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18 January 2002

Dr Tom Parry Chairman Independent Pricing and Regulatory Tribunal of NSW Level 2, 44 Market Street PO Box Q290 **QVB Post Office NSW 1230**

Dear Dr Parry

Capital Contributions for New South Wales Electricity Distribution Network Service Providers – Draft Report

I refer to the "Capital Contributions for New South Wales Electricity Distribution Network Service Providers Draft Report" issued by the IPART Secretariat for comment by 16 January 2002. Thank you for the opportunity to comment on this paper. Please accept the attached submission as EnergyAustralia, Integral Energy, Country Energy and Australian Inland Energy and Water (the NSW DNSPs) views on the proposed approach for capital contributions.

The NSW DNSPs believe that the current arrangement is susceptible to misinterpretation and potential gaming; does not differentiate between urban and non-urban customer connections; does not provide a reimbursement scheme for customers to access; and has led to outcomes where the NSW DNSPs have been required to fund in many cases fully 'dedicated' customer connection assets in metropolitan areas and uneconomic network augmentations and shared network extension assets in parts of the network with low load to line length ratios. The capital cost of funding these assets by the NSW DNSPs places upward pressure on average network use of system prices.

The approach proposed by the Tribunal provides the basis of a framework and methodology that would allow for the appropriate resolution of some of these issues. There is merit in the Tribunal's proposed approach which recognises the differences between connections to urban/metropolitan based networks from those to rural distribution feeders and provides the NSW DNSPs with the ability through the application of defined exceptions to seek contributions towards network augmentation costs. The NSW DNSPs support in principle the application of the draft capital contribution policy in its present form in respect of the following matters:

www.countryenergy.com.au ABN 37 428 185 226 Craig Murray – Managing Director, Country Energy Cnr Littlebourne Street & Hampden Park Road, KELSO NSW 2795 PO Box 172 BATHURST NSW 2795 Switch 13 2356 Direct Telephone 02 6582 8697 Facsimile 02 6582 8695

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- Customers to be responsible for the cost of the dedicated connection assets;
- NSW DNSPs to be responsible for all other costs up to or on the DNSP's side of the customer's point of connection. Excepting lower network density areas and large load customers from this general rule will send appropriate economic signals to ensure efficient development;
- The establishment of a reimbursement scheme in relation to customer funded assets for all rural customers or customers with large loads to provide equity between customers;
- Customers to have access to a dispute resolution process;
- Assets constructed should be of an economic optimum size;
- Customers with large loads to have the right to negotiate the form of their capital contribution for network augmentation;
- Customer to have the choice of engaging accredited contractors for the provision of dedicated connection assets or fully customer funded augmentation works; and
- Customer to have the right to assume ownership of dedicated contributed assets.

While generally supporting the proposed methodology, we urge the Tribunal to give consideration to the matters raised in the attached submission, which the NSW DNSPs believe require further refinement or amendment to ensure their effectiveness.

The NSW DNSPs believe that the reimbursement scheme as detailed in the submission is sound and practical and we would welcome the opportunity to work with the IPART Secretariat to further refine and enhance the proposed scheme. Accordingly, the NSW DNSPs would recommend that the Tribunal not make a binding determination with respect to the detail of the reimbursement scheme pending further discussion and evaluation of any alternatives or enhancements.

The draft capital contribution proposal has the potential to result in increased volatility in capital expenditure requirements for some NSW DNSPs particularly, if the DNSP is required to fund the high voltage assets to all multi-occupant developments. We strongly urge the Tribunal to provide clear assurance that capital expenditure funded by the NSW DNSPs for any new system investment required by the new determination, is recognised as prudent and is included in the regulatory asset base at the next price reset to ensure a return on/of capital invested. To do otherwise may lead to a disincentive for the NSW DNSP to provide investment funds.

www.countryenergy.com.au ABN 37 428 185 226 Craig Murray – Managing Director, Country Energy. 8 Buller Street, PORT MACQUARIE NSW 2444 PO Box 786, PORT MACQUARIE NSW 2444 Switch 13 2356 Direct Telephone 02 6582 8697 Facsimile 02 6582 8695

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The DNSPs would be pleased to discuss this matter further with the Tribunal. If you have any queries regarding the matters raised in the attached document please do not hesitate to contact Terri Benson on (02) 6338 3424, or Lawrence Zulli on (02) 6883 4547.

Yours sincerely

Craig Murray Managing Director

Att.

www.countryenergy.com.au ABN 37 428 185 226 Craig Murray – Managing Director, Country Energy. 8 Buller Street, PORT MACQUARIE NSW 2444 PO Box 786, PORT MACQUARIE NSW 2444 Switch 13 2356 Direct Telephone 02 6582 8697 Facsimile 02 6582 8695

Capital Contributions for New South Wales Electricity Distribution Network Service Providers

NSW Distribution Businesses' Submission on IPART's Discussion Paper (DP50)

16 January 2002

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Summary

EnergyAustralia, Integral Energy, Country Energy and Australian Inland Energy and Water welcome the opportunity to respond to the Tribunal's "*Capital Contributions for New South Wales Electricity Distribution Network Service Providers Draft Report*". This submission addresses the merits of the framework and methodology for capital contributions proposed by the Tribunal and proposes some amendments.

The NSW DNSPs believe that the current arrangement is susceptible to misinterpretation and potential gaming; does not differentiate between urban and non-urban customer connections; does not provide an reimbursement scheme for customers to access; and has led to outcomes where the NSW DNSPs have been required to fund in many cases fully 'dedicated' customer connection assets in metropolitan areas and uneconomic network augmentations and shared network extension assets in parts of the network with low load to line length ratios. The capital cost of funding these assets by the NSW DNSPs places upward pressure on average network use of system prices.

The approach proposed by the Tribunal provides the basis of a framework and methodology that would allow for the appropriate resolution of some of these issues. There is merit in the Tribunal's proposed approach which recognises the differences between connections to urban/metropolitan based networks from those to rural distribution feeders and provides the NSW DNSPs with the ability through the application of defined exceptions to seek contributions towards network augmentation costs. The NSW DNSPs support in principle the application of the draft capital contribution policy in its present form in respect of the following matters:

- Customers to be responsible for the cost of the dedicated connection assets;
- NSW DNSPs to be responsible for all other costs up to or on the DNSP's side of the customer's
 point of connection. Excepting from this general rule lower network density areas and large load
 customers where the size of the expected demand requires significant augmentation, will send
 appropriate economic signals to ensure efficient development;
- The establishment of a reimbursement scheme in relation to customer funded assets for all rural customers or customers with large loads to provide equity between customers;
- Customers to have access to a dispute resolution process;
- The stipulation that assets be of an economic optimum size, which will ensure equity between customers in relation to system losses;
- Customer to have the choice of engaging accredited contractors for the provision of fully customer funded connection assets or fully customer funded augmentation works;
- Customers with large loads to have the right to negotiate only the form of their capital contribution so long as prudential requirements are still met; and
- Customer to have the right to assume ownership of dedicated contributed assets.

