

13 June 2012

Mr John Pierce
Chairman
Australian Energy Market Commission
Level 5
201 Elizabeth Street
Sydney NSW 2000

Via website: www.aemc.gov.au

Dear John

Transmission Frameworks Review First Interim Report – PwC Report on the Case for the Application of Economic Regulation to Transmission Services

Submissions to the Transmission Frameworks Review (TFR) on network connection related issues have highlighted that there is some confusion regarding the specific boundary of what is regulated under the National Electricity Rules (Rules) and what is not.

In addition, there have been a number of proposals for alternative forms of regulation to apply to different aspects of connection services. Given this environment, Grid Australia engaged PricewaterhouseCoopers (PwC) to provide a report on how different transmission services should be regulated in light of mainstream regulatory economic principles and the economic characteristics of services provided by transmission businesses in the National Electricity Market (NEM).

The key finding of PwC's report is that a high threshold must be met before regulation is applied. This is to recognise that the benefits from regulation need to exceed its substantial costs. As such, for regulation to be imposed it requires the following conditions to be satisfied: market power should be substantial, have a likelihood that it will be misused, and the misuse of market power would be expected to cause substantial economic harm.

When applying the economic framework for regulation to transmission services, the report finds that:

- There is no case for regulating services outside the boundary of the present network, namely, non-regulated transmission services. These services are characterised by low barriers to entry and as such have proven to be able to be provided by different parties with little cost disadvantage compared to the relevant transmission business.

- While regulation is justified for connection related works within the boundary of the substation as well as augmentations to the shared network beyond standard requirements – referred to in the Rules as negotiated transmission services - the ability for a transmission business to exercise market power is limited by the countervailing market power of sophisticated and well-resourced customers for this service. This fact, combined with the administrative feasibility of negotiation with individual or small numbers of customers, means that a negotiating framework, with binding dispute resolution, is an appropriate form of regulation in this instance.
- The case for regulation of “standard” transmission services, known in the Rules as prescribed transmission services, is clear. These services are characterised by strong economies of scale and scope meaning that competition from an alternative provider is neither desirable, nor likely. In addition, the services are for the benefit of millions of customers, meaning negotiation is infeasible. As such, direct price setting is necessary in order to counterbalance the market power afforded to service providers.

The PwC report finds that given the current approach to regulation is appropriate, alternative forms of regulation applied to various services are unlikely to improve economic outcomes. Instead, applying alternative forms of regulation in this circumstance could be expected to distort efficient decision making and increase costs.

On suggestions that contestability be extended to certain services, principally to the construction of assets to provide negotiated transmission services, PwC notes that additional considerations are necessary to those that apply to the question of whether to regulate. That is, structural reforms of this sort will inevitably involve costs as well as benefits compared to the status quo and it is important to have a good appreciation of each. The relevant question, therefore, is whether the cost efficiencies and innovation that are expected to come from competition outweigh the other costs it imposes. Applying this question to the construction of assets for negotiated transmission services, PwC finds that it is not clear that forcing contestability would create material efficiency gains, but instead is likely to create a number of costs given the natural monopoly characteristics of the underlying service.

Grid Australia recognises, especially given the views in submissions to the TFR, that the dividing lines between the services that are regulated under the Rules and those that are not, as well as between negotiated and prescribed transmission services, may not be articulated as clearly in the Rules as it could be. In addition, the fact that Chapter 5 of the Rules includes both technical and commercial issues may lead to confusion. To that extent, there may be some benefit in improving the clarity of this aspect of the Rules. Grid Australia is currently undertaking some work in this area to contribute further to the AEMC review.

A further factor that Grid Australia considers is having a material impact on perceptions on the effectiveness of the current connections framework is the arrangements in Victoria. In Victoria the Australian Energy Market Operator (AEMO) is responsible for the shared network and SP AusNet is responsible for the provision of network connections. As a result, connecting parties need to form an agreement with AEMO for any works that may be necessary on the shared network to facilitate their connection and also with SP AusNet. This framework creates additional commercial complexity for connecting parties due to the need to deal with two parties. In addition, it creates uncertainty regarding the allocation of risk and liabilities between the parties. The ability to overcome these issues in Victoria is hampered given that AEMO’s not-for-profit status means it has no flexibility to deal with commercial matters.

Grid Australia notes that AEMO is seeking to improve the Victorian connections framework and has undertaken consultations with this aim. It is relevant to note, however, that in its proposed guidelines for connections to the shared network, AEMO has outlined a detailed process without clearly identifying how this process interacts with negotiations with the network owner in Victoria. This highlights the general problem in this jurisdiction that occurs due to the involvement of a non-profit third party in the connections process.

The lack of commercial flexibility in the approach to connections in Victoria would only become more pronounced if it, or similar models, were expanded across the National Electricity Market (NEM). Allowing connecting parties to negotiate with a single TNSP for all works on the existing transmission network mitigates the risks of misalignment between AEMO and the network owner and therefore also reduces potential liabilities for connecting parties. Further to this, negotiation with a single, profit motivated, TNSP means that commercially flexible and innovative solutions can be developed for connections where these maintain a secure and reliable network.

Grid Australia looks forward to continuing to work with the AEMC and stakeholders through the further stages of the review. If you require any further information, please do not hesitate to contact me on (08) 8404 7983.

Yours sincerely



Rainer Korte
Chairman
Grid Australia Regulatory Managers Group



Case for Economic Regulation Application to electricity transmission services

Grid Australia

June 2012

This Report has been prepared for Grid Australia. Grid Australia represents the owners of all major electricity transmission networks in the National Electricity Market. The report has been prepared under the terms of our Engagement Contract with ElectraNet Pty Ltd but does not necessarily reflect the views of Grid Australia or ElectraNet.

This document is not intended to be utilised or relied upon by any persons other than Grid Australia. Accordingly, PwC accept no responsibility in any way whatsoever for the use of this report by any other persons or for any other purpose.

The information, statements, statistics and commentary (together the "Information") contained in this report have been prepared by PwC from publicly available material and from material provided by Grid Australia. PwC have not sought any independent confirmation of the reliability, accuracy or completeness of this information. It should not be construed that PwC has carried out any form of audit of the information which has been relied upon.

Accordingly, whilst the statements made in this report are given in good faith, PwC accept no responsibility for any errors in the information provided by Grid Australia or other parties nor the effect of any such errors on our analysis, suggestions or report.

Executive summary

PricewaterhouseCoopers (PwC) has been asked by Grid Australia to provide a report on how different transmission services should be regulated in light of mainstream regulatory economic principles and the economic characteristics of services provided by transmission businesses in the National Electricity Market (NEM).

Economic case for price and access regulation

Many of the services provided by Transmission Network Service Providers (TNSPs) are regulated. This fact could easily lead to a presumption or expectation that all of the services that TNSPs provide should be subject to some form of regulation, with the relevant question simply being the form of regulation to be applied. This presumption, which is not assisted by the unfortunate use of the term “form of regulation factors” in the National Electricity Law (NEL), appears to have pervaded the discussion of connection-related issues to date.

However, proceeding directly to the question of how to regulate is inconsistent with mainstream regulatory economic principles. Rather, the first and most substantial question is whether regulation is justified at all, with the form of regulation only assessed if that hurdle is met.

The economic justification for price and access regulation is that firms with market power can use that power to inflate prices, diminish service standards and be inefficient, with efficiency losses thereby created. However, equally, it is acknowledged that regulation is far from perfect, and has the potential to create substantial economic costs. Regulation itself creates direct administrative costs for the regulator, the regulated business and interveners in the relevant process. In addition, regulation has the potential to cause less obvious but much more significant costs. These include the potential to alter investment flows, either encouraging too much investment, or more likely, discouraging efficient investment, with projects either not undertaken, being deferred, or installed with a sub-optimal level of capacity, or altering the mix between expenditure types. In addition, regulated businesses are encouraged to see the regulator as their key stakeholder, with a consequential diminution of concern for the true customers.

The mere presence of market power, however, is not sufficient to warrant the application of regulation. Rather, again the mainstream view in regulatory economics is that a high threshold must be met before regulation should be applied, given the need to produce benefits that exceed the costs. In turn, this requires the market power to be substantial, with a likelihood that the market power (if present) will be misused, and with this misuse of market power being expected to cause substantial economic harm. Markets are not likely to meet the textbook standards of perfect competition – if this form of competition exists it is only in rare cases. Rather, the best that can be expected in real world markets is workable competition, which may entail a degree of market power for an extended period.

The form of regulation factors in the NEL focus attention to many of the indicators that are typically applied when assessing the extent of market power. It is important, however, for the application of those factors to be such that the benefits of regulation are weighed against the costs. If the threshold for regulation is not met, there is no role for regulation.

Only where regulation can be justified is an assessment about the form that regulation should take required. Again, market power and the scope for its use are key factors in making an assessment on the form of regulation that should apply.

There are also other factors, however, such as the administrative costs of regulation, the scope for regulatory error, and the nature of the customers a provider is serving that are relevant for this decision.

Application to transmission services

We have undertaken an analysis of the economic characteristics of connection-related services against a mainstream economic regulatory framework. This analysis demonstrates that the present classification of services, and the consequential regulatory approach, appear to remain valid and should be maintained. This view should not preclude, however, changes to the National Electricity Rules (Rules) to improve their clarity.

We understand that the precise requirements of the Rules over the classification of services has some ambiguity. For the purpose of this report, we have assumed that the Rules give effect to the following classification (in broad terms at least – refer to Chapter 4 for a more detailed discussion):¹

- *Non-regulated services* – are extensions and other works between the boundary of the substation that creates the transmission connection point and the relevant customer
- *Negotiated transmission services* – the connection-related works that take place within the boundary of the substation, as well as augmentations to the shared network that are beyond the standard requirements; and
- *Prescribed transmission services* – the provision of “standard” transmission services through the shared transmission network, as well as the assets that connect transmission networks to distribution networks.

Our analysis of each of these categories of service is as follows:

- *Non-regulated services* – the evidence suggests that these services are able to be provided by a number of different parties with little cost disadvantage compared to the relevant Transmission Network Service Provider (TNSP), and indeed have been provided by other parties on a number of occasions. The barriers to alternative provision appear to be low. This means that it is likely that competition is able to provide an effective safeguard to customers against inefficient price and service offerings. Applying regulation in this circumstance could be expected to generate costs to society without a commensurate benefit and so not meet the National Electricity Objective (NEO).
- *Negotiated transmission services* - these are services for which the TNSP is the only provider of the service, either because of regulatory requirements or because alternative provision would be impracticable or provide intolerable risk to service provision to other customers. Thus, competition is constrained to what is provided by energy or demand sources that do not use the transmission network (for example, self-generation). However, the ability for the TNSP to exercise its market power is limited by the countervailing market power provided by sophisticated and well resourced customers for this service. The fact that the service is provided to a single or

¹ We note that the nomenclature associated with different transmission services in the Rules leads to a somewhat unusual discussion when considering the form of regulation that should apply to them. That is, the Rules refer to services by the manner in which they are regulated rather than the functional services they provide. Debating the form of regulation that should apply to different transmission services using their Rules description, therefore, appears circular. While noting this point, we will persevere with the Rules nomenclature given it will have more meaning to a reader than any new term we may create in its place.

small group of customers also implies that it is administratively feasible for the service requirements to be tailored to the particular circumstances of that customer or group of customers and for negotiation to play a central role. These considerations imply that while regulation for this service is justified, the most appropriate form of regulation is for parties to seek to negotiate their requirements in good faith, with binding dispute resolution able to be invoked where agreement proves impossible.

