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Capital Contributions Policy Review
Independent Regulatory and Pricing Tribunal
PO Box Q290
QVB Post Office
SYDNEY NSW 1230

Dear Professor Parry,

CAPITAL CONTRIBUTION SUBMISSION

Thank you for the opportunity to respond to the IPART Discussion Paper DP-38 on Pricing of Capital Contributions to Electricity Networks.

Australian Inland Energy has actively participated in both the Capital Contribution Working Group, and the Capital Contribution Implementation Working Group, and agrees with many of the recommendations.

However, there are concerns regarding the concept and quantum of distributor contribution towards works, and the definition of dominant load.

The concerns are detailed in the attached submission, which was emailed to Jessica Radbone on 5 May 2000.

I look forward to discussing this submission with the Tribunal. An electronic copy of this submission has also been provided and is available for public consideration.

Please contact Mr. Adrian Ray on telephone (08) 8080 2425 should you have any queries on this submission.

Yours faithfully,

E T NORRIS
CHIEF EXECUTIVE OFFICER

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Australian Inland Energy

Capital Contributions Submission to IPART

Summary of Key Issues

Australian Inland Energy acknowledges the Tribunal's concerns regarding the widening of the scope of capital contribution funding. However, there must be a balance maintained between social equity and regional development initiatives, and the commercial obligations of distributors, in order to provide a return to the shareholders and equity for other system users.

In this submission, Australian Inland Energy comments on the relative merits of the options detailed in the discussion paper, highlighting the differences between the application of the current determination, the proposal by the CCIWG, and variations to both. Even the CCIWG notes in its final submission that the application of their general recommendations in our situation will cause us some concern.

Therefore, through our approach, we acknowledge many of the CCIWG's recommendations, but also present to IPART, further suggestions as to how the methodology may address these AIE concerns. Through this approach, we show how there would be flexibility in the application of our preferred policy – flexibility for both the customer and the distributor – as well as greater fairness in its application among the varying classes of customers.

We suggest that all distributors be given the leeway to choose the approach that they apply in their own service area for capital contributions. This would better support new investment and regional development. The key elements of how the CCIWG submission differs from our suggestions is as well as the areas where we strongly agree, are noted in the points below:

- AIE has the following comments in reference to the CCIWG's recommendation requiring an economic assessment to be completed by distributors.

  Many capital works in AIE's area are uneconomic in that the incremental revenue does not cover the ongoing maintenance costs.

  For most rural extensions the incremental revenue from the additional assets is less than that required to maintain the assets and provide a return to the shareholders and replace

the asset in the future. In such instances, the NPV economic test would determine that a zero distributor contribution is required, with the customer paying the full cost as currently occurs.

However, application of the economic test to some commercial developments may indicate a positive economic contribution, lessening the existing customer contribution. This will have a significant impact on the funding of internal capital works approved within the current determination. Depending on overall energy sales from these larger developments, increased revenue could also lead to over-recovery, require a lowering of overall tariffs until the next regulatory reset.

As many of these commercial developments have seasonal operation, based on horticultutal or viticultural activities, their long-term viability is not always assured, influenced largely by international trade and Australian tariff protection policy. It is virtually impossible to make 30-year NPV projections in our distribution region because of the unsustainable mining-based economy and unpredictability of commodity markets, for example.

- Government funding should not be used to subsidise commercial developments by implicit funding, which is occurring through distributor funding of augmentation works, directly attributable to individual extensions. Funding required for commercial developments should be part of the commercial risk assessment of the business.

- We also have concerns about the CCIWG recommendation to provide an economic contribution to new connections, essentially to URD land subdivisions and commercial developments. AIE continues to provide overhead HV and LV mains and service equipment in general to the majority of domestic customers, at no cost, as the economic contribution to their connection. In AIE's supply area, the potential for stranded assets is high as the population is generally declining.

- AIE also acknowledges the Tribunal's concern regarding the specifying of a distinct 100A threshold for the determination of the responsibility of augmentation works. Whatever threshold definition is adopted, it must be clear whether it relates to peak loading or After Diversity Maximum Demand (ADMD) loading, as the ADMD design for most residential and rural customers is in the order of 3 - 6kVA, equating to 12 - 24A.

