grid australia
BACKBONE OF THE NEM

18 March 2013

Mr Chris Pattas
General Manager – Network Operations and Development
Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Via email: expenditure@aer.gov.au

Dear Chris

Expenditure Forecast Assessment Guideline Issues Paper

Grid Australia welcomes the opportunity to provide this submission to the Australian Energy Regulator (AER) on its Issues Paper for the Expenditure Forecast Assessment Guideline (EFA Guideline).

Grid Australia members are also members of the ENA and note that it has also lodged a submission to the AER on this issue. Grid Australia endorses the overarching messages from the ENA's submission. As such, the purpose of this submission is to focus on transmission specific aspects of the development of the EFA Guideline. To that end, Grid Australia has only responded directly to those questions that are of most relevance to TNSPs.

Grid Australia notes that the Issues Paper is only the commencement of the development of a process and dialogue with the AER for the development of this, and other, guidelines. While responses to issues and questions raised in the Issues Paper have been provided in good faith, Grid Australia reserves the right to amend its responses to certain questions as the context and objectives related to these questions become clearer.

The approach taken by the AER to assessing future expenditure requirements for TNSPs is critical to maintaining the efficient delivery of services to customers and the long term sustainability of network businesses. It is essential, therefore, that the AER produce a guideline that strengthens the certainty and transparency of the regulatory process, and in doing so, minimises the overall costs of regulation.

Grid Australia, therefore, looks forward to ongoing participation in the development of a guideline that meets these objectives.

If you would like to discuss any aspect of this submission, please do not hesitate to contact Andrew Kingsmill in the first instance on 02 9284 3149 or at andrew.kingsmill@transgrid.com.au.

Yours sincerely

Rainer Korte
Chairman
Grid Australia Regulatory Managers Group

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Expenditure Forecast Assessment Guideline

Submission in response to the AER Issues Paper

March 2013

Powerlink Queensland
TransGrid
ElectraNet electricity transmission
TRANSEND
SP AusNet A member of Singapore Power Group

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1. Introduction and overview

Grid Australia welcomes the opportunity to provide this submission to the Australian Energy Regulator (AER) on its Issues Paper for the Expenditure Forecast Assessment Guideline (EFA Guideline, or Guideline). As the AER is aware Grid Australia is the organisation which represents the owners of Australia's electricity transmission networks. As the 'backbone' of the National Electricity Market (NEM), Grid Australia seeks to work closely with institutions such as the AER to ensure the electricity network can continue to deliver the supply needs of customers efficiently.

Grid Australia members are also members of the ENA and note that it has also lodged a submission to the AER on this issue. Grid Australia endorses the overarching messages from the ENA's submission. As such, the purpose of this submission is to focus on transmission specific aspects of the development of the EFA Guideline. To that end, Grid Australia has only responded directly to those questions that are of most relevance to TNSPs.

Grid Australia notes that the Issues Paper is only the commencement of the development of a process and dialogue with the AER for the development of this, and other, guidelines. While responses to issues and questions raised in the Issues Paper have been provided in good faith, Grid Australia has had to make assumptions about the AER's potential approach on certain matters, given that the AER has not yet provided contextual information or criteria in a number of areas. As the process progresses and there is more dialogue with the AER and other stakeholders a different context and objective may become apparent. As a result, Grid Australia reserves the right to amend its responses to certain questions.

1.1 Summary of Grid Australia's response to the Issues Paper

This submission raises the following key points:

- The approach taken by the AER to assessing future expenditure requirements for TNSPs is critical to maintaining the efficient delivery of services to customers and the long term sustainability of network businesses. It is essential, therefore, that the AER produce a guideline that strengthens the certainty and transparency of the regulatory process, and in doing so, minimises the overall costs of regulation.
  - This objective would require the Guideline to set out the process the AER would follow, questions it would ask, information it requires and principles it would apply when exercising its discretion under the Rules for assessing whether forward looking estimates of costs reflect what a prudent and efficient business is likely to incur to meet its regulatory obligations.

- The starting point for an electricity transmission specific EFA Guideline should be current practice.
  - Unlike distribution, the AER and previously ACCC have extensive experience in regulating TNSPs, having performed this function now for over a decade. Further, tools such as the former TNSP Submission Guidelines (and associated templates), TNSP Information Guidelines and TNSP Electricity Regulatory Report (Comparative Performance Report) (in which the AER presents information reported in the regulatory financial statements), provide a strong foundation for the AER to work from
  - Any enhancements or changes that are made to the AER's current approach for transmission should be transparent and well justified.
- The unique characteristics of transmission, as well as its different starting point relative to distribution, suggests that the AER should undertake separate consultation processes between transmission and distribution. Doing so will help ensure that necessary differences in approach are captured and applied.
- It is vital that the AER give appropriate consideration to the links between capital and other incentives and the approach taken for assessing forecast expenditure allowances.
  - Grid Australia strongly endorses incentive framework required by the Rules for regulation as the principal tool for encouraging efficient expenditure by TNSPs. Importantly, the existing approach to incentive regulation, with some enhancements, was resoundingly endorsed by the AEMC through its recent rule change processes and reviews.
  - Given the AEMC's confirmation of the existing approach to incentive regulation, the AER's priority should be to make use of its expanded powers to refine and clarify incentives for TNSPs. In the context of the "revealed cost" approach this suggests a focus on refining the method of developing "trends" after the base year for different categories of operating expenditure, and for improving the assessment of forecast capital expenditure.
- Grid Australia notes that the AER's Issues Paper was largely constructed in the context of distribution, as acknowledged by the AER. However, going forward, Grid Australia looks forward to seeing the AER explicitly outline its understanding and views on transmission-specific matters within a transmission context.
- Noting that the AER will, appropriately, continue to develop its approach and use of benchmarking for TNSPs (including for the purpose of its annual benchmarking review task), Grid Australia recommends that the AER set out its

pathway for achieving this development, and the milestones it will target along the way. This should include the level of rigour and validation it expects of benchmarking before it could be relied upon for various purposes.

Techniques for assessing expenditure forecasts

- Assessment techniques such as robust engineering scrutiny have proven to be particularly effective for transmission and should continue to be the primary tool used for assessing expenditure forecasts during a regulatory determination process.
  - Project specific assessments are particularly effective for transmission given the discrete and large projects that dominate transmission investment.
- Grid Australia supports the use of benchmarking to assist the task of regulation. It is important, however, that the AER is fully aware of the limitations of economic benchmarking approaches, particularly in the context of transmission businesses.
- Particular challenges for applying economic benchmarking to Australian TNSPs include:
  - Inherent challenges – namely the lumpy nature of investment, difficulty in measuring the full suite of outputs that TNSPs provide1, and the substantial dependence of efficient cost on a suite of environmental factors;
  - Challenges specific to Australian TNSPs – namely material differences across TNSPs that are largely outside their ability to influence, and a limited number of TNSPs, thus limiting the ability to control statistically for "environmental factors" that differ across TNSPs; and
  - Limited experience – there is very limited experience of applying benchmarking to TNSPs by other regulators or in academic studies, meaning there is little guidance on how the exercise should be undertaken in Australia.

[1] Most notably, this refers to the inherent level of reliability/security of a network given that observed outage events are rare, as well as the outputs provided by "market benefit" projects.

2. Overarching comments

Grid Australia supports the development of a guideline that describes the AER's approach to assessing expenditure forecast proposals. An effective guideline is important for improving the effectiveness of the revenue determination process, reducing the costs of regulation and providing increased certainty and confidence to TNSPs and consumers. The importance of regulatory certainty was highlighted by the Australian Energy Market Commission when considering the application of the National Electricity Objective (NEO) in the Economic Regulation of Networks Rule Change:2

> *"For the consolidated rule change request the Commission considers that the relevant aspects of the NEO is the promotion of efficient investment in electricity services for the long term interests of consumers with respect to price. More particularly, efficient investment requires:*

- [...]
- the establishment of certain, robust and transparent regulatory environment. Investors will have more confidence and may be more likely to invest in monopoly infrastructure where the regulatory process is certain and robust, with appropriate checks and balances in place. Consumers will also have more confidence that the outcomes are better in such an environment; and
- regulatory certainty in the application of the improved and strengthened rules."

Grid Australia is therefore looking forward to active engagement with the AER to develop a guideline that comprehensively and effectively promotes the NEO by providing regulatory certainty.

With this in mind, Grid Australia notes that the Economic Regulation of Networks Rule Change has not substantially changed the approach to economic regulation of transmission networks. Grid Australia considers that the current approach for assessing forecast expenditure is reasonably well accepted, having been developed over an extended period of time. This suggests that the task of expenditure forecast assessment could be broadly the same for the AER as it was in the past, with the added ability to apply other methods such as ex-post efficiency assessments of capital expenditure under certain circumstances. As such, it is highly appropriate for the transmission guideline to be based on the AER's current approach for assessing transmission expenditure forecasts.

Transmission networks have been regulated by a single regulator, the AER (and previously the ACCC), for over ten years since the first transmission determination in

[2] AEMC, *Rule Determination: Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services,* 29 November 2012, pp.7-8.

February 2000 for TransGrid. The AER, therefore, has many years' experience regulating transmission networks in Australia. While it is important that the AER seeks to improve its approach to regulation where necessary, it is also important that it consolidate the lessons learnt to date.

In this regard, the Submission Guidelines for transmission businesses already address many of the matters that are relevant for the expenditure forecasting and categorisation, including:

- guidance and definitions on the categories to be used for forecast capital and operating expenditure;
- a requirement to describe the methods and assumptions used to develop expenditure forecasts and associated load growth forecasts;
- a requirement to provide data on actual expenditure and to explain significant variations in forecast expenditure from historic levels; and
- requirements to provide explanations of why a TNSP considers its forecast expenditure proposal accords with various elements of the Rules.

Grid Australia considers that the AER should look to build on the contents of the Submission Guidelines to develop its EFA Guideline. Most importantly the AER should provide detail on its process, the principles it will have regard to when assessing forecast expenditure, and explanation of its definitions of certain categories of expenditure. It would also be beneficial to include an explanation of how the AER will use certain information to assess forecast expenditure requirements.

The purpose of this section is to address a number of high level issues that have been identified in the main body of the AER's Issues Paper for the development of the EFA Guideline. More specifically, this section comments on the following matters:

- The need for separate transmission and distribution guidelines and consultation;
- The objective and contents of the guideline; and
- The relationship between setting expenditure allowances and incentives.

2.1 Separate transmission and distribution consultation

Grid Australia recommends that the AER consult separately on the development of the EFA Guideline for transmission and distribution, and publish separate guidelines for transmission and distribution. Doing so will ensure that the unique characteristics of transmission are properly accommodated in the AER's approach.

