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20 January 2012

Mr J Pierce
Chair
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr. Pierce,

RE: AEMC consultation on rule changes proposed by the Major Energy Users

Ausgrid appreciates the opportunity to provide a submission on the changes to the National Electricity Rules proposed by the Major Energy Users (MEU).

The current rules were implemented as an important step forward from the previous regulatory frameworks. The current rules provide investment certainty by ensuring that the costs of invested capital can be recovered through regulated revenues. The current rules also removed the requirement for regulators to undertake the complex and costly process of asset base optimisation by introducing an ex ante capital expenditure assessment process.

The MEU has proposed to re-introduce asset base optimisation, which existed under previous regulatory frameworks. Under previous regulatory frameworks, regulators were required to undertake complex (and potentially inaccurate) asset base revaluation. This process of asset base optimisation also presented significant "asset stranding" risk to investors.

The MEU's proposed changes are inconsistent with the ex ante nature of the current regulatory framework. These changes will significantly increase investment risk and raise the cost of capital. Overall Ausgrid considers that the proposed changes are ill-conceived and inconsistent with the long term interests of consumers with respect to price, quality, reliability and security of electricity supply.

Ausgrid is a member of the Energy Networks Association (ENA) and fully supports the ENA's submission on the MEU rule change proposal. Supplementary to the ENA submission, Ausgrid has prepared a response to the AEMC's consultation paper on the MEU rule change which is attached.

If you have any enquiries in relation to Ausgrid's submission please feel free to contact Brendon Crown, Reset Program Director, on (02) 9269 3493 or bcrown@ausgrid.com.au.

Yours sincerely

Peter Birk
Executive General Manager System Planning & Regulation

Ausgrid submission to AEMC on Major Energy Users' rule change proposal

January 2011

Ausgrid submission to the AEMC

Major Energy Users' rule change proposal

December 2011

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1 Introduction

The Major Energy Users Incorporated (MEU) has proposed a number of changes to the National Electricity Rules (NER) that would apply to Ausgrid and other energy network service providers. In our view these proposed changes are ill-conceived and inconsistent with the goals of maintaining the safety, security and reliability of the electricity network, as well as the quality, reliability and security of electricity supply.

This submission outlines Augrid's response to the claims made in the MEU's rule change proposal and specifically responds to the questions set out in the AEMC's rule change consultation paper.

2 Ausgrid's response to the MEU's claims

The problems identified by the MEU do not exist

The MEU makes unsubstantiated claims about NSP's asset management practices. The MEU claims that NSPs replace assets as soon as they reach the end of the standard economic lives[1] because under the current regulatory framework once assets reach the end of their standard economic life they no longer earn a rate of return. The MEU claims that because new assets can earn a rate of return, NSPs invest in new (replacement) assets as soon as possible, even if existing assets are still in use and useful.

Contrary to the MEU's claims, Ausgrid's maintenance and replacement programs aim to minimise the life cycle cost of the assets, whilst maintaining their safety and reliability. Asset replacement decisions are not based on whether the economic life of assets has expired, but on the condition of the assets from an engineering perspective, and their ability to perform their intended functions safely and reliably. Many of Ausgrid's assets are in fact beyond their standard economic lives but are still used to provide electricity distribution services. Ausgrid's asset management practices are designed to achieve best practice and have been domestically and internationally recognised.[2]

The MEU has suggested that under the current framework that if assets are past their standard economic life Ausgrid is simply able to replace them to earn a rate of return. Contrary to this suggestion, Ausgrid's asset management practices, including asset replacement expenditure are subject to a high level of scrutiny:

- The AER reviews Ausgrid's asset management practices and replacement expenditure at each regulatory determination. The AER's review typically incorporates a review by expert engineering consultants and the AER is able to substitute its own replacement expenditure forecasts when determining regulated revenues.
- Ausgrid is also required to submit a network management plan to the NSW Director-General of NSW Industry and Investment under the Electricity Supply (Safety & Network Management) Regulation 2008. The network management plan is currently audited every year.

