

**CAPITAL CONTRIBUTIONS FOR NEW SOUTH WALES
ELECTRICITY DISTRIBUTION NETWORK SERVICE
PROVIDERS**

DRAFT REPORT

**INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES**

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ELECTRICITY DISTRIBUTION NETWORK SERVICE
PROVIDERS**

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Submissions

The Tribunal invites interested parties to submit comments on the proposed approach for capital contributions discussed in this report. Submissions must be made in writing and should be sent to the postal address, fax number or email address below by 23 November 2001. Where possible, submissions should be provided in a computer readable format (eg, word processor, PDF or spreadsheet) either on disk or by email.

Telephone enquiries should be directed to Michael Seery on (02) 9290 8421 or Craig Nalder on (02) 9290 8449.

Electricity Capital Contributions Draft Report
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1. INTRODUCTION

The Independent Pricing and Regulatory Tribunal of New South Wales (the Tribunal) proposes to make a determination that establishes a new framework for determining how much customers will be required to contribute towards the capital costs of connecting them to the electricity distribution network.¹ These capital costs include those related to establishing the connection itself and, in some cases, those of augmenting the capacity of the distribution network so it can meet the new demand created by the customer.

For many customers, the costs involved will be relatively small. However, the costs could be significant for those whose property is located a long way from the closest network connection point, and for those who will place a large load on the network.

The Tribunal's proposed approach includes a general rule that will apply to most customers, and two exceptions to that rule:

- The general rule is that a customer will pay for the direct costs of establishing the connection up to a defined point of connection to the network. These direct costs are those involved in providing and installing the lines and equipment that are dedicated solely to that customer. The distribution network service provider (DNSP) will pay for all other costs. These other costs are those incurred beyond the customer's point of connection.
- Exceptions to this rule are
 - customers who are connecting to parts of the network that serve a low number of customers relative to the length of the power lines (ie customers in rural and remote areas)
 - customers who, in connecting, require significant augmentation of the existing network.

These customers will pay for the direct costs of establishing the connection up to a defined point of connection to the network. They may be required to contribute also to the costs of upgrading network assets.

- DNSPs will be required to establish a reimbursement scheme that will enable customers in these exception categories to be reimbursed for some of the contributions they have paid for assets that, at some later stage, are used by other customers.
- All customers and DNSPs will have access to an independent dispute resolution process to resolve any disputes concerning capital contributions.

The Tribunal invites interested parties to comment on the proposal. Following consideration of submissions, the Tribunal expects to issue a final determination to apply from 1 July 2002.²

¹ Capital contributions apply only to customers who are either connecting a new property to the network, connecting a property that has not previously been connected, or expanding the capacity of their connection.

² Although the IPART Act usually requires the Tribunal to conduct a public hearing, the *Electricity Supply Amendment Act 2000* specifically states that this is not necessary for the initial determination. This recognises the substantial consultation that has occurred since 1998.

The rest of this report discusses the Tribunal's proposed determination and rationale in more detail:

- Chapter 2 sets out the background to the determination.
- Chapter 3 explains the key elements of the proposed approach to capital contributions in detail.
- Chapters 4 and 5 discuss the implications of the proposed determination for DNSPs and for customers.
- Chapter 6 sets out the proposed process for implementing, monitoring and reviewing the determination.

2. BACKGROUND

2.1 What is a capital contribution?

A capital contribution is a form of network price that is paid up-front rather than over time. This form of pricing is widely used as a means of recovering from individual customers the specific costs that their connection imposes on the network. Customers' allocated share of other network costs, both capital and operating, is recovered through the network usage charges they pay as part of their electricity bill.

Network connection costs are capital in nature. They are associated with the construction and installation of power lines and electrical equipment. The costs of connecting a new customer or expanding the connection capacity of an existing customer varies, depending on the customer's location and the availability of spare network capacity to serve the increased load they place on the network. In addition, some of these costs can be easily attributed to the individual customer, but others are more difficult to allocate because they occur further back in the shared network. Further, some of the new lines and equipment required may be used initially by one customer, but shared with other customers later as the network expands further.

Because the assets paid for by capital contributions have been funded directly by customers, they are excluded from the DNSPs' regulatory asset base. DNSPs are not entitled to receive a return on, or of, these contributed assets.

2.2 The current arrangements

The current framework for determining capital contributions was established by the Tribunal in 1996 and 1997 under the IPART Act.³ Under this framework:

- DNSPs are responsible for funding all shared assets on the network side of the point of customer connection.⁴ The point of customer connection is defined as the nearest point on the network capable of supporting that customer's load.
- Customers are responsible for the capital cost of all non-shared connection assets on their side of the point of connection. If it is known or expected that some assets will be shared with other unrelated customers, responsibility for the cost of those assets shifts to the DNSP.
- If a customer elects to proceed with a connection where more cost-effective options exist responsibility for the full cost of connection, including any network augmentation costs, shifts to the customer.⁵

³ Determination 10 of 1996 and Determination 5.4 of 1997. These determinations were made under section 11 of the IPART Act.

⁴ Customers may be required to fund augmentation where three conditions are met to the Tribunal's satisfaction:

- the costs are specific to an individual customer
- the costs are large in relation to the overall capital works program of the distributor
- the project can be shown to be persistently uneconomic.

There have been no cases of DNSPs using this option.

⁵ A more cost effective option may be, for example, small scale independent generation.

- Customers have the option of either retaining ownership of assets they have funded or handing them over to the DNSP. Ownership may bring with it significant legal obligations that may be onerous for customers to meet.

