**Submission No 25**

# INQUIRY INTO LEASING OF ELECTRICITY INFRASTRUCTURE

**Organisation**: Australian Energy Market Commission

**Date received**: 14/05/2015

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Our ref: 15-11139

14 May 2015

The Director
Select Committee on the Leasing of Electricity Infrastructure
Parliament House
Macquarie St
Sydney NSW 2000

Dear Mr Smith

**AEMC submission to the NSW Legislative Council Select Committee Inquiry into the leasing of electricity infrastructure**

Thank you for your invitation to the Australian Energy Market Commission (AEMC or Commission) to make a submission to the New South Wales Legislative Council Select Committee inquiry into the leasing of electricity infrastructure.

The Commission is an independent, national body responsible to the Council of Australian Governments (COAG) Energy Council. Our responsibilities include making the national electricity, gas and energy retail rules, which govern the operation of these markets. The rules include provisions governing how the regulator determines the revenues of electricity network companies. The AEMC cannot initiate changes to the rules (except for minor changes). Our role is to evaluate rule change proposals that may be submitted by any other person against the national electricity objective, national gas objective or national energy retail objective. The AEMC also conducts reviews of aspects of the energy markets at the request of the Energy Council. Further information on the roles of various institutions involved in network regulation is discussed in Appendix 2.

The terms of reference for the Select Committee inquiry seeks information on the proposed lease of electricity transmission and distribution businesses and associated infrastructure investment. It seeks information regarding implications on electricity network pricing, the impact on customers, responsibilities to maintain, improve and replace infrastructure and the regulatory framework.

The regulatory framework applies to all distribution and transmission businesses in the National Electricity Market (NEM) regardless of these businesses' ownership structures. We have summarised below the regulatory framework for electricity network businesses in the NEM. In particular:

- Recent final determinations by the AER have set network revenues over the next four years and these determinations are made independently of a network business' ownership structure. Under these AER determinations, the maximum revenue the NSW network businesses can recover from NSW customers is now fixed for the next four years, subject to any successful appeal to the Australian Competition Tribunal.

- In its determinations, the AER sets the maximum amount of revenue that a network business may recover. The maximum allowed revenue is not based on a network business' actual costs. It is based on the AER's estimate of the capital and operating costs that would be incurred by an efficient network business and a rate of return that reflects the efficient financing costs of a benchmark efficient entity. If the business is more efficient and has lower costs than the benchmark, it is rewarded through higher returns for the remainder of the regulatory period. Those efficiency gains can then be shared with consumers through setting lower allowed revenues in future regulatory periods. If the business is less efficient than the benchmark, it will make lower returns.
- All network businesses are required to consult with consumers about their expenditure proposals before submitting their proposals to the AER.

For more detailed information regarding the AEMC's work program, including rule change determinations, consultation documents and stakeholder submissions, please refer to our website.

**Principles underlying regulation of electricity networks**

The National Electricity Law (NEL) is the basis of the regulatory framework governing electricity networks in the NEM. Section 7 of the NEL sets out the National Electricity Objective (NEO): to promote efficient investment in, and efficient operation and use of, electricity services for the long term interest of consumers of electricity with respect to:

a) price, reliability, safety and security of supply of electricity; and
b) the reliability, safety and security of the national electricity system.

The AEMC is required to apply this objective when making any decisions regarding rule changes and when providing advice to governments. The AER is also required to apply this objective when it makes network revenue determinations.

A key feature of network regulation in Australia is that it is based on an incentive framework. Incentive based regulation is a form of regulation where the total revenue is locked in at the start of each regulatory period (usually five years) based on an estimate of the efficient costs that a business requires to meet its service and reliability standards. If the business spends less than the estimated efficient cost it will earn a higher return because it will still be allowed to recover the total revenue for the remainder of the regulatory period. Conversely, if its spending exceeds the estimated efficient costs, it will earn a lower return or potentially make a loss because it will not be allowed to recover the additional spending. The essential point is that the revenue of a particular network business is based on estimates of the efficient costs of a prudent operator and not on their actual costs. Therefore, the revenue that network businesses may recover from customers is independent of ownership.

Overlaying this are incentive schemes for the key components of business expenditure; capital and operating expenditure. These schemes affect how differences between benchmark efficient costs and actual expenditure are shared with consumers and are discussed in detail in the drivers of network costs section in appendix 3. In addition, if a network business's capital expenditure over a regulatory period exceeds the efficient amount estimated by the AER in the business's regulatory determination, the AER has the power to review the efficiency of the overspent expenditure and decide that the business cannot recover that expenditure during future regulatory control periods if it is found not to have been efficient expenditure.

