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11 November 2013

Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr Pierce

Rule change proposal – rule 77(2)(a) of Part 9, Division 4 of the National Gas Rules

The AER requests that the AEMC consider making a rule change under section 295 of the National Gas Law (NGL). The AER proposes a change to rule 77(2)(a) of the NGR.

Rule 77(2)(a) allows the AER to make an adjustment when setting the opening capital base at the start of an access arrangement period to account for any difference between estimate and actual capital expenditure (capex) in the previous access arrangement period. We propose to amend this rule to make it clear that this adjustment should remove any benefit or penalty (such as a difference in the return on capital) that results from the difference between estimated and actual capex.

When we make an access arrangement for the next regulatory period (period *t+1*) we have to roll forward the capital base at the start of period *t* to take account of capex during the present access arrangement period. Because we do not know what capital expenditure will be for the final year of the existing access arrangement period (this is the year in which we undertake the review), we use an estimate. But when we make the access arrangement for period *t+2* we replace this estimate by actual capital expenditure in the relevant year. The purpose of the proposed amendment is to place the regulated firm in exactly the same position as it would have been had we been able from the outset to use actual capital expenditure for the last year of period *t*.

Until recently, when replacing an estimate with actual capex in the course of an access arrangement review, the AER had made a corresponding adjustment to the return on capital element.

This adjustment was made to address adverse incentive effects from a service provider achieving gains or losses from the use of an estimate that differs to actual capex. The Australian Competition Tribunal had previously ruled that the adjustment could be made under rule 77(2)(a).[1]

However, in the Australian Competition Tribunal's recent decision in "*Application by APA GasNet (Operations) Pty Ltd* (No 2) [2013] ACompT8, the Tribunal ruled that the wording of r 77(2)(a) did not provide the AER with power to make a return on capital adjustment associated with the difference between the estimate and the actual. If that is the intention, the Tribunal noted "it would be desirable for the rules to be amended to expressly provide for such an adjustment."[2]

In line with this, the AER's proposed rule change would expressly provide for a return on capital adjustment associated with any difference between final year estimated and actual capex.

The AER proposes that the wording of rule 77(2)(a) of the NGR be changed to mirror the equivalent rules in the National Electricity Rules (NER).

The NER already provide for an express adjustment that removes any benefits or penalties associated with the use of the estimate. This necessarily includes a return on capital adjustment.[3] The proposed rule change to the NGR would ensure that the electricity and gas regimes are harmonious in this respect. This approach would reflect the almost identically expressed objectives and revenue and pricing principles in the NGL and the NEL.

The effect of such a rule change would be that if a service provider's estimate is lower than its actuals, it will not be penalised. It will receive the additional return that it had not received because its estimate was lower. Conversely, a service provider will not benefit if its estimate is higher than actual capex. The additional return that it received will be removed. Equally, consumers will not pay lower or higher prices. Consumer prices will reflect actual capex spent.

The efficiency incentives that underpin the regulatory regime will remain unaffected. The rule change proposal will have no impact upon those incentives: the service provider will continue to seek capex efficiencies in the final year against the forecast capex, as with all other years in the access arrangement period.

The AER considers the proposed rule change would contribute to the National Gas Objective and is consistent with the Revenue and Pricing Principles. The proposed rule change would promote efficient incentives in the final year of access arrangements and therefore encourage efficient investment in and utilisation of pipeline services. This is because the service provider (and consumers) are not made worse off or better off in circumstances where the final year actual capital expenditure is different from the estimate.

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1 *Application by Jemena Gas Networks (NSW) Ltd (No 3)* [2011] A CompT 6; (2011) 279 ALR 407.

2 *Application by APA GasNet (Operations) Pty Ltd (No 2)* [2013] ACompT8, 18 September 2013, at [141]. Australian Competition Tribunal, Application by APA GasNet (Operations) Pty Ltd (No 2) [2013] ACompT8, 18 September 2013, at [116].

3 NER r. S6.2.1.(e)(3) and NER r. SA6.2.1.(f)(3)

We look forward to discussing the proposal with the AEMC. Please contact Kim Huynh on (03) 9290 1960 if you have any questions or queries regarding the attached rule change proposal.

Yours sincerely

Andrew Reeves
Chairman

REQUEST TO AMEND RULE 77(2)(a) OF THE NATIONAL GAS RULES

A. NAME AND ADDRESS OF PERSON MAKING THE REQUEST

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B. INTRODUCTION

The AER proposes a change to rule 77(2)(a) of Part 9, Division 4 'Price and Revenue Regulation' of the National Gas Rules (NGR).

The propose rule change is in respect of a matter of which the AEMC may make a rule under the National Gas Law (NGL), namely the capital base with respect to a covered pipeline.[1]

The rule change is intended to provide for full adjustments to the opening capital base for the accumulated return on capital on the difference between estimated and actual capital expenditure (capex) in the final year of the access arrangement.

This change is required to ensure that scheme pipeline service providers do not achieve benefits or losses due to a difference in estimated and actual final year capex used to set the opening capital base. Gains or losses which are not related to the efficiency of service providers conflict with the National Gas Objective (NGO) of the NGL because they can:

- Adversely affect pipeline investment incentives;
- Adversely affect pipeline usage incentives; and
- lead to price distortions.[2]

In a recent decision,[3] the Australian Competition Tribunal (Tribunal) determined that rule 77(2)(a) of the NGR does not enable the AER to make adjustments to the opening capital base for the return on capital on differences between estimated and actual capex in the final year of an access arrangement.

