



Response to Consultation Paper

Proposed Energy Rules Changes:

Optimisation of Regulatory Asset Base

Use of Fully Depreciated Assets

(Reference ERC0136 and GRC0013)

1. Overview

The Energy Networks Association (ENA) welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC's) *Optimisation of Regulatory Asset Base and Use of Fully Depreciated Assets Consultation Paper* - covering rule amendments proposed by the Major Energy Users Inc. (MEU).

The ENA considers that the MEU has not provided clear supporting evidence of the claimed deficiencies in the regulatory regime to justify the proposed amendments. In particular, no substantive evidence of a systematic incentive to overspend has been demonstrated in the material included in the rule proposal, nor has the claimed issue of unjustified replacement of depreciated assets been supported with empirical, or even anecdotal, evidence.

The rule proposals taken together would represent a change in the fundamental nature of the forward-looking incentive-based regulatory approach adopted deliberately by Australian policymakers and regulatory bodies following rejection of US 'rate of return' style utility regulation as ineffective, costly and resource-intensive.

The proposal surrounding the re-optimisation of network business's regulatory asset bases would create new disincentives to investment and additional regulatory risks requiring offsetting compensation for the risk that past investments will be stranded. It is these reasons that have led the ACCC and nearly every jurisdictional regulatory body with energy responsibilities to broadly reject the value of conducting *ex post* optimisation of regulatory asset bases over the past two decades of network regulation. The broad consensus embodied both in regulatory practice and the existing energy rules is that *ex post* asset base adjustments have poor regulatory incentives and create uncertainty.

The ENA agrees that ideally a regulatory model should seek to simulate the key characteristics of competitive markets. In practice, however, the potential for ongoing asset value optimisation is not consistent with providing adequate investment incentives to facilitate the delivery of essential services with long-lived assets and seeking the lowest sustainable prices to consumers. In particular, it is important that a number of other features of competitive market environments which the approach of introducing *ex-post* optimisation seeks to replicate are understood in the context of the MEU's proposals. In competitive markets, for example, rates of return can be higher, amortisation rates which are built into prices can be higher, and firms can continue to charge market prices for the use of an asset if it is possible to sell a service beyond the asset's original assumed life.

The networks sector notes the strong societal pressures for changes in our energy supply systems which deliver favourable environmental outcomes. At this time there is considerable uncertainty over the nature of these changes, to what extent and how quickly they may occur. The current pricing regime, however, is based on 40-70 year payback periods (on a discounted cash flow basis) for investments in most network distribution assets. Investors are unlikely to be prepared to commit funds to assets with a 40-70 year payback period, where such investment is subject to ongoing optimisation in an uncertain forward environment.

In relation to the MEU's second proposal, it is not set out in the rule proposal how practically the AER could conduct a task of appropriately satisfying itself of the depreciation status of every asset determined to be subject to replacement by the network owner. This would appear to invite the prospect of undermining a regulatory model designed to be incentive-based, neglecting the key accountabilities and existing incentives on networks to meet specified levels of network performance and safety.

Several factors would suggest that the general issue of capital expenditure efficiency incentives, which broadly underlie the concerns detailed in the rule proposals made, would be better addressed through the 'Economic regulation of Network Service Providers' rule review process and the rejection of these specific MEU proposals. This approach would enable a longer timeframe for the examination and testing of any preferable proposed changes, discussion of the changes in the context of the wider set of regulatory practice and design questions being considered as part of that review, and avoid outcomes of

this narrow and specific rule change proposal pre-empting any wider fine-tuning required of existing capital expenditure incentives. If this approach is not adopted, the ENA considers that the review timeframe should be lengthened to more carefully examine the proposals' consistency with the *National Electricity Law* (NEL) and *National Gas Law* (NGL) rule-making tests.

2. Background

ENA is the peak national body for Australia's energy networks which provide the vital link between gas and electricity producers and consumers. ENA represents gas distribution and electricity network businesses on economic, technical and safety regulation and national energy policy issues.