- *Prescribed transmission services* - these services are provided through the shared transmission network to the benefit of millions of final customers. The service itself is characterised by strong economies of scale and scope, as well as strong network externalities, meaning that meaningful competition from an alternative electricity network is neither desirable nor likely. Individual negotiation is not cost effective for this service; therefore, direct price setting is necessary in order to counterbalance the market power afforded to service providers.

Alternative forms of regulation

A number of stakeholders to the Australian Energy Market Commission's (AEMC) Transmission Frameworks Review (TFR) have proposed alternative approaches to the regulation of either non-regulated services or negotiated transmission services. In view of the conclusions reached above, alternative forms of regulation are unlikely to be welfare improving for the following reasons.

- Allowing network users to “declare” whether a non-regulated service is “contestable”² or not would provide the potential for services that are in fact workably competitive to be regulated, which is inappropriate because they would not meet the NEO, as discussed above.
- Our understanding – as reflected in the discussion above – is that it is not technically feasible for customers to provide a negotiated transmission service for themselves, where that comprises the provision of the relevant asset as well as responsibility for its continued operation and maintenance and acceptance of service delivery risk. This proposition seems reasonable to us – after all, establishing a new transmission connection point may include cutting into existing transmission lines and changing the angle of towers, and some negotiated transmission services require works to be performed on the shared transmission network. We note, however, that if it was technically feasible to make some or all of the negotiated transmission services contestable, then they would have the same economic characteristics as the non-regulated services, and hence should not be regulated.

We note, however, that some submitters argued for **part** of the provision of a negotiated transmission service to be made contestable – namely the construction of the assets – but with the relevant TNSP responsible for the continued operations and, implicitly, service delivery risk. The merits of this proposal are discussed separately below.

- Imposing direct price controls on connection related services would be expected to reduce the scope for flexibility in arrangements, to the detriment of users. It would also lead to a higher cost form of regulation than can be justified.

² For the avoidance of doubt, we refer to contestability as the ability for other suppliers to be able to enter a market and supply a service.

Other issues

We have also been asked to comment directly on two additional issues, namely:

- how the regulatory framework should deal with potential for future access requests of non-regulated transmission services, and
- what would be the merits of requiring contestability in the construction of assets that would be used to provide negotiated transmission services.

These are discussed in turn.

Future requests for access

While the first customer seeking to connect to a network may have multiple options of providers for a connection, it may make economic sense for a subsequent customer to use the assets that have already been constructed in preference to constructing their own. This has the potential to create market power concerns. However, the potential for market power to arise in the future is not an argument for regulating upfront. The benefits of regulatory intervention in such a case occur only if and when a future user of the infrastructure emerges and seeks access.

We note, however, that the experience with access regulation in other sectors has shown that the potential for future access seekers to gain a regulated right of access can create perverse incentives for infrastructure development (such as minimising the creation of spare capacity). To the extent that thought was given to developing an access regime that is specific to non-regulated transmission services, it is important for this to include safeguards that reduce the scope for such perverse incentives to the extent possible.

Contestability of construction

As discussed above, a number of parties have also suggested that customers should be permitted to construct (and pay for) the assets required to provide negotiated transmission services themselves, albeit with the relevant TNSP then responsible for operating and maintaining the relevant asset (and, implicitly, bearing the service delivery risk).

As a general matter, when effecting structural reforms to utility sectors, separating functions with a view to extending the reach of contestability inevitably involves costs as well as benefits, and it is important to have a good appreciation of each. As an example, the decision to separate generation from transmission in the electricity sector reduced the degree of coordination between generation and transmission investment – which indeed is a key driver of the AEMC's current review – but in return promised the greater cost efficiency and innovation that comes from competition, with the benefits expected to outweigh the costs.

Carving out the function of constructing the assets that are used to provide negotiated transmission services from the responsibility for service provision is likely to create a number of costs. In particular, the TNSPs would need to maintain a role in approving the design of assets, the approval of the assets installed, the method and timing of construction and other like matters given the potential impact on the provision of other transmission services. Moreover, the split in responsibility between construction of the assets from the ongoing service provision would create a perverse incentive for upfront costs to be minimised at the expense of ongoing cost or service delivery risk, which the TNSPs would need to in effect 'regulate'.

Against this, it is not clear that separating out the construction task would create material efficiency gains. Our understanding is that the TNSPs already contract out (by way of competitive tender) for much of their construction activities, and so it is unlikely that allowing contestability in construction would reduce societal costs. It is also not clear that contestability would lead to a reduction in prices paid by users – as a regulated fallback for these services already exists – although we also note that price reductions comprise, for the large part, transfers between participants rather than economic benefits. Lastly, our understanding is that a key concern to transmission customers is to ensure that connections are timely, but that this has not been a concern with the current arrangements in most jurisdictions, and indeed is a dimension to service that may well deteriorate under a model that permits contestability in construction.

Contents

Executive summary	ii
1 Introduction	2
1.1 What have we been asked to do?	2
1.2 AEMC Transmission Frameworks Review	2
1.3 Structure of the remainder of this report	3
2 Decision on whether to regulate	4
2.2 Benefits and costs of regulation	4
2.3 What are the indicators of the extent of market power?	8
3 Choice of the form of regulation	13
3.1 Negotiation and arbitration	13
3.2 Direct price control	14
4 Application of regulation to transmission services	16
4.1 Non-regulated transmission services	16
4.2 Negotiated transmission services	21
4.3 Prescribed transmission services	27
5 Other issues	29
5.1 Potential future access requests	29
5.2 Feasibility of contestability of asset construction	30
Appendix A Framework for negotiated transmission services	34

1 Introduction

1.1 What have we been asked to do?

PricewaterhouseCoopers (PwC) has been asked by Grid Australia to provide a report on a number of matters that are presently being considered as part of the Australian Energy Market Commission's (AEMC) Transmission Frameworks Review (TFR). Specifically, Grid Australia has requested PwC to undertake the following:

- Provide an economic evaluation of the objectives of economic regulation, including when and how it should be applied. This analysis should draw upon economic literature, case law and regulatory precedent to support the analysis where appropriate.
- Apply the above to undertake a high level evaluation to the current services provided by transmission businesses. This should include a description of each service, its economic characteristics, and whether regulation is justified, and the form of regulation that is most appropriate.
- Comment on alternative forms of regulation for connection related services that have been raised by the AEMC in its TFR or by stakeholder submissions to that review.
- Comment on the issues associated with potential future access requests for non-regulated transmission services.
- Comment on the feasibility of extending contestability to the construction of negotiated transmission services.

1.2 AEMC Transmission Frameworks Review

The AEMC is presently undertaking a review of transmission frameworks in the National Electricity Market (NEM). The review is being undertaken following a request and terms of reference by the then-Ministerial Council on Energy (MCE).³ The MCE terms of reference identify four key areas for the review:⁴

- transmission investment
- network operation
- management of network congestion, and
- network charging, access and connection.

In its Directions Paper the AEMC noted that a significant number of stakeholders raised concerns regarding the effective operation of existing frameworks for connecting generators and load customers to the transmission network. In

³ The MCE has been replaced by the Standing Council on Energy and Resources.

⁴ MCE, *AEMC Review of Transmission Frameworks*, 20 April 2010, p.4.

response to this feedback the AEMC determined that it would consider issues such as the frameworks for negotiating a connection, interactions between connections and the wider network, and variations between jurisdictions.⁵ This report is focused on these issues.

1.3 Structure of the remainder of this report

This report is structured as follows:

- Chapter 2 draws upon mainstream economic regulation in practice to consider the question of when a case for regulation is made.
- Chapter 3 discusses two forms of regulation that are applicable to electricity network regulation: direct price control and negotiate / arbitrate.
- Chapter 4 applies the economic framework outlined in the previous two chapters to the services provided by Transmission Network Service Providers (TNSPs) in the NEM.
- Chapter 5 addresses two additional issues identified in Grid Australia's terms of reference:
 - The issues associated with potential future access requests of non-regulated transmission services, and
 - The feasibility of contestability of asset construction.

⁵ AEMC, *Directions Paper, Transmission Frameworks Review*, 14 April 2011, p.ii.

2 *Decision on whether to regulate*

When considering regulation in the context of a particular service or industry two questions need to be addressed:

- 1 Is there a case for regulation to be imposed?
- 2 Only when regulation is justified, what is the appropriate form of regulation that should be applied?

Economic theory, as well as experience with access regulation in Australia to date suggests that the answers to these questions are not straightforward. This was highlighted by the Full Federal Court in its decision on the matter between Sydney Airport Corporation and the Australian Competition Tribunal where it was stated:⁶

Before examining the arguments of the parties about the meaning of s 44H(4)(a) and how the Tribunal approached it, the following general remarks are appropriate. First, the context and history of Part IIIA lead easily to the conclusion that difficult and complex questions of an economic, commercial and social character will be involved at both stages of the process. For example, in the first stage, such considerations as what is of national significance, whether it is economic to develop another facility and whether access would be contrary to the public interest could, no doubt, in any given case, be difficult and complex, and involve matters of judgment. Likewise, in the second stage, disputed questions of access, the legitimate business interests of the provider and its investment, the public interest, the interests of others, the costs and operational and technical issues involved could well be complex and difficult.

This chapter is focused on the appropriate framework for assessing whether regulation of a particular service is justified, drawing upon mainstream economic regulation theory and practice. It is then only for those services where the threshold of regulation is met that an assessment of the form of regulation is necessary. Forms of regulation that are applicable to electricity networks are discussed in Chapter 3.

2.2 *Benefits and costs of regulation*

The economic justification for price regulation and access regulation is that firms with market power can use that power to elevate prices, diminish quality and service standards, operate inefficiently, and otherwise act in anti-competitive fashion, with efficiency/ welfare losses thereby created. Thus, regulation is a tool by which the efficiency losses that may otherwise arise from firms with market power may be reduced. In essence, regulation is aimed at mimicking conditions consistent with effectively competitive markets.