Prior to the Tribunal's decision, the AER had made return on capital adjustments in line with replacing an estimate with an actual, when applying r 77(2)(a) of the NGR. This was consistent with the approach taken by the AER under the National Electricity Rules (NER). The NER expressly provides for removal of any benefit or penalty associated with any difference between estimated and actual expenditure. This necessarily includes a return on capital adjustment.[4]

[1] NGL s 301(1)(b), s 74, Schedule 1 clause 43.
[2] NGL s.23
[3] Australian Competition Tribunal, Application by APA GasNet (Operations) Pty Ltd (No 2) [2013] ACompT8, 18 September 2013.
[4] For distribution network service providers: Schedule 6.2.1(c)(2), 6.2.1(e)(3); For transmission network service providers: Schedule 6A.2.1(c)(2), 6A.2.1(f)(3).

The AER proposes that r 77(2)(a) be amended to ensure that return on capital adjustments can be made by the AER when adjusting for the difference between the estimate and the actual capex in the final year of the access arrangement. The AER considers that this will or is likely to contribute to the achievement of the NGO. The AER proposes that r 77(2)(a) be amended by using the same wording as the equivalent rule in the NER. The AER proposed text of the rule change is set out in Appendix A. Appendix B sets out the current text of r 77(2) of the NGR.

C. STATEMENT OF ISSUES

Operation of rule 77(2) when determining total revenue for an access arrangement period

Rule 77(2) forms part of Division 4 of Part 9 of the NGR. Division 4 concerns the determination of the capital base. Rule 77 sets out the process for determining the opening capital base. The opening capital base is an input into calculating the projected capital base for a particular Access Arrangement Period (AAP).[5]

The opening capital base is the regulatory value of a service provider's regulated assets at the beginning of an AAP. It is also the starting value for the projected capital base for the AAP. A service provider is permitted to earn revenues for depreciation of and a return on the projected capital base. Consequently, the opening capital base is a key input in determining a service provider's total revenue requirement for an access arrangement period.

Rule 77(2) of the NGR sets out the manner in which the opening capital base is to be calculated for an AAP that follows immediately on the conclusion of a previous AAP. The opening capital base for an AAP is determined by taking the opening capital base from the previous AAP, adding actual conforming capex from the previous AAP, and subtracting asset disposals and regulatory depreciation incurred within the previous AAP. This process is commonly referred to as rolling forward the capital base.

Rolling forward the capital base when final year capex is not known

A service provider usually submits its access arrangement revision proposal for the forthcoming period (**AA2**) at least four years into an access arrangement.[6] At the time that a service provider submits its revenue proposal, the actual capex for the final year of the current AAP (**AA1**) cannot be calculated with absolute certainty. A service provider must therefore submit an estimate of final year capex. That estimate must comply with the NGR requirement that applies to all estimates submitted by a service provider.[7]

Following the AER's draft decision, a service provider in its revised proposal updates that estimate for conforming capex with a more accurate estimate. It is likely that such an estimate will be based on actuals (albeit unaudited) for part of the final year.

[5] NGR r. 78(a)
[6] NGR r.50(1)
[7] NGR, r.74.

At the time of the AER's final decision for AA2, the AER will approve, or not, the estimate provided, or substitute its own estimate of conforming capex for that final year of AA1.

As with all estimates provided, the AER must be satisfied that the estimate meets the NGR requirements.[8] The AER's assessment of the estimate will be based on the information available to it. Generally, this will be information provided by the service provider. Nonetheless, there will remain a degree of uncertainty about the level of capex for the final year of the previous period (AA1). This is to be contrasted to the other years of the previous period for which audited actuals can be provided (Years 1-4 of AA1).

In these circumstances, an estimate of conforming capex for the final year is effectively a 'place holder' for actual conforming capex until such time as the actual can be provided to the AER. This will occur at the time of the next access arrangement review for the next access arrangement period which will typically be in five years' time (**AA3**). At that time, audited actuals can be provided to the AER and the estimate can be replaced with the actual. Accordingly, rule 77(2)(a) of the NGR provides:

> (2) If an *access arrangement period* follows immediately on the conclusion of a preceding *access arrangement period*, the opening capital base for the later *access arrangement period* is to be:
>
> (a) the opening capital base as at the commencement of the earlier *access arrangement period* (adjusted for any difference between estimated and actual capital expenditure included in that opening capital base);
>
> plus: …

The estimated capex in the final year of AA1 does not replace the function of the forecast capex that was included in the projected capital base for that period, and on which a return on capital was derived. The difference between the concepts of estimated capex and forecast capex is discussed below and was identified and explained by the Tribunal in the *Jemena Gas Networks* matter:[9]

> *Estimated* capex only arises in the final year of an AAP (AA1) in circumstances where actual capex for that year is not known. Along with the actual capex for the other years in the period (AA1), the estimated final year capex is added to the opening capital base at the commencement of the next AAP (AA2). As such, the service provider receives both a return on capital and a depreciation allowance on the estimated final year capex for the entire AAP (AA2).
>
> *Forecast* capex is determined for each year of the AAP (AA2), and forms part of the projected capital base for that period. The service provider receives a return on capital and a depreciation allowance on the forecast capex as part of the projected capital base, irrespective of actual capex during the AAP.

[8] NGR, r 74.
[9] *Jemena Gas Networks*, at [45]. Also see the example given in the Final Decision, *Part 3: Appendices*, Appendix C, p 83

Actual capex is relevant in determining the opening capital base for the next AAP (AA3).

First, in determining the opening capital base for that period, the AER must include actual capex (rather than forecast capex) during the earlier access arrangement period (AA2).[10] However, this does not affect the return on capital earned on forecast capex during the earlier AAP (AA2).

Second, the AER must make an adjustment for the difference between estimated and actual capital expenditure included in the opening capital base as at the commencement of the earlier AAP (AA2).[11] This relates to the inclusion in that opening capital base of estimated capex in the final year of the first AAP (AA1).