The MEU has asserted that the current regulatory framework incentivises NSPs to under forecast expected capital expenditure. This assertion is clearly incorrect for the following reasons:

- If Ausgrid invested in a capital project that was under forecast and spent in excess of the regulatory allowance, Ausgrid would lose the time value of capital spent in excess of the regulatory allowance.
- Alternatively, Ausgrid would need to defer capital expenditure from other projects, or delay other projects to pay for an under forecast capital project.

Furthermore, if the AER considers that a DNSP is likely to spend in excess of its capital allowance, it can choose to apply a high powered capital expenditure incentive under the current rules. The high powered incentive would only allow a DNSP to recover the depreciated value of the additional assets and a rate of return on the depreciated assets following a regulatory determination. Thus the DNSP would make a significant loss on capital overspends.

[1] Standard economic life refers to the economic life used by the AER to determine the period over which the costs of an asset can be recovered as well as earn a rate of return.

[2] The Asset Management Consulting Limited, UK recently undertook an assessment of Ausgrid's Asset Management capability Draft findings of this assessment indicate that Ausgrid exceeded industry-best results in 26 of the 39 defined capabilities, meaning that Ausgrid's capability maturity compares favourably with the 'best of the best'. Ausgrid has also received a Gold level award for Asset Management Excellence form the Asset Management Council in 2009. This award provides evaluation and recognition of asset management capability excellence through measurement of an organisation's approach, maturity, performance and continuous improvement in seven specified asset management criteria.

The current framework places an onus of proof on NSPs to satisfy the AER that it manages assets in a prudent and efficient manner based on engineering knowledge and expertise. The current framework also provides investment certainty. Ausgrid considers that the current framework is allowing prudent and efficient replacement expenditure and enhancing the safety, reliability and security of the electricity network, which is demonstrated by the following:

- In 2005, 108 front line sections of11kV feeders were overloaded in Ausgrid's Sydney and Central Coast area, that number has now dropped to 44[3]
- The average number of blackouts from equipment failure has been cut by approximately 12 per cent between 2003/04 and 2010/11
- The average number of blackouts caused by rural power lines has fallen by approximately 50 per cent

The proposed changes are not feasible and ill-conceived

Economic regulation of NSPs, for some time now has operated under a "Financial Capital Maintenance" regime where financial values of the asset base are determined at a point in time and any future investment is returned to the business over its economic life.

The MEU's proposed changes seek to re-deploy the Depreciated Optimised Replacement Cost (DORC) approach to optimising the asset base. The proposed changes would require the AER to conduct an ex-post assessment of the asset base to align it with the value of assets the AER deems necessary to provide the services and to approve the replacement of assets. This would represent a significant shift away from current arrangements which allow NSPs to manage their networks based on asset management expertise. Furthermore the complexity of applying optimisation has proven problematic in jurisdictions where a DORC approach is used.

Ausgrid made several representations to policy makers about the representative value of our asset base to our true DORC value. In particular we believe the initial RAB valuation understated the true value of the assets we owned. If the Rules were changed to allow DORC valuation (a move we don't support) there would need to be some symmetry in the valuation method to also increase the value of the asset base where appropriate.

Consistent with the National Electricity Objective, Ausgrid prioritises its asset investment decisions to maintain the safety, reliability and security of the electricity network as well as the quality, reliability and security of electricity supply. The MEU wishes to amend our asset management approach and instead include the remaining economic value and life of an asset a key consideration in the replacement decision. We do not support this and do not believe it is in the long term interests of customers. It is particularly concerning that the MEU has suggested the AER perform the role of asset manager and approve any asset replacements. The MEU do not address how this rule would function, particularly in an emergency.