Note that these arrangements do not include a scheme for reimbursing customers for assets they have paid for that are later shared by other customers. The main reason for this is that the IPART Act provided the Tribunal with powers to determine the methodology for fixing maximum prices for capital contributions, but not the power to implement a reimbursement scheme.

In February 2000, the Tribunal's powers in relation to the NSW electricity industry changed. Since that time, it has been required to regulate NSW DNSPs under the National Electricity Code (the Code) rather than the IPART Act. However, because the Tribunal's power to regulate capital contributions under the Code was not clear, the NSW Government extended the 1996 determination until 1 July 2000.⁶ Although, the determination formally ceased to have effect from that date, the Tribunal has received undertakings from all DNSPs that they will continue to apply the determinations by voluntary agreement.

In December 2000, the Government amended the *Electricity Supply Act 1995*,⁷ and later the IPART Act to provide the Tribunal with powers to investigate and report on capital contributions and reimbursement schemes.⁸ The amendments also made compliance with the capital contributions determination a licence condition for DNSPs. Further amendments to the IPART Act provide the Tribunal with the power to report to the Minister on the determination of the proportion of costs that a DNSP may require new customers to contribute.⁹

The Tribunal notes that customers are able to choose whether the DNSP or an Accredited Service Provider (ASP) provides their connection services. Despite this, the Tribunal is aware that choice is not, in practice, available in all cases.

2.3 What principles should be used for capital contributions?

The Tribunal believes the principles it uses to determine capital contributions should be consistent with its approach to regulating other network prices, which is set out in its *Pricing Principles and Methodologies* (PPM). In summary, the PPM requires that network prices:

- **Reflect economic costs** by being subsidy free; having regard to the level of available capacity; signalling future investment costs; discouraging uneconomic bypass; and allowing negotiation to better reflect the economic costs of specific services.
- **Return the allowed revenue stream** while recovering the gap between marginal and average costs in the least distorting manner possible.
- **Promote equity, stability and consistency of outcomes** by having regard to the impact of price changes on customers; being transparent; and being based on published costs and methods.

⁶ See NSW Government Gazette dated 28 January 2000.

⁷ The amendments were made through the *Electricity Supply Amendment Act 2000*.

⁸ IPART Act cl 11(1)(3) and cl 14B.

⁹ *Statute Law (Miscellaneous Amendment) Act 2001*.

The Tribunal believes that the price signals customers receive through the costs they are required to pay for network connection play an important role in determining how efficiently the network develops. The demand for new or expanded connections drives a significant part of network investment.

DNSPs have argued that connection charges should include an up-front capital contribution that reflects the true costs of connection. This sends more efficient price signals to connecting customers and reduces cross-subsidies between customers with high and low connection costs. If capital contributions are not used, then connection costs must be recovered through network use of system charges.¹⁰ DNSPs argue that the variability in connection circumstances would lead to cases where the cost to the network of providing connection is under or over recovered from the network use of system charges that individual customers pay. If the costs of connection are hidden from the high-cost customer, cost-effective alternatives to connection (or expanded connection) at that location may not be considered. Cost shifting to customers with low connection costs will distort consumption and investment decisions.

However, the efficiency arguments for signalling costs to new users become problematic for shared assets. For the most efficient utilisation of the capacity, the principle is that if capacity is scarce the costs of rationing or expanding that capacity should be signalled to all users not just some.

2.4 The Tribunal's process for this developing this determination

The Tribunal has been examining the issue of capital contributions since its 1996 and 1997 determinations. In particular, it:

- established a capital contributions working group
- released a discussion paper and held a public forum to consider the working group's proposals
- engaged consultants to examine the impacts of the proposals.

2.4.1. Capital contributions working group

In 1998, the Tribunal established an electricity industry consultation group (EICG), with members drawn from DNSPs, retailers, large customers, consumer and community groups. In response to growing concerns from customers and DNSPs over the effect of the Tribunal's 1996 and 1997 determinations, the EICG formed a working group — the Capital Contributions Working Group (CCWG) — to look at capital contributions in January 1999.

¹⁰ Taken to include both fixed and variable charges.

The CCWG was asked to investigate the operation of the existing arrangements, and make recommendations to the Tribunal on a capital contributions scheme and the funding of new and expanded network connections. It submitted its initial report to the Tribunal in April 1999.¹¹ Later, the Capital Contributions Implementation Working Group (CCIWG) submitted proposed guidelines for implementing its recommendations.¹²

The working group proposed to expand the price signalling role played by capital contributions. To more accurately reflect the cost to the network of individual connections, it proposed that the scope of capital contributions be extended beyond the costs of non-shared connection assets to include shared network extension costs and some network augmentation costs.

The CCWG/CCIWG proposed to use an 'economic test' to determine the level of funding that the DNSP should provide. This test reflects future net revenues¹³ earned by the DNSP from the new customer connection. This revenue offset was termed a distributor contribution.

The working group also proposed to provide a reimbursement scheme, to allow customers who had contributed assets to receive a pro rata reimbursement of their costs from later connecting customers who used those assets.

2.4.2. Public consultation

In April 2000 the Tribunal issued a discussion paper that summarised the working group's proposed changes and the issues it had raised. In May 2000, it hosted a roundtable discussion where DNSPs, users and community groups considered the proposals.