As acknowledged by the AER, much of its Issues Paper is directed towards the assessment techniques it might apply to the distribution sector. However, there are differences in the technology and functions between transmission and distribution that mean a different approach should apply between the two. While these differences are discussed in more detail below, characteristics of transmission networks include:

- more large discrete projects than programs of work;
- greater scope for projects that deliver 'net market benefits' because of the crucial role of transmission in the wholesale market (for example, interconnector upgrades);
- potential consequences of service failure for the entire interconnected system that have potentially more widespread implications;
- the nature of environmental factors that impact cost differing between transmission and distribution; and
- a smaller number of TNSPs in vastly different locations and operating environments that suggests little uniformity for benchmarking performance.3

It is important that the AER give sufficient coverage to the treatment of transmission specific factors in the EFA Guideline. Where the approach is not fit for the purpose of regulating TNSPs, there is a risk of divergence between an allowance that provides for the actual needs of the business and the revenue allowance that is actually provided. Irrespective of the direction of this divergence, customers will be the ones who bear these consequences. This could be through inappropriate and unsustainable pressure on TNSPs to meet their service performance obligations and/or inefficient prices.

2.2 Objective and contents of the guideline

Grid Australia considers that the development of the EFA Guideline can be enhanced by the AER first commencing with a clear view of the purpose and likely contents of the guideline. Once this is established the AER can then prioritise its efforts toward the detailed tasks that are most relevant to addressing these matters.

Grid Australia considers that the objective for the guideline should be to provide certainty and transparency on the process and principles it will apply, information it requires and questions it will ask, in assessing the forward looking estimate of the prudent and efficient costs for TNSPs to meet their regulatory obligations. The AER's current stated objective, however, appears to be more focused on the development of

[3] It is also important to note that the different operating model that exists in Victoria means that, for instance, SP AusNet's revenue proposal does not include augmentation capital expenditure. This creates a further complexity with respect to benchmarking TNSPs across jurisdictions.

assessment techniques in isolation of the robustness or appropriateness of these techniques to transmission or, if so, in what circumstances. Grid Australia does not consider that simply expanding the techniques and listing these in a guideline would provide sufficient clarity, certainty and confidence to businesses submitting their expenditure proposals. In addition, it will not facilitate robust input from consumers when commenting on revenue proposals.

Under the Rules the AER is required to decide whether a revenue proposal is prudent and efficient having regard to the expenditure objectives and factors in the Rules. This means the AER is required to assess whether the forward looking costs reflect what an efficient and prudent business is likely to incur in order to meet its regulatory obligations. As indicated above, the Rules in this area have not undergone material change and the AER already has considerable experience in making this assessment for transmission businesses.

Much of the material covered in the Issues Paper is focused, however, on economic techniques that might be applied for testing the overall efficiency of businesses. Such tests tend to have a backward looking focus. This reflects the fact that it is not possible to know whether forecast costs and proposals are efficient until the time comes for them to be incurred. As discussed further below, while backward looking benchmarking can provide useful information, the AER's main task is to assess the forward looking costs that are required for network businesses to meet their regulatory objectives. As such, Grid Australia is concerned that the Issues Paper appears more focused on the annual benchmarking reporting task, and in doing so specific tools, rather than the task of assessing future expenditure requirements in the circumstances of the network.

Grid Australia contends that the approach to assessing forecast expenditure requirements is better characterised as a process rather than a series of techniques. As such, the guideline would better meet the needs of all parties if it was founded on the process, principles and criteria the AER intends to follow and use to assess revenue proposals.

Grid Australia considers that a guideline focused on process, principles and criteria also aligns with the relevant Rules drafting for the EFA Guideline. Clause 6A.5.6 requires that the AER specify the approach it proposes to use to assess forecasts and the information it requires for that purpose. With this in mind, Grid Australia recommends that the guideline focus on:

- The questions the AER is seeking to answer at different stages of the process and how these questions relate to the NEL, including the NEO and Revenue and Pricing Principles, and Rules, including the full range of expenditure factors;

- How it proposes to take into account the circumstances of each network, particularly those factors that are largely outside of the control of the TNSP (for

example load densities, topography, land use competition and associated project approvals processes)4;

- The principles the AER will have regard to when applying its discretion, including so that its approach is proportionate to the size of the issue at hand;
- How it will take account of the extent to which TNSPs have engaged with consumers and the preferences expressed by consumers through that engagement;
- The nature of the information it will require at each stage of its review and how it intends to use that information;
- Clarity on the definitions of different categories and drivers for expenditure, in order to provide more certainty about what should and should not be included in a particular category of expenditure; and
- A broad description of the techniques available to it to undertake assessments and the criteria for deciding which techniques are most appropriate to that task.

Grid Australia considers that a focus on the above matters will assist TNSPs to understand the information they are to provide the AER and how it will be used in the expenditure assessment. Provision of this clarity to TNSPs will enable them to submit revenue proposals that comply with the Rules and suit the analysis and steps the AER will undertake. Over time this should reduce the costs of regulation for all parties.

Such guidance would also be of benefit for consumer input into the process, as they would have a better understanding of those specific matters that the AER is testing and the purpose behind the approach that is taken.

Noting that the AER's clear intention is to increase the use and applicability of benchmarking techniques, Grid Australia also considers it would be essential for it to outline its proposed pathway for developing benchmarking techniques, including the milestones it will target along the way and approach to validation of new techniques to demonstrate their robustness. Doing so would promote transparency and accountability of AER's approach to regulating network businesses. It will also assist other stakeholders to prepare for and actively participate in the ongoing development of such techniques.

[4] Although the explicit reference in the Rules to the circumstances of each business has been removed for clarity, the AEMC reinforced in its Rule determination that it expects the circumstances of each business to be considered when evaluating expenditure forecasts.

2.3 Relationship between setting expenditure allowances and incentives

Grid Australia strongly supports the use of incentive regulation as required by the Rules as the principal tool for encouraging efficient expenditure by TNSPs. The AER's intent to rely wholly on economic benchmarking models5, rather than current incentives and the revealed cost approach for setting expenditure allowances, would be a fundamental change to the regime. In particular, this change would have important implications for the incentive properties of the framework and would be in conflict with the Rules. Indeed, the requirement in the Rules for the AER to develop the Capital Expenditure Incentive Guideline indicates the vital role envisaged for incentive regulation by the AEMC. It is also consistent with the direction adopted for network regulation since the reform process in Australia commenced in the early to mid 1990s and is modelled on development in the UK.

Grid Australia considers it is vital that the AER consider its approach to incentives alongside its approach to expenditure forecasting to avoid any unintended consequences. In light of the potential significant consequences for incentives from the AER's proposed approach to expenditure assessment, its priority should be to make use of its expanded powers to refine and clarify existing incentives for TNSPs.

Relying on incentives so that businesses are encouraged to reveal their efficient costs is a method of regulation that has been widely applied by regulators in Australia and internationally. The main reason for this is that the revealed cost method is practicable to implement and overcomes many of the problems associated with information asymmetry. In addition, the environmental factors that have been a particular focus of the Issues Paper are inherently addressed in the method, given that businesses factor these into their actual expenditure decisions. Notably, this is a point with which the AER appears to agree where it states that NSPs' current levels of expenditure already reflect the influence of relevant regulatory requirements.6

In the context of applying a revealed cost method the task for the AER is far more straightforward. Given the information that is provided through revealed costs the priority for the AER's development of additional techniques for assessing forecasts should be to refine the method of developing "trends" after the base year for different categories of operating expenditure and for improving the assessment of forecasts of capital expenditure.

It is also important for the AER to take into consideration the endorsement that the AEMC provided for the existing approach to incentive regulation as part of recent Rule changes and reviews. In particular, in its consideration of the Economic Regulation of Networks Rule Change the AEMC reconfirmed the existing approach to

5 AER, *Better Regulation, Expenditure forecast assessment guidelines for electricity distribution and transmission, Issues Paper,* December 2012, p. 35.

6 AER, *Better Regulation, Expenditure forecast assessment guidelines for electricity distribution and transmission, Issues Paper,* December 2012, p. 20.

incentive regulation as broadly appropriate. Further, the enhancements that it proposed to the framework are predominately based around existing incentive mechanisms. While improvements to the framework for incentives are needed and expected, Grid Australia cautions the AER from departing too far from an approach that has recently undergone extensive review and has been formally endorsed by the AEMC.

Implications from relying on external benchmarks to set expenditure allowances

One of the main implications of relying completely on external benchmarks for incentives would be to substantially exacerbate the current imbalance of the incentive power between operating and capital expenditure. The first effect would be to significantly increase the power of the incentive for operating expenditure. This is because it would not be reset periodically with reference to actual cost, but to an external value.7 The incentive power for capital expenditure would not, however, change to the same degree as operating expenditure. This is because under the Rules actual expenditure (that has not been disallowed ex-post) is required to be rolled into the regulatory asset base, and therefore a link is maintained between actual costs and allowed revenue8.

The combination of the outcomes identified above would be that the power of the incentive to minimise operating expenditure would far exceed the power to minimise capital expenditure. This could have significant implications for the profit motivation for businesses to use a particular form of expenditure where discretion is available to choose.

The AER now has new powers to develop a capital expenditure sharing scheme for transmission. While it would be theoretically possible to address the imbalance of incentives described above through this scheme, it would require that the sharing ratio be set at 100 per cent, or very close to it.9 Grid Australia considers that such a high powered incentive scheme would create other problems, not least a substantial increase in the risk that would arise from variations between allowed revenue and actual costs.

7 The revealed cost method starts with actual expenditure usually in the latest observable year and carries this forward by a trend, subject to any step changes in costs. It can be assumed that this actual cost represents an efficient cost given the incentives in the framework. The incentives are provided by fixing either revenue or prices and allowing NSPs to retain any cost savings they are able to make relative to forecast costs (and conversely bearing the cost of overspending). For operating expenditure the EBSS ensures that this incentive is equal across each year of the revenue determination period. This is achieved by enabling NSPs to retain operating expenditure savings, or costs, they make for five years irrespective of when the saving occurs. If a business did not minimise costs in this circumstance it would effectively be foregoing profit, and potentially facing a penalty for any costs above forecast amounts.

8 Indeed the efficient capital cost incurred in any period, and hence the efficient price at a point in time, depends on the capital costs that have been recovered in the past and those that are expected to be recovered in the future, which again is difficult to control for in any statistical benchmarking method.