This approach creates incentives for a business to become more efficient and imposes financial consequences if the business does not. Over time, its spending pattern should reveal its efficient costs, which are then used as an input to estimates of its future efficient costs. In cases where a business does not respond to financial incentives to become more efficient, other tools are used to estimate total efficient costs. These tools include comparison of the costs of other businesses

through benchmarking, analysis of businesses methods and procedures, cost-benefit analysis, and detailed reviews of specific projects.

Incentive based regulation is contrasted to cost of service regulation, which simply allows network businesses to recover the actual total costs they incur in providing network services. Cost of service regulation is common in parts of the United States. Under cost of service regulation, network businesses do not have an incentive to make efficiency improvements because they recover their total costs regardless of whether they were efficiently incurred.

A key principle that underpins the incentive based regulatory approach in the NEM is that the rules should promote flexibility and adaptability and allow the AER to make decisions in changing circumstances. This principle guided the approach to the AEMC's 2012 rule changes (see Appendix 1). Those changes removed unnecessary prescription from the rules with the objective of allowing the AER to undertake its role more effectively to determine the outcome that is in the long term interests of consumers. For example, the rules on how the rate of return is calculated were made less formulaic and a new rate of return objective was included to guide the exercise of the AER's discretion. The rates of return determined by the AER in its recent final revenue determinations for NSW range from 6.68 to 6.75%. This compares with rates of return proposed by the network businesses of between 8.65 and 8.85%.

**Rate of return and risk allocation**

Under the incentive-based framework the AER must estimate a rate of return to use when setting the network businesses' allowed revenues. The rules require this rate of return to reflect the efficient financing costs of a benchmark efficient entity. This benchmark entity must be subject to a similar degree of risk in providing regulated services as the network business. By focussing on a benchmark efficient firm, the actual borrowing costs of any particular business should not materially influence the rate of return used by the AER when determining a network business' allowed revenues.

As a result of the allowed rate of return objective, how each risk is allocated between network businesses and consumers is a key factor in the AER's estimate of the rate of return.

The allocation of risk is also closely related to reliability requirements. Network businesses are required to meet their jurisdictional requirements for reliability such that they are obliged to maintain and develop the network to meet expected demand. In return, consumers experience the benefits of this reliability standard. Reliability standards apply to all network businesses regardless of ownership structure. Reliability standards for the three NSW distribution businesses are contained in their licence conditions and are enforceable by the Minister and IPART.

**AER process for determining revenues and prices**

It is important to note that it is the AER that determines network businesses' allowed revenues. So while network businesses make proposals regarding their allowed revenues, the AER must make an assessment of these proposals and other available information to determine the efficient revenue and the final decisions on network revenues are made by the AER (subject to reviews to the Australian Competition Tribunal, as discussed below).

The AER applies incentive-based regulation across all energy networks it regulates through the building block model. The building block model calculates the total revenue that is required by the business, based on benchmarks of efficient operating expenditure, return on assets (the businesses' regulated asset base multiplied by the rate of return), depreciation and tax.

The timeline and submission process utilised by the AER is outlined in Appendix 4.

Each year energy network businesses translate the revenues allowed in the determination stage by the AER into network prices to be charged to retailers. Retailers then package up network prices, wholesale energy prices and their retail costs to set retail prices paid by consumers.

The process of translating the total revenue allowed by the AER into network prices for individual customers is regulated by the AER through a control mechanism, which caps the overall prices or revenues to be charged or recovered, and through pricing principles in the rules, which set out requirements for providing efficient price signals to consumers. The control mechanism either imposes a cap on the overall revenue that a network business can earn or on the average prices that it can charge. In its recent determinations, the AER has used a revenue cap.

The AER is also required to undertake a number of other functions within regulatory periods, including information gathering and publishing annual benchmarking reports. These functions allow stakeholders to compare the relative efficiency of network businesses. The AER is required by the rules to take into account the most recent benchmarking report when forming a view about efficient expenditure levels at the time of a determination. For example, in its recent final determinations for the NSW and ACT distribution networks, the AER used its benchmarking report, alongside other analysis and information, to inform its decisions on the efficient level of operating expenditure for each of those businesses. The efficient operating expenditure estimated by the AER in its final determinations was up to 30% less than the amount proposed by the businesses.

**Conclusion**

Network businesses in Australia have a range of obligations in how, and to whom, they deliver supplies of electricity and natural gas. There are safety requirements, obligations to connect all consumers and ensure power is available on the hottest days when demand is at its highest. Jurisdictions impose reliability standards upon these businesses which necessitate a certain level of investment. The National Electricity Rules govern how the AER determines the revenues of electricity network businesses and apply to all electricity network businesses regardless of ownership structure. Recent reforms have changed the National Electricity Rules to give the AER more ability to estimate appropriate allowed rates of return and overall revenue requirements. This combined with other rule change processes that facilitate efficient network tariffs and other elements of network operation and investment is expected to have a material impact on the outcomes for consumers.

We would be pleased to provide further information to the inquiry regarding the regulatory framework or our work programme.