The roundtable expressed broad support for an approach to capital contributions that would:

- fairly reflect the costs to the network of individual users' connection requirements
- take into account the revenue contributions that users already make through network charges
- not penalise users that contribute to network assets that are later shared with other users
- apply uniformly across the State
- be transparent and as simple as possible.

¹¹ Capital Contributions Working Group, *Report From The Capital Contributions Working Group To The Electricity Industry Consultation Group*, April 1999.

¹² Capital Contributions Implementation Working Group *Submission To The Electricity Industry Consultation Group Guidelines For Implementing The Recommendations Of The Capital Contributions Working Group Final Report*, March 2000.

¹³ Revenue less operating and maintenance costs.

2.4.3. Consultant's report

In March 2001, the Tribunal commissioned Meritec Limited (previously known as Worley International Limited) to assist it in developing a capital contributions framework. In particular, it asked Meritec to analyse a number of possible approaches based on the proposals developed by the working group. The Tribunal was particularly interested in the impacts on customers and DNSPs, and whether a sound basis could be established for determining the level of the distributor contribution.

Based on its analysis of data provided by the DNSPs and its own experience, Meritec concluded that:¹⁴

- the direct costs of connection specific to a customer are identifiable and should be funded by the customer
- it is conceptually difficult to link augmentation costs with specific connections; no robust basis for estimating connection-driven augmentation costs by customer category could be determined
- all connections grouped by customer category appear to be profitable except for some in rural areas;¹⁵ this raises the question of whether, using the economic test proposed by the working group, DNSPs should pay customers to connect rather than vice versa
- in exceptional circumstances, there are parts of the network where connection-specific costs can be particularly high; these will typically be in areas where, because the network is extended and load densities are low (indicated by a low load to line length ratio), the capability to add to connection capacity at reasonable cost will be reduced; in some cases connections in these areas will remain uneconomic unless funded by increased capital contributions
- persistently uneconomic lines are exceptions and should be treated as such; they do not provide a suitable basis for setting general rules.

Meritec recommended against extending capital contributions to include augmentation costs.¹⁶ It argued that in the large majority of cases, these costs are already, or should be, recovered through the current network charges. However, in parts of the network, indicated by low load to line length ratios, there is an increased likelihood of uneconomic connection. In these areas it would be reasonable to provide DNSPs with greater flexibility to recover connection-specific augmentation costs through capital contributions.

Meritec considered it unlikely that a general rule could be determined that would provide this flexibility while also dealing fairly with the large majority of cases. It recommended the use of a separate approach for parts of the network with low load to line length ratios in which greater scope for negotiation between the parties should be allowed. In contrast, the working group's proposal appeared to be more a case of the exceptions driving the general rule.

14 Meritec, *Report on Capital Contributions in the NSW Electricity Market*, September 2001.

15 That is, the net present value of the incremental future revenue stream is greater than the net present value of the incremental augmentation cost. This is on the basis that in all cases customers pay the direct costs of connection.

16 Meritec, *Report on Capital Contributions in the NSW Electricity Market*, September 2001.

In all cases Meritec recommended that customers pay the direct costs of connection, where these costs are determined by reference to a defined point of connection to the network.

2.5 Why the Tribunal decided not to adopt the Working Groups' proposed approach

The CCWG and the CCIWG took the view that for efficient pricing, the level of capital contribution a customer is required to pay up-front needs to take into account the full costs of connection, as well as the contribution to those costs the customer will make through the network usage charges they will pay over time.¹⁷ They proposed an approach under which customers would pay for the direct connection costs up-front, plus the costs of dedicated extensions to the network, and a proportion of shared asset costs. In addition, to take into account the contribution to shared asset costs they will pay through future usage charges, customers would receive a 'revenue offset' (or 'distributor contribution') from the DNSP. Customers would pay where the connection costs exceed the distributor contribution.

The Tribunal considered this approach carefully, and commissioned Meritec to examine its financial impacts. It concluded that the approach was not sufficiently robust or practical to be the basis for a general method of determining the level of capital contributions. As Meritec pointed out, the approach appears to be designed for the relatively small number of cases where large capital contributions are involved, rather the majority of cases. In addition, Meritec found that in most cases, the connections would be economic, ie the distributor contribution would be greater than the augmentation costs (see Table 4.1).

The Tribunal considers that new customers should pay their direct connection costs and, where these costs are high, the costs of any extensions and augmentation. However, the Tribunal wants to implement a framework that is simple in its application. For this reason, the Tribunal has not adopted the Working Groups' approach based on an economic test and a distributor contribution.

¹⁷ Electricity bills include network usage charges that are set to recover the DNSP's efficient costs of building and maintaining the electricity network.

3. KEY ELEMENTS OF THE PROPOSED APPROACH TO CAPITAL CONTRIBUTIONS

The Tribunal believes that any framework for determining how much customers contribute to the capital costs of connecting them to the electricity network must provide an economically efficient pricing signal to customers¹⁸ and be able to be applied consistently, equitably, and at acceptable administrative cost. Its proposed approach, therefore, is relatively simple and establishes clear guidelines for determining which assets the customer will pay for and which assets the DNSP will pay for.

The proposed approach reflects the Tribunal's belief that usage charges, not capital contributions, should be the primary form of price signal. It also takes into account the fact that connection costs vary widely, depending on the network conditions in the area the customer is located.

The key elements of the proposed approach—being the general rule, exceptions to the general rule, a reimbursement scheme, and dispute resolution arrangements—are described in detail below.

