CAPITAL CONTRIBUTIONS AND REPAYMENTS FOR CONNECTIONS TO ELECTRICITY DISTRIBUTION NETWORKS IN NEW SOUTH WALES

FINAL REPORT
INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

CAPITAL CONTRIBUTIONS AND REPAYMENTS FOR
CONNECTIONS TO ELECTRICITY DISTRIBUTION
NETWORKS IN NEW SOUTH WALES

FINAL REPORT

Determination No 1 2002

April 2002
1. INTRODUCTION

In this determination, the Independent Pricing and Regulatory Tribunal of New South Wales (the Tribunal) establishes a framework for determining how much customers will be required to contribute towards the capital costs of connecting them to the electricity distribution network. The Tribunal has made this determination under Section 11(3) of the Independent Pricing and Regulatory Act 1992 (the IPART Act).

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 in connecting 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 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 to that customer. The distribution network service provider (DNSP) will pay for all other costs.

- Exceptions to this rule are customers in rural areas and large load customers. As well as paying connection costs, these customers may be required to contribute to the costs of upgrading network assets (augmentation).

- DNSPs will be required to establish a reimbursement scheme that will enable property owners 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 a dispute resolution process to resolve any disputes concerning capital contributions.

The determination will apply from 1 July 2002.

This report discusses the Tribunal's proposed determination 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.
- Chapters 4 sets out the proposed process for implementing, monitoring and reviewing the determination.

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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. BACKGROUND

2.1 What is a capital contribution?
A capital contribution is a 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. DNSPs recover customers’ allocated share of other network costs, both capital and operating, through the network usage charges customers 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.

The Tribunal notes that, 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. However, as DNSPs take ownership of these assets they must maintain them. DNSPs recover maintenance costs through network tariffs.

2.2 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.

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.\(^2\) If capital contributions are not used, then connection costs must be recovered through network use of system charges.\(^3\) 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 are weak for existing 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.

### 2.3 Draft report and determination

In October 2001, the Tribunal released a draft report and determination. The Tribunal sought submissions on the draft determination. While submissions were due to close on 23 November 2001, the DNSPs sought an extension until the middle of January 2002.

EnergyAustralia, Integral Energy and Country Energy made a joint submission. Four other groups made submissions and EnergyAustralia made a supplementary submission. Attachment 1 lists the submissions.

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\(^3\) Taken to include both fixed and variable charges.
3. KEY ELEMENTS OF THE APPROACH TO CAPITAL CONTRIBUTIONS AND REPAYMENTS

The Tribunal believes that any framework for determining how much customers contribute to the capital costs of connecting them to the electricity network should provide an economically efficient pricing signal to customers and treat customers equitably. It should be able to be applied consistently and at acceptable administrative cost. In using the term ‘efficient pricing signals’, the Tribunal intends that prices reflect the true costs involved in connecting to the network, and thus appropriate incentives for customers to consider other options that may be more cost-effective, such as purchasing standalone generators.

The Tribunal’s 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 approach 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 approach—being the general rule, exceptions to the general rule, a reimbursement scheme, and dispute resolution arrangements—are described below.

Overall, the Tribunal does not expect that the determination will have significantly different financial impacts either for DN SPs or customers due to its similarity to the current approach. However, the introduction of a reimbursement scheme will mean that rural and large load customers who fund a connection would be reimbursed as further new customers connect to these assets.

3.1 The general rule

As a general rule, customers will pay the costs of providing and installing the lines and equipment up to a defined point of connection to the network (ie connection costs). The DNSP will be required to pay for all other costs—that is, those incurred beyond the point of connection (ie augmentation costs).

A critical issue is identifying the point of connection (the determination refers to this as the linkage point). The Tribunal has defined this linkage point as the point on the network at which the use of assets changes from shared among customers generally to dedicated to one or more customers. The Tribunal notes that in most cases, determining this linkage point will be fairly straightforward. In the following cases, however, additional guidance will be required:

• the connection is for a multi-occupant development, for example a multiple-lot development

• where there is a possibility that assets which are initially dedicated (to one customer or more customers) may later be used by other customers generally.

The following sections discuss how the Tribunal has dealt with these issues in the final determination.