9 A 100 per cent sharing ratio would be required where the benchmarks relied upon for setting expenditure allowances were completely external to the business under review.

In addition, the substantial increase in the power of the incentive on operating expenditure would impact on the balance of incentives between service performance incentives and expenditure incentives. This implies that the AER would need to review its approach to service performance incentives to ensure that unintended consequences do not arise. Solutions to address this imbalance are far less obvious.

Grid Australia agrees with the AER that relying on external benchmarks for setting expenditure allowances will also have implications for the ongoing use of the Efficiency Benefit Sharing Scheme (EBSS) for operating expenditure. For instance, a difficult issue would arise where the AER's efficiency benchmarking demonstrates that it is highly likely that a firm's actual costs are much higher than is efficient. If the AER decides to use this information to adjust the base year or the trend then an argument can be made that the current EBSS should be modified or not applied to avoid double-penalising the firm for the perceived inefficiency.

Putting aside the issue of whether the likely balance of incentive is what is actually intended by the AER, Grid Australia is also particularly concerned that benchmarking techniques are not sufficiently robust, even in the future, to be reliable for setting expenditure allowances.

Part of the reason that the revealed efficient cost approach to regulation persists in Australia and internationally is because purely statistical techniques cannot provide a sufficiently robust prediction of efficient total cost or price for network activities. While this question is addressed further in section 3 below, the likely error factor that will be inherent in external benchmarks implies that relying on this approach could be expected to lead to windfall gains or losses for businesses.

It is notable that the AEMC rejected the use of total factor productivity measures for setting prices or revenues in transmission given the difficulties associated with benchmarking TNSPs. Specifically, the AEMC stated:10

> *"It appears unlikely that it would be appropriate to implement a TFP methodology for the electricity and gas transmission sectors because of the small number of service providers, the lumpiness of capital expenditure and difficulties in measuring outputs. It is, however, important to improve data collection within the electricity and gas transmission sectors to allow these issues to be tested more fully."*

[10] AEMC, *Review of the use of total factor productivity for the determination of prices and revenues, Final Report,* 30 June 2011, pp. 9-10

3. Benchmarking

It is Grid Australia's long held position that benchmarking can be a useful input into assessing expenditure requirements for TNSPs. It is important, however, that the AER be fully aware of the limitations of applying benchmarking techniques, and not apply it to tasks for which it is not suited. Further, it is important that the AER also not discount the advantages and benefits that can be achieved by applying other techniques such as robust engineering analysis to transmission projects. Grid Australia notes that benchmarking is one of twelve expenditure factors specified in the Rules to which the AER must have regard when assessing TNSPs' expenditures.

Grid Australia is particularly concerned at the AER's apparent suggestion that the only barrier to applying benchmarking techniques for setting allowed expenditure is the time to collect sufficient information. This view does not give proper acknowledgement of the known limitations of benchmarking techniques; in particular the challenges associated with properly accounting for all of the "environmental factors" that cause the efficient cost to vary across businesses.

Relying on external benchmarks to set expenditure allowances is not a dominant feature of regulatory regimes for electricity in Australia or in similar regimes internationally. Indeed following a poor experience with benchmarking approaches the Commerce Act in New Zealand explicitly precludes its use for setting prices, rates of change, quality standards or incentives to improve quality of supply.11

Instead, domestically and internationally benchmarking has been put to good use either to assist firms internally about how best to respond to incentives or as a tool by regulators to identify aspects of a proposal where further scrutiny is required. For instance, the regulator of transmission businesses in the United Kingdom, Ofgem, expressed its view that benchmarking is only an input into their assessment process with detailed engineering analysis remaining the main tool applied:12

> *"Under the RIIO regulatory framework, international benchmarking is a key element of the cost assessment toolkit, and we will continue developing our international dataset and totex benchmarking methods during this price control. We will also ask the TOs to put forward more international benchmarking analysis themselves at both an aggregate and disaggregated level. However, having considered the emerging issues such as availability and maturity of the data for international comparators and stakeholders' concern on the robustness of international benchmarking, we intend to rebalance the role of totex benchmarking in RIIO-T1. Although we will take the results of totex benchmarking into consideration when we assess cost efficiencies of network*

11 Commerce Act 1983, Section 53P(10)

12 Ofgem, *Decision on strategy for the next transmission price control – RII0-T1 Tools for cost assessment,* 31 March 2011, p.19.

companies, we will focus more on disaggregated cost assessment approaches." [Emphasis added]

This perspective was also recently supported by the Productivity Commission (PC) who considered that aggregate benchmarking models are not well suited to setting regulated revenue allowances. As with Ofgem, the PC identified that there are other roles for benchmarking, including as a tool to identify where further analysis is required:13

- "At this stage, aggregate benchmarking models are ill suited to setting regulatory revenue allowances. However, benchmarking:
  - is a useful diagnostic tool that can help assess the reasonableness of bottoms-up proposals. More elaborate benchmarking should act as a discipline on proposals by network business and should be implemented as soon as possible
  - may facilitate negotiated arrangements that bypass the current costly and protracted regulatory processes. This 'short circuit' approach should only apply where the benchmarking models suggest that costs are reasonable
  - can provide information to consumers and others that provides pressure for improved performance by network businesses."

Grid Australia encourages the AER to be mindful of the challenges in applying benchmarking to any network business and in particular to transmission businesses.

The remainder of this section outlines a number of specific matters relevant to the AER's proposed use of benchmarking, including:

- the challenges of applying it to transmission;
- its applicability to assessing forward looking costs; and
- the specific challenges of assessing capital expenditure proposals through benchmarking.

The section then provides responses to specific questions included in the AER's consultation regarding benchmarking.

[13] Productivity Commission, *Electricity Network Regulatory Frameworks, Draft Report Volume 1,* October 2012, p. 269.

3.1 Challenges of applying benchmarking to transmission

There are a number of critical challenges to applying benchmarking to TNSPs, particularly if it is to be used as the primary source of information for assessing revenue allowances. While the statistical robustness of various benchmarking techniques is already questionable given the variety of factors that can influence outcomes, these issues are exacerbated when these tools are applied to transmission businesses. As such, Grid Australia cautions the AER to not place a reliance on benchmarking tools for assessing expenditure allowances that are not suited to this purpose.

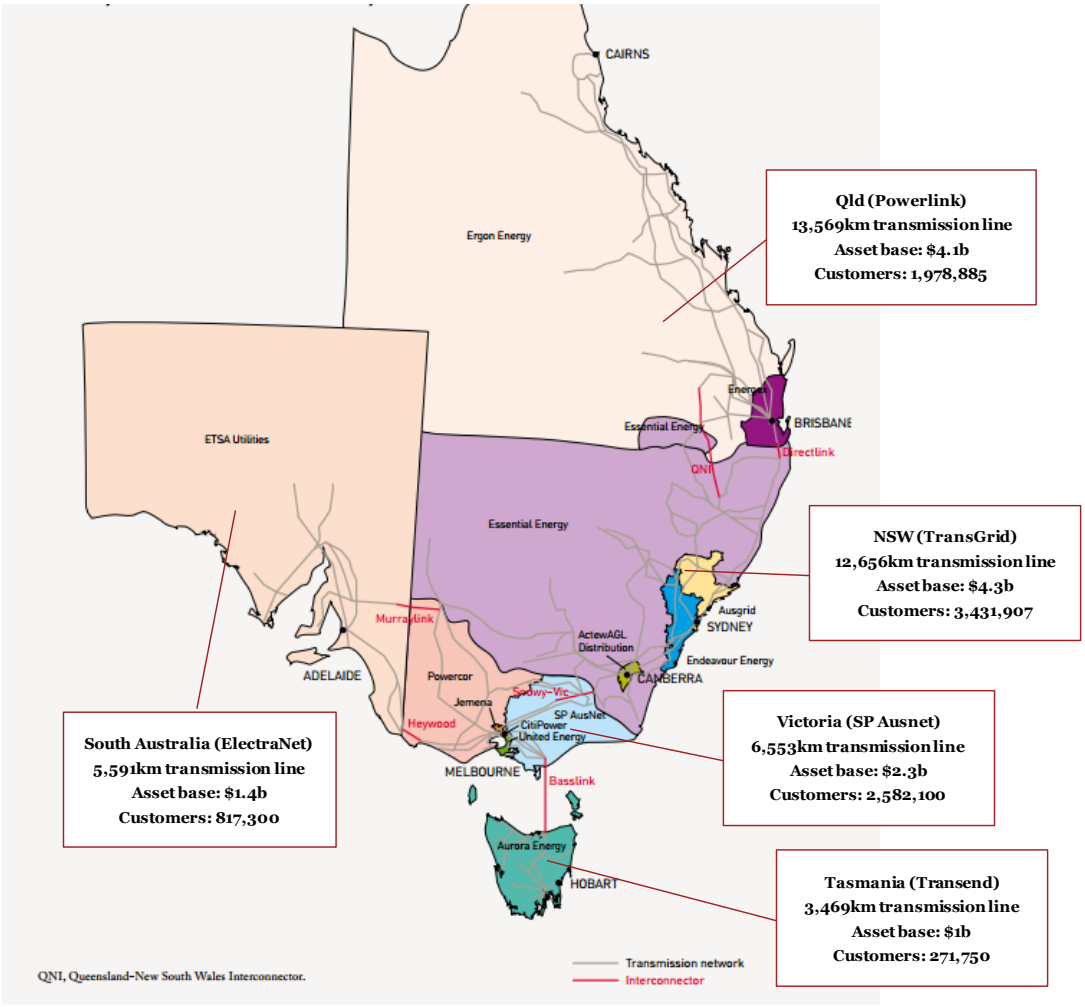
The most significant issue for benchmarking is to make adjustments for all of the factors that might influence the efficient cost of providing network services. Arguably this is more challenging for transmission than for distribution, reflecting:

- The different voltages of assets between transmission systems makes it challenging to compare like with like;
- The greater lumpiness of capital projects, which in turn increases the location specificity of expenditure requirements;
- Substantial differences in the characteristics of the transmission networks, reflecting differences in the location and density of populations, locations of fuel (and hence generation location) and current and historical planning and land use requirements, topography and distance;
- The challenge in determining and measuring reliability outputs in transmission given that the service failure events of central concern are very rare, and have difficult to measure, and widespread, economic impacts; and
- The difficulty of measuring outputs in light of projects driven predominantly by market benefits rather than reliability.

These factors are elaborated on further in the responses to specific questions in Section 3.4.

Figure 1 below illustrates that important cost drivers such as kilometres of line per customer can vary greatly between TNSPs. For instance, while Queensland has around 145 customers per kilometre of line, Victoria has around 394 customers per kilometre of line.