3.1 The general rule

The Tribunal proposes, as a general rule, that customers be required to pay a capital contribution equal to the direct costs of connection—that is, only the costs of providing and installing the lines and equipment up to a defined point of connection to the network. The DNSP will be required to pay for all other costs—that is, those incurred beyond the point of connection.

The point of connection is defined as the point on the network at which the use of assets changes from shared (used by more than one customer) to dedicated (used only by the customer being connected). In most cases, determining this point of connection will be fairly straightforward. In the following cases, however, additional guidance will be required:

- the connection is for a multi-tenanted or strata titled property
- the connection is for a multiple lot sub-division development
- where there is a possibility that assets initially dedicated to one customer may later be used by other customers.

The Tribunal's proposed approach to determining the connection point in each of these cases is described below (sections 3.1.1 - 3.1.3). For multi-tenanted and strata titled properties and multiple lot sub-divisions, the Tribunal considers that, in normal circumstances, the new property or sub-division would be in close proximity to the network to which it is connecting. For those cases where the actual connection point is remote from the property, or development, the DNSP should examine the potential for later use of the assets by other customers as discussed in section 3.1.3.

¹⁸ That is, reflect the true costs involved in connection to the network, and thus appropriate incentives for customers to consider other options that may be more cost-effective, such as purchasing standalone generators.

However, in all cases, the provision and installation of dedicated assets will be fully contestable and so will not be subject to regulation by the Tribunal. Customers may elect to retain ownership of these assets, but they should be aware that they may incur significant legal and other obligations by doing so.

3.1.1. Multi-tenanted and strata titled properties

In multi-tenanted and strata titled properties (such as shopping malls and high-rise buildings), end-user electricity customers are connected to low voltage reticulation assets that are located within the general property boundary. These assets are built into the property at the time that it is developed. It could be argued that a connection point should be defined for each end-user. This would mean that the DNSP is responsible for funding and installing the low voltage reticulation wiring within these privately owned properties.

The Tribunal's proposed approach, however, is to treat the property as a single entity to be connected to the network. Thus the connection point will be at or close to the general property boundary, and the developer will have responsibility for funding and installing the internal reticulation assets. Ownership and management of these assets will be a matter for the developer or property owner to determine.

The DNSP will be responsible for the cost of transformers and high voltage assets.

In some circumstances, the substation assets required to connect the property to the network may have surplus capacity and thus provide service to other parts of the network. Where the proportion available for other service is large (that is, greater than 50 per cent of capacity), the asset should reasonably be regarded as part of the shared network and funded by the DNSP. Where the proportion available for other service is below 50 per cent, the Tribunal proposes that the costs of these assets will be shared between the developer and the DNSP on a pro rata basis.

3.1.2. Multiple lot sub-division developments

In many cases, residential, commercial and industrial multiple lot sub-division developments compete in the property market with multi-tenanted and strata titled properties. To ensure neutral treatment, a similar approach should be taken for both forms of development.

Therefore, the Tribunal proposes that multiple lot sub-division developments be treated as single entities to be connected to the DNSP's network. Thus the connection point will be located at the boundary between the low voltage reticulation assets required within the development and the DNSP's high voltage network. Responsibility for funding the low voltage reticulation assets and required substations (excluding transformers and high voltage assets) will lie with the developer. This outcome is comparable with that for multi-tenanted and strata titled properties.

The developer will have the option of retaining ownership of the assets and operating them as an inset network, or selling them to another party, or arranging their transfer to the DNSP. In making this decision, the developer should be aware of the significant legal and safety obligations placed on inset network owners.

3.1.3. Dedicated assets that may later be used by other customers

Under the general rule, the connection point is set at the point on the network where the use of assets changes from shared to dedicated. However, this point may change at some time in the future, as the network expands and additional customers connect. This means that a customer may pay for dedicated assets that are later shared with other customers.

The Tribunal proposes that when this occurs, and the customer is in a rural area, or has a large load, he or she will be reimbursed through the scheme described in section 3.3. This reimbursement scheme will allow the cost of contributed assets to be shared on an equitable basis between customers that connect at different times.

Because reimbursement schemes can be costly and difficult to administer when applied on a large scale, the Tribunal proposes to limit the reimbursement scheme to rural and large load customers. Instead, the Tribunal expects the DNSP to take into account the potential for further network expansion in the customer's locality in the medium term (for example, 5 to 10 years) when it sets the connection point. This would involve, for example, considering the availability of land for development, as well as trends in the direction and rate of network expansion.

This approach favours locating the connection point close to the customer, and should make a general reimbursement scheme unnecessary. If agreement cannot be reached on the location of the connection point, either party may take the matter to dispute resolution (described in section 3.4).

3.2 The exceptions to the General Rule

The Tribunal recognises that there are parts of the network, primarily in rural and remote areas, where the extended length of lines and low network density increase the possibility of substantial augmentation costs arising from specific connections (rural customers). It is both inequitable and economically inefficient to pass on to other customers the costs of connections that will be substantially and persistently uneconomic. Further, a new customer may place an additional load on the existing network requiring substantial augmentation of the existing network (large load customers)

In these circumstances, the Tribunal believes it is reasonable that customers seeking such connections (and who will benefit from them) should be required to pay some of the additional costs they impose on the network. Therefore, in these instances of higher augmentation costs, the Tribunal proposes that customers connecting to the network should contribute to the cost of network augmentation assets. Because the network augmentation required will vary from case to case, a general rule for allocating these costs between the customer and the DNSP is unlikely to prove satisfactory. The customers who may be liable for augmentation costs are defined in section 3.2.1.