Energy network businesses deliver electricity and gas to over 13.5 million customers, employ more than 40,000 people and contribute approximately 1.25 per cent to Australia's gross domestic product. Energy is delivered across Australia through approximately 48,000 km of transmission lines, 800,000 kilometres of electricity distribution lines and 81,000 kilometres of gas distribution pipelines. Energy network businesses operate assets which are valued at over \$65 billion.

3. Proposed re-opening of established regulatory asset base values

The MEU rule change proposal seeks to overturn the existing approach of regulatory asset bases being effectively 'locked in' and rolled forward taking into account capital expenditure between regulatory periods. In its place, the MEU proposal would seek to require the AER to consider a re-optimisation of the regulatory asset base at each review, with a view to the amended asset base reflecting the AER's assessment of the depreciated replacement value of the assets required to provide regulated services.

3.1 Development of existing regulatory approach and rationale

Such an approach would represent a marked departure from existing regulatory precedent and practice in the Australian energy network sector. Under the previous *National Electricity Code* the ACCC and jurisdictional regulatory bodies had the discretion to undertake periodic revaluations of a networks' asset base. Use of this discretion was, however, extremely rare, due to a widespread acceptance by regulators, energy users and network businesses of its impracticality and deleterious potential effects on incentives for efficient investments. Both jurisdictional regulators, such as the Victorian Essential Services Commission, and the ACCC adopted a 'locked in' approach based on these considerations. In the ACCC's 2004 *Statement of Regulatory Principles* released in 2004, for example, the ACCC actually recommended the 'locked in' approach be codified into future electricity rules, noting that all respondents to its draft decision on regulatory principles concurred with this approach.¹ Subsequently, in the context of the revision of the *National Electricity Rules* undertaken by the AEMC and the Ministerial Council on Energy in 2006-2007, this approach was adopted.

The reason for the rejection of periodic asset base revaluation in relation to energy networks has been a consistent recognition that the approach faces a number of serious disadvantages. In particular, asset base revaluation:

- is an inherently costly, imprecise, uncertain and subjective process;
- creates an incentive to sub-optimally undersize network assets to meet short-term demand within a regulatory period rather than minimise economic costs to serve over the life of the relevant assets;
- would require a compensating adjustment to the risk-adjusted returns of the network which would likely, if properly calculated, leave final prices and revenues unchanged;
- in the case where no compensating adjustment was made for stranding risk, leave networks facing asymmetric investment outcomes, where the network earns a regulated return on capital as a maximum outcome, but risks failing to obtain such a return for stranded assets;
- may lead to significant shocks in required prices and revenues due to shifts in replacement costs over which customers and the network exercise little control;²
- could create distorted incentives for networks to reduce refurbishment capital expenditure, or undertake operating expenditure in preference to refurbishment capital expenditure where such costs are not recognised in replacement cost valuation approaches³; and

¹ ACCC *Statement of principles for the regulation of electricity transmission revenues – background paper*, December 2004 p.40

² ACCC (December 2004) p.40

³ ACCC (December 2004) p.38

- does not provide stronger incentives as decisions to invest are irreversible, as only future decisions, still made in an environment of uncertainty as to whether demand will meet forecast, can be influenced.

3.2 Evidence from other infrastructure regimes

Australian and international regulatory practices do not support movement to a revaluation approach. In addition, examination of regulatory practices provides practical illustration of some of the difficulties outlined above. For example, in the telecommunications access regime both the Australian Government's legislative changes and ACCC practice are increasingly emphasising movement to a RAB 'lock in' and associated building blocks methodology.⁴ This has been driven in part by the practical difficulty, and inherently dispute-ridden nature, of assessing what the efficient value of an optimised telecommunications network delivering services such as local copper access is, and the myriad of design, economic and engineering assumptions which impact any hypothetical decision.