Figure 1: Transmission network overview

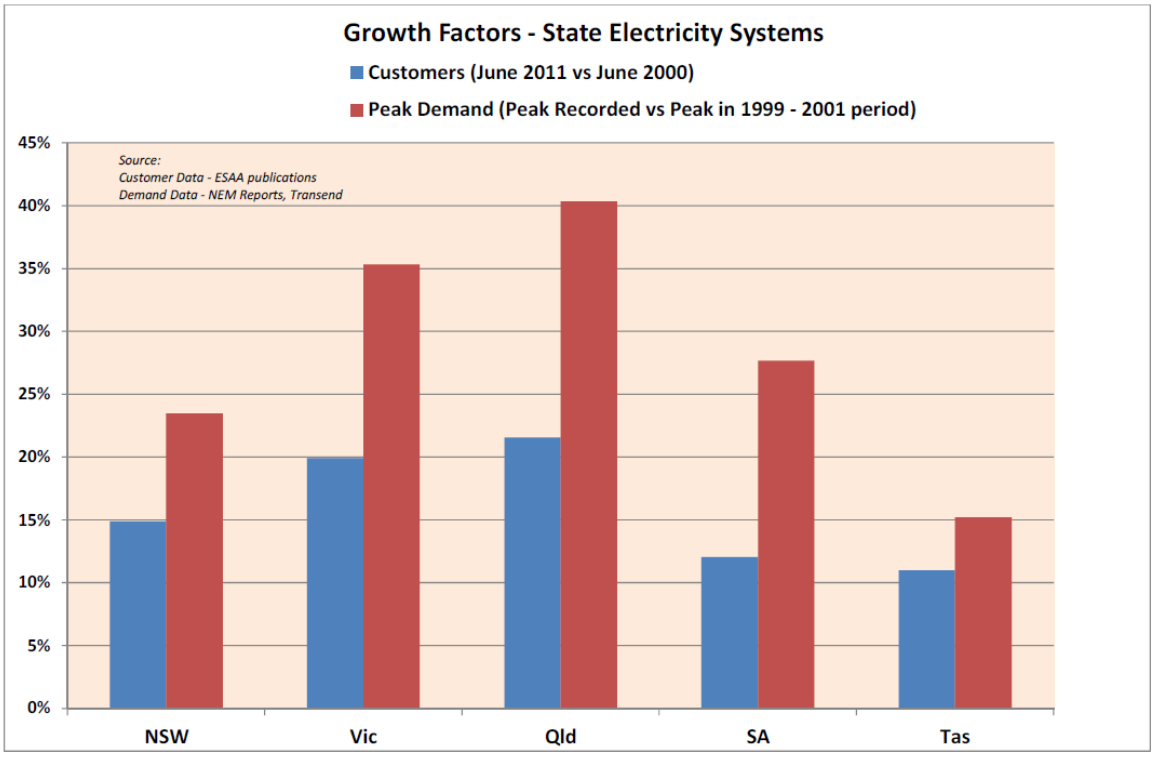


Source: State of the Energy Market 2011, AEMO

Figure 2 below, taken from a report prepared by Evans & Peck for Grid Australia, identifies significant variations in peak demand growth between jurisdictions. It also identifies that there are differences between jurisdictions with respect to customer growth. It is notable that Tasmania and Queensland have each had proportionally higher growth outside of their respective capital cities when compared to jurisdictions such as South Australia and Victoria.14

14 Grid Australia, *Electricity Network Regulation – Supplementary Submission to Issues Paper,* 22 August 2012, p. 15.

Figure 2: Jurisdictional Growth in Demand and Customers



Source: Evans & Peck, November 2012.

Given that the impact of these factors can be different for each TNSP, and also change over time, Grid Australia also considers that placing materiality thresholds on environmental factors should be done with caution. Placing such a constraint on the consideration of a factor might mean that a legitimate cost driver is not given due consideration in benchmarking analysis.

The challenge of applying benchmarking to transmission is reflected in the fact that it is rarely applied by other regulators internationally (in particular for revenue setting purposes) and that relatively few credible benchmarking studies have been undertaken for transmission. Indeed, an academic paper published in November 2012 by University of Cambridge economist Dr Michael G Pollit with Aoife B. Haney that surveyed 48 national electricity regulators found that the application of benchmarking to transmission is particularly challenging and likely to get more difficult. It also noted that a failure to apply it appropriately can impact on regulatory risk and the incentives for efficient investment.[15]

> *Relative to electricity distribution, electricity transmission systems are much more difficult to benchmark consistently and in a way that regulators can defend to their*

[15] Haney, A.B, and Pollit, M.G, *International Benchmarking of Electricity Transmission by Regulators: Theory and Practice, EPRG Working Paper 1226, Cambridge Working Paper in Economics 1245,* November 2012, pp 55-56.

stakeholders in the industry and in government. Our survey of regulators indicates that they are aware that electricity transmission benchmarking is significantly more challenging than benchmarking distribution. A significant number of regulators also think that transmission benchmarking is not getting any easier. Fundamentally, this is because transmission companies are much more idiosyncratic entities than distribution companies, particularly when transmission must be compared internationally.

As a result, there have been few academic studies of transmission benchmarking and regulators are reluctant to use frontier efficiency techniques such as DEA and SFA to benchmark their transmission utilities. The data requirements to sensibly benchmark transmission are significant and sophisticated benchmarking methods are required. New panel data techniques aimed at dealing with unobserved heterogeneity and the validity of the comparator group look intellectually promising but are in their infancy for regulatory purposes.

The choice of variables used in benchmarking affects the results of any benchmarking exercise. In electricity transmission choosing variables is particularly difficult, because of the large number of potential variables to choose from. Variables are often arbitrarily chosen and combined, while the degree of control the company has over them may be limited. Efficiency scores arising from transmission benchmarking need to be carefully translated back into regulated revenue allowances in order to avoid appropriation of normal returns to investments which have been previously approved by the regulator. Failure to apply benchmarking appropriately may negatively affect investors' willingness to invest in the future.

Our survey suggests that regulators make relatively little use of frontier efficiency techniques for benchmarking electricity transmission and are interested in new approaches to regulation (though many see these approaches as some way from being implemented). It also suggests that regulators need to pay attention to the potential for regulatory risk implicit in the use of transmission benchmarking. While few acknowledge that regulatory risk is currently an issue in transmission benchmarking, many more concede it might be. If benchmarking induces uncertainty as to whether large transmission investment programmes will be adequately remunerated this will significantly raise the capital cost of financing new investments and could be counterproductive."

Grid Australia considers that it is notable that following a comprehensive review of its approach to regulation, Ofgem did not choose to rely on external benchmarks to set expenditure allowances for transmission businesses. Instead, Ofgem chose to implement a form of menu regulation that is referred to as the Information Quality Incentive (IQI).

The key feature of the IQI is that the alignment between the TNSP's forecast of the required expenditure with the regulator's view influences the income earned by the TNSP and the power of the incentive rate applied. Importantly, the regulator's view about required expenditure does not determine the expenditure allowance for the business. However, the impact on the income for the TNSP and the incentive it faces

from the ratio between the regulator's view in the business' proposal means it has an incentive to forecast honestly.

It is also worth noting that under the IQI model applied by Ofgem in its most recent review two of the three TNSPs had their revenue proposals accepted in total. In doing so the maximum incentive rate of 50 per cent was applied. It is also relevant that the maximum incentive rate in the UK is significantly below the maximum rate that would be implied by the AER's proposed approach of relying on external benchmarks for setting expenditure allowances.

3.2 Application of benchmarking to capital expenditure

The most challenging issue in building block regulation is assessing capital expenditure forecasts. This is particularly the case for transmission which has much less of the 'program' element of capital expenditure that exists for distribution. The Issues Paper, however, is much more focused on benchmarking approaches that are applicable only for operating expenditure or testing the overall efficiency of businesses. Grid Australia considers it is important, however, that the AER have regard to the advantages of relying more on robust engineering reviews than benchmarking techniques in the context of transmission capital expenditure.

Capital expenditure economic benchmarking techniques use the stock of existing capital as the input rather than annual additions. The efficiency of the existing stock of capital is not a primary consideration for assessing future expenditure requirements. Indeed there are many factors that can impact on the perceived efficiency of the existing stock of capital such as decisions by previous owners, the approach to setting initial RAB values at the commencement of regulation and the approach to depreciation. As such, attempting to derive any meaningful information about future costs by reviewing the efficiency of the existing capital stock is likely to be largely meaningless.

Even where benchmarking might provide useful information about forward looking costs the applicability of this information to transmission is greatly diminished. As has been identified throughout this submission transmission capital expenditure has much less of the 'program' aspects that are found in distribution. This means that projects and their costs tend to be more driven by a specific need and circumstance. This makes the application of benchmarking particularly challenging for transmission capital expenditure.

The discrete and lumpy nature of transmission investment means, however, that robust engineering review of specific projects can be very informative about the expenditure requirements of TNSPs. Engineering assessments can be challenging

where a capital expenditure program comprises many small investments.16 Given the majority of transmission projects are large and discrete it is far more feasible for a reputable engineering expert to take a view about the efficiency of an expenditure forecast by having regard to actual investment proposals.

Grid Australia recommends that the AER devote significantly more attention and resources to its expected approach to assessing capital expenditure forecasts. In addition, noting that the AEMC has now provided significantly broader scope for the AER to introduce new, and potentially stronger, capital expenditure incentives its approach should be chosen in conjunction with any new incentive arrangements developed.

3.3 Applicability of benchmarking to forward looking costs

Many of the techniques that have been identified by the AER are typically considered to be better suited to assessing overall efficiency on a historical basis. Noting that expenditure forecasting is a forward looking assessment of costs it is not clear that these approaches are well suited to the task.

Grid Australia considers that many of the techniques identified by the AER in the Issues Paper might be more applicable to the annual benchmarking reports that the AER is now required to produce. As such, the AER's use and development of these techniques might be better undertaken as part of that process so to avoid confusion with the approach to the assessment of forward looking costs.

It is worth noting in this context that Comparative Performance Reports based upon regulatory financial statements are already published for transmission businesses, and have been published for some years now. While there is scope for the analysis supporting these documents to be improved, Grid Australia considers that by undertaking this process the AER would have gained useful insights into the challenges and opportunities associated with benchmarking the performance of a diverse set of TNSPs.