These customers will be required to pay for all dedicated connection assets, as set out in section 3.1, above. If the connection point is located so that some of the contributed assets are eventually shared by other customers connecting at a later time, customers will be reimbursed through the scheme described in section 3.3.

Like all customers, these will have the option of retaining ownership of contributed assets on their side of the connection point. However, ownership of contributed assets that lie on the network side of the connection point will reside with the DNSP.

To ensure that the size of capital contribution towards the cost of network augmentation is determined in a fair and equitable way, the Tribunal proposes the following principles and procedures will apply:

- augmentation assets will be the economic optimum size required given the customer's connection capacity and expected growth in other loads
- augmentation costs will be allocated using the ratio of the expected load of the new customer to the additional 'nameplate' capacity of the elements augmented
- customers will be offered access to a reimbursement scheme that will allow equitable recoupment of costs from customers who connect at a later date and make use of the contributed network augmentation assets.

In the event of disagreement about the size of the capital contribution, both parties will have access to dispute resolution (see section 3.4).

Further, for customers with large loads, the Tribunal proposes that the customer and the DNSP should be able to negotiate the terms of connection—including what capital contribution to network augmentation costs the customer must pay up-front (if any), as well as their on-going network usage charges.

In some cases, the size of this contribution will mean that alternatives to connection, such as standalone generators or renewal energy systems, may be more cost-effective. This is a choice for the customer to make. If a customer elects to proceed with a connection where more cost-effective options exist the customer will be responsible for the full cost of connection, including any network augmentation costs.

3.2.1. Defining customers subject to augmentation costs

The Tribunal considers that the definition of both a rural customer and large load customer is important to the successful implementation of the capital contributions framework. In the draft determination, the Tribunal has adopted the following definitions:

- Rural customer — is a customer in those parts of the network where the 'after diversity maximum demand' per kilometre of line is less than 300 kVA.
- Large load Customer — customer whose expected demand for electricity is such that the customer would require more than 50 per cent of the capacity of the existing network to be augmented.

The Tribunal seeks comment on the practical implementation of these definitions and whether any alternative definitions would be more appropriate.

3.3 Reimbursement schemes

The Tribunal proposes to require DNSPs to establish and administer reimbursement schemes for customers that make capital contributions for connections in rural or large loads. Reimbursement schemes are provided for under section 25(2) of the Electricity Supply Act.

These reimbursement schemes will:

- be available to all rural customers or customers with large loads that request new or expanded connections and customers connecting at a later date who use some, or all, of those assets
- allocate costs (of extension and augmentation) between contributing customers according to their offtake capacity from the assets in question
- limit the allocated costs at the amount of the original capital contribution
- limit the period over which reimbursements may be offered to 10 years.

The DNSP's administration costs will be treated as a corporate overhead. DNSPs will not be permitted to levy a fee for participation in the scheme.

The Tribunal is aware that much of the connection work may be contestable and information disclosure may be an issue. Therefore, the Tribunal has provided in the draft determination that the DNSP is to use its own quote, or if no quote, an estimate of costs, as the basis for determining the amount to be reimbursed.

Although, previously the *Electricity Supply Act 1995* had limited the period over which reimbursements may be offered to a period of 6 years, there is currently no limitation. The Tribunal believes that reimbursement schemes would become impractical to administer if reimbursements were to apply without limitation. The Tribunal has decided to place a time limit of 10 years on reimbursements.

In addition, the Tribunal considers that the reimbursement schemes should have the following features:

- The DNSP is responsible for ensuring that later connecting customers reimburse the original contributor.
- The reimbursement is made to the original contributor, who is responsible for advising the DNSP of any changes of address.
- The reimbursement is to be calculated pro-rata on expected capacity.
- The amount of the reimbursement is to be indexed by CPI.
- The Scheme is to apply to all new connections irrespective of whether a customer had contributed to assets prior to current determination.

3.4 Dispute resolution

All customers and DNSPs will have access to a dispute resolution process for resolving disputes concerning the level of capital contributions. The Tribunal proposes that:

- disputes in relation to capital contributions of up to \$20,000 (or, if the DNSP agrees, up to \$50,000) will be referred to the Energy and Water Ombudsman of NSW (EWON)
- disputes in relation to capital contributions of more than this amount will be referred to one of a panel of independent experts.

4. IMPLICATIONS FOR DNSPS

The Tribunal’s proposed determination on capital contributions has several implications for DNSPs. These include financial impacts, new obligations to negotiate with customers in higher network cost zones, and increased likelihood that inset networks will develop within their service area.

4.1 Financial impacts

Overall, the Tribunal does not expect that the proposed determination will have significant financial impacts for DNSPs due to its similarity to the current approach. Its specific impact on costs related to network augmentation, uneconomic connections and reimbursement schemes are discussed below.

4.1.1. Augmentation costs

Under the proposed determination, for the majority of customer connections, DNSPs will not be able to recover the cost of network augmentation from capital contributions. This is appropriate since, as Table 4.1 shows, in most cases these costs are already adequately covered by the revenues received from network charges. If these costs were also recovered through capital contributions, a commensurate reduction in general charges would be required to avoid a double recovery of costs.

Table 4.1 Contribution of tariff revenues to augmentation costs

Connection Type	NPV of Revenues less Augmentation Costs (\$)
Urban residential overhead	475
Urban residential underground	475
Urban res. 3-phase overhead	712
Urban res. 3-phase underground	712
Urban res. subdivision (per house)	594
Commercial and industrial	Variable
Rural single phase	(2,146)

Source: Meritec report, p 11.