  The limit should be specified by each distributor for parts of their network and could be determined by simple technical assessment, providing reliability, repeatability and ability to be independently audited. These defined limits could be documented in the distributors' electricity service standards, related to percentage voltage drop criteria. In some parts of the AIE network it is difficult to satisfy the legal obligation to connect a standard installation 63A service without significant augmentation.

- The CCIWG seeks to standardize the capital contribution policy across NSW distributors, but with differing augmentation thresholds between urban and rural distributors. This results in different economic contribution levels between urban and rural customers, despite being based on a similar methodology.

  As acknowledged in the report, AIE would have another threshold level for some customers, eg remotely located. Rather than nominate a specific value, AIE prefers to calculate the threshold contribution value for certain individual extensions by voltage drop methodology which could be detailed in our service standards document, *Australian Inland Energy's Electricity Service Standards*. (Refer to 'dominant load' section under recommendation 4.)

- The current IPART Capital Contribution Determination has resulted in gaming by customers in relation to funding of shared assets by separate applications for supply instead of joint applications. Whilst this has resulted in significant capital expenditure by some distributors, there has been little impact within AIE's area to date. However, this does not mean such practices will not emerge in the future.

- The definition of connection point and augmentation costs in the current Capital Contribution Determination offer sufficient flexibility to AIE to recover costs from customers' of works required to connect and supply their loads, whilst maintaining supply quality to other customers.

- Although distributors may have the option of restructuring existing network charges to make them more cost reflective, providing locational signals, the scope within side constraints limits the scope for restructuring.

  Similarly, whilst distributors could establish new network charges to apply to newly connected customers, this would not apply to existing customer installations, where much capital works are undertaken to increase supply capacity at individual customer substations.

General

The AIE distribution network, is constructed in most parts for a summer peak load that exists for 4-6 weeks per year, particularly in the northern region around Menindee and the southern region around Wentworth, where there are significant agriculture, horticulture, viticulture and winery activities.

The urban load centres serviced by the network have a more constant consumption pattern, but there is limited growth in the urban areas. The majority of capital contributions relate to network extensions or substation upgrading to accommodate the seasonal load requirements, with limited consumption in off-season.

Option 1 - Continuation of the current guidelines

There are concerns with the current determination, particularly relating to funding of shared assets by distributors, unless a joint application is made.

The essential points of the current IPART capital contribution determination are as follows:-

- Customers are required to fund connection costs, being cost of works for assets **fully dedicated to the customer**, up to the nearest point on the network **capable of supporting the customer's load**, defined as the connection point.

- Augmentation costs are defined as costs beyond the connection point, and, except in rare circumstances, are to be borne by the distributor.

- Augmentation charges normally recovered from customers under previous organisational policies were to be phased out prior to 1 July 1998.

Minor variations to Determination 10 were made in Determination 5.4, 1997 with the existing minimum connection cost arrangements for the Far West Electrification Scheme (FWES) confirmed. This had a direct application to AIE. However, additional FWES secondary connections would be treated in accordance with Determination 10, as would subsequent augmentation works to any FWES assets to accommodate further connections.

Under the current determination, AIE would be responsible for the cost of the common infrastructure to an uneconomic rural extension, such as a communications site, if separate applications were received from parties intending to utilise the site.

Similarly, augmentation of existing network that may be 30 years old, originally installed to provide basic minimal rural supply, would be at the distributor's cost for connection of commercial activities, such as irrigation pumps. The connected load of such development may increase a number of times over a 30-year period, depending on the changing fortunes of agriculture, from say citrus orchards to viticulture, driven partly by changes in customers' consumption patterns, and international trade, requiring further augmentation works.

Although conductor and transformer capacities increase in step-sizes, there are limits to the additional capacity constructed into networks when initially constructed or re-built, to avoid asset values being written-down, if the asset capacity is deemed to be under-utilised.