Importantly, the AER should not discount the impact that comparative performance reporting can have on incentives for improved performance amongst monopoly entities. Poor scores in such reports can have implications on the reputations of businesses which has negative connotations such as bad publicity, pressure on management by shareholders and potentially implications on non-regulated activities. This potential for increased reputational incentives to apply to TNSPs will be strengthened through the likely increased profile of the forthcoming annual benchmarking reports.

[16] This is because it would require the engineers to reach a view about many actual decisions on specific assets or projects. This would include a view about all the factors that explained each investment. Given the number of projects in a distribution network over a regulatory period this is clearly impractical and costly to achieve.

3.4 Responses to specific questions relating to benchmarking

Appendix A of the AER's Issues Paper has been compiled with distribution network expenditures in mind and many of the questions relate specifically to distribution. Grid Australia therefore responds in this section primarily to the TNSP-specific briefing notes prepared by Economic Insights for the AER, Outputs and Operating Environment Factors to be Used in the Economic Benchmarking of Electricity Transmission Network Service Providers.

Grid Australia notes the AEMC's conclusion from its review of the use of total factor productivity for setting prices or revenues in 2011, that:17

> *"It appears unlikely that it would be appropriate to implement a TFP methodology for the electricity and gas transmission sectors because of the small number of service providers, the lumpiness of capital expenditure and difficulties in measuring outputs. It is, however, important to improve data collection within the electricity and gas transmission sectors to allow these issues to be tested more fully."*

Grid Australia is concerned that attempts to measure total factor productivity in both the electricity sector and the economy more broadly have regularly produced volatile results. This is particularly the case where expenditure or outputs are lumpy, and where environmental factors or outputs are challenging to quantify. Grid Australia foreshadows that this is likely to be the case when benchmarking electricity transmission, and encourages the AER to recognise the limitations of high level benchmarking tools.

Grid Australia also notes that high level benchmarking necessitates like-for-like comparison of functions between TNSPs. Particular challenges to this are created by the transmission planning arrangements in Victoria, under which the AER has not monitored or reported information on AEMO in its role as a Victorian TNSP.

Responses to specific questions in the briefing note are as follows.

Outputs – issues for discussion

Q1 Should the outputs to be used in economic benchmarking be similar to those the regulator implicitly uses in setting building block revenue requirements rather than what TNSPs actually charge customers for?

Benchmarking outputs should reflect the services provided by transmission networks. Grid Australia regards the outputs provided by transmission networks are described as follows:

[17] AEMC, *Review of the use of total factor productivity for the determination of prices and revenues, Final Report,* 30 June 2011, pp. 9-10

> Transmission networks provide capacity, to a level of reliability, in compliance with National Electricity Rule requirements, jurisdictional requirements and other regulatory obligations.

National Electricity Rule requirements include, amongst other things:

- requirements around stability, voltage unbalance, fault level tolerance and other aspects of the technical envelope of networks, such as those in Schedules in Chapter 5;
- requirements relating to connections, such as the connection of new load and generation;
- references throughout the Rules requiring functions to be performed in accordance with good electricity industry practice; and
- investment drivers considered under the Regulatory Investment Test – Transmission (RIT-T), which include both reliability and market benefits.

Jurisdictional requirements include, amongst other things, safety, environmental and planning development requirements.

In proposing the above description Grid Australia agrees with the analogy in the Economic Insights paper that transmission networks provide outputs similar to roads, in the sense of capacity and entry and exit points.

Grid Australia notes that the setting of revenues and the conversion of this revenue into tariffs are specified in separate parts of Chapter 6A in the Rules, such that the actual form and structure of tariffs charged to customers is not a direct consideration in the setting of revenues. In that regard, while it is important to consider the price impact on customers that might derive from a revenue allowance, the form and structure of tariffs borne by customers are not outputs that feed directly into setting this amount.

Q2 Are the AER's output selection criteria (of being consistent with the NER objectives, reflecting customer services and being significant) appropriate? Are there other important criteria we should use in selecting TNSP outputs?

Grid Australia accepts the output selection criteria as proposed by the AER, noting that for economic benchmarking purposes it regards the service provided to customers as described in the answer to Question 1.

Q3 Should TNSP outputs for economic benchmarking be extended to include 'secondary deliverables' (ie the capacity required to deliver outputs now and in the future) rather than being limited to those reflecting current consumption?

Outputs described by Economic Insights as 'secondary deliverables', such as system security, are required under the National Electricity Rules and to uphold the National Electricity Objective, and as such should be included as outputs.

Q4 Should energy throughput be included as an output even though changes in it have little impact on TNSP costs?

Q6 Should demand–based quantities users are charged for be included as outputs for economic benchmarking purposes?

Q9 Is there a case for including system peak demand as an output even though reliability at peak times is what affects customers?

Neither energy nor peak demand are outputs of a transmission network, or (for the most part) within the control of TNSPs. Rather, they are determined through the interaction between generators and consumers (via retailers) determining supply and demand in the electricity market. Therefore, Grid Australia does not support their inclusion as outputs for benchmarking purposes.

Q5 TNSPs typically impose fixed charges for connection on generators and downstream users. Is the number of entry and exit points the best quantity measure for this item?

The provision of entry and exit points is part of the service provided by transmission networks, and therefore may be suitable for inclusion as an output. Grid Australia suggests further analysis be undertaken to determine whether the number, capacity or an alternative quantity measure is the best measure for this item.

Q7 Is system capacity an appropriate output variable to capture TNSPs' ability to meet expected demand?

Q8 The capacity of a transmission network to throughput energy depends on both the capacity of the TNSP's lines and the number and size of transformers it has in place. Should a system capacity output include transformer capacity as well as line and cable capacity? If so, is the simple product of downstream bulk supply point transformer capacity and line length a reasonable summary measure?

System capacity is an appropriate output variable, as it reflects the service provided by TNSPs.

The capacity output should include transformer capacity as well as line and cable capacity. A simple product based on bulk supply point capacity is unlikely to be a

suitable summary measure, as it does not take into account inter-regional and intra-regional power transfers that utilise the transmission network. Grid Australia would be willing to assist in further consideration of appropriate measures.

Q10 Is TNSP reliability a key output which should be included in economic benchmarking?

Yes, Grid Australia strongly supports the inclusion of reliability as a key output as it is a material driver of expenditure on transmission networks. Grid Australia acknowledges the issues associated with developing a measure for reliability and would be willing to assist in further consideration of this.

Q11 Should we make use of the Service Target Performance Incentive Scheme (STPIS) variables as economic benchmarking outputs?

In principle, the types of measures considered in the STPIS closely reflect the reliability obligations of TNSPs and impact of TNSPs' actions on the market, and would therefore be suitable for consideration as outputs.

However, the STPIS was specifically designed to provide incentives for TNSPs to continuously improve or maintain performance against their own historical performance in relation to operational measures (rather than capital investment). The parameters are therefore well defined for providing incentives to each TNSP but are not suited to comparison between TNSPs. For example, each TNSP has different thresholds for loss of supply events, in order to set meaningful targets given the different inherent performance characteristics of each network. Also, the market impact component counts dispatch intervals with a market impact of outages, but does not seek to normalise this for factors outside a TNSP's control such as market participant behaviour or total cost of constraints.

Therefore, some analysis would be required to develop comparable measures based on the types of measures considered in the STPIS. Grid Australia would be willing to participate in such further work.

Q12 Is the STPIS market impact variable the most important reliability indicator to include?

Q13 Should the loss of supply event frequency and average outage duration from unplanned outages be included as outputs?

Q14 Is it appropriate to include a measure of circuit availability as an output for economic benchmarking purposes?

Grid Australia suggests that these questions could be considered as part of any further analysis to develop comparable measures.

Q15 Is the time scale for new (generation) connection a relevant output? What of possible ensuing constraints and their resolution?

The difficulty in measuring this output, given that time scale is largely determined by the connecting party as well as by the TNSP, may preclude its use.

Q16 If a functional output specification is used, how should output weights be formed? Is the cost function method (where shares of output elasticities in the sum of those elasticities reflect relative estimated cost shares for the outputs) the best way of doing this?

Q17 How should an output dollar value be formed for economic benchmarking purposes for reliability outputs?

Q18 Can processes currently in place to demonstrate compliance with regulatory pricing principles or for internal TNSP planning purposes be utilised in forming measures of the relative cost of producing the different outputs?

These questions would be best considered in conjunction with the development and validation of a TFP model, which Grid Australia understands is a subsequent activity in the development of benchmarking.

Operating environment factors – issues for discussion

Q1 Are the AER's operating environment factor selection criteria (of being material, exogenous to the TNSP and a primary cost driver) appropriate? Are there other important criteria we should use in selecting TNSP operating environment factors?

The first selection criteria, being material, is appropriate. However, this should not be considered in terms of restricting the number of operating environment factors but with genuine consideration of the materiality related to expenditures.

The second selection criteria, being exogenous to the TNSP, is appropriate.

The third selection criteria, being a primary cost driver, is not necessarily appropriate. It may be that where a number of factors are correlated, there is sufficiently small overlap that more than one of those factors should be included as environmental factors with weightings that take account of the overlap.

Grid Australia has identified the following operating environment factors:

- location(s) and type(s) of generation on each network;
- variability of generation dispatch patterns due to intermittent generation, for example where contributions from hydro or wind generation are material;

- location(s) and distribution of loads, whether centralised or distributed among major flow paths, across each network;
- length/distance and topology, that is, the degree of meshing or extension of each transmission network, potentially reflected as "network density";
- system operating voltage and power carrying capabilities of lines;
- major circuit structures (for example, single circuit or double circuit, which can impact on credible contingencies in the NEM);
- weather, that is, natural performance characteristics of the network related to storms, bushfires and other weather-related events which in turn can depend on factors such as altitude, wind and the propensity for natural phenomena such as cyclones;
- terrain;
- peak demand;
- different jurisdictional standards such as planning standards;
- age and rating of existing network assets;
- the timing of a TNSP in its investment cycle, given the lumpy nature of investments;
- extent of implications of NER "technical envelope" requirements, such as those in the schedules in Chapter 5 (e.g. voltage stability, transient stability, voltage unbalance, fault levels, etc); and
- variations in cost drivers between jurisdictions.

The Economic Insights briefing note lists "other factors" which include some of the above factors, noting that they are exogenous to the TNSP and can have a material impact on costs but are difficult to quantify robustly. Therefore, Economic Insights recommends not including them at this time. Grid Australia contends that this demonstrates the unsuitability of high level economic benchmarking for transmission networks, and that the exclusion of material environmental factors would cast significant doubt on the veracity of the results of benchmarking for drawing reasonable conclusions.