However, regulation is far from perfect and has the potential to create substantial economic costs. The most obvious costs of regulation are the direct administrative costs that are incurred by the regulator, the regulated business and interveners in the relevant process, as well as in governments and other agencies who are

⁶ *Sydney Airport Corporation Limited v Australian Competition Tribunal* [2006] FCAFC 146 at [35]

responsible for enacting the regime and for considering any changes thereto. In addition regulation can create costs that, while substantial, are less visible. The act of regulation and its attendant uncertainties may distort businesses' expenditure patterns, with the potential to provide incentives for excessive investment or, alternatively, not to undertake efficient expenditure. In addition, regulation also has the potential to cause firms to see the regulator as their key stakeholder and to down-rate customer needs (in the limit, this can result in "regulatory capture"). Lastly, an important role is bestowed upon regulators, but with the real potential for a suboptimal performance of that role, i.e. the potential for regulatory failure, particularly in light of inherent information asymmetries.

2.2.1 Limitations on the application of regulation

The limitation of regulation (and regulators) has been remarked upon by numerous expert commentators. For example, the Productivity Commission remarked as follows:⁷

In theory, regulation can be used to constrain monopoly pricing. However, regulation has limitations and there is an extensive literature demonstrating the potential for regulation to make investment less efficient than intended ...

...

The greatest concern for this inquiry is that the Gas Access Regime's form of cost-based price regulation leads to inefficient investment because of:

- *regulatory error – mistakes are made in applying regulation*
- *regulatory risk – uncertainty about how regulation is applied increases the riskiness of investment*
- *asymmetric truncation – profit is curtailed if it is better than expected.*

Regulatory error can lead to regulated prices that are either much lower or higher than efficient costs. Regulatory risk introduces an additional source of variability to profit that will make investment less attractive, since investors are risk averse. Asymmetric truncation can reduce expected economic profit below zero (box 4.4). Economic profit is the difference between revenue and the opportunity cost of all inputs including capital. This differs from accounting profit, which focuses on monetary outlays.

Similarly, the Expert Panel expressed the following view:⁸

Access regulation can never be perfect, however. While the policy goal for regulation may be to replicate as far as possible what a competitive market would otherwise deliver, regulation is a poor substitute for effective competition. Regulation often involves significant direct costs for both the community (through the provision of resources to the regulator) and the regulated entity (through the resources required to gain approvals), may create new forms of uncertainty (including through delays) and incentives for strategic behaviour, and may provide incentives to make inefficient decisions – for example, to spend more than is required (often referred to as 'gold-plating') or to spend less than is required (a potential outcome of which is a decline in service performance over time or the service not being provided at all).

⁷ Productivity Commission, 2004, Review of the Gas Access Regime – Inquiry Report, June, p.102.

⁸ Expert Panel on Energy Access Pricing, 2006, Report to the Ministerial Council on Energy, April, p.11.

Accordingly, an important factor that the Panel has taken into account is the potential for significant costs and inefficiencies to arise from both the exercise of market power and the application of regulation. ...

The Panel also commented expressly on the potential for failings in the administration of regulation, as follows:⁹

The responsibility of – and rationale for – the regulator is to bring impartiality, objectivity and transparency to the decision making process by making decisions that serve the wider public interest while preserving the commercial incentive to maintain an efficient level of investment and service in the regulated sector.

It would be naïve, however, to assume that economic regulators can achieve perfect or near perfect outcomes in this respect. They can, and do, make errors and reach judgments that others may consider to be inappropriate. Global experience also suggests that there are risks that a regulator may systematically strike an inappropriate balance between the divergent interests – either consistently favouring customer interests as a means of winning community support for its role and influence, or favouring the regulated entity either as a means of easing its regulatory task or as a result of the close working relationship that can develop between the regulator and the regulated.

The importance of a full appreciation of both the benefits and costs of regulation is recognised by regulators internationally. For example, UK communications regulator, Ofcom, conducts regulation under its regulatory impact assessment guidelines, which note¹⁰:

The decisions which Ofcom makes can impose significant costs on our stakeholders and it is important for us to think very carefully before adding to the burden of regulation. One of our key regulatory principles is that we have a bias against intervention. This means that a high hurdle must be overcome before we regulate. If intervention is justified, we aim to choose the least intrusive means of achieving our objectives, recognising the potential for regulation to reduce competition.

2.2.2 Necessary circumstances for the application of regulation

The fact that regulation has the potential to impose substantial direct and indirect (and hidden) costs means that regulation should only be applied if the benefits are commensurately large. This, in turn, means that regulation should be reserved for those instances where market power is substantial, the likelihood of that power being misused is very high, and such a misuse of market power would lead to substantial economic harm. It is not sufficient for regulation merely to be convenient or to have incremental benefits.

A number of commentators have remarked on the hurdle that should be reached before resort is made to regulation. Professor Alfred Kahn, one of the leading thinkers in modern economic regulation, concluded his treatise on utility regulation as follows:¹¹

⁹ Expert Panel on Energy Access Pricing, 2006, Report to the Ministerial Council on Energy, April, p.12.

¹⁰ <http://www.ofcom.org.uk/about/policies-and-guidelines/better-policy-making-ofcoms-approach-to-impact-assessment/>

¹¹ Kahn, A., (1988), The Economics of Regulation – Principles and Institutions, Vol II, p.329.

To the pragmatist and twentieth-century liberal, competition is the preferred method for both restraining and prodding private management. To the extent that it can be relied on, the institution itself, rather than either political or managerial policy, takes over responsibility for the public interest. All competition is imperfect; the preferred remedy is to try to diminish the imperfections. Even when highly imperfect, it can often be a valuable supplement to regulation. But to the extent that it is intolerably imperfect, the only acceptable alternative is regulation. And for the inescapable imperfections of regulation, the only available remedy is to try to make it work better. That is the modest underlying assumption of these volumes.

A very similar sentiment has been expressed by Australian commentators. For example, the report of the National Competition Policy Review (Hilmer Review) emphasised the potential costs of price regulation and noted that price controls should only be seen as a last resort:¹²

Regulated solutions can never be as dynamic as market competition, and poorly designed or overly intrusive approaches can reduce incentives for investment and efforts to improve productivity. There are costs involved in administering and complying with pricing policies. Finally, from a government's perspective, resort to price control might be seen as an easy and popular way of dealing with what is in reality a more fundamental problem of lack of competition in the area. Since price control never solves the underlying problem it should be seen as a 'last resort'. For all these reasons, regulatory responses to monopoly pricing concerns must be approached with caution.

Similarly, the Productivity Commission remarked as follows:¹³

The presence of market failure is a necessary condition, but not a sufficient condition, for government intervention to increase efficiency. Intervention should only occur if it leads to a better outcome than that which would occur in its absence, after accounting for the costs of implementing the intervention.

It is important to recognise that governments generally cannot regulate to achieve a first best outcome because, for example, their ability to intervene is limited and intervention introduces new issues and costs to the community. Regulation is thus often a second best outcome compared with competition – a notion that is well acknowledged.

The observation that market power should be substantial before regulatory solutions are contemplated is consistent with the application of competition policy across the other sectors of the Australian economy. The text book standard of perfect competition is observed in few, if any, real-world markets. Indeed, many of the markets in Australia are subject to high levels of concentration. However, it is widely understood that the best that can be expected in real world markets is workable competition, which may entail a degree of market power for an extended period, as the Western Australian Supreme Court noted:¹⁴

The expert evidence and writings tendered in evidence suggest that a workably competitive market may well tolerate a degree of market power, even over a prolonged period. The underlying theory and expectation of economists, however, is that with workable competition market forces will increase efficiency beyond that which could be achieved in a non-

¹² National Competition Policy (Hilmer) Review, Final Report, 1993, 271

¹³ Productivity Commission, 2004, Review of the Gas Access Regime – Inquiry Report, June, p.83.

¹⁴ Re Dr Ken Michael AM; Ex Parte Epic Energy (Wa) Nominees Pty Ltd & Anor [2002] WASCA 231, Para.128.

competitive market, although not necessarily achieving theoretically ideal efficiency.

The relevant assessment, therefore, is to identify the situations in which the limited circumstances for regulating firms or services apply. The pertinent question in this respect is whether a participant has substantial market power and how likely is it that this market power will be exploited to the ultimate detriment of consumers.¹⁵

The following section outlines the factors that need to be taken into account when forming a view on the extent of market power held by an access provider and the potential for adverse consequences to flow from this market power. Consequently, these factors are necessary considerations for whether or not the threshold for regulation has been met.

2.3 What are the indicators of the extent of market power?

There are a number of factors that either contribute to the existence of market power, or the extent that it can be applied by firms. Many of these factors are embodied in the form of regulation factors that are provided for in section 2F of the NEL. The AEMC must take into account these factors when making a Rule that specifies an electricity network service as a direct control network service or negotiated network service. Therefore, they are also helpful in this context in order to determine whether there is significant market power in – and hence a case for regulation to apply to – certain electricity services.

2.3.1 Market shares

Whilst market shares are not listed as a factor in the NEL (which addresses the question of the form of regulation) they are typically considered as one of the most important indicators of market power. The relevance of market share as a key indicator of market power derives from economic theory and empirical evidence on the generally positive relationship between market shares and profitability (in terms of price-cost margins).

Notwithstanding this general relationship, there is no clear-cut relation between a certain market share and the existence of significant market power. This is borne out in regulatory practice, in Australia and internationally. In Australia, the Competition and Consumer Act does not specify a market share threshold that indicates substantiality.

Internationally, European practice on this issue is noteworthy. Under European Commission competition law practice¹⁶, firms with market shares below 25 % are not likely to enjoy significant market power, while a market share over 50 % is considered to give rise to a *rebuttable* presumption of dominance; i.e. a 50%+ market share is not a sufficient condition for dominance. Even with high market shares, significant market power can only be established in light of a holistic analysis of all market factors.

¹⁵ Further to this, another relevant consideration that is often cited is whether the misuse of market power is likely to generate a substantial loss of economic efficiency. This is to recognise that there may be circumstances where market power exists, but the relatively low significance of the particular industry or service implies that it is unlikely that the benefits of regulation would outweigh its costs.

¹⁶

http://ec.europa.eu/information_society/topics/telecoms/regulatory/new_rf/documents/smp_guidelines/c_16520020711en00060031.pdf, para 75

The importance of market share as an indicator of market power also highlights the need to arrive at an appropriate definition of the relevant market; that is, to include all close substitutes when calculating market shares. We discuss this point further below in section 2.3.5.

We also wish to highlight that economic theory and regulatory and competition practice shows that high market shares are not, on their own, conclusive evidence of market power. This is particularly the case where a market is contestable. Contestable markets are characterised by low barriers to entry and exit, such that quick entry is feasible by potential entrants. The *ex ante* expectation of this prospect places an effective disciplining force on an incumbent player, even if it currently has a high market share.