Issue with the current operation of rule 77(2)(a)

Under rule 77(2)(a), the AER must adjust the opening capital base at the commencement of an AAP (AA3) for the difference between estimated capex and actual capex in the final year of the AAP that ended five years earlier (AA1).

The Australian Competition Tribunal in its recent decision on APA Gasnet's 2013-18 access arrangement determined that r 77(2)(a) does not provide for the AER to make return on capital adjustments to the opening capital base of an AAP (AA3).[12] Consequently, the AER cannot adjust for any return on capital received or not received during the previous AAP (AA2) on the difference between estimated and actual capex in the final year of the AAP that ended five years earlier (AA1).

As a result, consumers and service providers may be subject to windfall gains and losses. Where actual capex in the final year of an AAP (AA1) is lower than estimated, service providers will recover a return on capex that has not occurred over the following AAP (AA2). Where actual capex in the final year of an AAP (AA1) is greater than expected, service providers will not recover a return on capex actually incurred in the following AAP (AA2). Given that the capital base is not revised again until the end of the next AAP (AA3), this gain or loss is incurred each year for the length of the AAP (AA2) and therefore accumulates over this period. The AER considers that these outcomes are not consistent with the NGO for the reasons set out later in this proposal.

Tribunal decisions

The Tribunal's recent decision "Australian Competition Tribunal, *Application by APA GasNet (Operations) Pty Ltd* (No 2) [2013] ACompT8" resulted in APA GasNet retaining a $13.2 million ($2012) return on capital for $20m ($2007) worth of capex not undertaken in 2007. The $20m represents the difference between the estimate and the actual capex for 2007.

[10] NGR, rule 77(2)(b).
[11] NGR, rule 77(2)(a).
[12] Australian Competition Tribunal, Application by APA GasNet (Operations) Pty Ltd (No 2) [2013] ACompT8, 18 September 2013, at [142].

In its Final Decision, the AER did not approve APA GasNet's proposed opening capital base of $630.8 million as at 1 January 2013. The AER calculated an opening capital base of $617.6 million, which included a reduction of $13.2 million for the return on capital associated with the difference between estimated and actual 2007 capex over the course of the 2008-2012 access arrangement period.[13] The AER noted that '[b]ecause actual capex was lower than the estimate of capex, APA GasNet's rate of return allowance was higher than it would have been if APA GasNet's estimate had been accurate'.[14] In relation to the adjustment to remove the excess return on capital, the AER explained:[15]

> 'The adjustment prevents APA GasNet from gaining/losing from any difference between estimated and actual capex for the final year of an access arrangement period. This means APA GasNet has no incentive to overestimate capex for that final year, or to defer efficient expenditure. Conversely, the adjustment does not impose additional penalties on APA GasNet if its actual final year expenditure exceeds its estimate.'

The AER considered that the adjustment resulted in 'an appropriate balance to encourage efficient investment in APA GasNet's network', and would 'promote the long term interests of consumers of natural gas with particular respect to price'.[16]

The adjustment for the return on capital was explained in greater detail in Appendix C.[17] The effect of including the overestimate of 2007 capex in the opening capital base as at 1 January 2008 was that APA GasNet received additional revenue in the form of an incremental return on capital in each year of the 2008-12 access arrangement period. An adjustment to remove that additional return from the capital base eliminates the financial incentive for a service provider to over-estimate its final year capex. Conversely, such an adjustment ensures that a service provider is not penalised if it underestimates final year capex (that is, if its actual conforming capex in the final year is higher than the estimate).

The AER noted that there was an ongoing incentive for APA GasNet to outperform the forecasts of annual capex that were made at the commencement of the access arrangement period, and were added to the projected capital base on which the return on capital during that access arrangement period was calculated. APA GasNet would retain the return on capital recovered during that access arrangement period, even if it subsequently provided an estimate of final year capex (for the purposes of determining the opening capital base in the next access arrangement period) which was less than the forecast, and even if its actual final year capex was less than the forecast for that year.

Further, given that the estimate of capex in the final year (*i.e.* 2007) was made midway through that year, there was limited scope for APA GasNet to make significant efficiency gains against that estimate in the balance of the final year. The estimate should also be reasonably accurate given the information available to the service provider at that stage.

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[13] AER, *Access arrangement final decision: APA GasNet Australia (Operations) Pty Ltd: 2013–17* (**Final Decision**), Part 2: Attachments, p 24 (Table 3.1).
[14] Final Decision, Part 2: Attachments, p 27.
[15] Final Decision, Part 2: Attachments, p 27; see also Part 3: Appendices, Appendix C, p 80.
[16] Final Decision, Part 2: Attachments, p 28; see also Part 3: Appendices, Appendix C, p 85.
[17] Final Decision, Part 3: Appendices, pp 79-85.

The Tribunal did not accept the AER's approach to the application of rule 77(2)(a) because as a matter of statutory construction the wording of the provision did not permit that outcome. The Tribunal stated that if that if that is what is intended "it would be desirable for the rules to be amended to expressly provide for such an adjustment."[18]

The Tribunal did not express a view on the desirability of rule 77(2)(a) as it currently applies. It observed that it was not within its power to construct the rule in a manner that would allow the AER to adjust the opening capital base as described above.