A further example of the lack of precision possible in such revaluation exercises is provided by the judgement of the WA Supreme Court in *Epic Energy*, which commented after extensive expert evidence that asset base valuations for regulatory purposes could have boundaries of uncertainty of up to ± 25 per cent.⁵ In New Zealand, at the same time as the *National Electricity Rules* were amended to incorporate the 'lock in' approach, the Commerce Commission rejected a series of proposed revaluations from NZ electricity distribution businesses and based its approach on a rolling forward of previous valuations in preference to potential prices and revenues shocks based on one-off changes in valuations.

3.3 Performance against AEMC assessment framework

The proposed rule change introducing the concept of optimised replacement cost revaluations of network asset bases performs poorly against the majority of the AEMC's assessment factors. For example:

- **recovery of efficient costs** – the proposal explicitly contemplates investment which was made on a prudent *ex ante* basis being not able to be recovered by the network. In addition, the prospect of investment being stranded at a future regulatory reset is likely to deter the making of efficient investment which has a material risk of assets being optimised prior to a full regulated return being achieved;
- **efficient utilisation** - the likely effects of the proposed rule on efficient utilisation of an asset are ambiguous due to the indirect relationship between initial capital, operating costs and the degree of asset utilisation. Once installed, user choices about the extent of network usage dominate asset utilisation outcomes and network service providers have little control over utilisation outcomes;
- **investment incentives** – if implemented, the proposal would strongly undermine incentives to invest in a timely manner with a view to capturing economies of scale, due to the risk of future asset stranding. The proposal would promote short-term incremental network development to meet short-term demand;
- **regulatory process** – as discussed, the nature of the regulatory process and the role of the regulator would be fundamentally altered by a requirement to apply the additional clauses

⁴ See for example ACCC *Draft Report – Review of 1997 telecommunications access pricing principles*, September 2010, Chapters 4-6.

⁵ *Re Dr Ken Michael AM; Ex Parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002] WASCA 231 [see para 164-215]

proposed by the MEU. The AER has indicated in its recent rule change request that it currently lacks the resources and capacity to fully analyse and assess detailed information put forward by businesses in their regulatory proposals under the existing rules. Typically, proposed capital expenditure makes up only a proportion of the entire regulatory asset base which would require review under the MEU's approach.

4. Proposed changes to assessment of capital expenditure

The MEU rule change proposal seeks to significantly alter the role of the regulator in the capital expenditure assessment process, by amending the capital expenditure criteria in the *National Electricity Rules*. Specifically, the MEU proposes the addition of a 'used and useful' test applied commonly under US-style 'rate case' hearings, together with a power to make adjustments to forward capital allowances on the basis of its views on the past recovery of individual assets.

4.1 Change in the role of the AER

It is unclear from the MEU proposal how in practice the AER would comply with the suggested rule requirement. It is likely that the AER satisfying itself on compliance with the new rule would require a relatively forensic process of assurance in both accounting and engineering terms around planned replacement investments made under capital programs. Such a rule amendment would appear to require an extremely intrusive and intensive involvement by the AER in assessing the depreciation status of the entire classes of network assets, and potentially individual network assets. This new obligation would effectively see the AER 'step into the shoes' of the business and inevitably in practice be drawn into the detailed design and engineering decisions that affect medium-term network development. No economic regulator possesses the requisite degree of knowledge, expertise or resources to fulfil this function adequately. This consideration is at the very heart of the rationale for, and design of, incentive-based regulation and the separation under Australian regulatory and market governance arrangements of economic regulation from network planning and design functions.

A further practical issue arising from the proposed MEU amendment is that the definition of 'replacement' capital expenditure cannot often be readily or clearly separated from other types of capital expenditure (such as augmentation expenditure) which may have multiple underlying drivers. For example, replacement of a transformer with a higher rated transformer can often address both the need to replace an aging asset and the need to increase network capacity. This is likely to mean significant unanticipated complexity and disputation with implementation of the rule as currently proposed occurred.

4.2 Basis for comparing network investment under regulation and competitive sector investments

The premise of the MEU proposal is that regulated businesses face insufficient incentives to ensure proposed capital expenditure is efficient and prudent within the regulatory period. It is noted that this issue, and a range of proposed amendments to relevant provisions of the NER are subject to the separate rule change process relating to the Economic Regulation of Network Service Providers.