While generally supporting the proposed methodology, the following matters are raised for the Tribunal's consideration, which the NSW DNSPs believe require further refinement or amendment to ensure their effectiveness:

- There are a number of instances where the actual draft determination does not reflect the discussion in the draft report. For example, there is discussion on the ownership of contributed assets in the draft report but no mention is made of ownership in the determination. Is it the Tribunal's intention that the report would only be used to provide guidance and interpretation of the determination?
- There appears to be an omission in the draft determination in respect of the methodology for charging customers for augmentation. The draft report proposes that the augmentation assets must

be the economic optimum and that the costs of augmentation are to be allocated on the ratio of the expected load to additional capacity. However the determination only requires that the augmentation assets be the economic optimum size required given the customer's connection capacity, other loads and the expected growth in other loads;

- 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;
- The recovery of capital contributions through usage charges is not supported as this would otherwise unreasonably shift the risk of not being able to recover the costs of the investment to the NSW DNSP and to other network connected customers, if the customer ceases operations. The Tribunal should seek to deal with this risk by requiring customers to fully fund their capital contributions up front unless otherwise negotiated with the DNSP in the case of the "large customer";
- In respect of the reimbursement scheme proposed by the Tribunal, the NSW DNSPs believe the scheme should have the following features:
 - A simpler but more equitable reimbursement scheme for determining contributions by further customers is preferred. A formula based on capacity leads to great inequities when applied to a typical rural distribution feeder. We propose a hybrid of pre-calculated contributions for small customers and a formula based on relative customer loads for larger customers;
 - There is concern that the draft report and determination may require the reimbursement scheme to apply retrospectively to the extent that contributors to network assets prior to the implementation of the new determination would be eligible for reimbursements from new customers. It is the NSW DNSP's understanding that the Tribunal's determination cannot apply retrospectively. This point needs to be clearly stated in the final report and determination;
 - The sharing of the cost of a network extension or augmentation asset between customers connecting to that extension or augmentation within 5 years of it being built would be a much more workable limit for the reimbursement scheme based on practical considerations and the amount of information which would otherwise be required to be maintained by the NSW DNSP over this period;
 - Reimbursement to the current owners of the property of the original contributors is favoured, as the costs of property improvements are capitalised. The current owner would be responsible for advising the NSW DNSPs of any change in contact details;
 - No CPI adjustment for reimbursements. CPI adjustments lead to increasing charges for reducing benefits. A number of schemes in other jurisdictions include mechanisms to reduce reimbursements over time, the opposite to a CPI adjustment; and
 - Developers should not be eligible to receive reimbursements but should be liable to pay reimbursements.
- The NSW DNSPs believe that the reimbursement scheme as outline above is sound and practical and we would welcome the opportunity to work with the IPART Secretariat to further refine and enhance the proposed scheme. Accordingly, the NSW DNSPs would recommend that the Tribunal not make a binding determination with respect to the detail of the reimbursement scheme pending further discussion and evaluation of any alternatives or enhancements.
- The adoption of the dispute resolution path as contained in the NSW DNSPs standard form customer connection contract as a process which is easy to understand, is fair, efficient and provides for timely outcomes. The NSW DNSPs believe that it is unnecessary to single out capital contributions with specific dispute resolution requirements in the new determination;

- The scope for negotiation should be clearly defined and limited to larger customers. The terms of connection negotiated should relate to a deferred payment scheme only and so long as prudential requirements are still met. In this case there should only be one basic scheme to simplify administration and provide transparency. The DNSP should be able to base the scheme on the current CRNP scheme. There is no need to include this requirement in the determination as the NSW DNSPs have existing policies in place;
- Customers should have the right to determine specifications for assets where they retain ownership, provided they meet the NSW DNSPs regulated technical and safety standards, but this right is not supported for those assets to be donated to the NSW DNSP. If a customer subsequently wishes to donate to the NSW DNSP dedicated connection assets built to specifications different to those normally used by the NSW DNSP, the NSW DNSP must be able to refuse acceptance of those assets, with ownership and maintenance responsibility remaining with the customer; and
- Ownership will be a severe complication for customer funded assets in public areas.

The proposed amendments to the draft determination are detailed in the sections that follow and are shown in Attachment A.

Principles and Objectives of Capital Contributions

The NSW DNSPs generally agree with the principles to be applied to capital contributions as proposed by the Tribunal. The Tribunal should satisfy all these objectives in its approach to capital contributions.

Economic Efficiency

The new capital contribution arrangements should not promote uneconomic expansion of the NSW DNSPs network and must provide appropriate pricing signals to customers to encourage optimum use and distribution of resources, be subsidy free, discourage uneconomical bypass and provide customers with appropriate locational and constraint signals reflecting the available capacity of the network at the customers location to enable the right economic decision to be made.

We believe that the pricing arrangements under current arrangements are not economically efficient.

Other network customers should not subsidise the "dedicated" connection costs and augmentation cost of new connections through higher average network prices. Current network prices are based on class averages and do not signal the incremental cost of connection, which may mean that customers under existing arrangements would not see the full incremental cost impact they impose. The connection of a new customer, or the upgrade of the existing network due to a new or increased customer load, should not greatly influence future rather than existing network charges, in that a component of network charges reflects past capital expenditure in return on asset and depreciation charges.

The NSW DNSPs believe that pricing for capital contributions must signal to network connection applicants their true costs of connection and their load impact on the existing level of available capacity. A connection involving major network extension or augmentation where capacity is scarce should require a higher capital contribution from a customer than a connection with minor extension or augmentation work where capacity is abundant. Larger customers and customers connected to parts of the network with low load to line length ratios should see an adequate price signal for new augmentation investments, which will lead to efficient investment decisions. Connection costs should also provide a signal to connect in areas where there is adequate capacity to meet the customer's supply needs.

It is also agreed that the NSW DNSPs should expand the network where it is economically feasible as compared to other equivalent non-network service offerings, and any expansion should be optimal.

Equity

The new determination should provide for fair and equitable sharing of costs. The NSW DNSPs agree with the re-introduction of reimbursement scheme, as this has been a source of numerous customer complaints, and should provide a more equitable outcome.

Customers should fund those assets that are unique to them, and to pay for augmenting the network where they obtain a benefit from the augmentation. As other customers connect to the extension or augmented asset, costs should be shared between the customers under a reimbursement scheme.

The equity issue also arises and has particular relevance under current arrangements where a dominant load customer is not typical to that area of supply. Under current arrangement a new dominant load customer may be receiving a subsidy from all other network customers through general network prices.

Simplicity, Consistency and Transparency

Customers need to be able to understand the derivation of their capital contribution.

The new capital contribution determination should be straightforward in application and be readily understood by network connection applicants to minimise information asymmetry.

Reimbursement schemes should not be overly complex.

The new determination must be clear and unambiguous and provide for reproducible results.

Minimise Potential for Gaming

Some confusion and misinterpretation has arisen under current arrangements, which has led to gaming by all parties.

Return Allowed Revenue Stream to DNSPs

Distributors need sufficient capacity in terms of returns in regulated revenues to provide the incentive to fund investments required by the new determination.

The NSW DNSPs should not be financially disadvantaged because of the costs of connecting customers to the network. The Tribunal considers that, in most cases under the proposed approach, the NSW DNSPs would be funding the same assets under current arrangements and does not propose to make any adjustments to the terms of the current revenue determination. However, the Tribunal should note that the draft capital contribution proposals would impact on some of the NSW DNSPs particularly if they are required to fund the high voltage assets to all multi-occupant developments. For example, EnergyAustralia will be impacted in terms of capital expenditure to the tune of \$10 to \$15M per annum.

The Tribunal has indicated its intention to allow prudent investments to be incorporated into the NSW DNSPs regulated assets bases for determination of regulated revenues at the next price reset. However the Tribunal has yet to develop or publish prudency rules or distribution regulatory principles. This has created some uncertainty for the distributors as investors in their distribution network. There is some concern amongst the NSW DNSPs that if they make investments associated with customer connections that these assets may be subsequently devalued in the next price reset.

Connection assets funded by the NSW DNSPs should derive appropriate returns and associated cost recovery through regulated revenues. Contributed assets received from customers should not provide returns to the NSW DNSPs, however operation and maintenance costs incurred by the NSW DNSPs should be recovered through regulated revenues.

The NSW DNSPs seek assurance that capital expenditure funded by the NSW DNSPs, as required by the new determination, is recognised as prudent and is included in the regulatory asset base at the next price reset to ensure a return on/of capital invested.

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 Tribunal defines the "point of connection" 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

....."