> '[T]he Tribunal here gains little value from the suggestion that the rule was designed to encourage (or discourage) efficient capex or provides an incentive (or disincentive) to overinflate capex estimates. This is because the design of a regime with or without those features is ultimately a matter for policy makers. The Tribunal can conceive a regime that may or may not include some or all of those features. Were the Tribunal to favour an interpretation of the rule merely because it fostered (or did not foster) those matters, it would be undertaking a role which is properly a matter for policy makers.'[19]

The arguments submitted by APA GasNet were also previously considered, but at that time, rejected by the Tribunal in *Application by Jemena Gas Networks (NSW) Ltd (No 3)* [2011] A CompT 6 (*Jemena Gas Networks*).[20]

In those proceedings, Jemena sought review of an access arrangement decision made by the AER for the 2010-15 access arrangement period. Jemena's opening capital base at the commencement of the 2005-10 access arrangement period had included an amount of $88.6 million for estimated capex in the final year of the previous access arrangement. Its actual capex in that year was $20.3 million less than the estimate.[21] In its final decision on the 2010-15 access arrangement, the AER reduced Jemena's opening capital base by $20.3 million to account for the difference between estimated and actual capex for 2004-05, and by a further $13.1 million 'to remove the effect of the rate of return and inflation on the difference between JGN's estimated and actual capital expenditure in 2004-05'.[22] Jemena accepted the first adjustment, but argued that the NGR did not permit an adjustment to remove the effect of the rate of return on capital during the 2005-10 access arrangement period.

The Tribunal summarised the AER's position as follows:[23]

> 'A network is entitled to earn a rate of return on its capital investment. Because estimation of capital expenditure in the final part of the current access period is unavoidable, the NGR allows networks to claim a rate of return on capital expenditure which they estimate will be

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[18] *Application by APA GasNet (Operations) Pty Ltd (No 2)* [2013] ACompT8, 18 September 2013, at [141]. Australian Competition Tribunal, Application by APA GasNet (Operations) Pty Ltd (No 2) [2013] ACompT8, 18 September 2013, at [116].

[20] *Application by Jemena Gas Networks (NSW) Ltd (No 3)* [2011] A CompT 6; (2011) 279 ALR 407 (**Jemena Gas Networks**) at [42]-[56].

[21] The Tribunal distinguished estimated capex from forecast capex, noting in relation to the former that '[t]he need to estimate capital expenditure arises because future access arrangements are finalised prior to the end of the current access arrangement to ensure a smooth transition between periods – and, consequently, the actual amount of capital expenditure is not available at the time of formulating the future access arrangement': *Jemena Gas Networks* at [45].

[22] *Jemena Gas Networks* at [46]-[47]. The amount attributable to the effect of the rate of return on capital was approximately $10.1 million.

[23] *Jemena Gas Networks* at [52].

> incurred in the final part of the current regulatory period. If actual capital expenditure is less than estimated capital expenditure then the network has been paid a rate of return on capital expenditure it did not incur. Likewise, if actual capital expenditure is greater than estimated capital expenditure then the network has not been paid a rate of return on capital expenditure it has incurred.'

As was submitted by APA GasNet, Jemena took the view that there was 'no express power in the NGR for the AER to make an adjustment to remove the effect of the rate of return on what turned out to be an overestimation of capital expenditure'. Jemena distinguished the position under clause S6.2.1(e)(3) of the National Electricity Rules, which require the previous value of the regulatory asset base to be adjusted for the difference between estimated and actual capital expenditure, and expressly provide that '[t]his adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual capital expenditure'.

The Tribunal concluded that the omission of an express power in the NGR to make such an adjustment was a gap in the rules which could be filled in order to give effect to the legislative intention. The Tribunal stated:[24]

> 'The second reading speech for the National Gas (South Australia) Bill 2008 and the Australian Energy Market Agreement 2005 show that the gas and electricity rules are intended to operate in harmony and be administered consistently where appropriate. Although the NGL was passed after the National Electricity Law (NEL), it was the intention of the Ministerial Council on Energy (MCE), the body designated with the task of creating national energy regulation, that when drafting the NGR it would not seek to replicate the detail contained in the NER. In fact, the NGR is less than half the size of the NER. But, while not replicating the level of detail in the NER, the MCE intended for there to be consistency and commonality between electricity and gas regulation: see the MCE's explanation of the initial NGR.
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> The Tribunal is convinced that neither the South Australian Minister (who made the initial NGR and NER) nor the Australian Energy Market Commission (AEMC) (the body which now makes the NGR and NER) intended that gas networks would be allowed to keep the return on capital of an over-estimation while electricity networks would not. We think that in light of the extrinsic materials to which we have referred, it was intended for the same approach to be applied for both electricity and gas regulation. Filling the gap in the NGR is also consistent with the national gas objective of promoting efficient investment in natural gas services because it minimises the incentive to overestimate or underestimate the amount of capital expenditure. We think the omission of an express power to remove the rate of return was due to the rule makers endeavouring to create a more simplistic set of rules than the NEL.'

Proposed rule change – contribution to the achievement of the National Gas Objective

The AER considers rule 77(2)(a) of the NGR should be amended to provide that the AER must make a full adjustment to the opening capital base for the accumulated return on capital on the difference between estimated and actual capex included in the opening capital base for the previous AAP.

The AER considers this change will or is likely to contribute to the achievement of the NGO.

Section 23 of the NGL sets out the NGO:

[24] *Jemena Gas Networks* at [54]-[55].

> The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

In proposing this rule change, the AER has taken into account the revenue and pricing principles. Relevantly, a service provider will still have the ability to recover at least its efficient costs (s 24(2)9(a)) and have the incentive to promote economic efficiency under the regulatory regime (s 24(3)). Indeed, it will maintain the integrity of the regulatory regime which is intended to incentivise the service provider to achieve efficient outcomes within an access arrangement period. In addition, in considering the application of the rule, the AER has had regard to the potential for under and over investment and for under and over utilisation.[25]

The AER considers there are a number of benefits from the proposed rule change. In particular, the proposed rule change will help ensure gains and losses unrelated to the efficiency of the service provider do not distort the incentives of the service provider to efficiently invest, and use natural gas services efficiently. This is because:

1. With a return on capital adjustment, there is a neutral incentive in relation to the estimation process in the final year of the access arrangement period. An adjustment will help ensure that the service provider's incentives are not skewed towards overestimating or underestimating in the final year of the access arrangement period. Thus, for the final year, like all other years in the access arrangement period, the service provider is focused on the efficiency incentive of spending less than forecast capex (and a corresponding disincentive to spend more than the forecast capex); and

2. There would be consistency with the regime under the NER, which expressly confers power on the AER to remove any benefit or penalty associated with any difference between estimated and actual expenditure.