Yours sincerely

Paul Smith
Chief Executive

## Appendix 1: Regulatory Reform

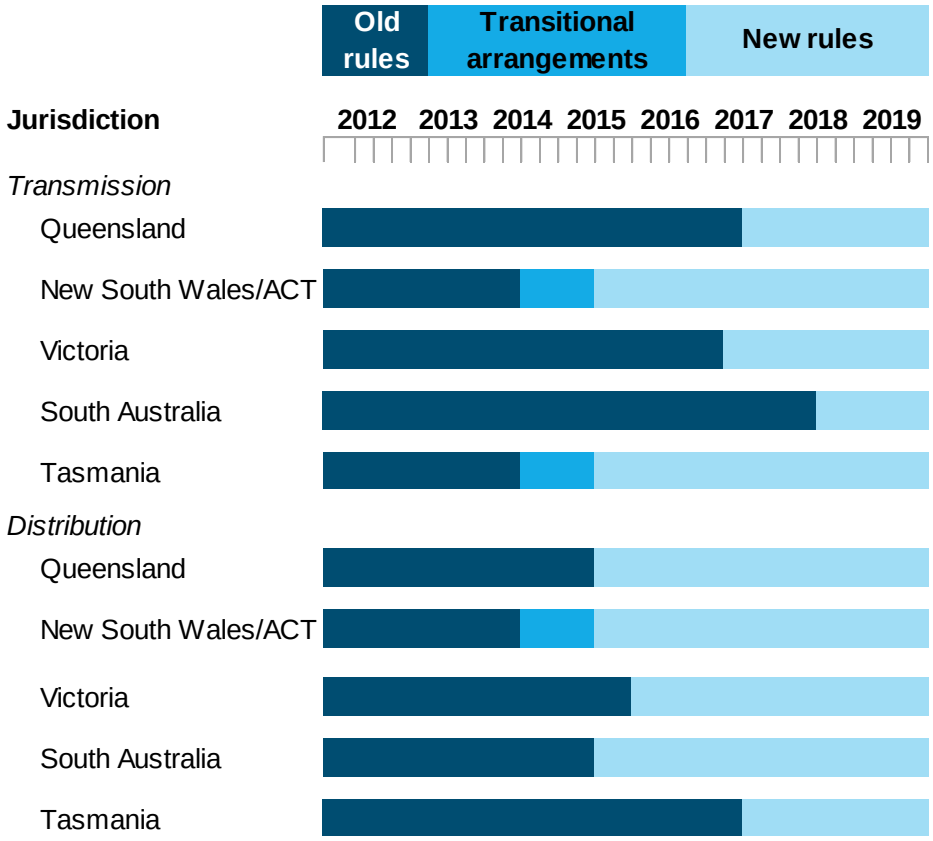
Over the last three years a series of significant changes have been made to the rules covering the regulation of electricity (and gas) network businesses. More changes are still going through the rule-making process. All of these reforms have been designed to meet the National Electricity Objective, which promotes efficient investment in and operation of electricity networks in the long term interests of consumers.

The 2012 changes to the National Electricity Rules (NER) captured within the Economic Regulation of Network Service Providers rule change gave the AER greater flexibility over how network revenues are determined with the most significant change being the way the AER estimates the return that network businesses can earn on their assets. The AER's powers to undertake benchmarking were also clarified, including a requirement for them to publish annual reports on the relative efficiencies of electricity network businesses, the first of which was released on 27 November 2014. The rule change also removed ambiguities regarding the AER's ability to interrogate, review and amend capital expenditure and operating expenditure estimates. The first annual benchmarking report highlighted the AER's view of the extent of efficiencies that are available for network businesses in NSW and the ACT, which informed along with other considerations, significant downward revisions of revenue proposals in the AER's recent final revenue determinations.

The regulatory determination process was also lengthened by four months in order to enhance stakeholder engagement particularly by community representatives. The new process requires the business' regulatory proposals to include a plain English overview paper for consumers and the AER's issues paper is designed to assist consumers and their representatives to understand the proposal and the key issues.

The AER recently released their final determinations for the first set of network businesses under the new rules covering NSW, the ACT and Tasmania. The final determinations resulted in significant downward revisions of the majority of these network businesses' revenue proposals. The timetable for recent and upcoming revenue determinations is summarised in Figure 1 below.

**Figure 1: Timeline for upcoming revenue determinations**




Other reforms are currently in the rule making phase. In 2012 the AEMC also delivered a separate package of reform recommendations within its Power of Choice review. This review was focused on improving consumer engagement in the market and facilitating more active consumer participation. The COAG Energy Council subsequently made a number of rule change requests from that Review which are currently in the final stages of development including measures that aim to increase the use of efficient demand-side response.