The NSW DNSPs believe that in respect of these categories, that is, multi-tenanted or strata titled or multiple lot sub-division developments the connections should be treated in exactly the same way as for other customers. That is, they should also be required to pay a capital contribution equal to the direct costs of connection for the following reasons:

- Excluding multi-tenanted strata-titled or multiple lot sub-divisions from paying connection costs is inconsistent with the principles in the Tribunal's "*Pricing Principles and Methodologies for Prescribed Electricity Distribution Services*" (March 2001). In particular, we refer to page 4 of the PPM "*To promote economic efficiency prices should signal the economic value of providing the service*". One of the important features of economic pricing is to be subsidy free.
- These groups of customers constitute a very significant portion of new connections and their exclusion would distort the outcomes hoped to be delivered by the general principles under which this capital contributions policy is developed.
- Exclusion of all multi-occupant premises would include shopping centres and every commercial, residential or industrial development where a developer chose to establish multi-occupancies of one form or another. This would lead to cross-subsidy of these particular developers by all other developers.
- Their exclusion would remove the very important ability (a principle established by the Tribunal) to establish price signals to possibly the majority of new connections.
- Developers would be encouraged to set up artificial multi-occupancies to avoid capital contributions. (Similar attempts to game the system occur now in other forms and are difficult to overcome).
- Removal of the requirement for this group to pay some form of capital contributions would also remove them from the market for contestable works thereby reducing the work available for accredited service providers by over 50%.
- Funding of these direct connection costs would result in a substantial increase in capital expenditure by the NSW DNSPs before the next pricing determination. (For EnergyAustralia this would be of the order of \$10 to \$15M per annum alone).

- The National Electricity Market Code requires the consistent regulation of network prices. Excluding multi-tenanted, strata-titled or multiple lot sub-divisions from paying connection costs, while other customers are required to fund these costs, in our view, would be an inconsistent application of pricing regulation.
- Shifts the risk of the investment in the connection assets to the developer rather than the NSW DNSP (and the NSW DNSP's customers). The potential risk of stranded or under utilised assets should not be left with the NSW DNSP who has little control of the demand for these assets.

The NSW DNSPs would strongly prefer that all customers be treated similarly in the interests of simplicity, equity and consistency with the general principles being adopted in the formulation of this determination. The NSW DNSPs do not intend that any customer be required to pay up front for connection costs that have the potential to be shared by other customers except under the exceptions to the general rule set out in section 3.2 of the draft report.

Consequently all developers of multi-occupant/tenant premises should be required to pay the direct connection costs of their development including the high voltage that do not have the potential to be shared whether internal or external to the premises. It is expected that most high voltage extensions external to the premises (particularly suburban residential subdivisions) will fall into the category of potential shared assets and be funded by the NSW DNSP. However, high voltage extensions to peninsular, "land-locked" or non-urban residential, commercial or industrial developments for example are very unlikely to become shared in the future and should be funded by the developer.

The related issue of the funding of substations required specifically for these developments also needs to be clarified. For example, EnergyAustralia currently funds (except in rural areas or where it is surplus to standard supply arrangements) all the substation material of a standard design that can subsequently be reused on the system if the substation was subsequently no longer needed by the customer. This material generally includes transformers, high voltage and low voltage switchgear and the recoverable substation kiosk type housings. Further, EnergyAustralia currently also funds the labour costs of equipping these substations if more than 50% of the substation design capacity is utilised to supply other customers either immediately or in the foreseeable future (or if the customers demand is less that 250 Amperes in an area with an established low voltage feeder connection). The customer always funds substation accommodation that cannot be provided by a standard kiosk type enclosure.

It should be recognised that substations are only available in a relatively small number of discrete sizes for economic and technical reasons. For instance a single transformer design can be fitted out to supply demands ranging up to 2200 Amperes without requiring extra building costs. It may be necessary in some locations to require a substation for a demand of less than 250 Amperes and where there is only a nominal or no need to supply the general network. Usually a connection is made at the DNSPs cost to the general low voltage network as an interconnector, which is of great benefit to the customer during times of interruption for failure or for maintenance. Consequently the NSW DNSPs do not agree with the proposition that the customer should fund the substation on a pro-rata basis. It is strongly recommended that the current approach be adopted by the Tribunal (ie the DNSP only funding the substation where more that 50% is used by other customers) for many of the reasons listed above for the multi-occupant developments and in particular:

- Developers have the opportunity to game the system by claiming to require a much smaller load than will eventually be connected.
- Calculations of the shared costs will be difficult and introduce a source of dispute, and further complicate the issue of contestability in determining who should build the asset.

• Once a decision is made on the sharing of costs, it becomes a source of dispute in the future when the customer then wants more than originally nominated and the portion initially funded by the NSW DNSP is fully utilised for other customers. The consequent necessary augmentation is likely to be costly and impracticable (eg. lack of space for a substation extension) if planning decisions at the outset have been distorted to avoid a fair contribution.

The NSW DNSPs therefore requests the Tribunal to withdraw this aspect of the draft report and determination.

Multi-tenanted and Strata Titled Properties

The Tribunal's proposed approach that multi-tenanted and strata titled properties be treated as a single entity to be connected to the network is supported. As detailed in the previous discussion, the NSW DNSPs support the developer funding and installing the internal reticulation assets as well as the internal and external high and low voltage direct connection assets. In this respect, the Tribunal should ensure consistency with the principle of customers paying for the costs of assets up to the point where the use of those assets changes from dedicated to shared amongst customers.

The NSW DNSPs believe that high voltage cable assets that are used exclusively by high rise developments or by multiple lot subdivision developments, should be funded by the developer as a dedicated asset. If we apply this general principle to multi-tenanted and strata titled properties then the "excluded connection works" definition as contained in the draft determination is not required.

It is agreed that where the substation assets required to connect the property to the network may have surplus capacity and provides services to other parts of the network, and the proportion available for other services is greater than 50% of available substation capacity, the asset should reasonably be regarded as part of the shared network and funded by the NSW DNSP (except for substation building works).

However, in the situation where a low voltage connection is provided to the general reticulation from the substation and the proportion available to other services is less than 50%, the NSW DNSPs do not support the sharing of the cost of these assets between the developer and the NSW DNSP on a pro rata basis. In addition to the reasons listed earlier, the substation costs are primarily attributable to the developer due to the existing network being unable to provide the low voltage capacity required and the cost of supply to other services from the substation represents a small incremental advancement to the overall substation design. The incremental costs are generally confined to upgrading the capacity of the transformers (which would be funded by the NSW DNSP) and generally a larger substation accommodation is not required. Following this approach, the substation in this case is primarily constructed for the benefit of the developer and the cost allocation to the NSW DNSP would represent a very small incremental proportion of the total cost of the substation development.

Multiple Lot Subdivision Developments

The NSW DNSPs agree with the proposal that to ensure neutral treatment in the property market, a similar approach should be taken for developments involving residential, commercial and industrial multiple lot sub-divisions and developments involving multi-tenanted and strata titled properties such as high-rise buildings and shopping malls.

Urban Residential, Commercial and Industrial Subdivisions

The NSW DNSPs support the Tribunal's proposal requiring the developer of multiple lot residential, commercial and industrial subdivisions located in urban areas to fund the low voltage reticulation assets and the required substations. The low voltage and substation assets are specific to the development and should be funded by the developer. 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 high voltage connection. This outcome would be comparable with that proposed by the NSW DNSPs for multi-tenanted and strata titled properties.

Non-Urban Residential and Industrial Subdivisions

The Tribunal proposals for subdivision developments do not differentiate between developments located in urban and non-urban areas nor the network design to be applied.

The generally accepted industry design standard is to require new urban residential subdivisions to be provided with underground mains reticulation. Only in special circumstances is overhead utilised in new quarter-acre lot urban residential subdivision, for example where an adequate overhead line exists on the same side of the road or where the local authorities (local council or shire) has granted approval. For urban residential subdivisions, it is agreed that the NSW DNSPs should fund the cost of the shared high voltage assets, where these would be utilised to serve other subdivisions or developments.

However, the NSW DNSPs do not support the distributor funding the cost of high voltage assets where a multiple lot underground residential development is located in non-urban areas nor in the case of inappropriate developments, which do not allow the progressive development of electrical infrastructure such as a "leapfrog" development where the land release starts at the extreme end of the area at the furthest point from the available electrical infrastructure.

Generally, where a developer seeks an extension from the network to provide electricity supply to a new non-urban or semi-rural residential subdivision, the normal design policy calls for overhead reticulation. Most local authorities do not require non-urban subdivisions to be installed with an underground electrical reticulation system as a condition of subdivision approval. Where it is a requirement of the local authority, or the developer chooses to have underground electricity reticulation, the developer should be required to fund the provision of the high voltage underground system to the DNSP's standards.