1. Efficient incentives

The intention of the regulatory regime

The regulatory regime operates to encourage service providers to seek capex efficiencies within each AAP. Under the regulatory framework, a service provider is entitled to a return on the *projected* capital base for each year of an access arrangement period which is based on the opening capital base plus forecast conforming capital expenditure.[26] While actual capex will be rolled into the opening capital base at the commencement of the next AAP, the projected capital base is not adjusted during an AAP to account for any differences between actual and forecast capex. If a service provider's actual capex is less than forecast, the service provider will retain the return on capital based on that forecast for the remainder of the AAP.[27] Thus, there is an incentive for the service provider to spend less than the forecast

[25] NGL, s 24(6) and s 24(7).

[26] NGR, rules 76 and 78.

[27] A set of examples is provided in Appendix C of this document. Example 1 of Appendix C shows how the ability to retain a return on capital on the *projected* capital base during an AAP creates an incentive for the service provider to pursue efficient cost savings.

capex (conversely, a disincentive to spend more than forecast) for each year of an AAP.

Final year of the AAP – the relevance of the final year capex estimate acting as a 'place holder'

The incentives for the service provider should be no different in the final year of an AAP. The only practical difference is that actual capex in that final year is not known. In that case, the service provider provides an estimate of final year capex for inclusion in the opening capital base for the next AAP. This estimate is intended to act as a 'place holder' because it is replaced with actual capex five years after it is made.

Importantly, the service provider (and therefore consumers) should not be any worse off or better off as a result of its final year capex estimate being different from its actual capex.[28] The service provider should be in the same financial position, as if actual capex was available in that final year. This preserves the incentives of the service provider to seek capex efficiencies in the final year, as with all other years in the access arrangement period.

The adverse incentive effects on the service provider from no adjustment[29]

If no adjustment is made for the return on capital, on the difference between final year estimated and actual capex, the service provider will receive the benefit of additional revenue (return on capital) during the following AAP to the extent that actual capex is less than its estimated capex.

This benefit will be funded by higher tariffs during the course of that AAP. An adjustment would account for the difference between actual and estimated capital expenditure. Consumers would not pay higher tariffs from a variation between a final year estimated and actual capex, which is unrelated to the efficiency of the service provider. With an adjustment, where the benefits to the service provider resulting from the overestimation or detriment from underestimation are removed, the long term interests of consumers will be promoted. This is because prices are more likely to reflect efficient utilisation and investment as these are not distorted from the inclusion of gains or losses unrelated to the efficiency of the service provider.

The AEMC in their review of the NER governing the regulation of electricity transmission revenue and prices noted of the equivalent provision proposed in the NER (and later accepted) that '[t]he starting point for the lock-in of the RAB is the opening asset base as already determined in the current regulatory determinations applying to the TNSPs'[30] but

> '[t]he exception is where these RAB figures have been based on an estimate of capital expenditure, rather than actual expenditure, then at the time of the next revenue cap determination they should be adjusted to reflect actual capital expenditure, and to remove any

[28] Example 2 and 4 of Appendix C shows how the return on capital adjustment is made and how this adjustment acts symmetrically to prevent any loss or gain achieved by the business due to a divergence between a final year estimate of capex and actual capex.

[29] Example 3 of Appendix C shows how no return on capital adjustment can create adverse incentives on the service provider.

[30] AEMC, *Review of the electricity transmission revenue and pricing principles*, Transmission revenue: rule change proposal report, Draft national electricity amendment (economic regulation of transmission services) rule 2006, February 2006, p. 57..

> benefit/penalty associated with the return on capital associated with the difference between actual and estimated expenditure.'[31]

Relevantly, the footnote to this paragraph sets out the purpose of this adjustment:

> This approach is consistent with the general principles set out in the Draft Rule (6.2.3(c)(4)(iii) and (iv) that, where information on actual capital expenditure is unavailable at the time of the regulatory determination (typically the last year of the regulatory period), an estimate of expenditure should be used, and there should be a subsequent adjustment in undertaking the roll-forward in the subsequent regulatory period. The removal of any benefit or penalty associated with differences between estimated and actual values is intended to remove any adverse incentives in relation to the estimation process.[32]

Likewise, a rule change that requires the AER to adjust for the return on capital due to the difference between estimated and actual capex in the final year of the AAP would help ensure that no additional incentives are created within the AAP beyond those inherent in the regulatory framework. To not allow such adjustments means that service providers face effectively two capex targets for the final year of the AAP: the forecast capex allowance set at the beginning of the period and the estimate provided by the service provider later in the AAP. This may create adverse incentives on the service provider, increasing the risk of an inefficient outcome.

This is because with no adjustment, there is a risk that a service provider could become focused on revenue maximisation rather than efficiency improvement, given the very short timeframes involved. If the service provider overestimates capex in the final year it gains a return on capex that never took place. It also avoids the risk of losing the return on any capex undertaken in excess of their estimate. In the final year of an AAP service providers have a range of projects that may, or may not, begin or be completed. Given the incentives mentioned above and the information asymmetry between the regulator and the service provider, a bias towards overestimation of final year capex could emerge as a way for the service provider to maximise revenues. Adjusting for the difference between the estimated and actual capex minimises this risk and maintains a focus on efficiency improvements.