Similarly, less weight tends to be placed on market shares where markets have the characteristics of bidding markets, meaning that competition is “lumpy”, and begins afresh for each new contract, with a “winner-takes-all” element to it.

These examples highlight the general point that a competition analysis ought not to be a simple check-list assessment against criteria but must proceed on the basis of a substantive appreciation of how competition works in that market.

2.3.2 Presence and extent of barriers to entry

Barriers to entry can insulate incumbent service providers from the discipline of competition. This can occur due to the lack of actual competitors, or a lack of a threat of entry from potential competitors. It is relevant to note, however, that the existence of barriers to entry per se is not sufficient for there to be a prospect of incumbent firms taking advantage of market power. As discussed above, very few real world markets have zero barriers to entry. Instead, barriers to entry need to be sufficiently high so that the prospect of new participants entering the market is unlikely.

The requirement that barriers to entry be significant, and high, before market power concerns warrant regulation was noted by the National Competition Council in the context of the regulation of pipeline services.¹⁷

7.17 Only in the presence of significant barriers to entry is a market insulated from competition, so that a company operating in that market can sustainably raise prices above economic costs, or otherwise behave independently of competition, without losing customers over time to new entrants into the market.

The NCC went on to say:¹⁸

7.19 The size or height of the barriers to entry to a particular market will directly affect the access of a service provider to that market and the degree of market power that a provider can exercise. With high barriers to entry there are likely to be fewer opportunities for competitive pressure because it would be uneconomic for other players to enter and compete for market share. The more substantial these barriers are, the greater are the potential costs from the exercise of the resulting market power.

Economies of scale and scope are a particular characteristic that can lead to barriers to entry. Economics of scale and scope can make it more efficient for one,

¹⁷ National Competition Council, *A guide to the functions and powers of the National Competition Council under the National Gas Law, Part C – Light regulation of covered pipeline services*, July 2011, pp.41-42.

¹⁸ National Competition Council, *A guide to the functions and powers of the National Competition Council under the National Gas Law, Part C – Light regulation of covered pipeline services*, July 2011, p.42.

rather than two, providers to provide a particular service. That is, one provider is able to meet the entire market demand at a lower unit cost than could two or more. This is the circumstance of natural monopolies. The majority of network services, including electricity, are commonly considered to have strong elements of economies of scale and scope. Therefore, in the majority of instances these services are also subject to considerable market power. In this circumstance regulation is clearly justified.

Another relevant factor in the context of network industries that can create barriers to entry is the existence of sunk costs. Sunk costs are investments that are fully committed to the market once they are made. They cannot be recovered, even if the firm that invested in them goes out of business. A high degree of sunk costs means that a potential new entrant was more exposed to the threat of retaliation by incumbents, because the option does not exist to enter a market and withdraw (and recoup the investment) if retaliation occurs. High sunk costs also mean that the opportunity cost of further production for incumbents will always be lower than for a potential new entrant.

2.3.3 Presence and extent of externalities

Network externalities tend to exist as a consequence of economies of scale. That is, they occur where network use is shared. This sharing can mean that the use of an asset or service by one customer can have a positive or negative influence on the use of the same asset or service by another customer.

The existence of network externalities, however, is more appropriately considered as a factor to influence the form of regulation rather than whether regulation should be applied in the first instance (hence its inclusion as one of the form of regulation factors in the NEL). In that context, however, it is relevant to note that network externalities are typically significantly less for end-to-end services, or services that can be dedicated to a single party and operated without efficiency loss. This was noted by the Expert Panel on Energy Access Pricing in relation to gas transmission pipelines:¹⁹

In contrast, individual gas transmission pipelines typically can be operated independently with little loss of overall efficiency, and it is also typically feasible to assign capacity rights associated with the asset's existing and new capacity. Thus, users can be provided with a choice about which pipeline to use where there are multiple, independent pipelines, and users can also be provided with a choice about whether they wish to use (and contribute to) any augmentation. Thus, ongoing competition between pipelines (i.e. where multiple pipelines serve the same markets) is feasible, and 'market forces' can be left to play a greater role in deciding when new investment should occur (that is, users can be left to contract for their needs, and pipelines get built when sufficient capacity in a pipeline will be contracted).

2.3.4 Presence and extent of countervailing market power

Countervailing power exists when the users of a good or service are sufficiently large and have a high degree of negotiating power. This could be due to the fact that there are a small number of large potential customers who are well resourced and informed, and who have credible "outside options". Countervailing power can also arise where the cost and demand circumstances of the provider are such that it

¹⁹ Expert Panel on Energy Access Pricing, Report to the Ministerial Council on Energy, April 2006, p. 13

would be adversely affected by the failure of a customer, or group of customers, to utilise its network or consume its services. This may result in full or partial stranding of an access provider's infrastructure, should the threat of bypass exist. In these circumstances, the power afforded to the user mitigates market power that may be held by the provider.

The existence of spare capacity in related markets can be a factor to confer a degree of countervailing power on a buyer. When discussing market power in the context of the promotion of competition criterion (criterion (a)), the Tribunal in the matter of Duke Eastern Gas Pipeline concluded the countervailing power of others was a factor in determining that EGP did not have market power:²⁰

The Tribunal concludes that EGP will not have sufficient market power to hinder competition based on the commercial imperatives it faces, the countervailing power of other market participants, the existence of spare pipeline capacity and the competition it faces from the MSP and the Interconnect. As EGP does not have market power, the Tribunal cannot be satisfied that coverage would promote competition in either the upstream or downstream markets.

2.3.5 Presence and extent of substitutes, and the elasticity of demand

The extent to which users are willing, and able, to shift towards an alternative source of supply to meet their needs is also a determinant of market power. Where substitutes are available customers are able to choose an alternative to their current supplier where alternatives have a more attractive price and service offering combination. As noted previously, where competition is effective the scope for any single firm to sustain prices above efficient levels is considerably reduced.

It is worth noting that where the scope for competition exists in a market, prematurely taking a decision to regulate has the potential to stifle the prospects of that competition developing. This was noted by the Tribunal in decision for the Fortescue Metals Group matter:²¹

It is particularly important that, if the services are not declared, alternative rail facilities are likely to be available for many access seekers. The situation in the Pilbara is unusual in that, notwithstanding the presence of facilities with natural monopoly characteristics, alternative facilities can be – and are highly likely to be – built if a declaration is refused. Other benefits which might ordinarily flow from access to a natural monopoly facility do not necessarily arise here. In particular, although we have concluded that criterion (a) is satisfied in respect of all of the services except the Mt Newman service, we doubt that access will result in large gains for competition.

Measuring price elasticities can also be a useful tool in determining the extent of substitution between products and hence the extent of market power that may prevail. If the service is particularly inelastic it suggests there is limited capability for customers to either avoid use, or choose an alternative, when prices rise.

²⁰ Duke Eastern Gas Pipeline Pty Ltd [2001] AComp T2 at [124].

²¹ Fortescue Metals Group Limited [2010] ACompT 2 at [1301].

2.3.6 Extent there is information available to enable effective negotiation

The extent of the information asymmetry between access providers and access seekers can reflect the degree of market power. Where some contestability for service provision exists, information is likely to be available to multiple parties as opposed to the situations of substantial market power, where one provider holds superior information and has no incentive to disclose this information to third parties.

However, even in monopoly circumstances access seekers may be able to obtain good information on an access provider's costs, services, infrastructure and market environment. This can arise due to competition by comparison or through obligations on service providers to provide certain information to other parties.²² In this circumstance the information available can provide a good foundation for commercial terms and conditions to be negotiated between parties. It is in these circumstances where information asymmetry is low, that the need for more direct price regulation is considerably reduced.

²² We note that this obligation itself may constitute imposing regulation on a service provider, although in this instance it would not imply price regulation per se.

3 Choice of the form of regulation

Only once a decision has been made that there is a case for regulating a firm or service do we turn our mind to what form that regulation should take. This decision is also linked to the degree to which market power is present. The AEMC acknowledged this point in the development of the current rules for the economic regulation of transmission networks, where it said:²³

Consistent with generally accepted policy and regulatory thinking, the Commission concluded that more intrusive forms of economic regulation (such as revenue or price cap regulation) should be confined to those services that are supplied under monopoly (or near monopoly) conditions, with less intrusive forms of regulation or no regulation at all being applied to services supplied under conditions where there is limited market power or the potential for competitive supply.

The key implication is that the form of regulation applied should match the characteristics of the market and the nature and degree of market power held by the access provider.

The remainder of this chapter explores two forms of regulation that are applicable in the context of electricity networks: the negotiate / arbitrate model, and direct price controls.

3.1 Negotiation and arbitration

The negotiate / arbitrate model is a two stage process. First, parties set out to commercially negotiate the price and terms and conditions of access. The negotiate / arbitrate model does not control prices directly at the outset, but rather provides a framework for the regulator to intervene where negotiations break down. Therefore, in the event negotiations are acceptable to both parties, the need to enter the second stage of arbitration is not warranted. It is only when negotiations fail that an external arbitrator is called upon to settle the terms and conditions. The fallback of an arbitrator is intended to provide a credible threat to participants that direct price setting will be applied where agreement cannot be reached. In doing so, this fallback option provides an incentive for parties to negotiate an agreement.

The negotiate / arbitrate approach is considered to have benefits when there is some degree of market power evident but other factors mean effective negotiation is feasible. These factors include that there are few users of a monopoly businesses services and the counterparty is sufficiently large to be well informed (which can be assumed for transmission customers). That is, there is a sufficient degree of countervailing market power in the commercial negotiation phase which can constrain the access provider's market power. Furthermore, negotiate / arbitrate is more amenable to circumstances where the access provider is not vertically integrated, and thus incentives to deny access are not present.

A number of regulated markets have applied a negotiate / arbitrate model in Australia, including telecoms, rail, ports and gas. In gas, the negotiate / arbitrate

²³ AEMC, *Draft Rule Determination, Draft National Electricity Amendment (Economic Regulation of Transmission services) Rule 2006*, 26 July 2006, p.18.

framework is applied in circumstances where there are prospects for the emergence of competition and contestability. The NCC compared the application of a negotiate / arbitrate form of regulation with direct price control for covered pipelines:²⁴

It is important to understand the regulatory framework that applies to the pipeline if a light regulation determination is made compared to full regulation under an access arrangement. Because a level of market power is present for the pipeline to be a covered pipeline, both forms of regulation have mechanisms to protect third party users. The decision about light regulation is about deciding which of those options is more appropriate for a particular covered pipeline. Many obligations of the regime are common for light regulation and full regulation pipelines with the requirement to submit a full access arrangement being the key difference in the form of regulation. The main regulatory elements of each form of regulation are set out in the following table.

3.2 Direct price control

When substantial market power exists, the potential for inefficient outcomes and distortions to competition in downstream markets is more pronounced. It is in this circumstance where direct price controls are an appropriate form of regulation in an attempt to mimic the outcomes that would prevail if the market was effectively competitive.