The average lot frontage length is a primary driver of capital costs in residential subdivisions and generally determines the engineering construction standards to apply. For non-urban subdivisions with lot sizes in the range of one to five acres, the average lot frontage ranges from 40 to 60 metres and overhead reticulation is the construction standard. The rural style of subdivision is significantly different from urban residential developments, which feature average lot frontages of 20 metres and underground reticulation is the construction standard.

Non-urban subdivisions of this size are generally designed with multiple pole mounted distribution substations due to voltage degradation, and an associated overhead high and low voltage system. This construction standard is in accordance with good industry design practices and, when compared to an equivalent underground standard, maximises utilisation of standard equipment and assets, and provides customers with cost effective energy services as compared to the more expensive underground option. The installation of underground cables and padmounted distribution substations in non-urban subdivisions generally leads to under-utilised substation assets as the length of lot frontage and voltage degradation limits the number of customers that can be connected to industry standard padmounted transformer sizes. This limitation, higher cost and the under-utilisation of asset capacity is generally not characteristic of standard urban residential subdivisions. For these reasons, overhead is the optimum construction choice in non-urban areas and is the generally accepted industry standard.

Non-urban residential underground developments are generally land-locked and electrically isolated from other developments, and electrical assets (high voltage, low voltage and substations) are generally dedicated to that development. Each stage of the development generally requires a separate substation and low voltage system which are dedicated to the development and are generally not shared with other neighbouring developments as constraints, particularly excessive voltage and quality of supply degradation, may result. The high voltage underground mains generally form part of the reticulation within the development. As such the high voltage reticulation including substations is generally specific to the developer and should be provided by the developer.

The NSW DNSPs hold the view that the developer should provide and be responsible for the cost of all distribution assets to enable a suitable electricity service to be provided to each lot in the non-urban underground subdivision development. This would include all low voltage mains reticulation, distribution substations and high voltage underground cable, unless the high voltage cable within the subdivision forms part of a main distribution feeder or may reasonably be judged to be required to service other future developments.

To do otherwise would require the NSW DNSPs to fund underground high voltage and distribution padmounted substations in all non-urban locations whenever requested by developers. This would have the outcome of giving developers an incentive to request underground reticulation for all non-urban subdivisions at no cost to themselves and considerable additional cost to the distributor, which is then passed onto all other network customers. In our opinion, this outcome is inconsistent with sound engineering practice, delivery of cost effective energy services to customers, the underlying principles and intentions embodied in the draft determination and report, and with the principle of shared versus customer dedicated assets.

The NSW DNSPs believe that where the non-urban subdivision is standalone and landlocked and there is no potential for supplying a future neighbouring subdivision, then the developer should fund the costs of the underground high voltage cable. This approach is believed to be appropriate and cost effective.

"Leapfrog" Developments

The existing determination has a set of guidelines that cover the situation where developers commence developments at the point furthest away from existing infrastructure. The DNSPs believe that there is a need to have a similar determination to cover leapfrog developments (especially for underground residential subdivisions) in the new determination.

The existing capital contribution guidelines states in relation to underground residential developments:

"Based on the same principle of shared or customer dedicated asset, should an isolated URD require connection, then all costs associated with assets fully dedicated to providing energy supply to this URD should be charged to the URD. However, to minimise possible gaming by developers whereby an otherwise single development is split into two or more, HV assets for URDs will be deemed as shared assets, HV assets for URDs will be funded by distributors......There are exceptions to the above when URDs will be charged the costs associated with HV assets, These are as follows:......In cases of leapfrog development, where the land release starts at the extreme end of the area at the furthest point from the available electricity infrastructure"

The intention of this clause was to address standalone or landlocked underground residential developments, including leapfrog developments, isolated from other subdivisions (such as the majority of rural residential subdivisions) and where there is little or no potential for other neighbouring developments to utilise the high voltage assets in the subdivision. It is our understanding that this was allowed by the Tribunal so as to encourage responsible applications for connections and extensions to the electrical network by developers, in which case the developer would be charged the cost of fully dedicated assets including the full cost of the high voltage reticulation, distribution substations including the transformer and the low voltage.

For developments, which are leapfrog in nature, the NSW DNSPs, believe the high voltage assets should be classed as dedicated to the subdivision and funded by the developer.

The Exceptions to the General Rule

The NSW DNSPs support the proposal where distributors may require a capital contribution from a customer where the size of the expected demand (large load customer) or lower network density impacts significantly on augmentation costs. There is also merit in the Tribunal's proposed approach, which would allow the NSW DNSPs with rural and remote systems some flexibility, through the

application of defined exceptions, to seek a contribution towards the cost of network augmentation assets from customers connecting to the network.

There appears to be an omission in the draft determination in respect of the methodology for charging customers for augmentation. The draft report proposes that the augmentation assets must be the economic optimum and that the costs of augmentation are to be allocated on the ratio of the expected load to additional capacity. However the determination only requires that the augmentation assets be the economic optimum size required given the customer's connection capacity, other loads and the expected growth in other loads.

Pro rata contribution would imply that the customer only pays augmentation costs in proportion to their utilisation which would make the application of a reimbursement scheme redundant for network augmentation works. The NSW DNSPs agree with the stipulation that assets should be of an economic optimum size consistent with good industry practice and that network augmentation assets be fully contributed with customers being offered access to a reimbursement scheme to recoup costs from customers who connect at a later date. We believe that this approach would be fair and equitable to customers, provide an appropriate price signal and would provide an incentive for the NSW DNSP not to overbuild the network (and recover those costs from the customer).

Defining Customers Subject to Augmentation Costs

The NSW DNSPs agree with the class of customers who may be liable for augmentation costs.

The NSW DNSPs agree with the Tribunal's definition for a large load customer as one whose expected demand for electricity is such that the customer will require more than 50% of the capacity of the existing network to be augmented.

The Tribunal has defined a rural customer as one whose premises will be connected to a rural network where density is less than 300 kVA per kilometre of line. The NSW DNSPs agree in principle with this definition but only for the purposes of applying the new capital contribution determination. We believe the rural network definition should be supplemented with local council/shire land zoning/classification. The Tribunal will also need to clarify if the line length, for the purposes of determining the ratio also includes low voltage. The NSW DNSPs believe that the kVA/km ratio should be based on per kilometre of high voltage only, as the length of low voltage in rural and remote areas is immaterial, and the original design After Diversity Maximum Demand (ADMD).

Standalone Power Systems

It is a condition of the NSW DNSP's licence that it must consider alternative power sources before connecting a customer, having regard to the cost effectiveness of each alternative. The NSW DNSP can only extend the distribution network to connect a customer if it is the lowest cost alternative.

The Tribunal in the draft report comments:

"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".

However a similar requirement does not appear in the draft determination. The existing determination has a set of guidelines that were produced by the Tribunal, which provides a similar requirement relating to standalone power systems. It is our understanding that the Tribunal will not publish a similar set of guidelines.

The NSW DNSPs believe that the determination should place a provision on the customer that where the NSW DNSP has identified a less costly alternative than a network connection, but the customer chooses an extension, the total cost of the connection (augmentation and connection costs) should be fully paid for by the customer.

Joint Applications

Another major concern with the current arrangements involves the ruling where two adjoining rural landowners provide separate applications for connections at the same time. In this case, it is generally necessary for the rural network to be extended to get supply to the applicants and because the extension assets are deemed to be "shared", a rural based DNSP is required to fund the shared extension.

In the preamble to the draft determination, the Tribunal states that:

"....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 amongst 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"

This would suggest that customers would fund the "shared" extension assets.

However, the definition of the linkage point (or connection point) states that:

"...for this purpose, assets are considered to be dedicated to one or more customers only if they are:

- used by one customer exclusively, or
- 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".

The definition of the linkage point attempts to delineate between customer connection assets that are dedicated to the customer, for which the cost is the responsibility of the customer, from those assets which are part of the general network. However, as detailed above, there is some uncertainty on the application of the present definition where two or more customers connect to the rural network at the same time in terms of which party or parties is/are responsible for those connection assets which are considered dedicated if they are shared between these two or more new customers.

It is not absolutely clear how these definitions would be applied to an extension of the network to connect two or more adjoining rural landholders where separate applications for new connections are received at the same time. The proposed definition of connection works and linkage point may be interpreted to mean that the DNSP would fund the new shared extension assets.