Further, an adjustment will give service providers greater certainty that they are not under compensated for their revealed efficient costs. There may be circumstances where it is efficient for service providers to undertake capex in excess of their final year estimate of capex. In those circumstances, the proposed rule change would allow the AER to make adjustments for any loss of revenue from having a lower capex amount included in the capital base during the previous AAP. This encourages service providers to make investment decisions on efficiency grounds – in this case, undertake efficient capex beyond that estimated in the final year of an AAP.

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[31] AEMC, *Review of the electricity transmission revenue and pricing principles*, Transmission revenue: rule change proposal report, Draft national electricity amendment (economic regulation of transmission services) rule 2006, February 2006, p. 58.

[32] AEMC, *Review of the electricity transmission revenue and pricing principles*, Transmission revenue: rule change proposal report, Draft national electricity amendment (economic regulation of transmission services) rule 2006, February 2006, p. 58, footnote 71.

The monetary value of these adjustments can be considerable. For APA GasNet's 2013-17 AAP the adjustment would have been $13.2 million ($2012).[33] The adjustment made by the AER to the Jemena Gas Network's opening capital base for the 2010-15 AAP was $10.1 million ($FY 2009-10).[34]

2. Consistency with the National Electricity Rules

The AER's proposed rule change is consistent with the regime under the NER, which expressly confer power on the AER to make an adjustment to the opening capital base to 'remove any benefit or penalty associated with any difference between the estimated and actual capital expenditure'.[35] Under the AER's application of the NER, that difference has included an adjustment for the rate of return on capital. The AER considers that rule 77(2)(a) of the NGR should confer power on the AER to make the same adjustment.

There are various expressions of legislative and executive intention that the national gas and electricity regimes should be administered consistently and harmoniously where appropriate. This supports the contention that the same approach to the adjustment should be taken under both the electricity and gas regulatory regimes.

The Second Reading Speech for the National Gas (South Australia) Bill 2008 stated:

> 'These reforms are modeled on the changes made to electricity regulation in the 2005 and 2007 amendments to the National Electricity Law and are designed to ensure consistency between gas and electricity regulation where appropriate.'

In the Australian Energy Market Agreement 2005,[36] the Council of Australian Governments confirmed their commitment to a national approach to electricity whereby -

> 'To the extent feasible and where effective regulation is not impeded, there should be consistency and harmonization between electricity and gas access regimes such that investment in, and use of, energy is not distorted by differing regulatory regimes.'

The Ministerial Council on Energy issued a Statement of Approach for a New Legislative Framework for Gas in September 2005 which adopted as one of the 'overarching principles' that 'wherever feasible, and unless there is a good policy reason to do otherwise, alignment with the new electricity regulatory regime should occur'.[37]

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[33] AER, *Access arrangement final decision: APA GasNet Australia (Operations) Pty Ltd: 2013–17* (**Final Decision**), Part 2: Attachments, p 24 (Table 3.1).
[34] *Jemena Gas Networks* at [46]-[47].
[35] NER, clause S6.2.1(e)(3).
[36] Paragraph 13.2(b). The Australian Energy Market Agreement underpins the governance and institutional arrangements for the National Energy Market. Section 44AI(3) of the *Competition and Consumer Act 2010* provides that the AER 'cannot perform a duty or function, or exercise a power, under a State/Territory energy law or local energy instrument unless the conferral of the function or power, or the imposition of the duty, is in accordance with the Australian Energy Market Agreement, or any other relevant agreement between the Commonwealth and the State or Territory concerned'.
[37] Standing Committee of Officials of the Ministerial Council on Energy, *Statement of Approach: A New Legislative Framework for Gas* (September 2005), p 7.

In November 2006, the Ministerial Council on Energy stated in relation to the initial National Gas Rules:[38]

> 'Subject to the changes outlined above, the initial NGR have attempted to be consistent with the intent of the original Gas Code. Accordingly, the level of detail that the AEMC has prescribed for electricity transmission regulation would be a fundamental shift for the initial NGR and has not been attempted. …
>
> Officials have taken high level guidance from the AEMC's approach, where possible, to increase consistency and commonality, reflecting the common revenue and pricing principles that guide the electricity and gas regimes.'

A harmonious interpretation of the rules affecting the gas and electricity access regimes is further reinforced by the almost identically expressed objectives and revenue and pricing principles in the NGL and the NEL respectively.[39] This was the subject of specific comment in the Second Reading Speech for the National Gas (South Australia) Bill 2008:

> 'This Bill incorporates a new national gas objective which mirrors the amended National Electricity Objective in the National Electricity Law.
>
> The alignment between the objectives of the gas and electricity regime is an important foundation for the regime. A single consistent objective across gas and electricity will increase the prospect that the regimes remain closely aligned over the long term.'

For these reasons, the AER considers that rule 77(2)(a) should be amended to ensure that the AER can make the same adjustment to account for the full accumulated amount of any return on capital received or not received by the service provider during the previous regulatory period.

The AER's proposed wording for rule 77(2)(a) is intended to allow for that same adjustment: for the difference between the estimate and the actual and the full accumulated amount of any return on capital received or not received by the service provider during the previous regulatory period.

The AER also notes that a power to make such adjustments was previously encompassed by the equivalent provisions of the Gas Code.[40]

Costs

The AER considers that the rule change will not impose any material costs on consumers or service providers.

There would be no lessening of the service provider's incentive in the final year to seek capex efficiencies during the access arrangement period with an adjustment. The

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[38] Standing Committee of Officials of the Ministerial Council on Energy, *2006 Legislative Package: Initial National Gas Rules* (November 2006), p 4.