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4 In the cases of multi-occupant developments guidance is necessary as the point at which assets change from dedicated to shared is confused by the high voltage lines and assets.
3.1.1. Multi-occupant developments

The Tribunal has determined that for multi-occupant developments the developer is to be considered as a single customer. The developer should pay for all low voltage (LV) assets dedicated to the development. The developer should also pay for any high voltage (HV) assets required to connect that development unless those assets:

- are likely to be shared with other customers outside the development, or
- are capable of being relocated to serve another customer if they were no longer needed.

In these circumstances DNSPs should pay for the HV assets.

In the draft determination, the Tribunal placed the burden of funding HV assets on the DNSP. The DNSPs responded by stating:

The developer should fully contribute dedicated high voltage assets that do not have the potential to be shared supplying multi-tenanted, residential, commercial and industrial developments in the same manner as the low voltage assets both within and external to the development.\(^6\)

Further, the Tribunal notes the DNSPs’ comments:

The NSW DNSPs support the Tribunal’s proposal requiring the developer of multiple-lot residential, commercial and industrial subdivisions located in urban to fund the low voltage reticulation assets and the required substations... The NSW DNSPs would fund the transformers, which are a recoverable element, and the high voltage assets where it is expected that the high voltage assets would be shared by more than one subdivision or other development. Otherwise the developer should fund the HV connection.\(^7\)

The Tribunal recognises that its proposed approach was inconsistent with the general rule that customers pay for dedicated assets. The Tribunal notes also that the DNSPs commented that this would lead to an increase in capital expenditure.\(^8\)

In the final determination, the Tribunal has determined that the developer should fund dedicated high voltage assets that do not have the potential to be shared, or once provided, are unsuitable for relocation to supply other customers. That is, if assets are used exclusively by the development then the developer should fund the assets.

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

The Tribunal has determined that in setting the linkage point, DNSPs should consider the potential for further network expansion in the medium term.

Under the general rule where customers pay for dedicated assets, the linkage 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

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\(^5\) Multi-occupant developments include multi-tenanted and strata titled properties and multiple lot subdivisions.


\(^7\) ibid, p 9.

\(^8\) ibid, p 6.
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.

The Tribunal proposes to limit the reimbursement scheme to rural and large load customers. In other cases, 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 the DNSP sets the connection point. For example, this would involve considering the availability of land for development, council zoning, as well as trends in the direction and rate of network expansion.

This approach favours locating the linkage point close to the customer, and should make a general reimbursement scheme unnecessary. If agreement cannot be reached on the location of the linkage point, or whether there is potential for further network expansion, either party may take the matter to dispute resolution (described in section 3.4).

3.2 The exceptions to the general rule

The Tribunal has determined two exceptions to the general rule that customers pay for dedicated assets and do not pay for network augmentations. These exceptions apply to rural customers and large load customers.

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 equitable 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, property owners will be reimbursed through the scheme described in section 3.3.

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9 The Tribunal’s consultants, Meritec, concluded that persistently uneconomic lines are exceptions and should be treated as such — they do not provide the basis for setting general rules. Meritec, Report on Capital Contributions in the NSW Electricity Market, September 2001.
To ensure that the 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
- property owners 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.

Customers with large loads and the DNSP should be able to negotiate the terms for funding the 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. However, such an approach applied to all large load customers could lead to a large number of individually structured network tariffs.

3.2.1. Defining customers subject to augmentation costs

The Tribunal has defined a rural customer as a customer in those parts of the network where the average demand per kilometre of high voltage line is less than 300kVA or the customer is in an area that the local council has zoned as rural.

The Tribunal has defined a large load customer as a customer whose expected demand for electricity is such that the customer would require more than 50 per cent of the capacity of the existing assets to be augmented.

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 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 300kVA.
- 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.10

A number of the submissions commented on the definition of a rural customer. The DNSPs stated that they were in agreement with the definition but it should be supplemented with local council land zoning.11 Further, they suggested that the demand should be based on high voltage feeders. Another submission questioned the use of 300kVA, suggesting instead a figure of no more than 200kVA.12 However, the Tribunal notes that there is general support for 300kVA and little evidence in support of any other value.

The Tribunal has considered the various arguments and has decided to retain a demand of 300kVA as the basis for the definition of a rural customer or DNSPs may apply a test based on local council zoning. The Tribunal has also clarified that line density is to be based on HV feeders.