In our view, the asset remaining lives in the AER's post-tax revenue model do little more than determine the remaining number of years that the assets will return a capital value. It is not an indicator of replacement need or cost and should not be used as one because:

- it ignores assets which have been fully depreciated in a financial sense, but whose condition allows them to continue to operate in a technical sense
- it is an average remaining life and is weighted by the annual historic cost of capex, so as costs increase with time the remaining life is more weighted by the cost of younger assets
- the RAB value is based on historic cost values and in no way represents the current cost of replacing assets that are in need of replacement

[3] Note, this number excludes Newcastle. Furthermore this number is only in relation to the first section of the cable closest to the substation. It is almost certain that there were other sections of cable that were operating above their capacity. Consequently, the number of 11kv feeders for Sydney and Central Coast overloaded in 2005 is actually higher than what has been represented in this paper.

For example, in 2010, approximately 88% of Ausgrid's 33kV HSL cable population was older than the standard life of 45 years. These assets do not provide Ausgrid with any return in the AER's post tax revenue model. Despite their age these cables are still in good condition and Ausgrid has no current plans to replace them. The only foreseeable reason for replacement would be in order to meet increased network demand.

3 Ausgrid's response to the AEMC's consultation paper

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

The AEMC noted that in its 2006 rule determination on the regulation of transmission services it did not incorporate RAB optimisation into the transmission rules because it would present a significant investment risk.[4] In its recent rule change proposal, the AER also noted the risk that ex-post reviews of capital expenditure would pose to investors.[5]

Consistent with the AEMC's previous rule determination and the view expressed by the AER, we consider that the MEU's proposed RAB optimisation would introduce significant risks to investors for the following reasons:

- Many network assets have a standard economic life of 40 years or more and as a result investors require certainty that the costs of these assets will be fully recovered over that time. The MEU's proposed changes would allow the AER to reduce the amount of invested capital allowed to earn a regulated rate of return at each reset, significantly increasing investment risks. For example, if replacement expenditure was retrospectively considered unnecessary by the AER, DNSP's would not be able to recover the costs of these assets (or a rate of return) through regulated revenues.

- The AER's assessment of the "optimal RAB" would be difficult to predict. Therefore, the likelihood of not being able to recover the costs of an asset would be uncertain, which would further increase risk and thus further increase investors required rate of return.

The increase in investment risks would justify a higher cost of capital, which would actually result in higher prices being charged to consumers.

The AEMC also noted that the risk of not earning a regulated return on invested capital may provide disincentives to invest in assets even where capital expenditure is necessary to maintain reliability and security of supply. We note that the MEU's proposed RAB optimisation would provide significant disincentives to invest in capital and this would threaten the reliability and security of electricity supply, as well as the safety and reliability of electricity networks. As a result the proposed RAB optimisation is in conflict with the National Electricity Objective and should not be adopted by the AEMC.

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

The current Rules work in such a way that the AER must be satisfied as to the DNSP's capital expenditure forecast. This satisfaction needs to take into account whether the asset management practices of the business are prudent in the circumstances of the DNSP.

Ausgrid's core business is the management of its large and varied asset base. This is achieved through implementation of a range of asset management strategies and processes that span the asset life cycle. Asset Management Consulting Limited, UK (AMCL) recently undertook an assessment of Ausgrid's Asset Management capability maturity in order to benchmark it against accepted good practice. The assessment used the AMCL Asset Management Excellence Model, which is aligned with the Global Forum for Maintenance & Asset Management's Asset Management Landscape. This spans a range of technical, organisational and human capabilities required to achieve world-class asset management. The model tests the existence, completeness, effectiveness and integration of these capabilities. The findings of this assessment were that Ausgrid set new industry-best practice in 26 of the defined capabilities and met the industry standard in the other 13 capabilities, meaning that Ausgrid's capability maturity compares favourably with the 'best of the best'. Ausgrid has also received

[4] See AEMC, Rule determination, National Electricity Amendment (Economic regulation of transmission services), 16 November 2006, p. 98.
[5] AER, Rule change proposal: economic regulation of transmission and distribution network service providers, September 2011, pp. 43–44.

a Gold level award for Asset Management Excellence form the Asset Management Council (Australia) in 2009. This award provides evaluation and recognition of asset management capability excellence through measurement of an organisation's approach, maturity, performance and continuous improvement in seven specified asset management criteria.