Grid Australia notes that operating environment factors can apply not only between TNSPs, but between different expenditures of the same TNSP. For example, an increase of capacity to a major load centre may require the construction of a transmission line of an appropriate distance with the required capacity, and the substation works required to provide connection. However, the same capacity

increase on an interconnector or across an intra-regional cut set may require additional or alternative works such as dynamic reactive support, series compensation, braking resistors and/or rearrangements to subsystem networks to address system security and stability needs.

This is evident in both the Heywood interconnector upgrade for which AEMO and ElectraNet have completed consultation under a RIT-T, and the potential Queensland to New South Wales interconnector upgrade for which TransGrid and Powerlink have commenced RIT-T consultation. The complexity of transmission network planning and operation evident in such projects highlights the limitations of high level benchmarking in providing robust information for consideration in expenditure forecast assessment.

Q2 Should allowance be made for climatic differences between TNSPs operating in sub–tropical areas and those operating in temperate areas? What about between those operating in temperate areas?

Q3 Should adjustment be made for locational climatic effects such as direct lightning effects, resultant fires, snow loading (and difficulty of access), conductor derating in elevated temperatures and variability of vegetation aggression? How could these be measured and adjusted?

Q4 What is the best summary measure of climatic effects?

Q5 Is it possible to derive a useable summary measure of the terrain a TNSP faces?

Climate, weather effects and terrain are operating environment factors. Grid Australia would be willing to assist in the development of summary measures.

Q6 Is peak demand exogenous to the TNSP? Would including it as an operating environment factor reduce TNSP incentives to efficiently manage peak demands?

Peak demand is almost entirely exogenous to a TNSP.

A question was raised in the briefing note of whether the inclusion of peak demand as an operating environment factor may reduce TNSP incentives to efficiently manage peak demands. This is unlikely to be the case, because:

- The value of demand management to TNSPs is often to defer network augmentation for a period of time. After the network augmentation has been completed in the deferred timeframe, due to the lumpy nature and size of transmission augmentations the additional capacity would mean that demand management is no longer required and its continued procurement would be inefficient.

- The quantity of available demand management that has historically been offered in response to TNSP requests has been small compared to total peak demand. For example, 35MW of demand management was offered to TransGrid in the Sydney CBD for Summer 2012/13 compared to a New South Wales Summer peak of over 13,000 MW.

The capital expenditure incentive on which the AER plans to consult under its Better Regulation program is likely to strengthen the incentive for TNSPs to defer capital investment, including through the use of demand management. This may address the question raised in the briefing note.

Q7 The distance a transmission line has to cover and the capacity required to service the end load centre are important TNSP cost drivers and are largely beyond TNSP control. Should these aspects be included as operating environment factors? If so, how?

Yes, these aspects should be included as operating environment factors. Grid Australia would be willing to assist in their development.

Q8 Should adjustment be made for extra construction cost resulting from forced selection of a non–minimal cost line routes and/or use of more costly structure design or construction methods?

Yes, as this is would be outside the TNSP's control. Grid Australia also requests the AER to describe in the guideline how it proposes to take into account the expenditure factor in the Rules, "the extent to which the operating expenditure forecast includes expenditure to address the concerns of electricity consumers as identified by the Transmission Network Service Provider in the course of its engagement with electricity consumers", as this may drive extra construction cost, as envisaged by the AEMC in the Economic Regulation of Networks Rule Change.

Q9 Economic Insights (2009a) identified differences in coverage of regulated services both across jurisdictions and over time. Should allowance be made for differences in regulated coverage or should the emphasis be on obtaining data on a common basis across all jurisdictions?

Yes, allowance should be made for this difference. Obtaining data on a common basis is unlikely to sufficiently address these differences.

4. Category analysis

Appendix B of the AER's Issues Paper has been compiled with distribution network expenditures in mind. To ensure that there is clarity in understanding the specific categories and drivers of expenditure for electricity transmission networks, Grid Australia has prepared its response under the AER's general themes of expenditure relevant to transmission. As a result, not all of the AER's questions were relevant and did not require a response.

Grid Australia considers that in developing its Guideline, the AER should adopt a proportionate approach to its assessment of project categories and drivers. In other words, the AER should:

- focus its attention on categories of expenditure that are material; and
- consider and assess the merits of proposed changes in its approach or information requirements only where it has demonstrated that there is a material net benefit in doing so.

Q45-46 – Expenditure Categorisation

Q45 Do you agree with this list of expenditure drivers? Are there any others that should be added?

Q46 To what extent do you think the expenditure drivers are correlated with each other? Given this level of correlation, should we examine the impact on expenditure of each one, or can this list be consolidated?

The AER's expenditure drivers include customer requests, system growth, actions of third parties, vegetation, weather events, wildlife interference, asset condition and changes in obligations.

A number of the AER's proposed drivers are also relevant to transmission, although the terminology used in transmission is slightly different. To clearly understand the drivers specific to electricity transmission, it is appropriate to separately identify the drivers for capital expenditure and operating expenditure.

The following categories of capital and operating expenditure and drivers are indicative of the general categorisation by TNSPs. Whilst these categories are applied reasonably consistently by the businesses, there are some variances which would require further work so as to be entirely consistent across all TNSPs18.. The categories and variations are well understood and accepted by the AER and TNSPs, having been applied generally across all TNSPs since the Submission Guidelines and associated Revenue Proposal templates were finalised in 2007. Further, this

[18] For example, Transend has a separate operational support systems category.

information is also consistent with the AER's Information Guidelines and annual regulatory financial statement templates.

Table 1: TNSP Capex Categories

Capex Category	Indicative % of Total	Description	Drivers
Augmentation	10-35%	Relates to augmentations to the shared transmission network as defined in the Rules. This includes projects to which the RIT-T applies (for either reliability or market benefit reasons). Typically, these include the construction of new lines or substations and reinforcement or extensions to the existing shared network[19].	Demand, load, security, reliability or market benefits.
Replacements/ Renewals	30-60%	Works to replace lines, substations, primary plant or secondary systems[20].	Condition, obsolescence, end of life, reliability or safety.
Connections	1-20%	Works to facilitate new prescribed connections or to increase the capacity of existing connections.	Demand, load, reliability.
Easements	3-6%	The acquisition of transmission line easements to facilitate the projected expansion and reinforcement of the network. This includes strategic easements and land acquisitions associated with the construction of substations or communications sites.	Demand, load, reliability, strategic acquisition.
Security/ Compliance	2-10%	Projects undertaken to ensure compliance with applicable regulatory obligations, including Government Acts, regulations and standards. This also includes projects to ensure the physical security[21] of network assets, which are regarded as critical infrastructure.	Technical safety or environmental compliance and physical security.

[19] ElectraNet also includes supporting communications, land and IT systems.

[20] ElectraNet also has a separate category of refurbishment, which is works to replace relevant components of transmission lines to mitigate the risk of failure. These refurbishment works are categorised as opex by other TNSPs. Further, Transend includes Communications and OPWG in this category.

[21] ElectraNet also includes system security.

Capex Category	Indicative % of Total	Description	Drivers
Other/ Inventory/ Spares	0.5-4%	Includes spares holdings to respond to asset failures in accordance with network performance requirements and good electricity industry practice. Also includes other network projects which provide prescribed transmission services[22].	Spares availability and reliability.
IT	3-6%	Projects to maintain IT capability and improve business systems functionality.[23]	Business support.
Commercial Buildings	1%	Projects to replace and upgrade business requirements.[24]	Business support.
Vehicles/ Mobile Plant	1-2%	Replacement or upgrade to meet business requirements.	Business support.

Note: These percentages do not include SP AusNet data, as SP AusNet's capex excludes augmentation.

With regard to opex categories there are a number of categories that are reasonably consistent across TNSPs, which are shown in Table 2. However, in the support areas for maintenance, asset management and corporate/business, while there is some consistency among some TNSPs, Grid Australia recognises that there are also some differences in the structure and costs that are captured by each business. Notwithstanding this, each TNSP has retained its cost breakdowns for practical and reporting purposes for at least two regulatory periods and has maintained consistency with their respective AER approved Cost Allocation Methodologies.

Typically, maintenance support costs involve costs which support the maintenance function such as works contracts, monitoring and analysis. Asset management support costs include costs which support the development and ongoing management of transmission assets. Across a number of TNSPs, these include network planning, regulatory/compliance support, customer support and IT support, among other things. Corporate and business support costs generally encapsulate those associated with corporate governance and business administration activities such as finance, accounting, legal and human resources. Given that all three opex categories discussed are of a support nature, the requirement for these activities would increase according to network growth which may vary between jurisdictions.

[22] Powerlink includes communications systems and improvements to switching functionality.

[23] Transend has a separate Network category "Operational Support Systems" which includes IT for operational control.

[24] Transend includes buildings for operational support under "Buildings", for example, warehouses and workshops. The driver operational support would also be required.

From its workshop discussions with the AER to date, Grid Australia understands that the support areas discussed above may be one area in which the AER may seek to establish greater alignment among the businesses. If this were to be the case, it must be recognised that this would be a fundamental change to the way each business collects, reports and allocates its costs. Further, such an approach would necessarily require amendments to, and re-approval of, each TNSP's Cost Allocation Methodology. Grid Australia considers that such a change would not be costless to consumers and that support costs could instead be treated in aggregate.

Table 2: TNSP Opex Categories

Opex Category	Indicative % of Total	Description	Driver
Controllable Opex			
Field Maintenance	30-40%	Field based maintenance activities, including routine, condition-based, corrective/defect and emergency[25].	Condition and age profile of assets, number of assets, reliability, safety, compliance, design parameters of plant.
Operational Refurbishment	0-14%	Activities to return an asset to its original intended condition or function.	Condition and age profile of assets, number of assets, reliability, safety, compliance, design parameters of plant.
Network Operations	5-10%	Network control centre functions and other activities required to ensure safe, reliable and efficient operational management.	Number and size of assets, age profile and reliability.
Maintenance Support	7-16%	See above comments.	
Asset Management Support	7-16%	See above comments.	
Corporate Support	8-30%	See above comments.	
Non-controllable Opex			
Insurances	2-5%	Insurance premiums[26] and self-insurance.	Loss history, exposure, insurance market trends, etc.
Debt Raising Costs	1%	Benchmark debt raising costs.	Borrowing costs, financial market conditions.

[25] TransGrid includes refurbishment as maintenance and SP AusNet categories some one-off refurbishment as asset works.

[26] The AER has treated insurance premiums as controllable for TransGrid, SP AusNet and ElectraNet.

Opex Category	Indicative % of Total	Description	Driver
Network Support	0-10%	Non-network support costs.	Temperature, rainfall and generation patterns.