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12 Mr R Harper submission, 23 November 2001, p 1.
Respondents generally agreed with the definition of a large load customer. However, the Energy Markets Reform Forum proposed that the reference percentage of capacity should be 40 per cent. Reducing the percentage would increase the number of large load customers that would be responsible for funding augmentation.

The Tribunal has retained the definition of large load customer used in the draft determination.

### 3.3 Reimbursement schemes

The Tribunal requires DNSPs to establish and administer reimbursement schemes for customers that make capital contributions for connections in rural areas or taking large loads. Reimbursement schemes are provided for under section 25(2) of the Electricity Supply Act 1995.

These reimbursement schemes will:

- be applicable to all rural customers or customers with large loads that request new connections or augmentations and customers connecting at a later date who will use some, or all, of those assets
- reimburse the original customer according to the extent to which new customers will utilise those assets
- limit the total reimbursements to the amount of the original capital contribution adjusted for inflation
- limit the period over which reimbursements may be offered to 7 years
- only apply to connection assets provided after the commencement of this determination.

The DNSP is:

1. to establish and administer the scheme
2. responsible for ensuring that later connecting customers reimburse the current owner of the premises for which the original works were undertaken
3. to recover its administration costs through network charges
4. not be permitted to levy connecting customers 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 determination that where the DNSP did not do the work, the DNSP is to use what it would have charged to do the work, as the basis for determining the amount to be reimbursed.

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3.3.1. Changes from the draft determination

The draft determination signalled the Tribunal’s intention to introduce a reimbursement scheme. In the submissions, there was general support for a reimbursement scheme, although there were concerns about some of the detail. In the draft determination, the Tribunal provided that in relation to reimbursement schemes:

- reimbursements were to apply for 10 years from the original application
- the DNSP is responsible for ensuring that later connecting customers reimburse the original contributor
- the reimbursement is to be 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 inflation (CPI)
- the Scheme is to apply to all new connections irrespective of whether an original contributor had contributed to assets prior to current determination.

In light of submissions, the Tribunal has reviewed its approach to these matters. The following sections discuss how the Tribunal has addressed these issues in the final determination.

Period over which each scheme is to operate

The Tribunal has determined that each scheme should apply for 7 years from the date the original customer makes an application for connection works.

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.

Most submissions commented that the Tribunal’s proposal that reimbursements apply for 10 years placed onerous requirements for record keeping. The submissions supported periods in the range 5-7 years.

As businesses ordinarily must retain records for 7 years, the Tribunal has decided that reimbursements are to apply for 7 years from the date of the original application.

Reimbursement to original contributor

The Tribunal has determined that the reimbursements should be made to the current owner of the premises for which the original contribution was made.

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16 At the time that the reimbursement is made.
In the draft determination the Tribunal had indicated that it would require that the reimbursement should be made to the original contributor. The Tribunal intended for the contributor to capture the benefits of the reimbursement scheme. However, the DNSPs argued that the original contributor would capitalise the value of the connection when the premises is sold.\(^{17}\) Also there may be difficulty in locating the original contributor.

**Pro-rata of expected capacity**

The Tribunal has determined that the amount of the reimbursement should be calculated on the utilisation of the contributed assets. For most customers, this will be by apportioning the costs amongst the potential customers, and in the case of distribution lines, adjusting for the length of the line actually serving each customer.

In the draft determination, the Tribunal proposed an approach based on a simple proportion of expected use to available capacity. However, the DNSPs suggested two particular problems with this approach.\(^{18}\)

1. Estimating usage is difficult prior to connection. The DNSPs suggested that for customers using up to 50kVA, the reimbursement should be based on a simple apportionment among the potential number of customers. However, larger customers would reimburse based on actual usage. The Tribunal believes this to be a simple yet equitable approach and has adopted it for the final determination.

2. The approach did not account for the length of distribution line that the new customer used. The Tribunal has decided to adjust the contribution by the proportion of distribution line used by the new customer.

The approach that the DNSPs have suggested requires that the DNSP should establish the number of potential customers at the time of the first contribution. The DNSP should have regard to all relevant factors including the number of properties that could potentially utilise the works, current zoning, potential rezoning and sub-divisions, and historical patterns of connection in similar areas.

The Tribunal considers that apportioning the costs amongst potential customers and accounting for the proportion of line that each customer uses is more equitable in the application of the reimbursement than the method proposed in the draft report.