The MEU rule change proposal offers no substantiated evidence that businesses face inappropriate incentives to replace fully depreciated assets inefficiently. In practice, a range of internal and external factors mean that the claimed incentive to replace fully depreciated assets is not consistent with the actual commercial incentives faced by network businesses. In particular, network businesses are capital constrained, and operate under detailed long-term asset management plans and policies designed to effectively deliver service, reliability and performance outcomes and minimise efficient costs over the life of the assets. The proposition that the existing NER present a systematic incentive to 'over-spend' by replacing fully depreciated assets with new assets is inconsistent with diverse outcomes of outturn expenditure compared with original forecasts made in past regulatory decisions.

The most obvious explanation for this set of outcomes is that demand conditions inevitably vary in non-systematic ways from the best available evidence at the time that a regulatory proposal and decision are made. Under the current regulatory regime, network businesses are rewarded for the deferral of replacement capital. Within the broader rule change review process initiated by the AER and EURCC rule changes the strength and consistency through time of these incentives are currently subject to discussion, and the MEU proposal is less optimal than potential options outlined in ENA's recent submission to the process to address this acknowledged issue.

The MEU proposal draws a number of contrasts between the treatment of expenditure on capital investments in the network sector and a range of other competitive environments. The comparison fails to take into sufficient account some significant opportunities enjoyed by firms operating in competitive markets, including flexibilities not available to network businesses. As an example, firms in competitive markets have the opportunity to:

- revalue assets throughout their lives;
- earn returns which significantly exceed their original cost of financing on successful investments;
- withdraw capital from the delivery of services where cost of financing is not met; and
- front-load depreciation to reduce the level of commercial risk from some investments.

By contrast, network businesses typically undertake real straight line depreciation on assets, with capital recovery effectively 'back ended' to produce a smooth recovery profile over the life of the assets. Capital expenditure used to deliver services earns a maximum regulated return of the assessed regulatory cost of capital, regardless of the evolution of capital market or demand conditions. Once largely sunk capital investments are made by a network, there is typically no opportunity to redeploy capital to adjust to these conditions, unlike in a competitive market environment where typically there is some opportunity to withdraw or redeploy capital through secondary markets. Further, networks face a range of binding regulatory obligations to invest to connect and serve customers, making investment non-discretionary.

4.3 Performance against AEMC assessment framework

The proposed rule change seeking to exclude that proportion of capital expenditure which is assessed to be involved in the replacement of used and useful assets would have deleterious impacts against each of the AEMC's assessment factors. For example the proposal would:

- **recovery of efficient costs** – potentially breach the principle of the recovery of efficient costs by constraining a network firms' capacity to recover a return on capital actually employed to deliver safe and reliable services;
- **efficient utilisation** - create substantial additional complexity in tracking and adjusting the regulatory asset base of regulated networks, potentially excluding it from providing a consistent ongoing reflection of the actual value of the assets invested to deliver the services;
- **investment incentives** – significantly affect incentives to invest as it would fail to provide a return on capital employed to deliver regulated services. Over time, the results of the measure would likely be a lowering of overall investment levels, and the muting or 'chilling' of incentives to undertake efficient expansion and upgrading work on network infrastructure due to concern that a proportion of this investment would be non-recoverable;
- **regulatory process** – result in the AER being required to make judgements which go beyond the scope of an economic regulator, inevitably leading to its being drawn into making contentious engineering-style assessments over the definition of a 'used and useful' network asset. This need would likely require a more exhaustive, intense regulatory process with a higher level of regulatory uncertainty as to whether the outcome would meet the revenue and pricing principles contained in the *National Electricity Law* and *National Gas Law*.

5. Response to questions

Question 1 *What would the impact on investment be with the rule change requests? Would this have a positive or negative impact?*

The proposed rule change would have a negative or 'chilling' impact on investment due to an increased level of uncertainty surrounding whether the true economic cost of capital investments would be recovered over their lifetime.