The Distribution Network Pricing rule change (Final determination 27 November 2014, Rule commenced 1 December 2014) sets out a new pricing objective and pricing principles for distribution businesses. While the earlier reforms addressed the amount of revenue network businesses could collect, this rule establishes principles for how customer tariffs are designed for the efficient allocation of those costs across the customer base. Under the change, distribution tariffs will reflect the way individual consumers use and impose costs on network services so consumers can make informed decisions to better manage their electricity usage. For example, network businesses will be able to develop cost reflective prices that best suit the particular circumstances of their network and their customers, after consultation with consumers and retailers, and subject to oversight by the AER. Potential new network price structures such as either peak capacity prices or critical peak prices would provide a closer relationship between the value consumers place on network services, the prices they face and the efficient costs of providing those services.

The AEMC recently published its draft determination on the Competition in Metering rule change (final determination expected mid-2015). The proposal includes a new competitive framework for the provision of smart metering. This market-led, rather than network-led, approach is designed to support the uptake of energy products and services demanded by the consumer and enable the entry of new market participants to offer energy management services. Network benefits are also being considered in the development of the rule change and work with the AEMO on the minimum

service specification for smart meters should bring benefits to consumers, retailers and networks while minimising metering costs. The national framework will make retailers responsible for meter installation and this will occur if either the consumer sees a benefit from installing a new smart meter (through the services the meter enables) or the retailer has a business case (in which case the retailer would be willing to bear the costs involved).

The AEMC also completed two reviews in 2013 that developed national frameworks for setting and regulating distribution and transmission reliability across the NEM. These reviews developed recommendations to promote greater transparency in how network reliability targets are set and allow reliability levels to better reflect the economic value of reliability to customers. The level of reliability that networks are required to provide affects in part the level of expenditure that they undertake. This ultimately feeds through to the electricity prices paid by customers and so reforms to address reliability decisions are important.

**Further rule changes currently underway**

In addition to the rule changes discussed above the AEMC has and continues to consider rule changes to improve the use of demand-side response.

Proposed changes to the *Demand management incentive scheme* under rule changes received from the COAG Energy Council and the Total Environment Centre are intended to provide greater clarity around an appropriate incentive for networks to invest in efficient demand-side participation (DSP) projects as well as the demand management innovation allowance.

DSP can reduce network costs where savings in the cost of supplying energy are greater than the benefits to consumers from using energy. Improved incentives for efficient DSP projects and innovation are expected to result in more efficient network investment. For example, in 2011-12 the NSW distribution business Ausgrid used the innovation allowance to fund six demand management projects relating to improving the reliability of embedded generation, a Sydney CBD embedded generation trial project, dynamic load control of small hot water systems, a subsidised off-peak hot water connections program, market research on demand management options for air-conditioners and pool pumps, and a dynamic peak rebate for business customers to incentivise them to reduce demand at times of peak network demand.[1]

The *Distribution Reliability Measures Review* (completed 18 September 2014) recommends common definitions for distribution reliability targets and outcomes that could be applied across the NEM. The uptake of such measures across multiple jurisdictions would be expected to increase transparency and consistency of distribution reliability measurements and should allow for an easier comparison of reliability performance.

Finally, two rule changes have recently been made on C*onnecting Embedded Generators* (final determinations in April and November 2014), These new rules established a new framework for the efficient connection of embedded generators to distribution networks. The new rules provide a clearer, more transparent connection process with defined timeframes, and require distributors to publish information to assist embedded generators. They also provide embedded generator proponents with more choices about how to connect. The rules aim to reduce barriers that embedded generator proponents have faced in attempting to connect to distribution networks. Removal of such barriers is in the long term interest of consumers who benefit from efficient investment in embedded generation via reduced network requirements.

[1] AER, 2011-12 and 2012 DMIA assessment decision, July 2013, pp7-8.

## Appendix 2: Overview of key participants in network regulation

The COAG Energy Council provides national leadership and coordination of energy policy development. Its objective is to provide for the safe, prudent and competitive development of the nation's mineral and energy resources and markets to optimise long-term economic, social and environmental benefits to the community. The Council is chaired by the Commonwealth Minister for Industry and comprised of the Ministers of Energy and Resources for each Australian State and Territory and New Zealand. The council's former title was the COAG Standing Council on Energy and Resources (SCER).

Each state and territory government has control over how transmission and distribution reliability standards are set, and the level of reliability that must be provided by network businesses. Jurisdictional governments are also able to apply specific jurisdictional obligations within their states. For example, in Victoria the retail market is currently subject to Victorian specific regulations instead of the National Energy Customer Framework (NECF) and in Queensland, South Australia and Tasmania distribution network businesses must charge the same prices for all residential consumers regardless of their location within the network.

The Australian Energy Market Commission (AEMC) is an independent body that makes and amends the national electricity, gas and energy retail rules. We also provide advice to the COAG Energy Council and, on the Council's request, undertake market reviews. In relation to electricity matters, our role applies to the National Electricity Market (NEM), which covers Queensland, New South Wales, Victoria, South Australia, the ACT and Tasmania.