**Application of reimbursement scheme to customers who have contributed to connection assets prior to the commencement of this determination**

The Tribunal has determined that the reimbursement scheme should not apply to customers who contributed to connection and augmentation assets prior to the commencement of this determination.

This application of the reimbursement scheme is different from the draft determination. This is because:

- There were no existing reimbursement schemes prior to this determination. Given that reimbursement schemes did not exist at the time of the customer's connections, the DNSPs may not have kept the necessary records. DNSPs have advised that the

\(^{17}\) NSW Distribution Businesses' submission, 16 January 2002, p 15.

\(^{18}\) ibid, pp 14-16.
costs associated with retrospectively compiling the information to administer the reimbursement scheme are likely to be substantial.\textsuperscript{19}  

- Customers who contributed towards the provision of assets prior to the commencement of the determination did so with the knowledge that there would be no reimbursement. Introducing a reimbursement at this stage could potentially result in a windfall gain. For example, a customer may have bought property relatively cheaply because of the costs that the customer would incur in order to connect to the network.

During the transition period, the Tribunal recognises that there will be different treatment of customers depending on whether the original contribution was prior to the commencement of this determination — that is 1 July 2002.

### 3.4 Dispute resolution

The Tribunal has determined that all customers and DNSPs will have access to a dispute resolution process for disputes concerning the level of capital contributions through the internal review procedures under the regulations applying to small retail customers and other procedures for internal review in the DNSPs' standard customer connection contracts.

In the draft determination the Tribunal proposed 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.

DNSPs noted that their standard form customer connection contracts provided for dispute resolution including approaches to EWON and alternative dispute resolution (ADR).\textsuperscript{20}

In the final determination, dispute resolution will be through the internal review procedures provided for in the regulations applying to small retail customers and other procedures for internal review in the DNSPs' standard customer connection contracts. This is because the Tribunal believes that it would be a better outcome if dispute resolution could be covered by existing mechanisms. This would avoid the need to introduce new mechanisms.

In its submission the Energy Markets Reform Forum suggested that timelines should be provided.\textsuperscript{21} These are included in the standard form customer contract dispute procedures.

The Tribunal will monitor and review the application of dispute resolution as part of the 2004 determination of network pricing. For this purpose, the Tribunal proposes that the DNSPs should report details of disputes including information on the nature of the dispute, method of resolution and outcome.

\textsuperscript{19} ibid, p 17.  
\textsuperscript{20} ibid, p 18.  
4. IMPLEMENTING THE DETERMINATION

4.1 Commencement of the determination

The determination will commence on 1 July 2002.

4.2 Financial adjustments

The Tribunal considers that, in most cases under this 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.

4.3 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 Methodologies22 (the PPM) as an alternative pricing methodology to the approach set out in the Code.23

This determination is being made under Section 11(3) 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.

4.4 Monitoring and reporting

The Tribunal will incorporate monitoring and reporting of actions and outcomes relating to this determination within the price and service reporting requirements set out in the PPM. These provisions will require DNSPs to include information on capital contributions in their annual Price and Service Reports.

4.5 2004 regulatory review

The Tribunal will take the opportunity provided by the next regulatory review in 2004 to review the implementation of this determination.

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23 National Electricity Code, Chapter 6, Part E.
ATTACHMENT 1    SUBMISSIONS

The following made submissions to the Tribunal on the draft report.

Energex
Energy Markets Reform Forum (2 submissions)
Energy Australia
Harper Mr R J
Joint NSW Distribution Businesses' (Country Energy)
Joint NSW Distribution Businesses' (Energy Australia)
Joint NSW Distribution Businesses' (Integral Energy)
Public Interest Advocacy Centre
Determination

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

Capital Contributions and Repayments for Connections to Electricity Distribution Networks in New South Wales
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. Some additional rules apply to rural customers and large load customers.

Operative Provisions

1. Commencement

   This determination commences on 1 July 2002.

2. Application

   This determination applies to all DNSPs to which section 25 of the Electricity Supply Act 1995 (NSW) applies and hold a distribution network service provider's licence under section 14 of that Act.

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, 3, 4 and 5 apply.
5. Definitions

Terms used in this determination are defined in Schedule 4 (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 6(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.