[39] NGL, ss 23 and 24; NEL, ss 7, 7A.

[40] See, for example, ACCC, *Draft Decision: Revised access arrangement by GasNet Australia Ltd for the Principal Transmission System*, 14 November 2007 (**2008-12 Draft Decision**), pp 15-16 [3.1.5.1]; 2008-12 Final Decision, pp 12-16. GasNet had provided an estimated 2002 capex of $0.66 million, and its actual 2002 capex was $0.57 million. The effect of this overestimate on the return on capital was $0.11 million. While the amount was not substantial, the ACCC maintained that it should be removed from GasNet's capital base.

adjustment maintains the incentive to make efficiency gains against forecast expenditure in a similar way to every other year in the AAP.

Proposed drafting

The AER's proposed drafting of rule 77(2)(a) seeks to allow for an adjustment for the full accumulated amount of the return on capital over the entirety over the earlier period (AA2) that arises from any difference between the estimate and the actual in the final year of the period preceding the earlier period (AA1). This wording is consistent with the NER.

APPENDIX B

RULE CHANGE REQUEST – Opening capital base

TEXT OF PROPOSED AMENDMENT (amendment is highlighted)

New rule 77(2):

If an access arrangement period follows immediately on the conclusion of a preceding access arrangement period, the opening capital base for the later access arrangement period is to be:

a) the opening capital base as at the commencement of the earlier access arrangement period (adjusted for any difference between estimated and actual capital expenditure included in that opening capital base). This adjustment must also remove any benefit or penalty associated with any difference between the estimate and actual capital expenditure;

plus:

b) conforming capital expenditure made, or to be made, during the earlier access arrangement period;

plus:

c) any amounts to be added to the capital base under rule 82, 84 or 86;

less:

d) depreciation over the earlier access arrangement period (to be calculated in accordance with any relevant provisions of the access arrangement governing the calculation of depreciation for the purpose of establishing the opening capital base); and

Note:

See rule 90.

e) redundant assets identified during the course of the earlier access arrangement period; and

f) the value of pipeline assets disposed of during the earlier access arrangement period.

APPENDIX B

RULE CHANGE REQUEST – Opening capital base

TEXT OF CURRENT RULE

Current rule 77(2):

If an access arrangement period follows immediately on the conclusion of a preceding access arrangement period, the opening capital base for the later access arrangement period is to be:

a) the opening capital base as at the commencement of the earlier access arrangement period (adjusted for any difference between estimated and actual capital expenditure included in that opening capital base);

plus:

b) conforming capital expenditure made, or to be made, during the earlier access arrangement period;

plus:

c) any amounts to be added to the capital base under rule 82, 84 or 86;

less:

d) depreciation over the earlier access arrangement period (to be calculated in accordance with any relevant provisions of the access arrangement governing the calculation of depreciation for the purpose of establishing the opening capital base); and

Note:

See rule 90.

e) redundant assets identified during the course of the earlier access arrangement period; and

f) the value of pipeline assets disposed of during the earlier access arrangement period.

APPENDIX C

Capex incentives in the final year of the access arrangement period (AAP)

This is a supplementary note that demonstrates:

1. A service provider's incentive to pursue cost savings within each access arrangement period;
2. Why and how an adjustment is made in the final year of an access arrangement for the accumulated return on capital (ROC);
3. The adverse incentives created without the ROC adjustment; and
4. The symmetrical nature of the ROC adjustment.

Assumptions

To best illustrate the impact of the proposed rule change, the AER has used examples spanning three regulatory periods. These are:

- Access arrangement period 1 (AAP1) – year 1–5
- Access arrangement period 2 (AAP2) – year 6–10
- Access arrangement period 3 (AAP3) – year 11–15

In these examples, the initial access arrangement for AAP1 was set in year 0 and subsequently revised at the end of the final years of each AAP (years 5, 10 and 15 in this example).

The examples below look at the capex incentives related to the final year of an access arrangement period in terms of return on capital (ROC) only. In relation to that final year there are two potential adjustments to the capital base:

1) Difference adjustment - The adjustment for the difference between the estimate and actual capex amount for the final year– This adjustment is not in dispute.

2) ROC adjustment - The adjustment for the accumulated ROC benefit/loss resulting from the difference between the estimate and actual capex amount for the final year. The NGR does not enable the AER to make a ROC adjustment. The proposed rule change will allow the adjustment to be made.

To properly isolate the effect of the proposed rule change, inputs that do not directly impact on the results have been removed or controlled. Depreciation is not relevant to the analysis, so for simplicity for all examples, capex is assumed to be on non-depreciating assets. The analysis also assumes that inflation is zero, timing of capex is beginning of year[41], and real WACC is 7%.

Service provider's incentives to achieve efficiencies

[41] this assumption differs from the usual mid-year assumption so as to avoid ½ WACC calculations. This is done for simplicity of illustration.

The regulatory framework for regulated gas pipelines is incentive based. At the start of an access arrangement period, the regulator approves a forecast of capex for each year of the regulatory period, which is used in combination with other factors to determine a service provider's total revenue requirement. A service provider will receive a benefit/ loss for any divergence of actual capex from forecast for the length of the regulatory period, which provides an incentive to pursue efficient cost savings. Table 1 shows calculations assuming that each year $100m capex was forecast, but each year $110m was actually spent, so the business incurs a loss during the period. Table 1 shows the loss is greatest in relation to year 1 and declines over the regulatory period. However, there is an ongoing incentive to pursue efficient cost savings during each year of the regulatory period.