The AEMC's statutory role as rule maker and advisor to the Energy Council is established in the National Electricity Law, National Gas Law and National Energy Retail Law. These laws were first passed in the parliament of South Australia and subsequently by all other participating jurisdictional governments including the Commonwealth. These laws empower the AEMC to perform the functions contained in the laws and apply them in each jurisdiction. The statutory rule making process allows any individual or organisation to propose a rule change except the AEMC.[2]

The consideration of rule changes requires us to follow an open and consultative process. We make a decision on whether to make a proposed rule change by assessing the proposed changes against the National Electricity, Gas or Energy Retail Objectives. These objectives require the AEMC to consider whether proposed rule changes will or are likely to contribute to the achievement of economically efficient outcomes in the long term interests of electricity and gas consumers. Once we make a final determination on a rule change request it amends the National Electricity, Gas or Retail Rules that applies in all jurisdictions that have adopted the National Electricity or Gas or Retail laws.

Our function to conduct reviews is primarily advisory and the Energy Council can decide whether to accept our advice or not. If it accepts our advice this often leads to the Energy Council proposing rule changes to the AEMC to give effect to our recommendations. When we conduct a review we also undertake an open and consultative approach including issuing consultation documents and holding workshops and public forums.

The Australian Energy Regulator (AER) is the relevant regulator under the National Electricity Rules and under the National Gas Rules in the eastern states. The Economic Regulatory Authority (ERA) is the relevant regulator of the National Gas Rules in Western Australia.

[2] Unless it relates to the correction of minor errors or involves non-material changes.

## Appendix 3: Drivers of network costs and approach to regulation

*Breakdown of the drivers of retail and network costs*

Figure 2 displays the approximate share of a residential customer's electricity bill that competitive markets (wholesale and retail), network (distribution and transmission) and environmental policies, excluding carbon costs, make up, based on data for the 2013-14 financial year. The largest component is network costs, representing around 50 per cent of a customer's bill on average nation-wide. The AEMC produces a retail price trends report annually which provides additional information on the drivers of retail costs.

**Figure 2 – Breakdown of retail price components[3]**

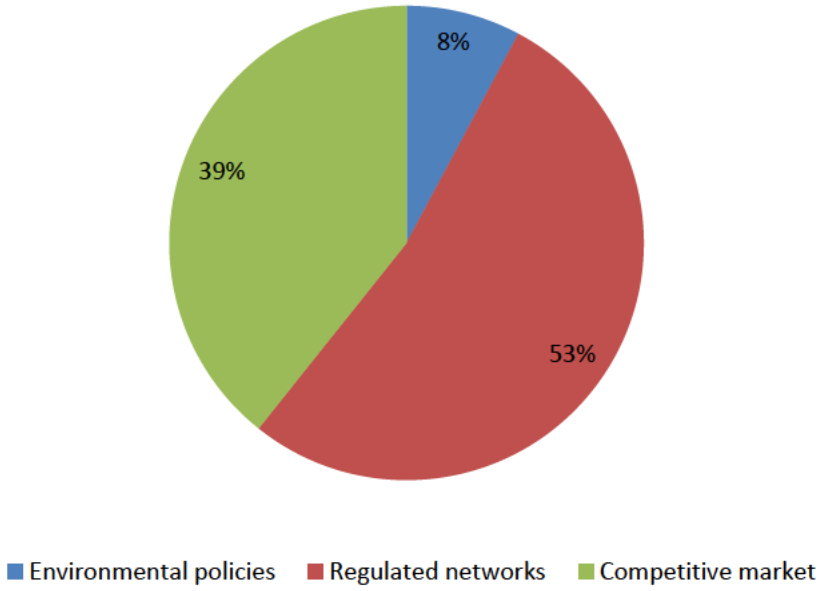
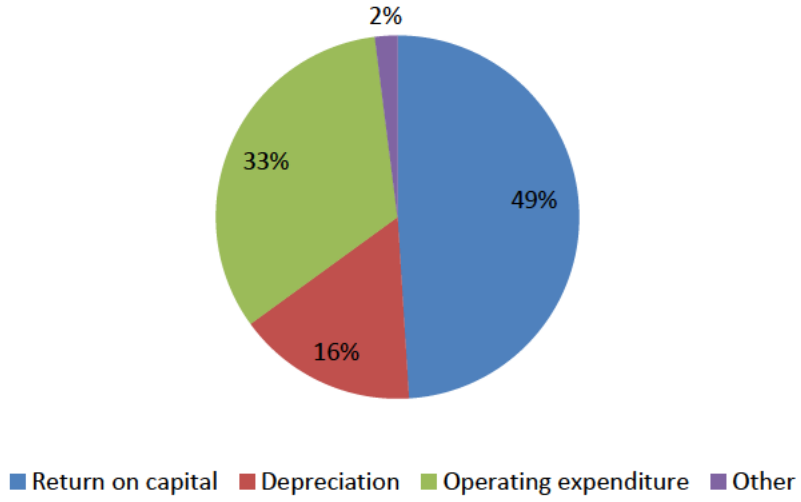



Figure 3 provides an example of a breakdown of network businesses' costs. The largest component is the return on capital, which may account for up to two-thirds. The return on capital is determined by the size of a network's regulatory asset base (and projected investment) and its weighted average cost of capital (the rate of return necessary to cover a return on equity and efficient debt costs). Operating expenditure typically accounts for a further 30 per cent.