The proposed determination is expected to have a minimal impact on asset funding in most cases, and therefore on DNSP capital expenditures.

4.1.2. Uneconomic connections

The definition of higher cost network zones in which customers may be required to make a capital contribution towards network augmentation costs will substantially reduce DNSPs’ exposures to the risk of uneconomic connections in rural and remote locations. The magnitude of this risk and its implications for network pricing have been major factors cited by DNSPs in their requests for a review of capital contributions.

4.1.3. Reimbursement schemes

DNSPs will be required to establish and administer reimbursement schemes for customers that connect in rural areas or that have large loads. This will impose some additional operating costs. DNSPs will be expected to meet any cost increases from within their existing revenue caps during the current regulatory period. At the next regulatory review, the Tribunal will consider the level of costs and the appropriate funding mechanisms.

4.2 New obligation to negotiate

A key question for the Tribunal has been the extent to which it should allow scope for negotiation or set prescriptive rules. The evidence clearly indicates that there will be parts of the network where a prescriptive approach generally applied would lead to significant mismatching of costs and benefits. On the other hand, the Tribunal is keenly aware that genuine negotiation may be difficult for some customers, given the dominant position that DNSPs hold in their relationship with customers.

In the proposed approach to capital contributions for connections in rural areas and for large loads the Tribunal has opted for a more flexible negotiated approach that recognises the variation in circumstances that typically occur. This will lead to improved outcomes—provided that DNSPs do not abuse their dominant position. This will be particularly important when it comes to identifying and allocating augmentation costs. The Tribunal has set some broad principles to guide this process, however, the proposed approach will still leave considerable room for the DNSPs to exercise their judgement.

Customers will have recourse to dispute resolution, as described in section 3.4. In addition, the Tribunal intends to closely follow the manner in which the determination is implemented, in conjunction with monitoring price and services levels under the PPM framework. Further, it will undertake a more complete assessment as part of the next regulatory review.

5. IMPLICATIONS FOR CUSTOMERS

In general, the proposed approach should result in little change in the level of capital contributions most customers are required to pay. The Tribunal's analysis indicates that the proposed general rule will produce financial outcomes that are similar to those produced by the existing policies. The proposed approach may also result in some benefits. The more cost reflective treatment of some connections should enable general network charges to be reduced. In addition, customers will benefit from having the position of the parties clarified and from gaining access to a dispute resolution process.

The proposed approach also some specific implications for rural customers or customers who have large loads and for contributed assets, which are discussed below.

5.1 Rural customers and large load customers

By extending capital contributions to include augmentation costs (where relevant), the proposed approach will result in increased connection costs for some customers. In some cases, these costs will be high enough to warrant reconsidering their choice of location, or consider the alternatives to network connection, including small scale standalone generation and alternative energy sources.

All customers in these areas will have access to a reimbursement scheme to be provided by their DNSP. This will enable a more equitable sharing of the costs of contributed assets between original and later connecting customers.

5.2 Contributed assets

5.2.1. Contestability

The provision of contributed assets, including augmentation assets where relevant, will be fully contestable at the discretion of the customer. The customer will have the option of selecting their preferred contractor, provided that contractor meets relevant industry accreditation requirements.

5.2.2. Specification

Where the contributed assets are for network augmentation (that is, the assets lie on the DNSP's side of the connection point), the DNSP will determine all relevant technical specifications. Where the assets lie on the customer's side of the connection point, the customer has the right to determine asset specifications (other than those determined by or in accordance with technical and safety regulation). For example, developers of residential sub-divisions will be able to choose between underground or overhead low voltage reticulation lines.

5.2.3. Ownership

Ownership of contributed assets that lie on the customer's side of the connection point will be at the customer's discretion. The customer may negotiate their transfer to the DNSP, retain them or transfer them to another party. In some cases, the contributed assets may be capable of operating as an inset network—for example, low voltage reticulation assets in multiple lot sub-divisions. However, there are significant legal and other obligations associated with the ownership and operation of such facilities that would need to be carefully considered by the customer.

6. IMPLEMENTING THE DETERMINATION

6.1 Proposed commencement

The Tribunal proposes to apply the determination with effect from 1 July 2002.

6.2 Financial adjustments

The Tribunal considers that, in most cases under this proposed approach, the DNSPs would be funding the same assets as now. Therefore, the financial impact on DNSPs and customers is minimal.

The Tribunal does not propose to make any adjustments to the terms of the current revenue determination. At the next regulatory review (in 2004), the Tribunal will consider whether it should specifically consider the financial impacts of this determination on the DNSPs.

6.3 Relationship to the PPM

As the Jurisdictional Regulator for New South Wales, the Tribunal is responsible under the provisions of the National Electricity Code (the Code) for regulating the prices charged by DNSPs within the State. The Tribunal has taken the opportunity provided by the Code to develop the Pricing Principles and Methodologies¹⁹ (the PPM) as an alternative pricing methodology to the approach set out in the Code.²⁰

The *Electricity Supply Amendment Act* provides the Tribunal with powers to be exercised under the IPART Act to set the proportions of capital contributions provided by connecting network users. This determination will therefore be made under the provisions of the IPART Act. However—both for ease of access and in recognition of the close relationship between capital contributions and network prices—the specific requirements that the determination places on DNSPs will be incorporated within the PPM.