Question 2 *Is it appropriate for the AER to determine and assess the age and condition of a regulated network business's asset?*

An economic regulatory body such as the AER is not well-placed to undertake the additional duties and roles imposed by these proposed rule changes. In particular, it does not have access to sufficient skill, information and experience to independently determine and assess the age and condition of a regulated network business's assets in a manner consistent with a forensic determination of which elements of a proposed capital expenditure program may efficiently or otherwise replace existing 'used and useful' assets.

Question 3 *Does the increase in administrative burden outweigh the benefits of the proposed rule?*

Each of the proposed rule changes would represent a significantly increased regulatory burden. As discussed above, asset base revaluation exercises are costly, resource-intensive, and lengthy processes. The establishment of a set of clear regulatory asset bases was a sizeable burden associated with the introduction of building blocks regulatory pricing reviews through the 1990s. In many cases, these valuation exercises were at least as complex and burdensome to conduct as a single pricing review, and prone to dispute. The carrying out of such exercises on a five yearly basis would substantially add to the overall costs of typical regulatory reviews, a cost which has been estimated by the Brattle Group to exceed \$325 million per five year regulatory period.⁶

Question 4 *Does rule 85(1) of the NGR (capital redundancy) adequately address the proposed rule's objective to remove under-utilised assets from the RAB? Should rule 85(1) of the NGR be duplicated in the NER?*

Rule 85 of the NGR has generally had limited practical operation under the gas regime, because of the rarity of capital redundancy arising in an interconnected gas network. It is noted that Rule 85 is identical to a provision which has operated under the prior *National Gas Code* since 2000 without regulatory bodies seeing a need to generally apply such powers in any material cases. Nonetheless an important feature of the Rule is the requirement (Rule 85 (4)) that the regulator must take into account the possible consequences of any stranding decision. The lack of any substantial use of these provisions in the gas regime suggests that their replication in the electricity rules may be otiose.

⁶ AEMC *Final Report Review into the use of total factor productivity for the determination of prices and revenues*, 30 June 2011, p.63

Question 5 *The proposed rule requires the amount (to be determined by the AER) to reflect the difference between the actual depreciated value of assets provided and the depreciated replacement value of assets (to be deemed by the AER) required for provision of services. Does this provide the appropriate signals for efficient utilisation of assets? If not, is there a better alternative approach?*

See response in Section 4.3.

Question 6 *The proposed rule places a requirement that would disincentivise expenditure for replacement of a fully or partially depreciated asset from being included in the RAB. Does this ensure that fully or partially depreciated assets that are still in use and useful are not replaced? If not, is there a better alternative?*

There is insufficient detail as to how the rule proponent envisages the AER acting to ensure this regulatory requirement is met. It is difficult to conceive of the AER being able to meet this rule requirement whilst fostering a stable, certain and incentive-based regulatory framework which underpins efficient ongoing investment.

Question 7 *Should optimisation of the RAB be considered as an alternative to the “40/60 sharing factor” approach when the AEMC is considering the best capex incentive mechanism in response to the AER’s rule change request?*

Optimisation of the regulatory asset base represents a disproportionate and unworkable solution to any finding that capital efficiency incentives need to be strengthened. The MEU has not provided analysis suggesting that an incentive to ‘overspend’ exists. By contrast, the examination of the AER proposed rule change through the AEMC’s extended rule assessment process currently occurring provides better mechanisms through which to deal with any required fine-tuning of the existing capital expenditure regime, such as an attempt to remove remaining variations in the strength of incentives through a period. ENA has made a number of directional suggestions for possible further work on capital expenditure incentives in its submission to this separate rule change review process.

Question 8 *When should any proposed rule commence?*

Neither proposed rule should be approved.

The proposed rule change in relation to optimisation of asset bases should be rejected in its entirety. Examination of the general issue of the adequacy of capital expenditure incentives should occur under the rubric of the merged rule change process on the Economic Regulation of Network Services.