Direct price controls involve the upfront setting or approval of prices by a regulator. This form of regulation can also include incentive arrangements to encourage regulated entities to improve (productive) efficiency over time. Due to information asymmetries inherent with the degree of market power which typically accompanies this form of regulation, the scope for regulatory error and subsequent market distortions is higher than with other forms of regulation. Therefore, there needs to be a clear case that the benefits of this form of regulation would outweigh the costs before it is implemented.

The complex and imprecise nature of price setting by regulators was discussed by the Tribunal in *Duke Eastern Gas Pipeline Pty Ltd [2001] AComp T2* at [110]:

This argument does not take sufficient account of the fact that regulation is a second best option to competition. The complex nature of the tariff-setting process, the number of assumptions it relies on, and the fact that the reference tariff is a publicly available price which may be varied by negotiation between the pipeline owner and user depending on the user's requirements and conditions in the marketplace, all point to the fact that the reference price is not necessarily the price which would result from competition. Indeed, ACCC in its Draft Decision on MSP tariffs pointed out that if the EGP did not exist the reference tariff for the MSP would be lower as it would be transporting more gas. This is not what one would expect in a competitive market.

The Productivity Commission, in relation to gas pipelines noted the decision to apply price controls should be applied only where the net benefits are markedly greater than light-handed forms of regulation monitoring ²⁵

²⁴ National Competition Council, *Light regulation of covered pipeline services - A guide to the function and powers of the National Competition Council under the National Gas Law Part C – light regulation of covered pipeline services*, July 2011, Para 2.10.

²⁵ Productivity Commission, 2004, *Review of the Gas Access Regime – Inquiry Report*, June, p.228

The Commission considers that the recommendation and decision on which form of regulation to apply should consider the costs and benefits of both forms of regulation. Given the costs of access arrangements with reference tariffs (including the potential for distorted investment), it is important that such regulation is applied to transmission pipelines and distribution networks only where there are clearly greater net benefits to the economy. Therefore, the Commission considers that the decision and recommendation on the form of regulation to apply should err on the side of coverage with monitoring. Regulation with access arrangements with reference tariffs should be applied only where the net benefits of access arrangements with reference tariffs are markedly greater than the net benefits of the monitoring option. Where the difference in net benefits are marginal or the net benefits of the monitoring option are greater than the net benefits of access arrangements with reference tariffs, then the monitoring option should be applied.

In essence, given the decision to regulate, the form of regulation should be both appropriate and proportionate: appropriate, in that it directly addresses an identified competition problem; and proportionate, in that it is no more intrusive than necessary to achieve regulatory aims.

4 Application of regulation to transmission services

This chapter applies the economic framework described in the preceding sections to the services provided by TNSPs in the NEM. More specifically, for each service we set out:

- A description of the relevant service
- An assessment of whether regulation is justified for the service, and
- Where regulation appears justified, an assessment of the appropriate form of regulation.

In addition, where relevant, we also consider the implications of applying alternative forms of regulation to particular connection related services.

Our assessment in this chapter is by nature high level and is intended to provide a blueprint for how the questions of whether and to what extent regulation is appropriate in these markets. In order to arrive at a determinative assessment of competition in relevant markets, a more detailed and empirical analysis would be required, drawing on real market data. That said, we consider that the nature of competition in these markets is conducive to *a priori* reasoning, such that a more detailed empirical analysis would likely corroborate rather than contradict the preliminary conclusions we reach below.

4.1 Non-regulated transmission services

4.1.1 Description of the service

Non-regulated services typically form an extension from the existing boundary of the electricity network to another point, such as a network user's facility. The service may include the provision of apparatus, equipment, plant and buildings, but none of these assets will be part of the existing transmission network given they will exist between the connection point and the network user's facility. Non-regulated services are typically provided for a single user but may also be provided for a small group of users in coordination.

The description of an extension being a service outside the boundary of the existing electricity network is expressed in its definition in the Rules, which states:²⁶

*“An augmentation that requires the connection of a power line or facility **outside the present boundaries of the transmission or distribution network** owned, controlled or operated by a Network Service Provider.” [emphasis added]*

²⁶ Chapter 10 of the National Electricity Rules.

In addition, we understand that the works to connect extension assets into an existing transmission substation or transmission line would usually be treated as a negotiated transmission service (these services are discussed in the following section). Therefore, practically, the boundary between a negotiated transmission service and a non-regulated service is the existing substation fence or immediate works to connect into an existing transmission line.

4.1.2 Is regulation justified?

There is strong evidence to suggest that non-regulated services are capable of being supplied in a practical and economic sense by a number of different parties with little cost disadvantage compared to the relevant TNSP. The contestability available for the provision of these services provides appropriate safeguards to customers that they will receive the desired service at an efficient price. As a consequence, the case for regulation is not made in this instance.

Contestability is present for non-regulated services largely because the barriers to entry are relatively low. While there are necessarily obligations and arrangements for parties that wish to provide network services, these are necessary for the safe and secure operation of the electricity system. As such, they apply equally to all providers of the service and cannot be properly characterised as barriers to entry, and are, in any event, not particularly onerous.

The current regulatory requirements across jurisdictions for parties that provide their own extensions are fewer than the requirements for providers of shared network services. To that extent, the arrangements provide a proportionate level of obligation for providers of non-regulated services. In doing so, they minimise the administrative overheads associated with parties other than TNSPs providing non-regulated services. Examples of the relatively low barriers to entry for contestable providers include the following:

- A network license is not required for licensed generators to provide their own extension assets.²⁷ This is likely to reflect that the assets do not provide shared services, and an understanding that parties that hold a generation licence have the necessary skills and capability to provide a safe and secure service.
- An automatic exemption from economic regulation under the Rules exists for private electrical connections for generators and for industrial, commercial and 'mixed use' facilities.²⁸
- There are no restrictions on private proponents negotiating with land-holders for easements to accommodate their own extension assets.

The services provided by non-regulated services are also not subject to the same natural monopoly characteristics as the main shared network. That is, there are considerably reduced economies of scale and scope for non-regulated services. This is due to the services being dedicated to a single, or limited number, of users. As a consequence, there is no natural efficiency advantage from restricting the provision of these services to a single provider.

²⁷ In Queensland a 'Special Approval' framework applies for private networks under section 209 of the Electricity Act 1994. This Special Approval framework is administered by the Department of Employment, Economic Development and Innovation.

²⁸ AER, *Electricity Network Service Provider Registration Exemption Guideline*, 16 December 2011, p.14.

Importantly, the economic case above is not simply a theoretical construct. Actual outcomes demonstrate that contestability exists for the provision of non-regulated services. The submission from Grid Australia to the AEMC's 1st Interim Report identified the following examples of non-TNSP provision of extensions in each NEM jurisdiction:²⁹

- (SA) Dalrymple to Wattle Point 132kV line owned by a generator
- (SA) Davenport to Olympic Dam 275kV line owned by BHPB
- (SA) Olympic Dam to Prominent Hill 132 kV line owned and operated by Prominent Hill mine
- (SA) Middleback to Iron Due 132 kV line owned and operated by ETSA for OneSteel
- (TAS) Smithton to Woolnorth 110kV line owned by a generator
- (NSW) Bendeela PS 330 kV line owned by generator
- (NSW) Colongra PS 330 kV line to Munmorah owned by generator
- (NSW) Uranquinty PS 132 kV lines to Uranquinty s/s owned by generator
- (NSW) Capital Wind Farm 330 kV line to Capital Wind Farm s/s owned by generator
- (QLD) BMA - 132kV and 66kV private networks adjacent to Moranbah (UTAH 1 and UTAH 2) 66 kv Private Networks
- (QLD) Goonyella Riverside Expansion 132kV Private Network
- (VIC) Mortlake – Origin Energy owned assets

Generators and customers are able to choose from a number of firms to provide them with their network extensions. We are informed that the following firms have an interest in, have actively competed, or have been successful in tenders to provide network services in the NEM:

- ZinfraGroup
- John Holland
- Tenix
- ETSA Utilities
- Consolidated Power Projects
- UGL
- Balfour Beatty

²⁹ Grid Australia, *Transmission Frameworks Review, 1st Interim Report, Grid Australia Submission, January 2012*, pp.33-34.

- Lend Lease
- Transfield
- Leighton Holdings
- Downer EDI
- Powerserve
- O'Donnell Griffin
- Powercor Services
- Alstom Grid
- MegaVar
- Aurora Energy, and
- Entura.

While we are not in possession of sufficient data to carry out a market share analysis, as discussed in the previous chapter, given the characteristics of this market (contestability, with elements of bidding markets), we consider that market shares would not be particularly informative of market power.

4.1.3 Appropriate form of regulation

Given the evidence strongly points towards the existence of a workably competitive market for non-regulated services, the introduction of regulation for these services would not be appropriate or proportionate. This implies there is no need to make a choice about the form regulation should take. The only function of the Rules in this instance may be to clarify that non-regulated services are not subject to regulation under the Rules. This clarification may be beneficial given these services are often provided at the same time that other regulated services are provided.

The AEMC's position that price regulation should not apply to non-regulated services appears to be reasonably clear. While the AEMC did not comment on this issue specifically within its Final Decision, in its Draft Decision it noted:³⁰

The Commission agrees that services genuinely capable of competition should not be subject to any form of price regulation, including a compulsory commercial negotiation regime. The Proposed Rule did not include services capable of competition within the definition of negotiated transmission services. However, for the avoidance of doubt, the Draft Rule contains a provision that makes clear that transmission services provided by TNSPs which are neither prescribed services nor negotiated services are not subject to regulation under Chapter 6A.44. As a result, nothing in the Draft Rule is intended to oblige a TNSP to provide a service which is genuinely capable of competitive supply nor regulate the price of supply when the TNSP elects to provide such services.

³⁰ AEMC, *Draft Rule Determination, Draft National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*, 26 July 2006, p.31.

Obligation to provide the service

Given a workably competitive market environment exists for non-regulated services it is also appropriate that there be no obligation that TNSPs provide them. This includes that there should be no requirement for TNSPs to act as a 'default' provider of non-regulated services.

First, and most fundamentally, as argued above, imposing regulation on TNSPs is unnecessary due to the market being sufficiently competitive, particularly as there are several alternative providers available to provide the services. As such, the obligation would create needless regulatory burden and cost. Moreover, these are costs that would fall on only one party in the context of a contestable market, namely TNSPs.

Second, while there is no case for any party to have an obligation to provide non-regulated services, or be a default provider, it is also important to recognise that creating such an obligation as a precautionary measure would likely be detrimental for the operation of the contestable market.