Q47-51 – Details of Driver Based Assessments

Q47 **Do you think that the network segments outlined above provide a useful demarcation of the costs of customer-initiated network extension and/or augmentation? Do you think that there are significant cost differences in installing connection point assets and in network extensions between overhead and underground assets? What alternative asset type demarcations would be more appropriate?**

Q48 **Do you agree with separating customer-requested expenditure by connection point assets, extensions and augmentations? Do you think total expenditure for each service (excluding new connections services) is a sufficient degree of disaggregation? Should further sub-categories be identified?**

Q49 **Do you agree with separating new customer connections expenditure by the connection point extension, and augmentation components? Do you think that the number of new connections, length of network extensions added, and size of capacity added are useful measures of the volume of work and expenditure required for new connection services? Should these categories be disaggregated into more detailed categories reflecting the type of work undertaken by the NSP to account for factors that drive changes in new connections expenditure over time?**

Q50 **Do you think the system growth expenditure driver category should be distinguished by expenditure directed at addressing different service standard issues, such as harmonics, voltage variance, ferro-resonance, and system fault levels? Would the benefits of distinguishing expenditure into these sub-categories for forecasting the timing and scope of changes in expenditure trends over time outweigh the added complexities from doing so?**

Q51 **Do you think that the network segments outlined above provide a useful demarcation of the costs of general load driven network extension and/or augmentation? What alternative asset type demarcations would be more appropriate?**

The AER's discussion on customer driven capex in the context of distribution refers to connection point works, extension works, non-extension augmentation works and fee-based and quoted services. This also includes very brief mention of a potential tool, the augex model, which is being developed by the AER to aid in its assessment of augmentation capex.

At the outset, it must be recognised that the nature of transmission services is very different to distribution network services as classified by the Rules. In practical terms, what this means is that the AER must be mindful that its use of 'connection point works' and 'extension works' generally means something completely different for transmission and ventures into negotiated and non-regulated transmission services, which are not regulated by the AER under the Rules other than the requirement to review and approve a TNSP's Negotiating Framework.

In transmission prescribed customer driven works, largely for DNSPs, are categorised as connections and currently between 1-20% of total capex. As described in the response to Questions 45-46, these are works which are largely to facilitate connection point capability with DNSPs and are generally identified via joint planning. These prescribed connection works may be driven by customer demand or requirements to meet particular reliability standards in the distribution network or relate to replacement of grandfathered services.

From the AER's Issues Paper description of 'system growth capex', the closest equivalent in transmission is augmentation capex which is generally driven by demand or reliability. Augmentations comprise a significant portion of a TNSP's total capex allowance, currently ranging between 10-35% depending on growth in peak demand. The general nature of augmentation works include the construction of new lines and substations, and reinforcement of existing lines and substations.

The requirements of the schedules in Chapter 5 of the NER have more significant implications for planning in transmission than distribution. Augmentations are driven not only by demand but by generation, system stability and in some cases, net market benefits.

Given the very lumpy nature of transmission investment for augmentations and replacements in particular, and that it is common for transmission projects to have more than one driver, Grid Australia does not consider that the distinctions between connection point and extension works, volume measures or network segments proposed by the AER are suitable for transmission.

Q52 Do you think the above asset types are sufficient in capturing the cost differences associated with activities to address deterioration in asset condition? What other asset types may be suitable?

In its Issues Paper, the AER proposed the following network asset groups: poles, pole top structures, overhead conductors, underground cables, services assets, customer meter assets, public lighting assets, distribution transformers, distribution switchgear, distribution substation other assets, zone transformers, zone switchgear, zone substation other assets and other assets. These mainly relate to distribution networks.

Capital projects undertaken to address deteriorating asset condition, as well as for other key reasons such as technical obsolescence and risk of failure, are currently categorised as replacements, renewals/enhancements or refurbishment in the case of ElectraNet27. The assets replaced under these works are largely similar to those for augmentations and may include items of plant such as lines and substation equipment including primary plant (for example, transformers or feeder bays) and secondary systems. Depending on the particular site constraints, there may also be a requirement to purchase additional land.

Grid Australia is largely unfamiliar with the repex model posed by the AER, given its limited use in transmission. However, in light of the brief paper circulated to industry and recent workshop held by the AER Grid Australia has some concerns about its robustness for transmission, in particular, in terms of its ability to accommodate the lumpy nature of transmission investment. On an initial review, Grid Australia points to the following issues with the repex model:

- The simplistic and mechanistic nature of forecasting volumes of replacement based on probabilities and average ages;
- That it neglects the fact that businesses do not replace on age. It is merely a trigger to investigate the condition of the asset to determine whether it should be replaced and, if so, in what timeframe;
- It has no regard to any coordination of works and trade-offs between capex and opex;
- It ignores that assets may deteriorate faster with higher loadings; and
- Does not appear to take account of network distance. This is an issue particularly for lines.

However, as the AER may wish to consider expenditure in categories outside the repex model, Grid Australia considers that the following asset categories provide a useful starting point:

- Transmission (overhead) lines
- Transmission cables
- Substation switchbays
- Substation power transformers
- Substation reactive plant (SVCs, capacitors and reactors)

[27] Refurbishment is categorised differently by other TNSPs and may be considered opex or capex dependent upon the nature and extent of the work.

- Secondary systems
- Communications
- IT

Given differences in cost bases that are experienced at different voltages, the categories may further be disaggregated either by voltage range, or into shared network and subsystem assets.

Grid Australia has assumed that should the AER pursue this path, the opportunity will be available for individual TNSPs to customise these categories to reflect the circumstances of the relevant network.

From the AER's initial repex/augex workshop, Grid Australia notes the AER's comments that if applied to transmission, the repex model would be used as a screening tool only, to allow the AER and other stakeholders to form a view on specific areas for deeper investigation.

Notwithstanding this, Grid Australia reiterates that replacement investment is a material category of a TNSPs proposed capital expenditure. Replacements are also underpinned by asset management policies and practices over the life cycle of the asset. Given the significant amounts of investment and relatively small number of major replacement projects involved at a regulatory reset, Grid Australia considers that these projects clearly lend themselves to robust engineering assessment and governance review by the AER.

Q53-57 – Details of Driver Based Assessments (asset types, condition, replacements, maintenance)

Q53 Do you think cost differences between emergency rectification activities and other activities to address deteriorating asset condition are sufficient to require separate categorisation?

In transmission, emergency rectification activities are generally treated as opex, specifically, maintenance. These are works that involve an immediate response, based upon consequence or the risk of failure to the network. Given that these activities must be performed under emergency conditions, there is generally a cost difference compared to other types of maintenance due to, for example, the time of day, location and equipment or materials required.

Other types of maintenance, such as preventative and condition based maintenance, are largely driven by network reliability considerations. As these can be planned or scheduled, they can be delivered at relatively lower cost.

However, emergency rectification costs are not material as a proportion of total maintenance. While some TNSPs may record emergency rectification costs

separately, others record them as part of a larger corrective maintenance category that also includes non-emergency rectification activities. Grid Australia does not see the need for a separate categorisation.

Q54 Do you think cost differences between non-emergency prevention vs non-emergency rectification activities to address deteriorating asset condition are sufficient to require separate categorisation?

Grid Australia supports separate categorisation for preventative and corrective maintenance.

Q55 Do you think cost differences between non-emergency replacement activities and non-emergency maintenance activities are sufficient to require separate categorisation?

Yes. The AER must be mindful of how these items are normally accounted for by each business. The NSP's capitalisation policy establishes how such costs are accounted for and the categorisation into capital or operating expenditure.

For most TNSPs:

- replacements are capex – as they increase capacity, capability and life; and
- refurbishments are opex – where they restore equipment to its originally intended condition or function.

A change to how such costs are categorised (either between categories or between capex and opex) by some businesses would need to be justified and demonstrated by the AER. The AER also should be mindful that such action would also have an impact on the comparability of historical and future costs and create a divergence between the costs that a NSP reports for regulatory purposes and its corporate accounts.

Cost differences between the replacement and refurbishment can be material, as replacements currently range between 30-60% of a NSP's capital expenditure allowance and refurbishments comprise up to 25% of current operating expenditure allowances.

Q56 Do you think the approach to using benchmarking and trend assessment for routine and non-routine maintenance is reasonable? Are there any more effective alternatives?

The AER poses the potential use of a deterministic, routine maintenance model. However, the AER also notes that it has not developed any maintenance model or prototype and would need to develop this in conjunction with stakeholders.

Grid Australia does not consider it necessary for the AER to develop its own, separate maintenance model. For at least the last two rounds of regulatory determinations TNSPs have proposed either base and trend models or zero-based/bottom-up models with trend information built in to forecast controllable opex expenditure, including maintenance expenditure. These models have varied slightly depending on the extent of outsourcing of maintenance undertaken by each TNSP. The approach involves a two-stage assessment whereby, in the case of base and trend modelling, the AER first assesses whether base year opex costs (including maintenance) are efficient, and then assesses any proposed step changes in opex expenditure on their merits. In the case of zero-based/bottom-up modelling with trend information built in, the AER assesses the bottom-up maintenance costs (including trend based costs) for efficiency.

Grid Australia considers that such approaches should be maintained on the grounds that these approaches:

- have been adopted by all TNSPs and there is general consistency in its application;
- have worked reasonably well to date;
- are well-known and understood by the AER and stakeholders; and
- are consistent with the incentives to seek ongoing efficiency gains under the Efficiency Benefit Sharing Scheme; and
- in practice, have not prevented or restricted the AER's ability to review expenditure proposals or substitute its own forecasts.

Any benchmarking of controllable operating expenditure in general or maintenance expenditure in particular should account for key factors such as:

- the operating environment of the TNSP;
- asset age; and
- asset profile.

Q57 Given the relative predictability of maintenance cycles and activities, do you consider it feasible to construct a deterministic maintenance model (such as AER model)?

As discussed in the answer to Question 56, Grid Australia does not consider that it is appropriate or necessary to develop a deterministic maintenance model for transmission. In practice, maintenance schedules are complex interactions of various types of maintenance, inspections, samples and diagnostic testing which do not lend themselves to purely high-level deterministic models.

These activities are underpinned by a TNSP's Asset Management Policies and practices, which may vary according to the operating environment and circumstances of the network and equipment. For example, factors which may impact the type and frequency of maintenance include:

- geographic location;
- root cause and consequence assessments;
- the age, type of technology and complexity of the assets; and
- the reliability of the equipment and network.