[3] AEMC, 2014 price trends report, p.179

**Figure 3 – Breakdown of network cost components[4]**




*Weighted average cost of capital*

The allowed rate of return, or the weighted average cost of capital, is the estimate of the cost of funds a network business requires to attract investment in the network. There are two key sources of funds for investments, equity and debt. The return on equity is the return shareholders of the business will require for them to continue to invest. The return on debt is the interest rate the network business pays when it borrows money to invest.

The value of the businesses' capital investments in its regulatory asset base is multiplied by the allowed rate of return to determine the total return on capital used by the AER when calculating the network business's allowed revenues. As displayed in figure 3, the return on capital is the largest component of revenue needs for network businesses.

The AEMC made significant changes to the NER regarding how the AER estimates the efficient financing costs of network businesses in 2012. In particular, the rules now set out a rate of return objective, which states that: the rate of return is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as the network business.

The new rate of return framework is common to electricity distribution, electricity transmission and gas. It requires the AER to make the best possible estimate of the rate of return at the time a regulatory determination is made. It also requires the AER to take into account market circumstances, estimation methods, financial models and other relevant information. Importantly, the common framework enables the AER to take a range of different approaches to estimate the return on debt component, potentially allowing for reduced risk for debt financing for network businesses.

The AER is required to undertake an open and consultative process at least every three years to develop its approach to setting the rate of return. Under this framework the AER has published a rate of return guideline setting out its method for calculating the rate of return.

The AER's rate of return guideline and recent final determinations sets out its approach to the return on equity. Recognising there is not one perfect model to estimate the return on equity, the AER approach draws on a variety of models and information. The starting point is the standard Capital Asset Pricing Model (CAPM), which then incorporates a range of models, methods, and information to inform the return on equity estimate. This information is used to either set the range

[4] AER, 2013 state of the energy market, p.65.

of inputs into the CAPM foundation model or assist in determining a point estimate within a range of estimates at the overall return on equity level.

The AER's approach to the return on debt considers the average interest rate that a network business would face if it raised debt annually in ten equal parcels. This is referred to as the trailing average portfolio approach. This approach assumes that every year, one-tenth of the debt of a network business is re-financed. As the return on debt is an average of the interest rates over a period of ten years, this approach leads to a relatively stable estimate over time.

*Capital expenditure*

Capital expenditure is spent on buying and installing assets like poles, wires and other equipment that transports energy. Some types of capital expenditure are relatively certain and regular. However, more often capital expenditure is lumpy, typically varying from year to year because capital assets are generally very costly but last for a number of years. Network businesses earn revenue from capital expenditure through return on capital (WACC multiplied by the regulatory asset base) and return of capital, known as depreciation.

The AER estimates capital expenditure for each network business at the start of the regulatory period. Businesses face an incentive to undertake capital expenditure efficiently because they keep savings on financing capital expenditure until the end of the regulatory period if they spend less than their allowance. Those savings are then passed on to consumers through lower allowed network revenues (and therefore lower network charges) in future regulatory periods.

The AER estimates capital expenditure for the regulatory period based on the capital expenditure objectives and criteria set out in the NER. These objectives and criteria require the AER to determine the efficient costs a prudent network business would need to meet or manage expected demand, comply with regulatory requirements (including jurisdictional reliability standards) and maintain safety.

Notably, the AER is not required to accept the estimates of capital expenditure proposed by network businesses in their initial or revised regulatory proposals. Instead, the NER provide the AER with discretion to use a range of methods and information to determine the efficient capital expenditure of a prudent network business. For example, in its recent final determination, the AER approved capital expenditure of 25% less than proposed by the NSW transmission business Transgrid. This reduction was based on factors including forecasts of future electricity demand, comparisons with Transgrid's long term average for capital expenditure, expert engineering advice and modelling.

The AER has set out its approach to estimating total capital expenditure under this framework in its expenditure forecast assessment guideline. The AER has developed a number of techniques and methods for assessing capital expenditure levels proposed by businesses. These techniques typically involve comparing the proposal to estimates the AER develops from other relevant information sources. Where these techniques indicate the expenditures are not efficient, the AER sets its own efficient benchmark.