Obliging TNSPs to provide non-regulated services as a default provider would effectively amount to the imposition of price regulation. This is because the default provider obligation would likely be accompanied by a negotiate / arbitrate model, to align with the approach to negotiated transmission services. The 'threat' of a negotiate / arbitrate approach applying effectively means that a *de facto* regulatory regime is imposed on the contestable market. That is, all parties will know that where agreement cannot be reached that the 'default' provider obligation can be imposed, and in doing so trigger its arbitration mechanism. The risks associated with arbitration for TNSPs, including the risk of regulatory error, might force them to make decisions that their competitors would not make in negotiations. As such, this would lead to distortions from competitive market outcomes.

4.1.4 Implications of applying alternative forms of regulation

We are aware that the AEMC is considering whether some form of regulation should be imposed onto what are presently non-regulated services.³¹ We would expect that the most likely form of regulation to be imposed would be the negotiate / arbitrate form of regulation.

To re-iterate, in relation to non-regulated services, these are supplied in a contestable market, and as demonstrated above there are numerous examples that indicate connecting parties are increasingly drawing on the services of alternative providers. As such, the threshold for regulation is not met in this instance as competition provides protection against the inefficient provision of these services.

Given a workably competitive market exists for non-regulated services, introducing regulation will not improve economic welfare beyond what is already achieved through contestable provision. Indeed, economic welfare could be expected to be eroded where regulation was imposed given the costs it incurs. As a consequence, it is unlikely that the National Electricity Objective (NEO)³² would be advanced by proposals to introduce regulation where workable competition exists.

³¹ AEMC, *First Interim Report, Transmission Frameworks Review*, 17 November 2011, p.196.

³² The NEO is contained in section 7 of the National Electricity Law.

It is also important to be aware that imposing regulation in the form of a negotiate / arbitrate model, on what are presently non-regulated services, would foreclose on the existence of a contestable market. Moving to a regulated model would imply that a decision has been made that TNSPs possess significant market power for the provision of these services and that competitors will always be at a disadvantage, and hence, unable to effectively compete. We do not consider that the evidence is consistent with this view.

4.2 Negotiated transmission services

4.2.1 Description of the service

Negotiated transmission services include:³³

- Shared transmission services that exceed the ‘standard’ levels of service, excluding those with system wide benefits
- Connection services to network users (excluding those to another NSP’s network³⁴), and
- Network use of system charges paid by a connection applicant for the provision of transmission user network access under Rule 5.4A.

In practice, it is our understanding that negotiated transmission services include assets at the transmission network connection point, such as connection bays and protection equipment, and the maintenance and operation of those assets. In addition, it will also include any above-standard works required on the shared network such as remote end protection equipment changes in order to maintain the required Rules and jurisdictional standards that are necessary for reliable supply to customers.

We understand that there is rarely, if ever, a ‘standard’ negotiated transmission service. Instead, they tend to be bespoke service offerings that require they be designed and implemented specifically for the party that is requesting the service.

We understand that the key factor driving the bespoke nature of negotiated transmission services is the needs of the particular connecting party rather than the needs of the TNSP. A large component of the costs associated with connection related negotiated transmission services are dependent on the level of reliability that the connecting party is willing to accept. As such, negotiations are often based on the specific architecture within the substation and issues such as whether the connecting party wishes to connect to one or more buses. Negotiations about how far below the automatic performance standard is acceptable for TNSPs and AEMO can also be a factor. However, we understand that the cost impact of performance standard aspects is not significant in the context of each of the connection related services.

4.2.2 Is regulation justified?

Negotiated transmission services are those services for which the TNSP is the only provider of the service, either because of regulatory requirements or because alternative provision would be impracticable or provide intolerable risk to service

³³ Negotiated Transmission Service is defined in Chapter 10 of the National Electricity Rules.

³⁴ Note, however, that Market Network Service Providers, such as Basslink, should not be included in the exception for NSPs.

provision to other customers. In this context, competition is constrained to what is provided by energy or demand services that do not use the transmission network (for example, self-generation). Given this, benefits from regulation may be expected. Importantly, however, these services have characteristics that reduce the scope for market power to be applied and facilitate negotiated outcomes.

Negotiated transmission services, as we understand them to be defined, are services that are provided within the boundary of an existing network owned or controlled by a Network Service Provider. The implication of this is that the services cannot be provided without the cooperation of the existing provider and will almost always involve, or interact with, assets that are already owned by the incumbent service provider. This situation means that for these services there are benefits from economies of scale and scope for the incumbent provider. This includes designing connection solutions based on an open access principle such that connection solutions do not foreclose, or impose prohibitive costs, on future connections. The presence of these economies of scale and scope also legitimately creates a barrier to entry for alternative suppliers. It is primarily these factors that mean that benefits from regulation could be expected to occur for negotiated transmission services.

The potential for market power from the provision of negotiated transmission services is not, however, unfettered. The parties on the other side of negotiations, namely generators and large load customers, are sophisticated operators, have access to expert engineering and financial advisors, and are very familiar with negotiating commercial contracts. This means that they could be expected to exert some countervailing market power on the service provider. In turn, the capacity for a provider to take advantage of any market power it possesses is limited.

It is not a controversial point that companies that provide base load or peaking gas energy, or are large load customers, have considerable financial backing, are well resourced and are highly capable negotiators. In this circumstance, the case for the presence of countervailing market power is reasonably clear. There may be a perception, however, that renewable generator proponents do not have the same technical and managerial capacity as thermal generator proponents. This view would ignore the realities of setting up a renewable project that is suitable for connection to the transmission network. First, much of the renewable generation installed in the NEM is done so by established players who also own and operate more traditionally fuelled generators. Therefore, it is clear that these proponents are well resourced and have considerable experience in connection projects. Second, the financial backers of renewable generation proponents, which tend to be banking consortiums, would not agree to finance the project if they did not believe that the necessary technical and managerial skills existed, or could be employed as necessary.

The table below identifies that all of the proposed renewable generation projects that have advanced sufficiently to have commencement dates are backed by significantly large companies with considerable global experience in electricity generation.

Table 1 – Details of companies with proposed Australian renewable generators that have set commencement dates (29 July 2011)³⁵

Owner of generator	Type of generator	Ultimate parent company	Key statistics of ultimate parent company			
			FY11 revenue (million)	FY11 operating profit (million)	FY11 total book assets (million)	Total worldwide installed capacity (MW)
Infigen Suntech Australia Pty. Ltd	Solar	Infigen Energy	\$AU 139.4	\$AU 19.1	\$AU 3,300	Approx. 1,646
Woodlawn Wind Power Pty. Ltd.	Wind	Infigen Energy	\$AU 139.4	\$AU 19.1	\$AU 3,300	Approx. 1,646
Macarthur Wind Farm Unincorporated Joint Venture	Wind	AGL Energy	\$AU 3,584.2	\$AU 456.0	\$AU 9,695.7	Approx. 3,889
		Meridian Energy	\$NZ 933.5	\$NZ 22.7	\$NZ 8,460.0	Approx. 2721
		RES limited	n/a	n/a	n/a	Over 700
ACCIONA Energy	Wind	Acciona S.A.	EUR 6,332.1	EUR 622.9	EUR 20,586.1	Approx. 6,054
Oaklands Hill Wind Farm Pty. Ltd.	Wind	Challenger limited	\$AU 480.1	\$AU 127.3	\$AU 17,836.2	n/a
AGL Power Generation Pty. Ltd.	Wind	AGL Energy	\$AU 3,584.2	\$AU 456.0	\$AU 9,695.7	Approx. 3,889

Source: Bloomberg data

4.2.3 Appropriate form of regulation

The form of regulation that is most appropriate for negotiated transmission services is negotiation and arbitration. There are two main reasons for this. First, it is administratively feasible for the provider and customer to negotiate directly. As indicated above, negotiated transmission services are for services that are provided directly to a single, or small, group of customers. In contrast to services that are for a broader customer base of millions of customers, this circumstance permits the customer and provider to arrive at an outcome that meets each party’s needs. Second, the parties subject to the negotiation are large and sophisticated and are therefore able to exercise some countervailing market power. While this potentially lessens the market power concern, most importantly, it enables the threat of arbitration to be a real prospect for TNSPs.

The AEMC’s assessment of the economic characteristics of negotiated transmission services is consistent with the assessment that negotiation and arbitration is an appropriate form of regulation for these services. In its Final Determination on the Economic Regulation of Electricity Transmission Services the AEMC stated:³⁶

“For negotiated transmission services, the Commission believes that there are fewer market failure concerns, therefore, a less intrusive (and therefore less costly) form of regulation has been applied in the Revenue Rule. In

³⁵ Wind farm developments pty ltd (WFD), the parent company of Woolstrophe Wind Farm Pty Ltd, has set a commencement date for an approximately 46MW windfarm in Victoria. We note that WFD is unique compared with other renewable energy developers because the wind farms it develops are sold to third party operators. As an example, WFD developed a 160MW wind farm in New Zealand that was sold to TrustPower (a New Zealand generator). This demonstrates that while WFD does not operate wind farms, it has experience in developing fully functional wind farms.

³⁶ AEMC, *Rule Determination, National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*, 16 November 2006, p.41.

particular, the end-user for these services is likely to be larger and better resourced, acting as a counterweight to the market power possessed by the TNSP. Moreover, requiring generators and large end-users to negotiate with TNSPs about the recovery of costs directly incurred by the TNSP as a consequence of their connection will ensure that that the efficiency of those costs is subject to increased scrutiny. The Revenue Rule therefore specifies a commercial negotiation regime for these services supported by an effective dispute resolution regime.”

It is important to be clear that for a negotiate / arbitrate framework to be effective it requires a suitable regime to be established. While there are factors that make negotiation feasible, the services are still natural monopolies. Having an appropriate framework for negotiation between the parties means that TNSPs are not at large in negotiations. As such, the chances of parties triggering arbitration can be considerably reduced.

The current Rules include a regime to facilitate the negotiation of negotiated transmission services. The framework includes safeguards against inefficient prices or a lack of cost transparency. The elements of this framework are:

- Rules that provide principles for how the negotiation framework is intended to operate to ensure that necessary pricing and informational aspects are given proper regard,³⁷
- A requirement for a TNSP to prepare a negotiating framework, and as part of a revenue determination, a requirement for the Australian Energy Regulator (AER) to develop negotiating criteria for a TNSP as well as consult on, and assess, the TNSP’s negotiating framework,³⁸ and
- Processes for commercial arbitration as a fallback should negotiations fail.³⁹

Each of these aspects is described in further detail in Appendix A. However, it is relevant to touch briefly on the role of commercial arbitration in the framework. A successful dispute resolution framework is one that is never used. This is because the key role of arbitration is as a fallback to provide a credible threat and to encourage a negotiated outcome. That is, once a dispute reaches the commercial arbitrator the matter is largely out of the control of the negotiating parties. As a consequence, an outcome may be determined that is not necessarily in the interests of either party. This provides an incentive for parties to negotiate in order to avoid the potential of an undesirable outcome.