Thomas G Parry
Chairman

12 April 2002
SCHEDULE 1  CAPITAL CONTRIBUTIONS

1. Connection works

(1) A DNSP may require that a new customer procure and fund connection works (other than excluded connection works) specified by the DNSP, in accordance with and subject to this determination.

(2) A rural customer or large load customer may also be obliged to make reimbursements (for connection works that another such 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 such customer has funded), in accordance with Schedule 2.

4. Applications by 2 or more new customers at the same time or in close proximity

(1) Where 2 or more new customers apply to a DNSP at the same time, or within close proximity of each other, for customer connection services, and require some connection works (or, in the case of rural or large load customers, network augmentations) in common with each other (common works), the DNSP may do any of the following (or any combination of them):

   (a) require that each of those new customers procure and fund so many of those common works specified by the DNSP; or

   (b) require that all of those new customers together procure and fund so many of those common works specified by the DNSP.

(2) In exercising its discretion under clause 4(1) of this Schedule, the DNSP must use its best endeavours to achieve equity between each of the new customers.
5. Economic optimum size of connection works and network augmentations

The 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.

6. 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).

7. Manner of capital contributions

Where a large load customer to whom a DNSP applies cost reflective network pricing engages the 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 SCHEMES

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 IPART. All
   references in this Schedule to customers are to be taken to be references to rural customers or large load
   customers only.

2. Develop policy for reimbursements schemes

   A DNSP must develop a policy for the administration of reimbursement schemes that is consistent
   with this Schedule, and must make available copies of this policy to customers.

3. Establish and administer schemes

   (1) A DNSP must establish and administer a reimbursement scheme in accordance with this Schedule
   in relation to each original customer's works (as defined in clause 4(1) of this Schedule) of the same
   category.

          [Note: for example, if the original customer's works included distribution line and a
          substation then the DNSP must establish one reimbursement scheme for the distribution
          line and a separate reimbursement scheme for the substation.]

   (2) A DNSP must bear the costs of establishing and administering the reimbursement schemes.

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

   (1) Where:

          (a) a customer (the original customer) procures and funds, or become liable to
          procure and fund:

                 (i) connection works under clause 1(1) of Schedule 1; or

                 (ii) network augmentations under clause 3(2) of Schedule 1,

          on or after the date of commencement of this determination (original customer's works);
          and

          (b) within 7 years of the date of the original customer's application for customer
          connection services with respect to the original customer's works (reimbursement period), 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 original customer's works,
then the new customer is liable, in addition to paying for any connection works or network augmentations for which that customer is liable under clauses 1(1) and 3(2) of Schedule 1, to pay the DNSP a proportion of the costs of the original customer’s works, calculated in accordance with clause 4(2) of this Schedule (cost share reimbursement).

(2) The cost share reimbursement is to be calculated as follows:

(a) Where the new customer’s load (as specified in its application for customer connection services) is equal to or less than 50 kVA, the cost share reimbursement will be the lesser of:

(i) the pre-calculated reimbursement (see clause 4(3) of this Schedule); and

(ii) the original customer’s outstanding amount (see clause 4(5) of this Schedule).

(b) Where the new customer’s load (as specified in its application for customer connection services) is greater than 50 kVA, the cost share reimbursement will be the lesser of:

(i) the pro-rata reimbursement (see clause 4(4) of this Schedule); and

(ii) the original customer’s outstanding amount (see clause 4(5) of this Schedule).

(3) The pre-calculated reimbursement (for the purposes of clause 4(2)(a)(i) of this Schedule) is:

(a) where the original customer’s works are distribution line, an amount calculated in accordance with the following formula:

\[
\text{Cost of original customer’s works} \times \frac{\text{Length of original customer’s works used by the new customer (km)} \times \text{CPI(2)} \times \text{CPI(1)}}{\text{Total length of original customer’s works (km) \times Number of prospective new customers}}
\]

(b) where the original customer’s works are works other than distribution line, an amount calculated in accordance with the following formula:

\[
\text{Cost of original customer’s works} \times \frac{\text{CPI(2) \times CPI(1)}}{\text{Number of prospective new customers}}
\]
(4) The pro-rata reimbursement (for the purposes of clause 4(2)(b)(i) of this Schedule) is an amount calculated in accordance with the following formula:

\[
\text{Cost of original customer's works} \times \frac{\text{New utilisation of original customer's works}}{\text{Total utilisation of original customer's works}} \times \frac{\text{CPI}(2)}{\text{CPI}(1)}
\]