6.4 Monitoring and reporting

The monitoring and reporting of actions and outcomes relating to this determination will be incorporated within the price and service reporting requirements set out in the PPM. DNSPs will be required to include information on capital contributions in their annual Price and Service Reports. These information requirements will be added to the relevant PPM schedule.

The Tribunal will include capital contributions within its annual review of the DNSP price and service outcomes.

¹⁹ IPART, *Pricing Principles and Methodologies for Prescribed Electricity Distribution Services*, March 2001.

²⁰ National Electricity Code, Chapter 6, Part E.

6.5 2004 regulatory review

The Tribunal will take the opportunity provided by the next regulatory review in 2004 to undertake a full assessment of impact of this determination, with particular regard to the operation of the negotiation provisions.



INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

Draft Determination

Under Section 11(3) of the Independent Pricing and Regulatory Tribunal Act 1992

Capital Contributions and Repayments for Connection to Electricity Distribution Networks

EXPLANATORY PREAMBLE

Under section 25 of the *Electricity Supply Act 1995 (NSW)*, a distribution network service provider (DNSP) may require a new customer to contribute towards the costs of extending or increasing the capacity of the distribution system. A DNSP may also require further new customers to contribute towards those costs, and may apply the whole or any part of the contributions received from those customers to the repayment of existing customers who have previously contributed towards those costs.

Section 11(3) of the *Independent Pricing and Regulatory Tribunal Act 1992 (NSW)* allows the Independent Pricing and Regulatory Tribunal (IPART) to conduct investigations and make reports to the Minister on certain matters under section 25 of the *Electricity Supply Act 1995 (NSW)*. Under sections 25(3) and (3A) of the *Electricity Supply Act 1995 (NSW)*, it is a condition of a DNSP's licence that it comply with any IPART determination relating to the proportion of contributions that may be required from customers or the repayment of existing customers.

This document sets out a framework for determining those assets that should be paid for by customers, and the implementation of a reimbursement scheme. In general terms, this determination is based on the principle that customers should be responsible for paying for the cost of assets up to the point where the use of those assets changes from dedicated to that customer, to shared among customers generally. In some circumstances, such as in rural areas, some assets may still be considered to be 'dedicated' if they are shared exclusively by one or more customers.

Operative Provisions

1. Commencement

This determination commences on [insert date in 2002 on which this determination commences].

2. Application

This determination applies to all Distribution Network Service Providers to which the *Electricity Supply Act 1995 (NSW)* applies.

3. Repeals

IPART Determinations No 10. 1996 and No. 5.4 1997, to the extent that they may still be operative, are repealed from the commencement of this determination.

All requests previously made by IPART to DNSPs on an individual basis with respect to voluntary arrangements for capital contributions for connection to networks are withdrawn from the commencement of this determination.

4. Schedules

Schedules 1, 2 and 3 apply.

5. Definitions

Terms used in this determination are defined in the Dictionary.

6. Savings and transitional provisions

- (1) Nothing in this determination affects the operation of clause 35(1) of Part 4 of Schedule 6 to the *Electricity Supply Act 1995 (NSW)*.
- (2) The Far West Electrification Scheme is exempt from the application of this determination (other than this clause 5(2)) until the end of 30 June 2005. Until that time, customers applying for connection to that Scheme will continue to pay for infrastructure costs in accordance with that Scheme.

7. Review

This determination will apply until replaced or amended by IPART from time to time.

Chairman

[date]

SCHEDULE 1 CAPITAL CONTRIBUTIONS

1. Connection works

- (1) A DNSP may require that a new customer procure and fund new connection works specified by the DNSP, in accordance with this determination.
- (2) A new customer may also be obliged to make reimbursements (for connection works that another customer has funded), in accordance with Schedule 2.

2. Excluded connection works

A DNSP must at its own cost fund excluded connection works.

3. Network augmentations

- (1) A DNSP must at its own cost fund network augmentations, except as specified in this determination.
- (2) A DNSP may require that a rural customer or a large load customer procure and fund network augmentations specified by the DNSP in accordance with this determination.
- (3) A rural customer or large load customer may also be obliged to make reimbursements (for network augmentations that another customer has funded), in accordance with Schedule 2.

4. Economic optimum size of connection works and network augmentations

The new connection works which a new customer must procure and fund under clause 1(1) of this Schedule, and the network augmentations which a customer must procure and fund under clause 3(2) of this Schedule, must be the economic optimum size required given the customer's connection capacity, other loads and the expected growth in other loads.

5. Contestable works

Where a new customer is by this Schedule required to procure and fund connection works or network augmentations specified by the DNSP, the new customer may do this by engaging either the DNSP or an ASP (at the new customer's option) to construct those works, in accordance with section 31 of the *Electricity Supply Act 1995 (NSW)*.

6. Manner of capital contributions

Where a large load customer engages a DNSP to provide network augmentations which the customer is liable to procure and fund under clause 3(2) of this Schedule, the large load customer may negotiate with the DNSP to pay for these as an increased use of system charge spread over a period of time. This option is not open to any other customers.

SCHEDULE 2 REIMBURSEMENT SCHEME

1. Application of Schedule – rural and large load customers

This Schedule applies only to rural customers and large load customers. A DNSP may not establish and administer a reimbursement scheme for any other customers without the prior approval of the Tribunal.

2. Establish and administer scheme

A DNSP must establish and administer a reimbursement scheme in accordance with this Schedule. A DNSP must not charge its customers for any of its costs in establishing or administering the reimbursement scheme.