Importantly, TNSPs are responsible for service and performance outcomes. In developing forecast expenditure requirements, TNSPs are also in the best position to assess the risks associated with their assets and network. They are also best placed to consider any potential trade-offs between capital and operating expenditure under an incentive framework, noting that this capability is diminished in Victoria given its operating model.

Q58 – Regulatory Obligations

Q58 Do you think that expenditure directed at altering network infrastructure or management systems to ensure compliance with a changed regulatory obligation can be disaggregated in a way that improves accuracy in forecasting and efficiency assessments?

Grid Australia agrees with the AER that it is difficult to determine sub-categories of expenditure that will assist in forecasting movements in regulatory obligations over time.

Overall, Grid Australia considers that the individual businesses are better placed to identify the type and quantum of forecast costs required to meet these obligations. Further, the AER should continue to assess any material change in regulatory obligations and the potential impact these may have on capital and operating expenditure forecasts during a regulatory determination process, based upon the circumstances of the network and relevant information provided by the TNSP.

Q59-61 – Third Party Events

Q59 Do you think cost differences between emergency rectification activities and other activities to address third party actions are sufficient to require separate categorisation?

Q60 Do you think expenditure on managing vegetation growth expenditure should be distinguished from third party stochastic events? Distinguish third party stochastic events into sub-categories?

Q61 Do you think general measures of network size and type are sufficient measures for investigating differences in third party expenditure across service providers? What other measures may be useful?

In transmission there is no material cost difference between emergency rectification and third party actions. Therefore, no separate category for third party actions is warranted. Expenditure driven by the actions of third parties is infrequent and immaterial for transmission.

For TNSPs, vegetation management forms an integral and distinguishable part of various types of maintenance activities (for example, routine, condition based, corrective and emergency) and already has a sub-category within maintenance.

Q62-63 – Overheads

Q62 Do you think overheads should be separately reported, or included on a fully distributed basis in the expenditure driver-activity-asset categories, or both?

Q63 How do you think overhead expenditure should be distinguished and assessed? How would you define any overhead expenditure sub-categories?

The AER's process of approving Cost Allocation Methodologies for each organisation provides a mechanism that allows each regulated entity to comply with both accounting standards and regulatory reporting requirements in an efficient manner despite potentially having differing structures, systems, asset bases, in-sourcing/outsourcing strategies, and other differing business drivers. Moving to a more detailed, more prescriptive regime will introduce greater costs solely for regulatory purposes.

Prescriptive allocation rules for costs would also impinge on the ability of regulated entities to correctly reflect categories of cost.

"Overhead expenditure" exists at many levels in costing. For example, labour costs at the most basic level are represented by the employee's hourly pay rate on top of which may be added:

- the "overhead" of allowances for tools, travel, meals
- the "overhead" of overtime for out-of-hours work
- the "overhead" of labour on-costs for payroll tax, workers' compensation
- the "overhead" of being provided with administrative support for payroll, facilities, IT, vehicles)

These "overhead" categories are likely to be allocated to the cost categories of their primary expenditure driver.

"Overhead expenditure" at an organisational level represents those costs that cannot be allocated to the cost categories that underpin the provision of specific services.

Q64-74 – Other Issues in Category Based Assessment

Q64 How material do you think are changes in input prices on overall expenditure levels? What forecasting and modelling approaches do you think can reliably account for the impact of input price changes on expenditure without introducing overly burdensome reporting requirements?

Grid Australia considers that, for the most part, the AER's current approach to assessing input price changes by means of engaging external expert advice on key input types is appropriate and should be continued.

Q65 What categorisation of different inputs do you think provides a sufficient understanding of both how input prices may change over time, as well as how input prices may vary across geographical locations?

The key cost inputs for transmission are largely reflected in the AER's list on page 114 of the issues paper. However, to be clear, key transmission cost inputs include labour (internal and external), land (by relevant sub-category), exchange rates, steel, aluminium, copper and plant and equipment.

Q66-67 – Cost Estimation Risk Factor

Q66 Do you consider optimism bias and/or strategic misrepresentation to be a material issue in the cost estimation for non-routine projects? Do you consider downward biases in cost estimation to materially outweigh regulatory incentives to over-estimate expenditure? To what extent do you consider there to be a consistent downwards bias in initial project cost estimates?

Q67 What should be our approach to cost estimation risk factors and addressing potential asymmetric estimation risk? Would techniques such as reference class forecasting be beneficial? How would any techniques to address asymmetric cost estimation risk interact with potential incentive schemes (for either opex or capex)?

In general, the cost estimating risk factor (CERF) is applied to projects which have not yet been subjected to a TNSP's detailed scoping and estimating process due to their early stage in the project development and implementation cycle at the time of preparing Revenue Proposal forecasts. The need to develop preliminary scopes and estimates is necessary by virtue of the regulatory process, which requires that forecast costs be developed some 5-7 years ahead of the project trigger.

The CERF is intended to capture any asymmetric risks in terms of outturn costs relative to a project's early estimate once more specific details about the route, site selection and scope of works become more certain. What is important to recognise is

that early (and, therefore necessarily high-level) estimates do not include the cost of risks which tend to eventuate as the scope of a project becomes better defined. The CERF is to compensate for these risks, given that the business has no opportunity to revise its project costs with estimating data to incorporate the most recent project and market information subsequent to the AER's Final Transmission Determination.

For Powerlink and other relevant TNSPs, the AER undertook a detailed review of estimating processes and was satisfied that the asymmetric risks were not accounted for elsewhere.

The AER's general philosophy in relation to the CERF has been to assess such proposals on its merits and to consider new and updated information or analysis not previously considered or understood. Grid Australia considers that this approach remains appropriate.

Reference class forecasting would not be suitable for the development of preliminary scopes and estimates. In order to develop efficient estimates, TNSPs exclude historical outliers from base estimates. The use of reference class forecasting would necessitate the inclusion of historical outliers in base estimates, which would result in the base estimates being less efficient than under current methods.

Q68 Do you think our established approach to assessing debt and equity raising costs remains appropriate?

Grid Australia supports the ENA's response to this question.

Q69 Do stakeholders have any in-principle views on how demand forecasts should be derived and assessed?

In principle, demand forecasts should be derived consistent with good electricity industry practice. In this regard, Grid Australia notes that in 2011, the AER released its own view of best practice demand forecasting.28

Grid Australia also supports recent proposals for AEMO with respect to the coordination of a consistent approach to forecasting at the localised (connection point) level and general oversight of demand forecasts across all NEM jurisdictions. This activity is expected to improve the forecasts of demand, as so should provide greater confidence about the demand forecasts that underpin revenue caps.

Notwithstanding this, Grid Australia also notes the AER's relatively recent views in relation to demand forecasting, specifically29 that:

- Chapter 6A does not direct a TNSP to use any particular demand forecasts nor does it require the AER to have regard to the requirements of Chapter 5 when

[28] Presentation to ENA Working Group Energy and Demand Forecasting, AER, 18 March 2011.

[29] AER, *Final Decision, Powerlink Transmission Determination 2012/13 to 2016/17*, Chapter 2.

assessing whether a TNSP's demand forecast is a reasonable expectation of demand;

- for a revenue determination, a TNSP may submit a demand forecast that is different to its APR demand forecast; and
- the methodology behind the demand forecasts may differ from that used to derive the APR demand forecast.

Q70 Do you think that the network segments outlined above provide a useful demarcation of the expenditure incurred to address various expenditure drivers? Do you think that there are significant cost differences in building, repairing, or replacing network assets based on region in which the work is being done? What alternative asset type demarcations would be more appropriate?

Grid Australia agrees that there are cost differences in expenditure on network assets based on the region in which the work is being done. However, the network segments suggested in the Issues Paper do not suitably categorise the areas of cost difference for TNSPs. Given that transmission regulatory proposals are predominantly built up on a project basis, Grid Australia suggests that differences in regional costs are already adequately accounted for in TNSP proposals, notwithstanding the potential requirement for the addition of a cost estimation risk factor.

Q71 For the purposes of comparative analysis of various expenditure categories, do you have any views on how to best control for the difference in approaches to cost allocation, capitalisation and outsourcing?

The best control for differences in approach to cost allocation, capitalisation, and outsourcing is to utilise accounting standards as the basis for recording costs, as these are specifically intended to provide financial comparability. Further, a TNSP's own performance over time is the most relevant comparison.

TNSPs can use different approaches to cost allocation, subject to AER review and approval. An individual business' approach to capitalisation and cost allocation often reflects its structure and operating model. Grid Australia would not be supportive of a mandated single approach to capitalisation and cost allocation as individual TNSPs are different and have different operating models. This is appropriate in allowing businesses to innovate and pursue efficiencies in their respective circumstances. Further, the impact of a wholesale change to capitalisation/cost allocation may undermine effective operating models and have unintended impacts on the value of the asset base going forward.

Further, consistent with each TNSP's AER approved Cost Allocation Methodology and the AER's Information Guidelines, historic costs and forecasts are required to be represented on the same basis for regulatory reporting purposes.

While Grid Australia does not currently have an alternative means of overcoming differences in cost allocation, capitalisation and outsourcing for the purposes of comparative analysis, it is possible that further examination of transmission inputs/outputs may provide means to address any material limitations in comparative analysis due to this issue. Grid Australia is keen to explore options further with the AER in the development of the Guideline.

Q72 Do you think our conceptual framework for the assessment of related party contracts is reasonable? What other techniques may be appropriate? Should we apply the same conceptual framework when assessing the efficiency of related party margins on an ex post basis?

Grid Australia supports the application of the existing principles as set out in the Issues Paper to both ex ante and ex post assessments of related party margins. These principles are established and well understood, and it is preferable to keep assessments consistent.

Q73 Do you think our conceptual framework for assessing self-insurance is appropriate? What other techniques may be appropriate?

The conceptual framework for assessing self-insurance is generally considered to be appropriate for insured losses and the below deductible amounts. However, Grid Australia has concerns with the substantiation requirements for a Revenue Proposal in relation to infrequent events.

Grid Australia also notes that the AER appears to have changed its policy position in relation to the treatment of the risks associated with low probability, high impact events. That is, to address such risks by means of regulatory allowances rather than via the cost pass through provisions in the Rules. Grid Australia remains of the view that cost pass through remains the most efficient means to address such risks, as it allows the AER to assess any costs proposed to be passed through once actual costs are known rather than imposing them on consumers when risk events do not occur in a regulatory period. Grid Australia notes the AER's intention to consult separately on this matter and welcomes the consultation.

Q74 **Do stakeholders have any in principle views on how benchmarks should be derived and applied?**

Refer to Section 3 of this submission.