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30 October 2009

Dr John Tamblyn
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

John.

Dear Dr Tamblyn

Total Factor Productivity Review - Design Discussion Paper, EMO0006

The AER values the opportunity to comment on the AEMC's Design Discussion Paper (August 2009) on the use of total factor productivity (TFP) for the determination of prices and revenues of gas and electricity distribution network businesses.

As stated previously, we support the detailed consideration of a TFP-based revenue and price control framework as an alternative to the building block approach, and see this review as an important opportunity to also consider improvements to the current building block approach.

The AER has provided specific comments on the Design Discussion Paper in the attachment to this letter.

As discussed in this submission, the AER considers that it would be beneficial for a trial of TFP to be undertaken before it is applied in regulatory determinations, to provide greater regulatory certainty on the potential outcomes from implementing TFP and to ensure that the TFP framework is well understood by all stakeholders.

More broadly, the AER is concerned that the degree of flexibility afforded to regulated businesses under the proposed TFP framework is disproportionate. We note also that several augmentations to a 'model' TFP approach have been proposed in the Design Discussion Paper. These include the application of off-ramps, regulated businesses being able to propose combinations of design elements, allowance for business specific adjustments, such as large, non-discretionary changes to capital spending, and giving regulated businesses the discretion to opt in to TFP and subsequently revert back to the building block approach. The AER is strongly of the view that the range of augmentations outlined and the significant flexibility given to regulated businesses would undermine the stated benefits of the TFP approach relative to the building block approach. This potentially can lead to an outcome that does not

provide a net benefit compared to the current arrangements and would therefore not meet the NEL objective. As stated previously, the AER believes that the AEMC's review process should involve a comprehensive cost-benefit perspective for the consideration of TFP compared to the existing building block approach, and that it is important to objectively test whether a move to TFP is likely to result in a net public benefit in terms of expected regulatory outcomes.

The AER believes that consideration should be given to conducting a trial simulating the application of TFP using actual regulatory data to help assess the costs and benefits to consumers of adopting a TFP approach as opposed to a building block approach. Such a trial would provide a basis upon which to discuss how TFP regulation may be best designed, or how it might be refined, to deliver benefits to consumers and, more broadly, to promote the national gas and electricity objectives. A trial would also assist stakeholders in understanding how the transition from the building block approach to TFP could be handled in practice and provide for an additional test and potential refinement of the methodology before it is applied. AER staff would be pleased to further discuss these aspects with your staff.

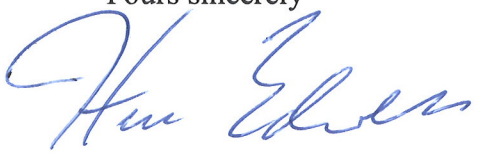
As stated previously, the AER considers that there is also likely to be merit in adopting the use of TFP as an additional 'benchmarking tool' under the current building block method. Such an approach could be implemented in the transition to enabling the application of both the TFP or building block framework as a revenue or price setting method, and in parallel with the structured and systematic collection of TFP data on a national basis.

Generally, the AER considers that further consultation is required regarding how the transition to TFP regulation would be managed. For example, the AER notes that there is not yet consensus as to what data would be required for the implementation of TFP. It would be beneficial if the AEMC developed a proposed position or set of alternatives for further consultation on the data required for TFP as part of the next phase of stakeholder consultation.

The AER will provide further input on the AEMC's review as it progresses.

Should you or your staff wish to discuss this submission, please contact Chris Pattas on (03) 9290 1470 or Darren Kearney on (03) 9290 1966.

Yours sincerely



Steve Edwell
Chairman
Australian Energy Regulator

AER comments on aspects of the TFP model proposed in the AEMC's August 2009 Design Discussion Paper

Applying a TFP methodology

AEMC design proposal: The initial selection of a TFP methodology and its continued application beyond the first regulatory control period would be a decision for the service provider. No approval of the regulator would be required. The decision to revert back to using the building block approach after a regulatory period using the TFP methodology would also lie with the service provider.

AER Comment: The ability of a regulated business to both select and then revert back to the building block approach without the approval of the regulator is likely give rise to regulatory gaming opportunities. For example, having opted in to TFP a regulated business could cut its expenditure over the regulatory period and then propose a higher expenditure allowance under the building block approach in the next period. The AER believes that the regulator's approval should be required before a business could revert back to the building block approach. The AER considers that the regulator should also have the ability to approve or reject a businesses' initial nomination of TFP under high level principles that focus on the achievement of the national gas and electricity objectives.

AEMC design proposal: Once the service provider selects the TFP methodology, the same timetable and processes currently applicable for the building block approach would apply. The only change would be that for electricity, the regulator would have to prepare a framework and approach paper covering the possibility of a service provider using either a TFP methodology or a building block approach.

AER Comment: The preparation of a framework and approach paper covering the *possibility* of a service provider using *either* a TFP methodology or a building block approach would be administratively cumbersome and onerous for regulated businesses, stakeholders and the regulator. The AER considers that a regulated business should be required to inform the regulator at least six months prior to the commencement of the framework and approach process whether it is proposing to opt in to TFP.