The difficulty with any economic evaluation is quantifying the expected revenue and associated costs from any network element, as tariffs are generally averaged across customer classes and the network, as are costs and loss factors.

AIE currently recovers approximately $1.3 million each year from capital contributions, representing approximately 32 per cent of the network capital expenditure, which can be generally categorised as:

- SWER extensions and new secondary connections to the FWES (primary connections excluded from this determination);
- New single transformer substations supplying one customer for horticultural, viticultural or irrigation works;
- Augmentation of supply to existing substations supplying single customers;
- URD subdivisions;
- UG service connections to overhead mains;
- New or enhanced street lighting for local government councils.

Since IPART Determination 10, December 1996, concerns have been raised by NSW distributors regarding augmentation funding, however, this has not been a concern within AIE as most capital contribution works have not involved shared assets or required augmentation. It is assumed that conditions relating to further primary connections to the FWES will be excluded from the forthcoming capital contribution determination until 30 June 2005

However, the likelihood of distributor funding for shared infrastructure or significant augmentation exists under the current determination, and these anomalies should be removed to provide fair and reasonable conditions for both customers and distributors.

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Option 2 - CCWG Proposals

AIE's concerns relating to the CCWG proposals are detailed under their respective recommendation headings from the original CCWG report, as follows.

Recommendation 2:

Distributors should undertake an "economic" assessment of proposed new connections. To the extent that Network revenues from new connections will provide more than their associated costs of supply, distributors should contribute to the costs of connections. A practical method of implementing this recommendation may be for specific distributor contribution levels to be determined for defined customer classes

Recommendation 3:

After allowing for distributors' contributions to new connections, customers would be responsible for all additional connection costs relating to dedicated connection assets and shared line extensions.

AIE agrees with the existing policy that customers are responsible for all additional connection costs relating to dedicated connection assets and shared line extensions, but does not agree with the previous group recommendation that a contribution should be made towards the cost of connection, after undertaking an "economic assessment".

Many capital works in AIE's area are uneconomic in that the incremental revenue does not cover the ongoing maintenance costs. For most rural extensions the incremental revenue from the additional assets is less than that required to maintain the assets, provide a return to the shareholders and replace the asset in the future. In such instances, the NPV economic test would determine that zero distributor contribution is required, with the customer paying the full cost as currently occurs.

However, application of the economic test to some commercial developments may indicate a positive economic contribution, lessening the existing customer contribution. This will have an impact on the funding of the capital works approved within the current determination, and total revenue cap projections, likely to require a lowering of overall tariffs until the next regulatory reset.

Based on the commercial extensions and single customer substation upgrades undertaken annually, it is estimated that implementation of the CCIWG proposals would increase the AIE capex budget by up to 40%, with the additional funding required to come from a small customer base. This additional expenditure represents direct costs previously fully contributed as part of the business decision of the customer.

The geography of the AIE network area is such that most rural residents have been connected to supply, either through the FWES or unrelated rural lines, with the future rural

connection potential primarily relating to secondary connections, woolsheds, stock bore pumps, etc.

Most new or upgraded customer connections relate to commercial installations, such as wineries, coolrooms, irrigation pumps, where the economic test may indicate a significant distributor contribution, depending on the revenue and cost assumptions, and PV period chosen.

Reduction of the net $1.3m pa customer funded capital by the distributor economic contribution would seriously impact on AIE's capital works projections in the latest IPART Determination, which would need to be re-assessed if the capital contribution policy varied from the current arrangements.

Many of the commercial developments mentioned above have seasonal operation, based on horticultutal or viticultural activities, their long term viability is not always assured, influenced largely by international trade and Australian tariff protection policy. It is virtually impossible to make 30-year NPV projections in our distribution region because of the unsustainable mining-based economy and unpredictability of commodity markets.

The issues which could be considered in making an economic assessment are:

- Equity between customers;
- Accountability and financial transparency;
- Uniformity of approach;
- Simplicity of administration;
- Economic efficiency;
- Determination of incremental revenues and costs;
- Realistic assessment of future network energy usage.