4.2.4 Implications of applying alternative forms of regulation

The AEMC’s 1st Interim report identifies a spectrum of alternative forms of regulation that might apply to negotiated transmission services.⁴⁰ In addition, submissions to the 1st Interim Report have also put forward alternative proposals for regulating negotiated transmission services. We have been asked by Grid Australia to comment on the implications of applying two alternative forms of regulation to negotiated transmission services, namely:

³⁷ Clause 6A.9.1 of the National Electricity Rules.

³⁸ Clause 6A.9.3 and clause 6A.9.4 of the National Electricity Rules.

³⁹ Part K of Chapter 6A of the National Electricity Rules.

⁴⁰ AEMC, *First Interim Report, Transmission Frameworks Review*, 17 November 2011, p.14.

- “Declared” contestable provision, and
- Direct price controls.

“Declared” contestable provision

A number of stakeholders have proposed that connecting parties have the option to determine whether or not a negotiated transmission service is ‘contestable’. We take this to mean that alternative providers are able to enter the market for the provision of the entire service, including construction and ongoing operation and maintenance.⁴¹ For instance, the Private Generators Group states that the mechanism to facilitate competition for connection services is to shift the arbiter of a contestable service from the monopoly NSP to the connection applicant being the beneficiary of competition. The Private Generators Group goes on to say that this competitive and flexible reform allows the connection applicant to ‘opt out’ of the negotiated transmission services framework where it is commercial to do so.⁴²

At the outset, and while we accept there is some ambiguity on this matter, it is our understanding that TNSPs are not the arbiter of whether a service is contestable or not. Instead, the Rules set out a physical definition of services and the corresponding form of regulation. As such, the dividing line between what is regulated and what is not is the boundary of the substation and not a subject of negotiation.⁴³

As reflected above, our understanding is that it is not technically feasible for customers to provide negotiated transmission services themselves. That is, negotiated transmission services involve works on assets that are owned by the incumbent TNSP. These works are significant and may involve cutting the transmission lines and changing the angle of towers. In addition, negotiated transmission services can involve works on the shared transmission network which is for the benefit of all customers. As such, the service and reliability risks of contestable provision mean it is not appropriate for these services to be subject to contestability.

If, however, it was deemed to be technically feasible to make some or all of the negotiated transmission service contestable, and the service did not exhibit natural monopoly characteristics, this would suggest they share the same economic characteristics as appear to exist for non-regulated services. As a consequence, it would imply that no regulation should be imposed on these services.

Direct price controls

Implementing a direct price control form of regulation on what are presently negotiated transmission services would impose a form of regulation that does not properly reflect the economic characteristics of the service. As such, imposing direct price controls could be expected to increase costs and potentially create distortions from efficient outcomes. The potential implications include:

- a loss of flexibility for connecting parties,

⁴¹ We are aware that there are also proposals for the construction service only to be carved out and subject to contestability. We discuss this proposal further in Chapter 5.

⁴² Private Generators Group, *Submission to TFR – First Interim Report*, 3 February 2012, pp. 4-5.

⁴³ We note that to the extent there is some uncertainty to this boundary, which may occur for some negotiated transmission services, the arbitrator is able to make a decision to this effect. Where it decides that service is subject to genuine competition it is required to terminate proceedings without making a decision. See clause 6A.30.5(d)(e) of the Rules.

- uncertainty over the level of revenue required as part of a determination, and
- cross-subsidies when pricing connection services.

Implementing a direct price control form of regulation for all connection related services that exist within the boundary of the existing network would require these services to be regulated as prescribed transmission services. The implications of this would be that:

- TNSPs would be required to accommodate the costs of potential connection related services in their revenue proposal for the five year regulatory period. This could be done either as part of the general revenue cap or as a contingent project.
- The AER would be required to make an assessment of the efficiency of forecast capital and operating expenditure associated with connection related services.
- The pricing rules in Part J of Chapter 6A of the Rules would apply to all new connections.

TNSPs already include in their revenue proposal a forecast for network to network connections. Forecasting these connections is relatively straightforward. The joint planning arrangements between TNSPs and distributors mean that there is greater clarity on expected connections, and their likely specifications, many years in advance. As identified above, generator and large load connections, however, tend to be bespoke and are also considerably more uncertain. As such, a direct price control framework is not well suited in this instance.

In particular, cost based regulation is not well suited to considering the bespoke contractual negotiations associated with network connections. Contractual negotiations for a connection will go to matters such as the treatment of damages as well as service performance requirements such as cost and timing targets. The allocation of risks and liabilities for these matters will be highly dependent on the preferences of the individual connecting party. Cost based regulation, however, typically relies on objective considerations such as past performance and benchmarking. Indeed, it has proved difficult in the past for regulators to consider matters such as risk. This has led to regulators removing risk for TNSPs and placing it on customers. Such an outcome for transmission connections would reduce contractual flexibility for connecting parties and would be contrary to the sharing of risk that we understand is currently negotiated between parties.

The uncertainty associated with the number of transmission connections over a five year regulatory period creates uncertainty about the amount of revenue required over the period. As such, TNSPs may either be under- or over-compensated for connection related expenditure. This may occur due to forecasting error or regulatory decision making error. This could mean that customers end up paying more than the efficient costs of providing services in a circumstance of over-recovery, or that TNSPs may need to prioritise connection expenditure over shared network expenditure in a circumstance of under-recovery.

For prescribed transmission services a contingent projects framework allows for TNSPs to receive revenue for uncertain projects when a trigger event occurs. Given the uncertainty around forecasting connections, applying this framework to connection expenditure would have some merit. However, it would likely mean that the threshold for projects included as contingent projects would need to drop significantly. The current threshold is the greater of \$10 million or five per cent of the Maximum Allowed Revenue in year one of the revenue determination. A

majority of connection projects could be expected to have values much less than these amounts. Therefore, absent a reduction in the threshold, they could not properly be included as contingent projects under the current framework. However, reducing the threshold by such an amount would likely be contrary to the intention having it there in the first place.

We note that the AEMC also had concerns about the suitability of cost based regulation to negotiated transmission services when it was developing the current Chapter 6A Rules. The AEMC considered that a direct price control method was inappropriate and did not suit the project-by-project assessment approach that is required for negotiated transmission services:⁴⁴

This is in marked contrast to the higher level scrutiny of expenditure forecasts that is applied by the regulator in determining an ex ante revenue cap for the purpose of recovering the efficient costs of providing prescribed services. In that situation, project by project scrutiny of cost forecasts is neither feasible nor appropriate. Rather, the efficiency of expenditure forecasts is tested at a highly aggregated level based on historical trends, benchmarks and the like. There is good reason, therefore, to restrict the services covered by revenue cap regulation to the standard use of system services that are supplied under monopoly conditions and to promote bilateral commercial negotiations of the price and conditions of supply of other transmission services wherever that is feasible.

Applying the pricing framework of the Rules to connection related services may blunt the price signals provided to connecting parties. The Rules for pricing require that cost allocation for pricing be based on the attributable cost share for a category of services.⁴⁵ We understand that the process for determining these amounts involves some approximation, including for the allocation of common costs. To the extent this is the case, there is scope for inefficient cross-subsidies to exist between connecting parties and the general customer base. Depending on the direction of the subsidy, it could result in distortions of the decisions of either of connecting generators or the consumption decisions of customers. Given the AEMC's current focus on strengthening the signals for generators and customers in significant reviews such as the TFR and its Power of Choice review, such an outcome is likely to be unwelcome.

4.3 Prescribed transmission services

4.3.1 Description of the service

Prescribed transmission services are:⁴⁶

- Shared transmission services to a standard level of services – this makes up the bulk of this service
- Shared transmission services that exceed standard levels of service to the extent they provide system wide benefits
- Services required by legislation, or AEMO, or to ensure the integrity of the transmission system

⁴⁴ AEMC, *Draft Rule Determination, Draft National Electricity Amendment (Economic Regulation of Transmission services) Rule 2006*, 26 July 2006, p.22.

⁴⁵ Clause 6A.23.2(a) of the National Electricity Rules.

⁴⁶ Negotiated Transmission Service is defined in Chapter 10 of the National Electricity Rules.

- Connection services or shared transmission services to facilitate a connection to another NSPs network⁴⁷, and
- Grandfathered connection services (i.e. pre-9 February 2006).

In practice, prescribed transmission services include the provision of assets and operating and maintenance works related primarily to the transmission system that ensures a secure and reliable supply to customers.

4.3.2 *Is regulation justified?*

The economic characteristics of prescribed transmission services provide a strong case for benefits to be achieved through regulation. Absent regulation a service provider would be able to inefficiently increase price and reduce service quality.

Prescribed transmission services feature the economic characteristics of a natural monopoly. That is, there are substantial economies of scale and scope such that it is more (productively) efficient for one provider, rather than two or more, to provide the service. However, this restricts competition for a service and means a service provider will be conferred a significant degree of market power.

Unlike for negotiated transmission services there is limited, or no, countervailing market power associated with prescribed transmission services. Prescribed transmission services are ultimately for the benefit of millions of customers. These ultimate customers tend to be small and poorly resourced. As a result, they are often unable to provide a meaningful counterbalance to the market power afforded to the service provider.

4.3.3 *Form of regulation*

The form of regulation that is considered most appropriate for natural monopoly services, where there is limited counterbalance to the market power afforded to service providers, is a direct control form of regulation. On that basis, a direct price control, in the form of a total revenue cap set by the AER, is mandated for prescribed transmission services in Chapter 6A of the Rules.

The AEMC when developing the Rules noted the network externalities and market power associated with the provision of prescribed transmission services as the prime reason for price control being the appropriate form of regulation:⁴⁸

The Commission maintains the view that a revenue cap methodology using a building blocks approach is the appropriate form of regulation for prescribed transmission services at this stage of development of the NEM, given the extensive network externalities and potential market power associated with the shared transmission network. The specification of a revenue cap approach in the Revenue Rules provides consistency and certainty for TNSPs and their customers in the absence of a persuasive reason for making a change.

In addition, the services provided by prescribed transmission services tend to be to a standard level of service and for the benefit of the broader customer base. As a consequence, a detailed negotiation for each project would give risk to high transaction costs, and be unnecessary.

⁴⁷ Excluding Market Network Service Providers, such as Basslink .

⁴⁸ AEMC, *Rule Determination, National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*, 16 November 2006, p. 40.

5 Other issues

The purpose of this chapter is to address the two additional issues identified in Grid Australia's terms of reference for this report, namely:

- What are the issues associated with potential future access requests of non-regulated transmission services, and
- What is the feasibility of extending regulation to the construction of negotiated transmission services?

Each of these questions is addressed in turn.