Ausgrid has comprehensive asset replacement and maintenance expenditure plans, which incorporate a trade-off between replacing old assets and maintaining existing assets. Consistent with the National Electricity Objective, the plans are focussed on delivering network services at the most efficient costs as well as achieving safe, secure and reliable electricity supply.

There maintenance plans are developed using a world's best practice FMECA/RCM approach. This approach assesses potential asset failures and methods of mitigating these through preventative maintenance. If a failure mode cannot be addressed effectively or efficiently through maintenance, replacement or refurbishment options are investigated and a least cost option is developed. Engineering assessments are made in order to prioritise the order in which particular assets should be replaced.

The AER assesses the future replacement and maintenance expenditure plans, at the start of each regulatory period. This is to ensure that allowed expenditure is prudent and efficient.

To achieve a reliable and secure electricity supply, network assets should be replaced according to an engineering based assessment of network requirements. The plans are produced using the best available knowledge; however, they may be altered if new information becomes available. This allows Ausgrid to focus expenditure in those areas presenting the greatest risk to the business. Asset management is the core competence of network businesses. Therefore, in practice, asset replacement decisions should be made by DNSP's. It is not appropriate for the AER to make this assessment.

The MEU's proposed changes would additionally require the AER to assess the financial value of the network businesses' RABs and the financial value of the assets within the RAB. The AEMC noted that this is a complex task and would require significant effort.

In its recent rule change proposal, the AER noted that the evidentiary burden it would have to satisfy for any ex-post review of capital expenditure would be so high that it may offer limited protection against any inefficient expenditure.[6] This indicates that the AER would be unwilling to conduct a RAB optimisation process (which is effectively an ex-post assessment of capital expenditure).

Optimisation of the RAB by the AER is also incompatible with the design of the current rules framework, which is principally an ex ante framework. Under the current framework, the AER determines allowed expenditure for future periods based on a comprehensive assessment of prudency and efficiency. Following this assessment, the DNSP required to efficiently manage the network using regulated revenues and responding to incentives such as the service standards scheme. The proposed RAB optimisation would be an ex-post form of regulation that would not allow DNSP's to focus on the efficient management of their networks.

Does the increase in administrative burden outweigh the benefits of the proposed Rule?

The AEMC noted that the MEU's proposed changes would require the AER to request and assess information from DNSP's on the utilisation of assets within their RABs. The MEU's proposed changes would also require network businesses to justify the replacement of any partially or fully depreciated assets. The AER would need to determine whether any replaced assets were still in operation and useful. Based on our discussion above we believe network businesses would also face an additional administrative burden (which would be passed on to customers) in providing this information to the AER with little overall benefit.

Proposed optimisation of the RAB at each reset could also be detrimental to both the short and long term interests of consumers:

[6] AER, Rule change proposal: economic regulation of transmission and distribution network service providers, September 2011, pp. 43–44.

Optimisation of the RAB at each reset would be based on a subjective assessment by the AER. The AER's core competence is in economic regulation and its assessment of an optimal RAB value is likely to focus on cost rather than long term quality, reliability and security of supply from an engineering perspective. This would not be in the long term interests of consumers.

Optimisation of the RAB at each reset would also significantly increase investment risk, justifying a higher regulated cost of capital. A higher cost of capital would increase final electricity prices to consumers.

Therefore, Ausgrid considers the increased administrative burden of the MEU's proposed RAB optimisation is likely to outweigh any potential benefits from the proposed changes.

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?

The AEMC noted that the MEU's proposed optimisation applies retrospectively to both existing assets and assets built during a regulatory period, but was uncertain of whether the MEU's proposed changes would provide the appropriate incentives for efficient utilisation of assets.