In our opinion this interpretation of the above proposal would provide little or no dynamic economic signal to the connection applicants of the true costs of connection, would be susceptible to "gaming" as is currently the case with present arrangements and would lead to the proliferation of cross subsidies as other customers would fund the costs of the extension asset through their network use of system prices. The NSW DNSPs believe that where two or more customers request an extension to the existing rural network and that request is made at the same time, the customers requesting the extension should be responsible for the full cost of connection as the extension assets would be dedicated to the applicants. The shared extension costs would normally include the high voltage power line extension and distribution substation. The dedicated service mains connections to the substation would be funded by the individual customers. The reimbursement scheme would apply for future connecting customers.

There is also the related issue of new three phase connections to rural distribution feeders where only a single-phase supply is locally available. In this case, the connection point should be the location in the network where adequate three-phase capacity is available. This may need to be another exception to the general rule. Alternatively, the definition for the linkage point could be amended to define the connection point where the customer requests a three-phase configuration where only single-phase is available. Similarly, existing customers should not fund a higher standard of supply requested by a new or existing customer and assets constructed for this purpose should be funded by the requesting customer.

An amendment to the proposed definition of the linkage point, which would capture these matters, is proposed below:

"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) used by one or more rural customers who apply for connection at the same time, or
- (c) used by one customer requesting a higher standard of supply or a three-phase connection when all existing customers of the same type have access to single-phase supply only, or
- (d) 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."

The NSW DNSPs would support an exception to the general rule to cover these cases if the definition as it currently stands in the draft determination is to be retained.

Ideally the linkage point should be defined as the point on the network where sufficient capacity is available to service the customer(s) to ensure that the quality of supply provided to that customer(s), and all other existing network customers, would be in accordance with the NSW DNSPs published standards. In rural areas, the voltage level generally determines quality of supply, as constraints are generally driven by voltage degradation. This connection point would then determine the augmentation necessary for larger load customers and would also define the points on the network where customers would be able to connect their extension assets.

"Mother and Son" and other Related Parties

The guidelines to the existing determination provides guidance to cover the "mother/son" developments where related applicants could attempt to game the previous determination. However it is noted under the draft determination that this same gaming opportunity may not require guidelines relating to mother/son or joint applications as the reimbursement scheme should address any inequities that such applications produce. Also, the draft determination recognises that in rural connections a capital contribution will be required by both parties.

Reimbursement Schemes

The NSW DNSPs generally supports the re-introduction of the reimbursement scheme, as provided for under section 25(2) of the Electricity Supply Act, as this has been a major source of customer complaints and will provide for more equitable outcomes. There is currently no scheme in place for customers to access.

The reimbursement scheme however will be practically difficult to implement, the details of which are provided in the paper produced by the CCIWG.

The NSW DNSPs agree with the following elements of the reimbursement schemes as proposed by the Tribunal:

- 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;
- Limit the allocated costs at the amount of the original capital contribution;
- The DNSPs administration costs would be treated as a corporate overhead. The NSW DNSPs will not be permitted to levy a fee for participation in the scheme;

- The NSW DNSPs would use their own quote, or if no quote, an estimate of costs, as the basis for determining the amount to be reimbursed; and
- The NSW DNSPs being required to submit to the Tribunal for approval, the basis for reimbursing customers.

Additionally, the NSW DNSPs consider that the reimbursement scheme should have the following features:

- Limiting the period over which reimbursements may be offered to 5 years;
- The reimbursement is made to the current owner of the property of the original contributor. The current owner would responsible for advising the NSW DNSP of any changes in contact details;
- The NSW DNSP would be responsible for ensuring that later connecting customers reimburse the current owner;
- The reimbursement to be calculated pro-rata on utilisation (large customers only) or number of customers (small customers only);
- The scheme should be applied to all new connections where a customer had contributed to assets after the implementation of the new determination; and
- Developers of subdivisions should not be eligible to receive reimbursements but should be liable to pay reimbursements.

The Tribunal considered ruling that the reimbursement should be made to the original contributor, however the NSW DNSPs would prefer to see the current owner of the property receive the payment on the grounds that:

- the precedent established by other industry bodies would suggests that the cost of establishing connection of electric power to property can be capitalised in the value of the property, and
- such a requirement would inevitably lead to customer relations embarrassments or even legal action if the original contributor could not be located after a potential customer had been advised of a reimbursement charge. These situations would not be eliminated by an expectation that the original contributor would keep the NSW DNSP informed of death or change of address.

On the question of whether any cost incurred in establishing the connection of electric power to a customers property will be capitalised in the value of the property if it is sold, it is agreed that this may not be the case if an effective reimbursement scheme is not in place. Indeed, it may be more likely that neighbouring properties, which get free access to power at the expense of the contributing customer, could see a greater rise in market price than the property that paid for the extension. If however there is an effective reimbursement scheme in place creating a barrier to free connection for neighbouring properties then there is good reason for a differential in the market value of properties with and without connected power. The differential would be the capitalised value of connection costs. A search of practices in overseas and interstate distributors where reimbursement schemes are in place, found that where the "original contributor" is specifically referred to in the reimbursement policy it usually only applies if at the same address, or in relation to a fixed (eg. \$500) amount, or a payment directly from the DNSP independent of the new customer.

Reimbursement of Capital Contributions Sample of overseas and interstate practice

DNSP	Reimbursement	Recipient	Period	Date
OPALCO, San Juan County	Proportionate monetary interest in said shared facility	Current owner	5-10 years	1995
Vernon Electrical Cooperative	Recomputed based on the greater number of participants	unknown	5 years	
EWEB	Pro-rata share by % of capacity, where original contribution >\$1500	Assignees or successors	5 years	
Central Vermont PS	Equal share of cost, depreciated to zero after 5 years	Current owners of dwellings or structures served	5 years, part to10 years	2001
Wide Bay - Burnett	Equal shares	unknown	Depreciated to zero over 5 years	Old
Ergon Energy, Maryborough (proposed)	Pro-rata (> minimum amount)	Current owner	5 years	2001 draft
UtiliCorp, Calgary	Pre-calculated or pro-rata share	"earlier customer"	unknown	2001
New Brunswick Power	Refund from DNSP	Per contract	5 years	2000
Midwest Energy Cooperative, Cassopolis, Michigan	\$500 fixed	Original contributor only	5 years	2000
Tri-county Electric Cooperative	\$500	Original member if at address	5 years	
NSP Wisconsin	Refund from DNSP	Original contributor on application	5 years	1996

It is proposed that the formula for calculation of reimbursements be designed to generate a predetermined fixed once-off reimbursement charge rate for new customers. This is contrasted against some past schemes (and some schemes existing in other states) that require a complicated calculation for each new customer and then perpetuate a growing redistribution of reducing amounts of money to each of the previous contributors.

The majority of reimbursements will be in rural situations between relatively small load customers (say less than 50 kVA). Some of these reimbursements will relate to shared transformer capacity but most will be for shared feeders, usually 11kV. The thermal loading of rural 11kV feeders is generally low given that the conductor is dictated by standard strandings, tensile strength to maintain reasonable span lengths and voltage drop constraints. Hence the ratio of a small customers load to the "capacity" of the feeder will be disproportionately small as an indicator of his financial responsibility for the share works.

The proposal is therefore that small new customers (less than 50 kVA), whose connection costs are largely independent of capacity considerations, be liable to a pre-calculated charge based simply on the cost of the shared works divided by the prospective number of new "small" connections during the life of the reimbursement scheme. Once calculated this charge rate can be registered in the NSW DNSPs GIS and/or customer information systems and plainly communicated to all prospective small customers and accredited service providers. This will create fairness for the original customer, certainty of costs for new customers and contain administration costs for the NSW DNSPs.

In a small number of situations involving shared works and larger customers it will be appropriate to take into account the relative capacity of respective customers. Larger customers considering commercial investments are not so inclined to expect immediate information about connection requirements, including details of charges. For the relatively small number of connections in this category the NSW DNSPs can afford to be more sophisticated in the calculation of reimbursements.

Therefore, for any new customer whose load is greater than 50 kVA it is proposed that an individual calculation be carried out taking into account not only the extent or length of shared assets but also the relative loads imposed on those assets.