5.1 Potential future access requests

We understand that one of the arguments that has been advanced for extending the reach of regulation with respect to non-regulated services is that there may be future market power problems. The proposition that, while the first customer may have multiple options when securing the original connection of the asset, it may make economic sense for a subsequent customer to use the assets that have been constructed in preference to constructing their own. As such, contestability options for the second customer are significantly constrained.

First and foremost it is important to recognise that the mere potential for a market power concern to exist in the future does not provide an argument for regulating upfront. The benefit of regulatory intervention in such a case arises only if and when a future user of the infrastructure emerges and seeks access. Thus, there is no clear case for regulation being imposed prior to that time.

Second, whether or not there is a substantial market power concern at that future date is a matter that needs to be assessed on the facts as they exist at the time. As the Federal Court observed in relation to the Pilbara Rail matter:⁴⁹

Whether "anyone" can be identified for whom the development of an alternative facility is economically feasible is a matter of looking at the facts of the market place. If an examination of the facts shows that there is such a person, whoever that might be, and whatever that person's circumstances, then regulatory interference in the interplay of market forces is not warranted, even if the regulator might make an evaluation that access would be a convenient course by which to achieve effective competition in another market.

Third, before introducing a regulated access regime to facilitate potential future third party access to non-regulated assets, it is important to recognise the perverse implications for investment that may be created. It is well known in the discussion of access regulation in Australia that the threat of a cost-based regime for access may discourage commercial parties from constructing facilities that are sized to meet possible future demand, or deter investment altogether. The reason for this is that any future regulatory intervention could flow through into the price that is paid by the foundation customer, and not building the spare capacity reduces this risk. In addition, where a provider takes the risk as to whether spare capacity will get used, then it will need a high return if it is successful in order to offset the potential to make a low return if the new load does not arrive. The threat of cost

⁴⁹ Pilbara Infrastructure Pty Ltd v Australian Competition Tribunal [2011] FCAFC 58, Para.86.

based regulation poses a risk that the high returns will not be permitted if the project is successful, but the losses will remain otherwise, thus undermining the economics of the project.⁵⁰

5.2 Feasibility of contestability of asset construction

Some submitters to the TFR have argued for part of the provision of a negotiated transmission service to be made contestable – namely, the construction of assets. For instance, TRUenergy indicated in its submission to the 1st Interim Report that it considers there are some real benefits to generators from being able to control the construction of a connection asset.⁵¹ This approach would allow customers to construct (and pay for) the assets required to provide negotiated transmission services themselves, while the relevant TNSP would be responsible for the ongoing operation and maintenance of relevant assets (and implicitly bearing the service delivery risk).

We consider there to be a number of shortcomings with the proposal to extend contestability to the construction of assets used to provide negotiated transmission services. However, before addressing the merits of the specific proposal, it worthwhile to note that there are both costs and benefits associated with extending the reach of contestability to utility sectors. The relevant question, therefore, is whether the cost efficiencies and innovation that are expected to come from competition outweigh the other costs it imposes.

With respect to the specific proposal to introduce contestability to the construction of negotiated transmission services we consider the following questions are relevant:

- Would contestability create substantial benefits?
- What are the potential costs of imposing contestability?

5.2.1 Would contestability create substantial benefits?

It is not clear that carving out the construction task would create material efficiency gains. We understand that all major works undertaken by TNSPs, including connection related works, are put out for competitive tender or a process for competitive provision. In addition, we understand that while TNSPs have internal ‘design’ teams, this is also a function that is commonly subject to competitive tender. As such, these are services that are already subject to competition. Through this competitive tendering process the efficient cost of providing the works can be revealed. On this basis, it is not obvious to us that parties other than TNSPs would be able to construct the assets at lower cost.

It is also not clear that contestability of the construction function would lead to a reduction in prices paid by network users. For negotiated transmission services a negotiating framework applies and a regulated fallback exists where customers consider prices are not cost reflective. Additionally, it is worth noting that price reductions in this respect would, for the large part, comprise transfers between participants rather than economic benefits in the form of increased welfare.

⁵⁰ This potential has been referred to as asymmetric truncation and has been described by the Productivity Commission at length in: Productivity Commission, 2004, Review of the Gas Access Regime – Inquiry Report, June, p.103.

⁵¹ TRUenergy, *Submission to TRF – First Interim Report*, 25 January 2012, p.8

We agree with the comments of TRUenergy that coordination of network connection and either generation or load facilities works is important. This coordination can be adequately managed, however, through well defined contracts that set out performance obligations and incentives on the provider of services. To that extent, it is not necessary for the connecting party to undertake the works themselves for coordination to be achieved.

5.2.2 *What are the potential costs of imposing contestability?*

While it appears the efficiency gains made through the contestable construction of assets for negotiated transmission services may be limited, there is scope for additional costs to be imposed.

Works at the connection point and deeper into the network for a transmission connection are significant projects. For instance, as identified previously, we understand that connecting a generator may require the TNSP to cut into the transmission network, change the angle of the towers and construct a new line between the towers and the connection point. While construction of the assets for negotiated transmission services would be contestable, the ongoing liability for network performance and service quality would need to remain with the TNSP. This circumstance could be expected to impose risk onto TNSPs.

The incentives of the contestable provider, however, are unlikely to be aligned with those of the TNSP with respect to service performance. Where a connecting party contracts for connection services within the boundary of the existing network, the contestable provider would not share the ongoing liabilities of the TNSP. This split of responsibility between construction of the asset from the ongoing service provision would create a perverse incentive for upfront costs to be minimised at the expense of ongoing cost or service delivery risk, which the TNSP would need to manage and 'regulate'.

Managing the service related risk of constable construction of assets for negotiated transmission services could also impose non-trivial transaction costs. For example, the TNSP will need to ensure that the proposed connection assets will meet the requirement of chapter 5 of the NER to ensure that other users are not left worse off because of the connection (i.e. system security). Given the bespoke nature of negotiated transmission services, we understand it would be difficult, if not impossible, for application of the obligations to be standardised. Instead, the TNSP would need to be directly involved throughout the process and act as a *de facto* regulator. This situation increases the chances of dispute and delays in the process. It is our understanding that a key in-principle concern of transmission customers is to ensure that connections are timely, but that this has not been a concern with the current arrangements in most jurisdictions. Therefore, arrangements that would introduce delays are likely to be undesirable.

The technical issues associated with negotiated transmission services would also suggest that the model proposed by the AER, namely, that a contestability model similar to one that operates for distribution networks in NSW could apply to transmission connections would be inappropriate.⁵² Connecting to a distribution network is considerably more straightforward than a transmission connection. As such, it is more amendable to standardised technical requirements, contrasting the situation for transmission as discussed above.

⁵² AER, *Submission to TFR – First Interim Report*, 27 January 2012, p.12.

We note that the Australian Energy Market Operator (AEMO) and the AER have each proposed alternative approaches to ‘regulating’ the technical requirements for a connection where construction is open to contestability.⁵³ The proposals centre on an independent party to oversee connection design and tendering. The AER also proposes a model of structural separation between a TNSPs regulated business and its connection business. Given our view that contestability in a framework that is different to what already occurs would be unlikely to introduce benefits, the proposals for independent oversight is likely to only introduce new costs without furthering the benefits obtained. Further to this, the proposals involve a large change to current responsibilities and roles for jurisdictions outside of Victoria. Making such changes could be expected to impose costs and risks onto the market.

⁵³ AER, *Submission to TFR – First Interim Report*, 27 January 2012, p.13, and AEMO, *Submission to TFR – First Interim Report*, 20 February 2012, p.37.

Appendices

Appendix A Rules framework for negotiated transmission services

34

Appendix A Framework for negotiated transmission services

The purpose of this Appendix is to set out the framework that exists to create a regime for negotiated transmission services in the NEM.

1 Rules framework

The basis for regulating the price of negotiated transmission services is the principles contained in section 6A.9.1 of the Rules. It is upon these principles that a TNSP's negotiating framework must be based and the AER's assessment of a proposed negotiating framework made. These principles require, amongst other things that:

- Prices should be based on the costs incurred and determined in accordance with the principles and policies set out in the cost allocation methodology for the TNSP.
- Subject to the arrangements for above or below standard services, the price should be at least equal to the avoided cost of providing the service but no more than the stand-alone cost.
- The price must be the same for all transmission network users unless there is a material difference in the costs of providing the service to different transmission network users.
- The price should enable a TNSP to recover the efficient costs of complying with all regulatory obligations or requirements associated with the provision of the service.

The negotiating principles also address matters related to terms and conditions. The key aspect of these principles is that terms and conditions should be fair and reasonable and have regard to the safe and reliable operation of the power system.

2 Requirements as part of a revenue determination

There are two aspects of the framework that are developed as part of a revenue determination. The first is the negotiating criteria developed by the AER for a TNSP and the second is the TNSP's own negotiating framework.

As part of a TNSP's revenue determination the AER is required to specify negotiated transmission service criteria. These are criteria that are to be applied by the TNSP in negotiating the terms and conditions of access for negotiated transmission services and any access charges which are negotiated. The criteria are also to be applied by a commercial arbitrator in resolving any disputes between a TNSP and prospective network user. The criteria must give effect to, and be consistent with, the negotiated transmission services principles identified above.

A TNSP's negotiating framework is a document setting out the procedure to be followed during negotiations for negotiated transmission services. There are nine

detailed requirements that a negotiating framework must specify, these include, amongst other things:

- A requirement for the provider to provide all such commercial information as a service applicant may reasonably require to enable the applicant to engage in effective negotiation, including cost information
- A requirement for the provider to identify and inform a service applicant of the reasonable costs of a service and to demonstrate that the charges for providing those services reflect those costs, and
- A reasonable period of time for commencing, progressing and finalising negotiations with a service applicant and a requirement that each party to the negotiation must use its reasonable endeavours to adhere to the time periods during the negotiations.

The AER is required to assess the TNSP's proposed negotiating framework as part of a revenue determination and assess whether it complies with the submission guidelines and the requirements of clause 6A.9.5 of the Rules. The AER is able to receive stakeholder comments on the proposed negotiating framework put forward by the business as part of the revenue determination process. Based on submissions, as well as its own analysis, the AER is to approve the proposed negotiating framework only where it determines that it meets the requirements of the Rules.

3 Commercial arbitration

Part K of Chapter 6A provides for the use of a commercial arbitrator should parties not be able to agree to price and terms and conditions in relation to the provision of negotiated transmission services. The commercial dispute resolution framework has the following major elements:

- either the prospective network service user (or actual network service user) or the service provider may commence a dispute;
- notification of a dispute is made to the AER;
- the AER may require the parties to the dispute to engage in mediation, conciliation or other alternative dispute resolution process;
- the commercial arbitrator's access determination must apply the Negotiated Transmission Service Criteria and have regard to the negotiating framework prepared by the TNSP; and
- the determination of the commercial arbitrator may specify a price or charge for a negotiated transmission service.