We do not consider that the MEU's proposed optimisation would provide efficient signals for utilisation of assets. We consider that the current rules provide effective incentives for utilisation of assets. Under the current rules, the AER is required to determine whether forecast capital expenditure reasonably reflects the efficient costs that a prudent DNSP would incur in maintaining quality, reliability and security of electricity supply.

In assessing these costs, the AER must consider the circumstances of the service provider, so if existing assets are under-utilised the AER can consider this in determining whether future capital expenditure should be allowed.

The AER must also consider whether DNSPs forecasts of demand and cost inputs are reasonable.

Consideration of these factors by the AER at the time of a reset places effective incentives on DNSPs to effectively utilise existing assets. We consider that maintaining the current framework is a better alternative than adopting the MEU's proposed changes.

Ausgrid notes that the current framework is fundamentally an ex ante framework. Capital expenditure forecasts are scrutinised at the time of a reset by the AER and following this DNSPs are required to manage their expenditure within regulated revenue allowances. This drives efficient behaviour, but provides the right scope for network businesses to make investment decisions based on engineering and asset management expertise. Analysing the utilisation of existing assets is incompatible with the current framework because it is backward looking and would scrutinise past investment decisions (increasing investment risk) rather than driving efficiency in future investment decisions.

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?

We note that asset replacement decisions are not based on depreciation of economic lives set by the AER. For example, Ausgrid's replacement plan looks at the age and condition of assets from an engineering perspective as well as the cost trade-off between maintaining existing assets and replacing old assets. The economic life of an asset simply provides investors certainty about the time period over which the cost of an asset will be recovered through revenues.

The proposed changes would no more ensure that fully or partially depreciated assets still in use and useful are not replaced. However, the proposed changes would shift focus away from sound engineering based management of energy networks towards financial and commercial considerations – which is not in the long term interest of customers.

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?

Ausgrid does not consider that the AER's proposed "40/60 sharing factor", nor the MEU's proposed RAB optimisation, are appropriate within the current framework. The MEU's proposed RAB optimisation is contrary to the ex ante nature of capital expenditure assessment under the current framework. We note the AER's proposed "40/60 sharing factor" would not require an in-depth assessment of past capital expenditure and therefore less in conflict with the ex ante nature of the current framework. However, the "40/60 sharing factor" is arbitrary and would not provide the correct incentives for efficient investment in and management of energy networks.

As outlined in our submission on the AER rule change, under the AER proposed 40/60 sharing factor, capital expenditure in excess of an approved regulatory capital allowance may still be efficient and prudent. However, the sharing factor would only allow partial recovery of these prudent and efficient costs.

The existing rules already provide effective incentives to ensure that capital expenditure is not in excess of approved allowances.

Recovery of any excess capital expenditure cannot take place until the next regulatory period, therefore DNSP lose the time value of money over the current regulatory period.

The AER also has the option to apply a high powered capital expenditure incentive to DNSPs, where the return of and return on capital expenditure in excess of approved allowances over a regulatory period is lost.

Finally the AER has the ability to adopt an efficiency benefit sharing scheme for capex if it considers such an incentive is consistent with the NEL and NER.

We consider that both the proposed RAB optimisation and the proposed "40/60 sharing factor" provide the wrong incentives for efficient and prudent management of energy networks.

When should any proposed Rule commence?

We do not think it is appropriate to apply any new rules to Ausgrid's upcoming reset. Ausgrid's next regulatory proposal is due by May 2013 and the forecasting process for capital and operating expenditure has already begun. The regulatory framework critically affects investment decisions because the recovery of any expenditure is determined by the AER according to the regulatory framework. It would be unfair to apply a new regulatory framework to Ausgrid at such a late stage.

The MEU's proposed RAB optimisation would also affect past capital expenditure decisions (particularly replacement decisions), which were undertaken prior to such rules coming into effect. It would be inappropriate to retrospectively apply an alternative incentive mechanism to investments made under the existing incentive regime.