UtiliCorp Networks Canada of Calgary is one other distributor that makes a similar distinction between large and small customers for the purpose of calculating reimbursements.

The following table gives an appreciation of the administration overheads that may be involved in the proposed system (for Integral Energy only).

Category (Integral Energy only)	Rural	Rural	Large
	<50kVA	>50kVA	Urban*
Total no. of connection applications processed each year			
(not including subdivisions)	1200	~ 20	~ 5
Total no. of connections involving customer contributed			
assets	200	~ 20	~ 5
Total no. of connections liable to a reimbursement			
charge	~ 300	~ 3	~ 1

* "Large Urban" refers to applications where the customer's load is more than 50% of the capacity of an asset that must be augmented.

A worked example of a series of capital contributions and reimbursements under the proposed policy is attached.

The NSW DNSPs are concerned that the draft report and determination may require the reimbursement scheme to apply retrospectively to the extent that past contributors to network assets would be eligible for reimbursements from new customers. However, given the degree of restructuring that has taken place in the industry in the past 10 years there are insufficient records available at short notice to enable a retrospective refund scheme to be plausibly managed. In NSW the number of rural connection projects undertaken each year is in excess of 2000, any one of which could be the subject of a refund at some future date. In order to be able to administer a retrospective refund scheme it would therefore first be necessary to catalogue around 20,000 previous projects, cross referencing each to an information retrieval system such as a GIS layer so that details could be quickly retrieved and potential customers quickly informed of refund obligations. This would obviously be an enormous task as the financial details of each of those projects are by no means easily accessible, most having been undertaken by predecessors of the current NSW DNSPs and long ago archived. The further responsibility to notify all customers who may be entitled to reimbursements would be even more onerous. It is strongly believed that retrospectivity would lead to considerable chaos in customer relations and many disputes. Furthermore, it is the NSW DNSPs understanding that the Tribunal's determinations cannot apply retrospectively.

A requirement to increase reimbursement charges in line with CPI movements was also considered but found not to be appropriate or desirable. If the time value of money is to be taken into account then the fact that the original customer will always have received a greater benefit from the shared asset (because he has benefited for a longer period of time) should be acknowledged. This would suggest that reimbursements should be reduced over time rather than increased. Ergon Energy in Queensland actually administers schemes where the calculated reimbursement is reduced uniformly to zero over the life of the scheme (ie. -20% per year over 5 years). Consideration of the depreciated value of the shared asset would also suggest a reducing reimbursement.

The NSW DNSPs believe that the proposed reimbursement scheme to be sound and practical. We would welcome the opportunity to work with the IPART Secretariat to further refine and enhance the proposed scheme. Accordingly, the NSW DNSPs would recommend that the Tribunal not make a binding determination with respect to the detail of the reimbursement scheme pending further discussion and evaluation of any alternatives or enhancements.

Dispute Resolution

The NSW DNSPs agree in principle for customers to have access to an effective dispute resolution process for timely and cost effective resolution of valid disputes which may arise between the customer and the DNSP.

The standard form customer connection contract (SFCCC) as required under the Electricity Supply Act governs the relationship and the terms and conditions of the provision of "connection services" by the NSW DNSPs to customers. In the event of a dispute between a NSW DNSP and a customer in relation to the cost of connection or augmentation, under the SFCCC, customers have the right to choose a path for resolution of any dispute to determine its fairness and reasonableness. The customer can either refer the matter to the EWON if within the EWON's purview or alternatively they can follow the appeals and disputes procedure set up by the NSW DNSPs under the SFCCC.

The Tribunal's proposal for a panel of experts is of some concern to the DNSPs as the Tribunal has provided little detail and given the relatively low level of complaints that would otherwise get elevated to that level. Questions in relation to the dispute resolution mechanism needing to be answered include:

- How will dispute resolution mechanism operate ie what are its processes?
- Who will be on the dispute resolution panel?
- How do people get nominated to the dispute resolution panel?
- Who selects them and what are the selection criteria eg qualifications of the member?
- How are conflicts of interest to be identified and dealt with?
- How will the parties be bound to accept the decision of the expert?
- Will there be grounds for appeal and if so to whom?
- Why only one expert; the National Electricity Code allows up to 3 experts?
- Will parties be entitled to have legal representation at any hearings before the expert(s)?
- Will there be a specific time limit for dispute resolution?

The NSW DNSPs believe the dispute resolution process for capital contribution purposes should, at the very least, have the following features:

- The parties to the dispute should agree on the panel of experts. One party should not have the sole right of selection;
- Dispute resolution should be referred to a panel of experts drawn from a pool rather than a single expert drawn from a panel;
- Decisions made through the dispute resolution process should not have any precedent value with respect to future decisions due to project and locational specific issues;
- The experts should determine who bears the costs of the dispute; and
- The nominated connection point should not be the subject of dispute resolution.

In relation to the last point, the NSW DNSPs believe that network planning must be a streamlined process and should not be fraught with disputes and uncertainty. The NSW DNSPs are concerned that the dispute resolution process should not be seen as an opportunity to challenge the nominated connection point given the DNSPs level of knowledge of the network and their responsibilities for its efficient long term development for the benefit of all customers connected, as is noted later. The DNSP alone is held accountable for providing for network performance and the efficient development of the network. If the expert requires a NSW DNSP to alter its planning requirements, who will be accountable for the outcome of this decision. Will the expert have specific responsibilities in this regard?

It is the NSW DNSPs opinion, that the dispute resolution process as contained in the SFCCC is easy to understand, is fair, efficient and provides for timely outcomes, and that it is unnecessary to single out capital contributions for specific dispute resolution requirements in the new determination.

Negotiation

The NSW DNSPs have no objection in principle to provide larger customers with some flexibility to negotiate an outcome suitable to their circumstances provided that the terms of connection negotiated relate to a deferred payment scheme only and as long as prudential requirements are met.

The Tribunal proposes in terms of the manner of capital contributions that:

"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".

That is, negotiation should only apply to large customers required to fund augmentation and only to the extent of a deferred payment scheme. The NSW DNSP would agree that the customer and the NSW DNSP should be able to negotiate the terms of payment of the cost of augmentation. In this case there should only be one basic scheme to simplify administration and provide transparency. The NSW DNSP should be able to base the scheme on the current CRNP scheme. The question then arises as to how the reimbursement scheme would work with a deferred payment scheme?

The NSW DNSPs faces the risk of not being able to recover the costs of the investment because the (larger) customer has ceased operations. Customers with large loads should have the right to negotiate the form of their capital contribution so long as prudential requirements are still met. The Tribunal will need to acknowledge this risk by requiring customers to provide appropriate security to the NSW DNSP. This material issue is not currently addressed in the draft determination nor the draft report.

The draft report would appear to encourage much wider negotiation, for example "....*identifying and allocating augmentation costs*". Negotiations should not include the connection design parameters. This function, as correctly defined by the Tribunal, is one of the monopoly services provided by the NSW DNSP, namely "Design Information" provision. There may be an opportunity for the customer or developer to attempt to negotiate down to expedient short term solutions and away from the Tribunal's preferred "economic optimum size" as stated in the draft determination.

The NSW DNSPs has a clear responsibility to ensure the efficient planning and development of network services. Optimal planning occurs when capital works based on least cost planning solutions can be timed to match load, and where forecast usage on that part of the supply network can be reliably predicted. This can only be achieved through an understanding of the complete picture for a particular part of the network. It is our view that the decision on the optimum network option by the customer in some situations will not lead to the development of the most efficient design option when all loads are considered.

Also a customer will generally be unaware of the overall planning requirements and planning history. In our opinion, the current practice where the customer is given the opportunity to offer alternatives within the planning guidelines adopted in the definition of "Design Information" is effective. The customer would then be able to invest time to openly discuss the most effective and efficient arrangements with the NSW DNSPs network planners and minimising the potential for inefficient designs.

This provision is likely to create an expectation among customers that negotiations are possible and will undoubtedly result in increased disputation.

The NSW DNSPs believe that negotiation should only apply to large customers required to fund augmentation and only to the extent of a deferred payment scheme. In this case there should only be one basic scheme to simplify administration and provide transparency. The DNSP should be able to base the scheme on the current CRNP scheme, removing the need to include this requirement in the determination as the NSW DNSPs have existing policies in place.