Calculating the TFP growth rate

AEMC design proposal: For defining the industry group, two options are presented:

(a) there would be one single TFP growth rate factor that would be applied to any service provider within the respective sector. This would be based on the average TFP growth rate for all regulated service providers in that sector; or

(b) the industry would be divided into subsets according to operating conditions. There would be four sub-groups: (i) urban, high density (ii) urban, low density (iii) rural, high density (iv) rural, low density.

AER Comment: In the Australian market, the number of regulated businesses in each sub group under option (b) would be low in some sub groups, which could potentially allow a single business to influence the TFP growth rate for the sub group. The AER believes that option (a) should be considered further along with the option of a broader sub grouping (e.g.

urban, regional, rural), which would be preferred, that appropriately captures a sufficient number of analogous regulated businesses.

AEMC design proposal: If the service provider is subject to a rolling X under the TFP methodology then the inputs and output weights would be updated on an annual basis as well.

AER Comment: The AER considers that a rolling X would be more costly to administer compared to a fixed X for the regulatory period. Also, a rolling X would provide less certainty to customers on prices over the period and could potentially diminish regulated business investment incentives given that the revenue path would also be less certain. The AER believes that a rolling X should not be an option under the TFP framework or be subject to the regulator's discretion.

Setting the initial cap

AEMC design proposal: The design paper discusses the elements of the methodology relating to how to calculate the TFP growth rate for determining the X factor. It supports the use of an index number based methodology. The paper notes that a number of alternative index number based methodologies can be used; for example, the commonly adopted Fisher index and Tornqvist index. The regulator would choose the index number method it considers appropriate, provided the method chosen satisfies the important technical requirement of being 'superlative' (that is, it can provide a close approximation to an arbitrary smooth function). The specification for calculating the TFP growth rate (that is, inputs, outputs and weightings) would be prescribed in the NER and NGR. The AEMC's paper also notes that substantial work has been done by the ESCV (with Dr Lawrence Kaufmann of Pacific Economic Group (PEG)) and by Dr Denis Lawrence of Economic Insights on developing an index–based methodology suitable for Australia. Also noted in the design paper is the debate between Lawrence and PEG/Kaufman on a range of methodological issues.

AER Comment: The AER agrees that the regulator should have the flexibility to decide on the index method. Regarding the relative merits of the Lawrence and PEG/Kaufman approaches to the specification for calculating the TFP growth rate and other methodological issues, the AER believes that the AEMC should consider and evaluate the alternative specifications in order to resolve the differences between the approaches. It is important to seek experts' views on the methodological issues both on theoretical and practical grounds.

The AEMC may want to consider establishing a stakeholder working group to further explore these issues and conducting a trial of TFP using data currently available. The AER considers that it will be important to reach a consensus among stakeholders regarding definitions for outputs and inputs at an early stage to facilitate TFP data collection and analysis in a transparent and consistent way.

While the Rules should specify the criteria for determining the correct TFP specification and the X factor, the regulator should have flexibility in conducting rigorous data analysis for the purpose of deriving an accurate, reasonable and robust TFP estimate in its application of TFP regulation.

Regarding the estimation of trend growth rates, a number of methods, such as arithmetic or geometric average, can be used although there could be a substantial difference in the TFP growth rate resulting from the use of alternative measures of trend growth rate. The AER

notes that both the regression-based trend growth rate and the logarithm growth rate are highly sensitive to the start and end points of the TFP series and therefore require some justifications for the period used in the estimation. The AER considers that it should have flexibility to determine the time period for measurement; that is, the sample period that is sufficiently long (i.e. no less than eight years) and representative of the trend productivity growth that is likely to take place in the future regulatory period.

Although it may not be necessary to specify all technical aspects of a TFP methodology in the NER and NGR, certain explicit criteria to be met by the regulator in its determination of the appropriate specifications at a later stage should be prescribed. The AER, in drafting its TFP guidelines at a later stage, would specifically consider these criteria and be required to apply them in an objective, consistent and transparent way.

AEMC design proposal: The method to set the initial price or revenue cap at the start of the regulatory period would be a partial building block approach where the regulator:

- determines the level of operational and capital expenditure for that year based upon a reasonable assessment of actual costs incurred in the current period;
- calculates the regulatory asset base in accordance with the existing roll forward methodology;
- estimates the efficient rate of return for the duration of the new regulatory period in accordance with the existing methodology; and
- estimates the efficient tax for the initial year in accordance with the existing methodology.

This method would be used regardless of whether under the current regulatory period the service provider is using the building block approach or a TFP methodology.

AER Comment: The AER agrees that a periodic resetting of prices to costs is necessary under a TFP framework to enable regulated businesses to earn a reasonable rate of return and to ensure consumers are protected from excessive returns to businesses. While a review of actual costs in a base year is consistent with the approach adopted under a building block approach, the AEMC's TFP design appropriately excludes an efficiency carryover mechanism (i.e. Efficiency Benefit Sharing Scheme or EBSS) which, under the building block approach, acts to negate a regulated business's incentive to artificially inflate costs in the base year. The difficulty in assessing base year costs under TFP in the absence of an EBSS is not addressed directly in the AEMC's design paper. The AER believes that the AEMC should give further consideration to appropriate mechanisms and powers that should be available to the regulator to assess base year costs in the absence of an EBSS.