(5) The original customer's outstanding amount (for the purposes of clauses 4(2)(a)(ii) and 4(2)(b)(ii) of this Schedule) is to be calculated as follows:

\[
\text{Cost of original customer's works} \times \frac{\text{Number of prospective new customers less original customer}}{\text{Number of prospective new customers}} \times \frac{\text{CPI}(2)}{\text{CPI}(1)} \text{ less total cost share reimbursements paid by new customers to the DNSP in respect of those works as at date of new customer's application for customer connection services.}
\]

(6) Despite any other provision in clause 4 of this Schedule, a new customer is not liable to pay any cost share reimbursement if the amount calculated in accordance with clause 3(2) of this Schedule is less than:

\[\$200 \times \frac{\text{CPI}(2)}{\text{CPI}(3)}\]

(7) Despite any other provision in clause 4 of this Schedule:

(i) the formulas in clauses 3(3), 3(4) and 3(5) are deemed not to include any references to CPI in the case where the beginning of the relevant period for the calculation of CPI(2) is less than 12 months after the end of the relevant period for the calculation of CPI(1); and
(ii) the formula in clause 3(6) is deemed not to include any references to CPI in the case where the beginning of the relevant period for the calculation of CPI(2) is less than 12 months after the end of the relevant period for the calculation of CPI(3).

(8) For the purposes of clause 4 of this Schedule:

Cost of original customer's works means:

(a) where the DNSP carried out the original customer's works, the actual cost of those works; and

(b) where an ASP carried out the original customer's 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 original customer's 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.

CPI(3) 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 of commencement of this determination.

New utilisation of original customer's works means:

(a) where the original customer's works are distribution line, a figure in kVA.km, representing the new customer's expected load, in kVA (as specified in its application for customer connection services), multiplied by the length of original customer's works used by the new customer, in km; and

(b) where the original customer's works are works other than distribution line, a figure in kVA, representing the new customer's expected load (as specified in its application for customer connection services).

Number of prospective new customers means the number of new customers (including the original customer) that the DNSP expects, prior to construction of the original customer's works, will use those works or any part of them during the reimbursement period, determined in consultation with the original customer, and taking into account all relevant factors including (but not limited to) the capability of the proposed works, the current number of properties that could potentially utilise those works, the current zoning of the area and any rezoning proposals, any proposed subdivisions or development applications, and historical patterns of customer connection in similar areas.
Total utilisation of original customer’s works means:

(a) where the original customer’s works are distribution line, a figure in kVA.km, representing the total of the loads of each customer (including the original customer and the new customer) who use or will use the original customer’s works, in kVA (as specified in their respective applications for customer connection services), multiplied by the length of distribution line constituting the original customer’s works, in km; and

(b) where the original customer’s works are works other than distribution line, a figure in kVA, representing the total of the loads of each customer (including the original customer and the new customer) who use or will use the original customer’s works (as specified in their respective applications for customer connection services).

(9) The worked example in Schedule 5 may be used as guidance in interpreting clause 4 of this Schedule.

5. Reimbursements

(1) Where a new customer pays to a DNSP an amount under clause 4 of this Schedule, the DNSP must, as soon as practicable after receiving that amount, repay that amount to the then current owner of the premises to which the original customer’s works were connected.

(2) Where there are 2 or more customers constituting the original customer, as a result of the DNSP requiring those customers to procure and fund works together (pursuant to clause 4(1)(b) of Schedule 1), the repayment by the DNSP pursuant to clause 5(1) of this Schedule must be divided between those customers in accordance with the proportions in which they funded the works.

6. Obligation to notify

(1) A DNSP must notify all new customers who apply to the DNSP for customer connection services and who may be obliged to make reimbursements under an existing reimbursement scheme, 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.