In addition to the AER's assessment of total capital expenditure, the rules contain specific requirements for network businesses to undertake a public regulatory investment test process for major distribution (RIT-D) or transmission (RIT-T) projects, where expenditure investments exceed $5 million. This process is designed to test whether the businesses' proposed investment is the most efficient solution (eg whether it is the most efficient way to meet the applicable reliability standards), including allowing providers of non-network solutions to propose alternative approaches.

The AER is also able to develop incentive schemes for capital expenditure. Capital expenditure incentive schemes are not designed to replace the core incentive from the regulatory framework of

estimating and locking in total efficient capital expenditure in the determination. Rather, incentive schemes complement this framework by ensuring that the incentive is equal in each year of a regulatory period and provide a mechanism to share efficiency gains and losses between network businesses and network users. The AER recently introduced a Capital Expenditure Sharing Scheme (CESS) through a capital expenditure incentive guideline.

Capital expenditure is also subject to a limited form of review at the end of each regulatory period to ensure that only prudently incurred capital expenditure is included in the regulatory asset base in future regulatory periods. From 2014, if a business' capital expenditure exceeds what was estimated, the AER will examine their spending. If the AER determines all or some of the overspending was inefficient, the business may not be allowed to add the excess spending to its RAB. This provides an additional incentive for network businesses to only undertake efficient capital expenditure because where they do not and their total expenditure is above their allowance, they will bear the cost of the inefficient capital expenditure in future regulatory periods as well as the period in which the expenditure occurs.

The AER also calculates depreciation, based on the projected value of the opening asset base at the start of the regulatory period, the remaining lives of the assets and the estimated capital expenditure during the regulatory period. The business is then compensated for the decrease in the value of those assets over the regulatory period.

*Operating expenditure*

Operating expenditure is spent on the non-capital cost of running an electricity network and maintaining the assets. Operating expenditure is generally recurrent and predictable from year to year.

The regulatory arrangements for operating expenditure are similar to those of capital expenditure. That is, the AER makes an overall estimate of operating expenditure for each network business at the start of the regulatory period, which creates an incentive for network businesses to undertake operating expenditure efficiently because they retain savings for five years if they spend less than the operating expenditure allowance, and then pass those savings on to consumers after that period through reduced revenue allowances (and therefore reduced network charges).

The AER estimates operating costs for the regulatory period based on the efficient costs a prudent network business would incur. Once again, the AER is not required to accept the estimates of operating expenditure proposed by network businesses in their initial and revised regulatory proposals. Instead, the NER provide the AER with discretion to use a range of methods and information to estimate the efficient operating expenditure.

For example, in its recent final determination the AER reduced the operating expenditure proposed by the ACT distribution business ActewAGL by 35%. This reduction was partly based on the AER's benchmarking report, which indicated that in the AER's view ActewAGL had historically spent operating expenditure only about 40% as efficiently as the most efficient distribution businesses in the NEM (CitiPower and Powercor in Victoria). The AER also assessed the efficiency of ActewAGL's labour and workforce practices and vegetation management costs, which were ActewAGL's largest operating expenses, and identified what the AER considered to be significant inefficiencies in those areas.

The AER has set out its approach to estimating total operating expenditure under this framework in its expenditure forecast assessment guideline. The guideline sets out that the AER prefers a 'base-step-trend' approach to assessing most types of operating expenditure. This involves estimating an efficient base operating expenditure for one year and then escalating it into the future to account for inflation, output growth and productivity. Where the AER considers that a network businesses' past operating expenditure has been efficient it will use operating expenditure from one year of the previous regulatory period as the base. Where the AER does not consider past expenditure is

efficient it will use its full range of assessment techniques (as described under capital expenditure) to develop its own estimate of efficient operating expenditure.

The NER also give the AER the power to create incentive schemes for operating expenditure. Similar to the capital expenditure incentive scheme, the objective of this is not to alter the incentive to spend operating expenditure efficiently, as this is already embodied in the incentive framework. Rather, the incentive scheme provides network businesses with an even incentive to reduce operating expenditure throughout the regulatory period and allows network businesses and consumers to share in efficiency gains.

*Role of jurisdictional reliability standards*

Each state and territory government retains control over how transmission and distribution reliability is regulated and the level of reliability that must be provided. In most jurisdictions transmission reliability levels are expressed in terms of the amount of spare capacity that must be built into the network. Distribution reliability levels are generally expressed in terms of the average number and duration of unplanned outages that each distribution network should not exceed each year.

The reliability standards that network businesses need to meet are generally set in advance of a business's decision to invest and are set in place for a fixed period of time.

Network businesses are legally required to meet the jurisdictional reliability standards and can face financial penalties or potentially the loss of their licence for a failure to meet these standards. Therefore, jurisdictional reliability standards influence a network business' capital expenditure allowance when the AER estimates the efficient costs a prudent network business would need to comply with regulatory and other requirements.