Table 1

Year	**1**	**2**	**3**	**4**	**5**	**Total ROC loss**
Forecast capex - year 1	100					
Actual capex - year 1	110					
Difference between actual and forecast	10					
ROC loss - on year 1 capex	-0.7	-0.7	-0.7	-0.7	-0.7	**-3.5**
Forecast capex - year 2		100				
Actual capex - year 2		110				
Difference between actual and forecast		10				
ROC loss - on year 2 capex		-0.7	-0.7	-0.7	-0.7	**-2.8**
Forecast capex - year 3			100			
Actual capex - year 3			110			
Difference between actual and forecast			10			
ROC loss - on year 3 capex			-0.7	-0.7	-0.7	**-2.1**
Forecast capex - year 4				100		
Actual capex - year 4				110		
Difference between actual and forecast				10		
ROC loss - on year 4 capex				-0.7	-0.7	**-1.4**
Forecast capex - year 5					100	
Actual capex - year 5					110	
Difference between actual and forecast					10	
ROC loss - on year 5 capex					-0.7	**-0.7**

Why and how an accumulated ROC adjustment is made in the final year of an AAP

When setting the opening capital base in year 11 for AAP3, it has been the AER's practice to make both the difference and ROC adjustments to the capital base to account for the difference between the year 5 capex estimate and the actual value of capex in year 5. The ROC adjustment involves removing/adding to the opening capital base (year 11) the accumulated gain/loss of ROC resulting from any difference between the estimate and actual for the last year (year 5) of an earlier regulatory period (AAP1).

Based on the example in Table 1, with a ROC adjustment, if a business overspent on its forecast by $10m in year 5, it should incur a one year loss of $0.7m for year 5. It is important to recognise that:

1. actual capex for year 5 is not known and an estimate is used instead.
2. any divergence between the estimate and actuals for year 5 cannot be adjusted until the next reset in 5 years' time, so in this case the loss will accumulate over this time.

The adverse incentives created without the ROC adjustment

If the ROC adjustment is not made, there are conflicting incentives pertaining to capex for year 5 as the service provider faces two targets:

1. The forecast capex for year 5 as determined at the start of the regulatory period (year 0)
2. The estimate of actual capex for year 5 provided by the business during year 5.

Without the ROC adjustment there is a clear incentive created for the business to overestimate its actual capex in the final year. The incentive created by the estimate then exceeds the incentives created by the original forecast capex allowance for the final year. In effect, not having an adjustment weakens the service provider's incentive to seek efficiencies, focusing more on revenue maximisation.

Continuing the example in Table 1, it seems unlikely that a business will estimate actuals in year 5 to be equal to the forecast of $100m. They could estimate $110m for year 5. If they did there would be no difference between the estimate and subsequent actuals for year 5 and the ROC adjustment would found to be zero during the reset in year 10. The business would lose one year's worth of ROC (($100m-$110m)*7% = $0.7m) in year 5 from exceeding the forecast.

However, if the estimate is inaccurate and with no ROC adjustment, it will create new incentives that outweigh the incentives created by the original forecast. Modifying the previous example, what if the business estimated capex of $120m for year 5 but actuals still proved to be $110m? Then for year 5 the business incurs a loss of one year's worth of ROC adjustment for the difference between the forecast of $100 and the actuals of $110. However, this loss ($0.7m) is significantly smaller than the benefit ($3.5m) gained by the business of having $120 (rather than $110m) included in its capital base for years 6-10. Table 2 shows the benefit each year and opening capital base both with and without the ROC for this impact. It assumes no further capex was forecast, or actually occurred, for years 6-10, so the impact of the overestimate can be seen in isolation.

Table 2

Year	5	6	7	8	9	10	11
Capital base approved (based on estimate)	120	120	120	120	120	120	
ROC allowed		8.4	8.4	8.4	8.4	8.4	
Actual capex (subsequently reported)	110						
Forecast capex	100						
Difference between actual and forecast	10						
ROC loss (from overspending against forecast in year 5)	-0.7						
Difference between actual and estimate	-10						
ROC benefit (from higher capex in capital base)		0.7	0.7	0.7	0.7	0.7	
Opening capital base - Year 11							
No ROC adjustment							110
with ROC adjustment							106.5

The symmetry of the ROC adjustment

As demonstrated above, with no ROC adjustment the business is incentivised to overestimate actual capex for year 5 and to also not exceed this estimate. However, if the estimate proves to underestimate actual capex, the situation will be reversed, as the business will be unable to recover lost ROC.

Returning to the example above, if an estimate of $100m had been made for year 5 capex and subsequently actuals were found to be $110m, the business loses 5 years' worth of ROC (5*7%*$10m = 5*$0.7m = $3.5m) from not having this capex included in the capital base from years 6-10. It also losses one year's ROC in year 5 from overspending relative to the forecast for year 5, but this is not adjusted as it relates to that regulatory period.

The ROC adjustment acts symmetrically to prevent this loss. In this circumstance, the capital base is increased to account for the lost ROC over years 6-10. The business only incurs a loss for one year, measured against the original forecast capex for year 5.

Table 3 shows the opening capital base for year 11 both with and without the ROC adjustment. Again, it assumes no further capex was forecast, or actually occurred, for years 6-10, so the impact of the incorrect estimate can be seen in isolation.

Table 3

Year	5	6	7	8	9	10	11
Capital base approved (based on estimate)	100	100	100	100	100	100	
ROC allowed		7	7	7	7	7	
Actual capex (subsequently reported)	110						
Forecast capex	100						
Difference between actual and forecast	10						
ROC loss (from overspending against forecast in year 5)	-0.7						
Difference between actual and estimate	10						
ROC loss (from lower capex in capital base)		-0.7	-0.7	-0.7	-0.7	-0.7	
Opening capital base - Year 11							
No ROC adjustment							110
with ROC adjustment							113.5