that the Rules for transmission regulation have been settled by the Commission only recently. As yet, not all TNSPs have undergone revenue resets under the new Rules and it does not aid regulatory certainty to contemplate reviewing the building block regime at this point in time. This is of particular importance given the absence of evidence of information asymmetry issues arising from the Chapter 6A regime.

Grid Australia also questions the Commission’s view that the same data would be required by the AER for conducting TFP-based regulation and building block regulation. Grid Australia considers that the information and effort required to construct reliable TFP indices is likely to significantly exceed the information requirements of a building block regime. For example, the building block regime does not necessarily require the strict application of consistent definitions of cost inputs and service outputs across companies. Grid Australia also notes that data gathering would also need to extend to, as yet undefined, measures of transmission reliability risk and timing differences in capital expenditure profiles (‘lumpiness’) between companies. Further, as a TFP approach would oblige TNSPs to report against these factors, it would introduce additional informational requirements and regulatory costs.

Grid Australia considers that the introduction of any additional information requirements on TNSPs is unwarranted, whether those requirements are intended to facilitate TFP-based regulation (which should not apply to transmission) or to modify the building block regime. Good regulatory practice requires the Commission to have regard to the costs and benefits of imposing additional information requirements on network service providers. While there are expected additional costs from applying TFP, the benefits have not been established. In the case of electricity transmission, Grid Australia notes that clause 6A.17 of the Rules already contains detailed provisions regarding information disclosure. The AER’s annual publication of the TNSPs electricity performance reports already provides detailed information to enable stakeholders to evaluate TNSP performance, whilst the AER has extensive information gathering powers to discharge its regulatory duties, which include the making of building block determinations. Grid Australia’s view is that a cost-benefit analysis (akin to a regulatory impact statement process) would not justify the imposition of any new information requirements on TNSPs.

Depreciation

Grid Australia is also concerned that the Commission raises the possibility of changes to the depreciation provisions for the building block approach in order to facilitate TFP-based regulation. In particular, the Commission comments that:

“If service providers are able to move from a TFP methodology to the building block approach, then a related issue is what happens to depreciation? It would be preferable to require service providers continue with the depreciation approach set under a TFP methodology. Being able to switch between depreciation rates may provide circumstances where unnecessary volatility in prices results.” (AEMC, page 78)

As already noted, Grid Australia considers that as a matter of principle, the building block regime should not be amended to give effect to TFP-based regulation. In addition, the Commission’s discussion on depreciation focuses on the price volatility that could result if a network service

provider reverts to the building block approach from TFP-based regulation. The Commission does not appear to have considered whether price volatility could occur in the first instance if a network service provider adopted TFP-based regulation instead of building block regulation. The price volatility concerns raised by the Commission should be addressed in the context of the Commission's consideration of the feasibility of TFP-based regulation, rather than indicating a need to amend the depreciation provisions in the building block regime.

Grid Australia looks forward to further opportunities to engage with the AEMC and stakeholders in the relation to this review. If you require any further information from Grid Australia, please do not hesitate to contact me on 08 8404 7983.

Yours sincerely,



Rainer Korte
Chairman
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