3. Contributions by further new customers towards connection works or network augmentations

Where:

- (a) a customer (the **original customer**) has procured and funded, or become liable to procure and fund:
 - (i) new connection works under clause 1(1) of Schedule 1; or
 - (ii) network augmentations under clause 3(2) of Schedule 1; and
- (b) within 10 years of the date of the original customer's application for customer connection services with respect to the works referred to in clause 3(a) of this Schedule, a new customer then requests customer connection services from the DNSP; and
- (c) in order to provide those customer connection services to the new customer, the DNSP will use all or any part of the works referred to in clause 3(a) of this Schedule,

then the new customer is liable, in addition to paying for any new connection works or network augmentations applicable solely to that new customer, to pay the DNSP a proportion of the costs of the works referred to in clause 3(c) of this Schedule (regardless of whether the works were completed before or after the commencement of this determination) that are actually used by the DNSP in providing customer connection services to the new customer ("**shared works**"), calculated by the following formula:

$$\frac{\text{New customer's load}}{\text{Capacity of shared works}} \quad \times \quad \text{Cost of shared works} \quad \times \quad \frac{\text{CPI}(2)}{\text{CPI}(1)}$$

where:

Capacity of shared works means the total capacity of the shared works;

Cost of shared works means:

- (a) where the DNSP carried out the shared works, the actual cost of those works; and
- (b) where an ASP carried out the shared works, the amount that the DNSP would have charged to carry out those works;

CPI(1) means the average of the consumer price indices (All Groups, All Capital Cities), published by the Australian Bureau of Statistics, for the previous 4 quarters immediately prior to the date that the shared works are completed;

CPI(2) means the average of the consumer price indices (All Groups, All Capital Cities), published by the Australian Bureau of Statistics, for the previous 4 quarters immediately prior to date of the new customer's application for customer connection services; and

New customer's load means the new customer's expected load, as specified in its application for customer connection services.

4. Reimbursements

Where a new customer pays to a DNSP an amount under clause 3 of this Schedule, the DNSP must, as soon as practicable after receiving that amount, repay that amount to the original customer.

5. Obligation to notify

A DNSP must notify all new customers who apply to the DNSP for customer connection services and who may be obliged to make reimbursements, and all ASPs known to the DNSP who are likely to have customers who will so apply, of the existence of the reimbursement scheme and that connecting customers may be obliged to contribute towards reimbursement.

6. Change of address

A DNSP must notify all customers who may be entitled to reimbursements under this Schedule that if they move premises, it is that customer's responsibility to inform the DNSP of its new address, for the purpose of receiving further payments.

SCHEDULE 3 DISPUTE RESOLUTION

In the event of a dispute arising between a DNSP and a customer in relation to any matter arising out of this determination, such dispute will be dealt with in the following manner:

- (a) Disputes of up to \$20,000 (or if the DNSP agrees, up to \$50,000) will be referred to the Energy and Water Ombudsman of NSW to be dealt with in accordance with its rules and procedures.
- (b) Disputes of a greater amount, or if the parties cannot agree on the quantum of the dispute, will be finally resolved by expert determination, by an expert of the customer's choice selected from an independent panel. The costs of the expert determination (including the fees and expenses of the expert) will be as determined by the expert.

DICTIONARY

The following terms have the meaning given to them in the *Electricity Supply Act 1995 (NSW)*:

- **customer**
- **customer connection services**
- **distribution network service provider**
- **new customer** (as defined in section 25)
- **premises.**

Other terms are defined as follows:

ASP means an accredited service provider, being a person accredited under Part 10 of the *Electricity Supply (General) Regulation 2001 (NSW)*.

connection works are those works which, upon construction:

- (a) enable the DNSP to provide customer connection services; and
- (b) form part of the network on the side of the linkage point where the works are dedicated to one or more customers. "**DNBP**" means a distribution network service provider.

excluded connection works are, in the case of multi-occupant developments, high voltage extension lines into the development and associated transformers.

IPART means the Independent Pricing and Regulatory Tribunal established under the *Independent Pricing and Regulatory Tribunal Act 1992 (NSW)*.

large load customer means a new customer whose expected load (as specified in its application for customer connection services that will require network augmentations) is more than 50 per cent of the nameplate capacity of any existing asset that is to be augmented, as those assets exist immediately before the DNSP makes its final decision on the customer's application.

linkage point means a point on a network at which the use of assets changes from being dedicated to one or more customers, to being shared among customers generally. For this purpose, assets are considered to be dedicated to one or more customers only if they are:

- (a) used by one customer exclusively, or
- (b) connection works shared by more than one customer, in circumstances where a customer has reimbursed, or is liable to reimburse, another customer for all or part of the cost of those works, under clause 3 of Schedule 2.

network means an electricity distribution network.

network augmentations are those works required to be constructed on a network in order for the DNSP to provide those customer connection services requested by a new customer (whether the customer's request is made before or after the commencement of this determination), on the side of the linkage point where the works are shared among customers generally, but not including excluded connection works.

new connection works, in relation to a new customer, are those connection works requested by that new customer, and which are either:

- (a) in the case of new connections, to connect the customer's premises to the existing network; or
- (b) in the case of existing connections, upgrades to:
 - (i) existing connection works of that customer; or
 - (ii) existing connection works shared by more than one customer, in circumstances where a customer has reimbursed, or is liable to reimburse, another customer for all, or part, of the costs of those works, under clause 3 of Schedule 2.

rural customer means a new customer whose premises the subject of its application for its customer connection services are connected or will connect into a rural network.

rural network means that part of a network where the density is less than 0.3MVA/km.