The rules also provide for the AER to develop a Service Target Performance Incentive Scheme that provides rewards or penalties for network businesses based on how their reliability levels compare with historical performance. For example, if a network business's reliability performance worsens over time, it will be penalised by being allowed lower overall revenue in its next revenue determination. The amount of the reward or penalty is based on estimates of the value that consumers place on reliability.

As a result of these reliability standards and incentive schemes, network businesses generally have very limited control over the amount of "spare" capacity that is built to cater for days with extreme demand (eg due to very hot weather) or outages in parts of the network. This is essentially a political decision with each jurisdictional government setting reliability standards based on balancing the cost of building and maintaining network capacity against the expected cost of not having a reliable supply of electricity. The regulatory framework does however create incentives for network businesses to provide the amount of capacity required by the reliability standards in the most efficient and lowest cost manner.

## Appendix 4: AER process for revenue determinations

In electricity, this process begins with the AER publishing a framework and approach paper. This promotes early consultation with stakeholders and assists the network businesses in preparing their regulatory proposals. Network businesses then submit their regulatory proposals to the AER. Network businesses are required to consult on their regulatory proposals and take into account the views of stakeholders.

**Table 1: Timeline for AER revenue determinations**

| Decision/submission | Time before regulatory period commences |
|---|---|
| AER Framework and Approach paper | 23 months |
| Network businesses' initial proposal | 17 months |
| AER draft decision | 9 months (approx.) |
| Network businesses' revised proposal | 6 months (approx.) |
| AER final decision | 2 months |
| Potential tribunal/court appeal | Post commencement |

The AER publishes the revenue proposal and invites comments. The AER also publishes an issues paper indicating the AER's preliminary view on the business' expenditure proposal to assist stakeholders who are interested in making submissions. Stakeholders can also attend public forums. The draft determination sets out the AER's assessment of all elements of the proposal taking into account stakeholder views and other available information.

This process is then repeated, with the businesses required to consult on and submit a revised regulatory proposal in response to the AER's draft determination and the AER making a final determination in response to the business' revised proposal. Stakeholders are again invited to make submissions and can attend public forums.

Affected parties can apply to the Australian Competition Tribunal for a review of the merits of the AER's final determination if there is an error in part of the determination and correcting that error will result in a decision that overall is materially preferable in terms of the long term interests of consumers. The AER's decisions are also subject to judicial review by a court.

The process includes several mechanisms that are designed to assist consumer representatives and individual consumers to be involved. For example, the business' regulatory proposal must include a plain English overview paper for consumers, the AER's issues paper is designed to assist consumers and their representatives understand the proposal and the key issues, and the AER has established a Consumer Challenge Panel to provide input on consumer perspectives.

**Table 2: Timetable for upcoming revenue determinations**

| State/ Territory | Service provider | Regulatory control period | Draft decision published | Final decision published |
|---|---|---|---|---|
| **Electricity transmission** | | | | |
| NSW/Tas | TransGrid, TasNetworks | 1 Jul 2015 – 30 Jun 2019 | 27 Nov 2014 | 30 Apr 2015* |
| Qld/NSW | Directlink | 1 Jul 2015 – 30 Jun 2025 | 27 Nov 2014 | 30 Apr 2015 |

| State/ Territory | Service provider | Regulatory control period | Draft decision published | Final decision published |
|---|---|---|---|---|
| Vic | AusNet Services | 1 Apr 2017 – 30 Mar 2022 | 30 Jun 2016 | 31 Jan 2017 |
| Qld | Powerlink | 1 Jul 2017 – 30 Jun 2022 | 30 Sep 2016 | 30 Apr 2017 |
| SA | ElectraNet | 1 Jul 2018 – 30 Jun 2023 | 30 Sep 2017 | 30 Apr 2018 |
| Vic/SA | Murraylink | 1 Jul 2018 – 30 Jun 2023 | 30 Sep 2017 | 30 Apr 2018 |
| **Electricity distribution** | | | | |
| NSW/ACT | Ausgrid, Endeavour Energy, Essential Energy, ActewAGL | 1 Jul 2015 – 30 Jun 2019 | 27 Nov 2014 | 30 Apr 2015* |
| Qld/SA | Energex, Ergon Energy, SA Power Networks | 1 Jul 2015 – 30 Jun 2020 | 30 Apr 2015 | 31 Oct 2015 |
| Vic | CitiPower, Powercor, Jemena, Jemena, AusNet Services, United Energy | 1 Jan 2016 – 30 Dec 2020 | 31 Oct 2015 | 30 Apr 2016 |
| Tas | TasNetworks | 1 Jul 2017 – 30 Jun 2022 | 30 Sep 2016 | 30 Apr 2017 |

* These determinations involved a transitional year determination 2014-2015 and a final determination for 2015-2019