(2) A DNSP must also notify original customers to which this Schedule applies of the existence of the reimbursement scheme and that they may be entitled to receive a reimbursement.
SCHEDULE 3    DISPUTE RESOLUTION

1. Internal Review

(1) In the event of a dispute arising between a DNSP and a customer in relation to a
decision of the DNSP under this determination in relation to that customer, the
customer may apply to the DNSP for internal review of that decision in
accordance with:

(a) the procedures set out in clauses 47 to 49 of the Electricity Supply (General)
Regulation 2001, as if references in those clauses to:

(i) "small retail customer" were references to a customer for the
purposes of this determination; and

(ii) "licence holder" were references to a DNSP for the purposes of this
determination; and

(iii) "a decision of a licence holder for which a review may be sought
under section 96 of the Act" were references to a decision of the
DNSP under this determination in relation to that customer; and

(iv) "of the rights available to the customer under the Act and this
Regulation" were deleted; and

(b) any other procedures for internal review set out in the DNSP's standard
form customer connection contract, as if similar references in that
contract to the matters referred to in clause (1)(a)(i)-(iv) of this Schedule
were similarly construed.

(2) The DNSP must review the decision in accordance with those procedures.

(3) In the event of an inconsistency between the procedures referred to in clause
(1)(a) and (b) of this Schedule, the procedures referred to in clause (1)(a) will
prevail.
SCHEDULE 4  DICTIONARY

DEFINITIONS

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
- small retail customer
- standard form customer connection contract.

The following term has the meaning given to it in the National Electricity Code (established under the National Electricity (New South Wales) Law):

- connection point

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, in relation to a new customer, are those works yet to be constructed which will, upon construction:

(a) enable the DNSP to provide customer connection services requested by that new customer; and

(b) form part of the network on the side of a linkage point where all the network assets on that side are dedicated to one or more customers.

These include (without limitation):

(c) in the case of services to new connection points requested by a new customer, works to connect the customer's premises at that connection point to the existing network; and

(d) in the case of services to existing connection points:

(i) replacements of existing assets servicing that connection point, where those existing assets, at the time of their replacement, satisfy (a) and (b) above; or

(ii) additional new works that satisfy (a) and (b) above in relation to that connection point,

in order to provide additional service at that connection point requested by the new customer.

DNSP means a distribution network service provider.
excluded connection works are high voltage connection works to be installed in order to service a multi-occupant development that is connected or to be connected to an urban network, where:

(a) at the time of receipt of an application for customer connection services in respect of the multi-occupant development, there is a reasonable likelihood that those works will be used by other customers outside the development in the foreseeable future; or

(b) those works are capable of being physically moved and usefully employed in another location (whether or not this is likely to occur).


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 (where all the network assets on that side of the point are so dedicated), 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) shared by more than one customer in circumstances where a DNSP has required that those customers together procure and fund the same connection works in accordance with clause 4(1)(b) of Schedule 1.

multi-occupant development means:

(a) a building or proposed building that is under strata title; or

(b) a building or proposed building, or set of such buildings, in relation to which distinct parts are occupied, or designed to be occupied, by 2 or more separate businesses or residences or for other separate purposes; or

(c) a subdivision of one or more lots for the purposes of sale or disposal, whether residential, commercial or industrial, and in respect of which the application for customer connection services is made by one customer only.

network means an electricity distribution system owned or controlled by a DNSP.

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, on the side of the linkage point where the network assets are shared among customers generally.

rural customer means a new customer whose premises the subject of its application for customer connection services are connected or will connect (once any relevant connection works are constructed) to a network at a point at which the network is a rural network.
rural network means that part of a network:
(a) where the average demand on the high voltage feeders within it is less than 0.3 MVA/km; or
(b) that is in an area zoned as rural under a local environment plan (made under the Environmental Planning and Assessment Act 1979 (NSW)); or
(c) that is in an area that is predominantly used for agricultural purposes.

urban network means that part of a network that is not a rural network.

INTERPRETATION

In this determination:

customer, when used in the singular, includes 2 or more persons or entities who are responsible for the payment of charges in relation to the same connection point. These persons or entities are to be regarded as one customer for the purposes of this determination.

original customer, for the purposes of Schedule 2, includes 2 or more customers where a DNSP has required that those customers together procure and fund the same common works in accordance with clause 4(1)(b) of Schedule 1. All references to the original customer for the purpose of counting the number of customers are to be read as references to the actual number of customers comprising the original customer.

new customer includes a customer who applies for new or additional customer connection services before the date of commencement of this determination but to whom the DNSP has not yet begun to provide those new or additional services, and whom the DNSP has not yet notified of its decision regarding capital contributions.