Contributed Assets

Contestability

The NSW DNSPs believe the provision of contributed assets, including augmentation assets, should be fully contestable at the discretion of the customer where these are fully funded by the customer. Effective competition should lead to economically efficient pricing outcomes for customers. The customer should have the option, as is currently the case, of selecting their preferred contractor, provided that contractor meets relevant industry accreditation requirements and has the technical capabilities to undertake the contestable works.

However, where works are partially funded by the NSW DNSP and the customer, the NSW DNSP should have the discretion as to whether it is made contestable. Managing contestability where contributions are shared between the NSW DNSP and the customer can be complex as safety issues may arise, and in many cases, the resulting work if performed by persons other than the NSW DNSPs may inconvenience and impact on the supply to existing customers.

Specification

The NSW DNSPs generally support, in principle, that where the assets contributed by the customer (although some assets may be contributed by the NSW DNSP on the customers side of the connection point, eg the transformer) lie on the customer's side of the connection point and within the customers premises, the customer should have the right to choose between underground or overhead low voltage reticulation lines, subject to the approval of all other relevant authorities. The customer should also be able to request (and supply the funding for) assets additional to those considered adequate by the distributor to meet the customers requirements according to the distributor's relevant published supply standards applicable at the time. However all such assets must comply with the NSW DNSPs documented standards, which also satisfy the technical and safety regulations.

The NSW DNSPs believe that where the contributed assets are for network augmentation (that is, the assets lie on the NSW DNSP's side of the connection point), the NSW DNSP will determine all relevant technical specifications.

Assets should be built to the general standards adopted by the NSW DNSPs, which are adopted to satisfy regulatory requirements. The NSW DNSPs, as the owner of the electricity network, are responsible for developing and administering the specification of construction and material standards that provide optimum economic outcomes for customers. More importantly, these standards ensure that the electricity network is developed in a safe manner and continues to maintain the reliability and quality of supply to new and existing customers. It needs to be recognised that a precondition for the effective safeguarding of these standards and network performance management is sound construction and material standards and specifications. Adherence to the NSW DNSPs standards will ensure the integrity and reliability of assets constructed and will also minimise the risk to independent accredited service providers of the acceptability of their materials and construction by defining acceptable constructions and materials.

If the asset is built to non-standard, the NSW DNSP should continue to have the option to decline ownership and meter accordingly.

Ownership

The NSW DNSPs agree in principle that customers should not be prevented from owning assets that they have funded. The customer should be able to negotiate their transfer to the DNSP, retain them or transfer them to another party.

However, in most cases ownership should be vested with the DNSPs. Firstly, the costs of private ownership generally outweigh any benefits and secondly, ownership is only practicable where it is restricted to customers premises and metered accordingly. In relation to the latter, it is essential for any such asset owned by a customer to be isolated from the NSW DNSPs own network by switches to avoid potential interference to supply to other customers connected to the local network. As these

switches need to be housed in substation accommodation, it is likely that as substation sites will only be available on the customer's premises due to limited availability of land in public areas, customer ownership of assets will in general not be feasible in public streets. The NSW DNSPs expect to be able to recoup the extra costs of these switches from the customer.

As has been noted by the Tribunal, there are significant legal and other asset operating and maintenance obligations associated with the ownership and operation of such facilities (public liability insurance, technical and safety requirements) that would need to be carefully considered by the customer.

Where funding is shared between the NSW DNSP and the customer, we believe that the NSW DNSP should retain ownership of the assets.

The NSW DNSPs support in principle the developer having the option of retaining ownership of the assets within the privately owned portions of the development and operating them as an inset network.

In making a decision to retain or purchase an inset network, one should be aware of the very significant legal and safety obligations placed on inset network owners. The industry, including the regulator, has a responsibility to define these obligations clearly to potential network owners if the "right" is to be promoted. Following are some of the issues involved, some of which only exist if private ownership is contemplated on public property (see italics):

- Safety audit responsibility?; authority and responsibility of LNSP and/or NEMMCO?;
- Quality of supply and reliability obligations?;
- Obligation of inset network owner to allow access by other customers? *particularly if the only available service corridor has been monopolised*;
- Obligation of inset network owner to allow power transfers through the inset if it is or becomes interconnected with other parts of the host network or other networks?;
- Rights of inset network owner to gain access to service corridors otherwise reserved for the LNSP? eg. authority of Street Opening Conference?;
- Access to retail competition of customers connected to the inset networks?;
- Ability of inset network owner to earn financial return from his investment?;
- Administration of NMIs (and associated costs) for customers connected to the inset networks?;
- Responsibility for losses in inset networks, particularly if through power transfers are involved?;
- How to handle divided responsibilities if the ownership of the inset network is fragmented by part sale to other connecting customers?;
- Physical specification and installation of isolation circuit breaker, protection and metering at interconnection point? additional footpath hardware;
- Local Council approvals required to install and own structures and equipment on public property?;
- Other distributor rights to enter private land outside franchise area, if they own an inset network?

Furthermore, the right to sell inset networks to a third party has the potential to create some disorder in the industry, if not appropriately qualified. Logically the market for potential sale of an inset network would be to the licensed network service providers, including the local NSW DNSP itself. Given that the only financial or market value of an inset network results from it's ability to earn use-of-system charges, in order to sell an inset network to anyone other than the NSW DNSP it would be necessary to install import metering as well as export metering. As this is usually a considerable cost it follows that the local DNSP would have a considerable advantage as a potential buyer, because the metering and protection would not be required.

The effective result therefore would be that the customer could effectively insist that the local DNSP purchase the inset network at a price up to it's economic value less the cost of installing high voltage metering and protection. This would lead to the situation where a local DNSP would fund assets that the Electricity Supply Act clearly requires a customer to fund as a capital contribution and is opposed by the NSW DNSPs. Presumably this purchase price could be calculated in a manner similar to that

proposed by the CCWG for the "distributor contribution". Would the buy-back prices for inset networks be regulated? Would the repurchased network be included in the local DNSP's asset base for revenue purposes?

ATTACHMENT A - THE NSW DNSPs PROPOSED AMENDMENTS TO THE DRAFT DETERMINATION

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 <u>fully</u> 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. <u>Developers of subdivisions are not eligible to receive reimbursements but are liable to pay reimbursements</u>. 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 5 ± 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 <u>a Cost</u> <u>Share Reimbursement</u>, being 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.

New customer's load	v	Cost of shared works	v	CPI(2)
ivew customer s roug	Λ	Cost of shared works	Λ	$-\underline{\text{OL}}(\underline{z})$
Capacity of shared works				CDI(1)
eupaenty of shared works				

The cost share reimbursement shall be calculated as follows:

(A) Where the new customer's load is not greater than 50 kVA the reimbursement shall be a pre-calculated charge, as determined by the DNSP in consultation with the original customer prior to construction of the shared works. The new customer is then not subject to any further payment or receipt of reimbursements. The pre-calculation of the charge

will be based on the cost of the potentially shared works and the prospective number of new customers expected to connect during the reimbursement period.

i.e. Pre-calculated reimbursement = cost of shared works number of prospective new customers

or

(B) Where the new customer's load is greater than 50 kVA the reimbursement shall be calculated as a pro-rata share of the cost of the shared works, based on the respective loads of existing customers and the new customer. The intention of this procedure is to reconcile the contributions of "dominant" customers and the original customer (who may still have a considerable financial investment in the shared works) as if they had all connected at the same time. New customers contributing on this basis will become co-eligible for a share of reimbursements from subsequent new customer loads greater than 50 kVA within the original reimbursement period.

New customers will not be liable to pay reimbursements if:

- (a) <u>the eligible recipients have been fully reimbursed for the cost of shared</u> works; or
- (b) <u>the calculated reimbursement charge to the new customer is less than</u> <u>\$200 (adjusted for CPI relative to the year 2001).</u>

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; and

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 <u>the</u> <u>current owner of the property of</u> 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 (except for the nominated connection point), 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.
- (a) 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 <u>panel of two</u>. The expert panel shall be agreed between the customer and the DNSP<u>-of-the eustomer's choiceand</u> selected from an independent <u>pool of experts panel</u>. The costs of the expert determination (including the fees and expenses of the expert) will be as determined by the expert panel.