The majority of AIE urban network customers made no direct contribution to their connection of service cable (except URD developments or where UG connections are required in overhead distribution areas) or metering, which was largely supplied free of charge under the provisions of the former *Local Government Act 1919*, representing a distributor contribution to connection. AIE has generally supplied the infrastructure, comprising LV and HV mains, distribution and zone substations, and service equipment with no contribution sought from individual customers.

However, rural customers have generally fully funded their own connection costs, with no distributor contribution based on any projected future revenue streams, apart from infrastructure funded by previous Electricity Development Fund (EDF) contributions.

Difficulties experienced in undertaking economic assessments and calculating the cost of supply for customers includes the allocation of costs between different classes of customers, the allocation between urban and rural, plus future revenue projections. The incremental cost of connecting a new customer should be minimal in the first few years, primarily related to

meter reading, unless the customer is a rural customer where there is potential for transformer failure (and replacement) due to lightning strike or storm. However, the ongoing inspection and maintenance costs relating to substations are constant, unrelated to the substation size or energy throughput.

Case Study 1, contained in the Appendix, provides examples of typical small rural connections. In the two examples outlined, although the economic contribution may be negligible, the customer has funded the connection based on an economic business decision, and it appears inequitable to expect the distributor to refund or contribute for their business decisions. Irrespective of the accuracy of cost projections, assumptions are required for the estimated consumption, the load profile related to overall load profile, the interest rate for NPV calculation, the depreciation rate, ODRC, MEA, ODV or some other cost base.

Any incremental revenue projection will be based on **current network prices**, which are likely to relate to franchise tariffs, possibly not cost-reflective but cross-subsidised by other customers connected to the network, and cannot be assumed to remain constant over the period of a PV calculation.

Similarly, incremental costs are generally based on current average costs applying either to a class of customers, or the whole customer base, which may not be representative of costs to be incurred by the additional customer over its lifetime.

- AIE has the following concerns for using a Cost of Supply Model as the basis for calculation of economic contribution.

- Maintenance and capital costs are average costs, not incremental or marginal costs, applying to an additional customer.

- The incremental revenue collected from an additional customer could be significantly more than the marginal revenue determined by the formula, however the overall revenue may still be in accordance with the equation, as other customer revenue will vary or fall during the period.

- Revenues calculated by the equation are based on equation coefficients applying during the determination, which will vary over a 30year (six determination periods) period

- Assuming a constant profit at a constant interest rate over an extended period assumes that revenues (based on current network prices) remain constant, as does the interest or inflation rate over that period. If network prices are expected to fall faster than CPI, then the PV result will be reduced.

Current network prices may not be individually cost reflective, and have only been able to be adjusted within the IPART determination side constraints over recent years, limiting their movement to being actual cost of supply of an individual customer class.

Assuming network prices do move towards being cost reflectivity in the near future, cross-subsidies from the remaining customer base will be reduced, and any revenue projections made now will drastically alter.

There may be some equity considerations for distributor contributions toward urban and rural domestic customers, however, the cost of connection, including augmentation work for a business customer should be part of the cost of establishing the business, and should be considered by the developer in his/her cost/benefit analysis.

Business establishment or expansion costs are tax deductible in terms of depreciation, whereas the cost of connection for domestic customers is not, and could only be recovered through property sale prices. The methodology proposed by the CCIWG could refund significant contribution to a business customer, and although the initial cost of connection is higher, there are tax deduction offsets available to those customers.

Another flaw in a long-term PV calculation is the assumption that the asset will not become stranded over the PV period, which is, arguably, more likely to occur in rural areas.

An uneconomic customer is a customer whose contributions through their network electricity tariff are insufficient to cover additional costs of financing and maintaining the additional assets required for their supply.

In general terms, financing costs will only include those assets funded by the distributor, including infrastructure assets. However, maintenance costs will include customer funded assets where responsibility and ownership transfers to the distributor.

There may be social or equity considerations causing a distributor to contribute toward urban and rural domestic connections. However, AIE believes that there should be no contribution towards other developments, based on future generated revenue from the investment as these are essentially business decisions of the developer.