For the purposes of the definition of excluded connection works and for the avoidance of doubt, works that are used or intended to be used to service a multi-occupant development on a temporary basis only are deemed not to satisfy paragraph (a) of that definition.
Customer A funds a 1km, $10,000 11kV line extension and a $5,700 substation to establish supply to its premises. It is determined at the time of construction that the number of prospective beneficiaries of the 11kV line (including Customer A) is 5 and of the substation is 2. The pre-calculated reimbursements for all new connections less than 50kVA are therefore set as:

HV Line beneficiaries \( \Rightarrow \frac{10,000}{5} = $2,000 \) per customer; and

Substation beneficiaries \( \Rightarrow \frac{5,700}{2} = $2,850 \) per customer.

Customer A's outstanding amount (CS# 12345) is now:

\( $15,700 - $2,000 - $2,850 = $10,850. \)

Customer B connects to the HV line utilising 200m of the 1000m total length. In addition to any costs of new dedicated works Customer B is liable for a reimbursement of \( \frac{200}{1000} \times 2,000 = $400 \), payable to Customer A (or the subsequent owner of Customer A’s premises).

Customer A’s outstanding amount (CS# 12345) is now:

\( $10,850 - $400 = $10,450. \)

A cost sharing reimbursement scheme would need to be set up for Customer B (CS# 12346) covering the new transformer.
**Customer C** connects as a LV customer utilising both the HV line and the substation funded by Customer A. The reimbursement is $2,000 + $2,850 = $4,850, payable to Customer A (or the subsequent owner of Customer A’s premises).

Customer A’s outstanding amount (CS# 12345) is now: $10,450 - $4,850 = $5,600.

No additional cost sharing reimbursement schemes are required.

**Customer D** funds a further 11kV line extension of 700m, at a cost of $8,850 and a $7,200 transformer to establish supply to his premises. Customer D agrees at the time of construction that the number of prospective beneficiaries of the 11kV line extension is 10 and of the substation is 2. The pre-calculated reimbursements for new connections less than 50kVA are therefore set as:

HV Line beneficiaries ⇒ $8,850/10 = $885 per customer; and

Substation beneficiaries ⇒ $7,200/2 = $3,600 per customer.

Customer D’s outstanding amount (CS# 12347) is now: $16,050 - $885 - $3,600 = $11,565

Customer D is also a beneficiary of the line extension the subject of Cost Share Reimbursement Scheme #12345 and is therefore liable for a reimbursement of $2,000 payable to Customer A (or the subsequent owner of Customer A’s premises).

Customer A’s outstanding amount (CS# 12345) is now: $5,600 - $2,000 = $3,600.

**Customer E** is liable to pay a pro-rata reimbursement based on respective loads because its load is greater than 50kVA. Customer E is also a beneficiary of works the subject of two cost sharing schemes, CS# 12347 and CS# 12345, and is therefore liable to make reimbursements for these.

Calculation of reimbursement to Customer A (or the subsequent owner of Customer A’s premises):

Total cost of shared works = $10,000

Utilisation of shared works is:

- by Customer A - 10 * 1.0 = 10 kVA.km
- by Customer B - 30 * 0.2 = 6 kVA.km
- by Customer C - 20 * 1.0 = 20 kVA.km
- by Customer D - 20 * 1.0 = 20 kVA.km
- by Customer E - 200 * 1.0 = 200 kVA.km

Total = 256 kVA.km
Therefore the responsibility of Customer E is

\[
\frac{200}{256} \times \$10,000 = \$7,813
\]

Since this amount is greater than Customer A’s outstanding amount Customer E is only required to reimburse $3,600 to Customer A (or the subsequent owner of Customer A’s premises).

Customer A is no longer entitled to any further reimbursements.

Calculation of reimbursement to Customer D:

Total cost of shared works = \( \frac{0.5}{0.7} \times 8,850 = \$6,321 \)

Utilisation of shared works is:
- by Customer D - \( 20 \times 0.5 = 10 \text{ kVA.km} \)
- by Customer E - \( 200 \times 0.5 = 100 \text{ kVA.km} \)

Total = 110 kVA.km

Therefore the responsibility of Customer E is

\[
\frac{100}{110} \times \$6,321 = \$5,746
\]

Since this amount is less than Customer D’s outstanding amount Customer E is liable to reimburse the full amount of $5,746 to Customer D.

Customer D’s outstanding amount (CS# 12347) is now:
\$11,565 - $5,746 = $5,819.