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. "**DNSP**" 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) used by one or more rural customers who apply for connection at the same time, or
- (c) <u>used by one customer requesting a higher standard of supply or a three-phase</u> <u>connection when all existing customers of the same type have access to single-phase</u> <u>supply only, or</u>

(d) 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, or outside of township or village boundaries as defined by respective local government councils, or Western Lands Commissioner for the Unincorporated Area of NSW.





Note: All loads as specified in customer's application for customer connection services

Customer A funds a 1km, \$10,000 11kV line extension and a \$5,700 transformer to establish supply to his property. It is determined at the time of construction that the number of prospective beneficiaries of the 11kV line is 5 and of the substation is 2. The pre-calculated reimbursements for all new connections less than 63kVA are therefore set as:

HV Line beneficiaries	\Rightarrow	10,000/5 = 2,000 per customer; and
Substation beneficiaries	\Rightarrow	5,700/2 = 2,850 per customer.
The unreimbursed contril \$15,700 - \$2,000 - \$2,850	oution $0 = \$1$	of Customer A (CS# 12345) is now: 0,850.

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 200/1000 * \$2,000 = \$400, payable to Customer A.

The unreimbursed contribution of Customer A (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. The reimbursement is 2,000 + 2,850 = 4,850, payable to Customer A.

The unreimbursed contribution of Customer A (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 property. He agrees at the time of construction that the number of prospective beneficiaries of the 11kV line is 10 and of the substation is 2. The precalculated reimbursements for new connections less than 50kVA are therefore set as:

HV Line beneficiaries \Rightarrow \$8,850/10 = \$885 per customer; andSubstation beneficiaries \Rightarrow \$7,200/2 = \$3,600 per customer.

The unreimbursed contribution of Customer D (CS# 12347) is now: \$16,050 - \$885 - \$3,600 = \$11,565

Customer D is also a beneficiary of Cost Share Reimbursement Scheme #12345 and is liable for a reimbursement of \$2,000 payable to Customer A.

The unreimbursed contribution of Customer A (CS# 12345) is now: \$5,600 - \$2,000 = \$3,600.

Customer E is liable to a pro-rata reimbursement based on respective loads because his load is greater than 63kVA. Customer E is also a beneficiary of two cost sharing schemes, CS# 12347 and CS# 12345.

Calculation of reimbursement to Customer A:

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

200 / 256 * \$10,000 = \$7,813

Since this amount is greater than the unreimbursed contribution of Customer A Customer E is only required to reimburse \$3,600 to Customer A.

Customer A is no longer entitled to any further reimbursements.

Calculation of reimbursement to Customer D:

Total cost of shared works = 0.5/0.7 * 8,850 = \$6,321

Utilisation of shared works is:

by Customer D - 20 * 0.5 = 10 kVA.km

by Customer E	-	200 * 0.5	= 100 kVA.km

Total

Therefore the responsibility of Customer E is

100 / 110 * \$6,321 = \$5,746

Since this amount is less than the unreimbursed contribution of Customer D Customer E is liable to reimburse the full amount of \$5,746 to Customer D.

= 110 kVA.km

The unreimbursed contribution of Customer D (CS# 12347) is now: \$11,565 - \$5,746 = \$5,819.

Record of cost share reimbursement scheme

1. Reference number	CS# 12345		
2. Property of original customer	Customer A address		
3. Date of original customer application	1 July 2002		
4. Reference to any preceding reimbursement scheme to which this scheme is a beneficiary.	None		
5. Description of works funded by original customer	6. Cost of works	7. Prospective Customers	8. Pre-calculated reimbursement
11kV OH Line xyz	\$10,000	5	\$2,000
50 kVA Transformer 123	\$5,700	2	\$2,850
	10 D (44 4	
9. Reimbursement received from:	10. Date	11. Amount	12. Unreimbursed
9. Reimbursement received from:	10. Date	11. Amount reimbursed	12. Unreimbursed contribution
9. Reimbursement received from: Own Contribution	10. Date 1 July 2002	11. Amount reimbursed \$4,850	contribution \$10,850
9. Reimbursement received from: Own Contribution Customer B	IO. Date 1 July 2002 1 August 2002	11. Amount reimbursed \$4,850 \$400	contribution \$10,850 \$10,450
9. Reimbursement received from: Own Contribution Customer B Customer C	10. Date 1 July 2002 1 August 2002 1 May 2007	11. Amount reimbursed \$4,850 \$400 \$4,850	12. Unreimbursed contribution \$10,850 \$10,450 \$5,600
9. Reimbursement received from: Own Contribution Customer B Customer C Customer D	Io. Date 1 July 2002 1 August 2002 1 May 2007 1 April 2008	11. Amount reimbursed \$4,850 \$400 \$4,850 \$2,000	12. Unreimbursed contribution \$10,850 \$10,450 \$5,600 \$3,600
9. Reimbursement received from: Own Contribution Customer B Customer C Customer D Customer E	Io. Date 1 July 2002 1 August 2002 1 May 2007 1 April 2008 1 June 2009	11. Amount reimbursed \$4,850 \$400 \$4,850 \$2,000 \$3,600	12. Unreimbursed contribution \$10,850 \$10,450 \$5,600 \$3,600 nil
9. Reimbursement received from: Own Contribution Customer B Customer C Customer D Customer E	Io. Date 1 July 2002 1 August 2002 1 May 2007 1 April 2008 1 June 2009	11. Amount reimbursed \$4,850 \$400 \$4,850 \$2,000 \$3,600	12. Unreimbursed contribution \$10,850 \$10,450 \$5,600 \$3,600 nil
9. Reimbursement received from: Own Contribution Customer B Customer C Customer D Customer E	Io. Date 1 July 2002 1 August 2002 1 May 2007 1 April 2008 1 June 2009	11. Amount reimbursed \$4,850 \$400 \$4,850 \$2,000 \$3,600	12. Unreimbursed contribution \$10,850 \$10,450 \$5,600 \$3,600 nil
9. Reimbursement received from: Own Contribution Customer B Customer C Customer D Customer E	IO. Date 1 July 2002 1 August 2002 1 May 2007 1 April 2008 1 June 2009	11. Amount reimbursed \$4,850 \$400 \$4,850 \$2,000 \$3,600	12. Unreimbursed contribution \$10,850 \$10,450 \$5,600 \$3,600 nil
9. Reimbursement received from: Own Contribution Customer B Customer C Customer D Customer E	IO. Date 1 July 2002 1 August 2002 1 May 2007 1 April 2008 1 June 2009	11. Amount reimbursed \$4,850 \$400 \$4,850 \$2,000 \$3,600	12. Unreimbursed contribution \$10,850 \$10,450 \$5,600 \$3,600 nil

Record of cost share reimbursement scheme

13 Reference number	CS# 12347		
14 Property of original customer	Customer D address		
15. Date of original customer application	1 April 2008		
16. Deference to any preceding reimburgement scheme to which	CS# 12345		
this scheme is a honoficiary	0.5# 12545		
tins scheme is a beneficiary.			
	19 Cost of moder	10 Durant of the s	20 December 1 - 4 - 1
17. Description of works funded by original customer	18. Cost of works	19. Prospective	20. Pre-calculated
		Customers	reimbursement
11kV OH Line pqr	\$8,850	10	\$885
50 kVA Transformer 124	\$7,200	2	\$3,600
	·		
21. Reimbursement received from:	22. Date	23. Amount	24. Unreimbursed
		reimbursed	contribution
Own Contribution	1 April 2008	\$4,485	\$11,565
Customer E	1 June 2009	\$5,746	\$5,819

ATTACHMENT C

The following graph illustrates the relative contributions that would be made by the customers described in ATTACHMENT B under different reimbursement policies.

The bars labelled "TRUE" represent the ideal outcome if everyone connected at the same time and contributed in proportion to their utilisation of assets.

The bars labelled "per Rating" represent the outcome under IPART's draft policy.

The bars labelled "Pre-calc" represent the proposed outcome as described in ATTACHMENT B.