Additional design terms

AEMC design proposal: Longer regulatory periods are consistent with a TFP methodology and would be available to service providers. This is consistent with the current provisions of the NER and NGR which provide service providers with the ability to propose an extended regulatory period under the building block approach.

AER Comment: The potential benefits of TFP regulation (i.e. stronger efficiency incentives, lower regulatory costs) may not be fully realised if regulated businesses have discretion over

the length of the regulatory period beyond a five year minimum. The AER considers that the minimum length of the regulatory period under TFP should be at least seven years to increase the incentives for business efficiency and to reduce regulatory costs under TFP relative to the current building block framework. In previous AER submissions it has been noted that lengthening regulatory periods under the building block approach would also increase the incentives for businesses to reduce costs, while creating challenges for the assessment of forecast costs and demand. The AER notes that under TFP, the challenge in forecasting demand over a long period would remain where a price cap is applied.

AEMC design proposal: A service provider could include a capital module in its proposed revenue or access arrangement to recover actual efficient, extraordinary significant increases in capital expenditure during a regulatory period. The regulator would need to be satisfied that the expenditure is outside the scope of the cost drivers that are taken into account in setting the X under a TFP approach.

AER Comment: The AER agrees that it would be prudent to include a mechanism under TFP regulation that would allow for significant increases in capital expenditure that is non-discretionary within a regulatory period and that is not allowed for under the pass-through arrangements for TFP. This is intended to deal with non-steady state conditions driven by significant one-off type changes, such as bigger than usual capex replacement programs not readily captured under historical TFP trend rates (e.g. 'smart meter' roll-out and climate change related obligations). Such capital expenditure should nevertheless be subject to regulatory assessment of efficiency. The AER notes that a capital module mechanism will complicate the operation of the TFP framework as is the case with the provisions discussed below.

AEMC design proposal: Off ramps would be available under a TFP methodology. An off ramp mechanism would:

- be proposed by the service provider or required by the regulator;
- clearly specify the 'off ramp event' at the start of the regulatory period. This could be a specified event or a rate of return or revenue band (for example, that the actual rate of return varies by more than 20 per cent of allowed rate of return);
- require an 'off ramp event' to be significant; and
- require that the need and specification of an off ramp mechanism be assessed for each forthcoming regulatory period.

AER Comment: The rationale for inclusion of an off ramp mechanism is stronger where a business chooses a regulatory period that is longer than the minimum period. Notwithstanding this, an off ramp mechanism is likely to give rise to regulatory gaming opportunities, for example where a regulated business manipulates its returns/costs to trigger an off ramp event and a more favourable resetting of revenues/prices. This could be mitigated by the nature of trigger conditions for an off ramp event although the opportunity for a regulated business to shorten a regulatory period still raises regulatory process and cost issues that could potentially undermine the benefits of TFP.

Also, it is unclear in the AEMC's TFP design paper why a TFP framework would require an off ramp mechanism *in addition to* pass through arrangements and the capital module discussed above. The AER considers that if an off ramp were included in the TFP framework the regulator should have significant discretion over whether a determination should be re-opened.

AEMC design proposal: The service provider can propose any combination of all design elements[1] for the regulator's approval. The regulator's assessment on the proposed package would have regard to the NEO or NGO and the revenue and pricing principles.

AER Comment: As discussed above, the AER considers that the minimum length of the regulatory period under TFP should be at least seven years, that the need for an off ramp mechanism in addition to pass through arrangements and a capital module is questionable, and that a rolling X should not be an option for regulated businesses. The AER is of the view that if the range of design elements were included in the TFP framework, the regulator should have significant discretion over which elements may be applied in a determination.

Setting the price path under TFP

AEMC design proposal: An additional term would be included in the formula for determining the X factor to permit the regulator to make business specific adjustments. Such adjustments would only be justified if the regulator considers that the industry TFP growth rate should be adapted to reflect a significant difference in the productivity growth potential of that specified service provider. The regulator's decision would need to be consistent with the relevant national objective and the revenue and pricing principles. The adjustment could be positive or negative.

AER Comment: Such an arrangement would add significant complexity to the administration of a TFP framework and provide substantial grounds for challenges and disputes regarding the regulator's discretion over business specific adjustments. This is likely to undermine the stated benefits of the TFP approach relative to the building block approach and lead to an outcome that does not provide a net benefit compared to the current arrangements. The AER's preferred option in place of business specific adjustments is to establish a grouping of regulated businesses, for the purposes of measuring TFP growth rate factors and establishing indices, that appropriately captures a sufficient number of analogous businesses.

[1] The elements being: a longer regulatory period, a cost pass through mechanism, a capital module, an off ramp, and a choice of fixed or rolling X.