Recommendation 4: System augmentation costs on existing lines would be the responsibility of distributors unless a customer requires a load of more than 100 amps single phase. The customer shall be responsible for augmentation costs in those instances.

The implementation of this recommendation in principle may resolve many of the concerns expressed by distributors, regarding the responsibility for funding of augmentation works, as identified by the examples in Case Study 2 in the Appendix. However, whilst AIE agrees with the general principle, that is, the customer who caused the augmentation work should fund it, the 100A single-phase threshold adopted by the group is of real concern to AIE.

The threshold appears to relate to the current rating of kWh meters, being the transition level between direct-connected meters and current transformer (CT) operated meters, requiring separate switchboard compartments for current transformers, at a significantly higher cost.

Rural SWER and light capacity lines service a significant percentage of AIE's distribution area, many of which were constructed 30 or more years ago, where the connection of 100A loads may now require significant augmentation with minimal return. The issues are:

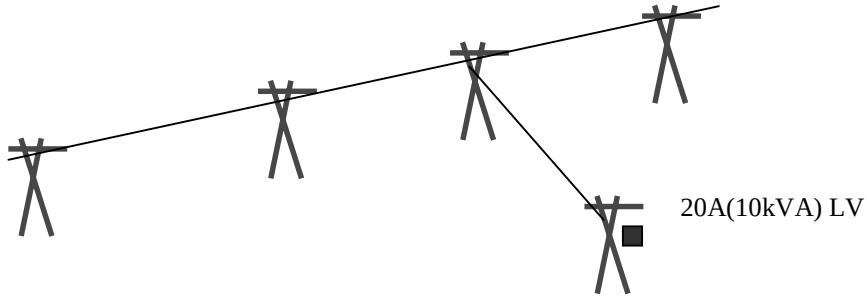
- Threshold variability within networks and between distributors;
- Lumpy investment;
- Augmentation works limit;
- Legal requirement to connect vs technical ability to supply;
- Uneconomic augmentation.

Threshold variability

In many cases, in either urban or rural areas, the 100A minimum threshold supply would not be technically possible without significant augmentation. This could result in additional works to a significant percentage of a SWER line, depending upon the proposed location of the new works/customer relative to the start of the line.

An example of this in AIE's area was the supply to Mungo Lodge, located north east of Wentworth. Supply here was limited to 20A peak by installation of a suitably rated circuit breaker, as normal load (63A peak) connection would have degraded supply quality to other customers connected to that line, or required significant augmentation.

Existing SWER line



The Tribunal has expressed concerns about such a threshold being recommended, however each distributor can apply different minimum connection capacity, which varies further between urban and rural networks. Further, there is a difference between distributors in the application of service arrangements and capacity as specified in the *Service and Installation Rules*, and the minimum consumer's mains sizes as specified in AS3000, Wiring Rules. The Wiring Rules are uniformly applied by all distributors, but the SI Rules are not, with Local Rules applied by all distributors.

The 100A threshold is in excess of the 63A minimum consumer's mains capacity required by AS/NZS3000 Wiring Rules which is the urban domestic standard for AIE.

Also, most networks are usually planned around After Diversity Maximum Demand, (ADMD), which may be 3-5kVA/customer, even though individual rural customers may be supplied by a 15 or 25kVA (60 or 100A peak capacity) single phase transformer. In urban areas, a 300kVA substation may supply 50 or more customers, based on average diversity demand, even though an individual customer's peak loading may rise to 8-9kVA (32 or 36 amp capacity) at different times.

All distributors are required to produce their individual *Electricity Service Standards*, detailing reliability and supply quality expected from individual networks. These documents would appear to be the appropriate way to list the augmentation threshold limits for individual network locations, the methodology for measuring supply quality, calculating voltage drop and required augmentation.

The following definition of dominant load could replace the previous CCIWG recommendation, removing the 100A single-phase threshold, which would be inappropriate on some rural SWER systems.

Dominant load

System augmentation costs on existing lines would be the responsibility of distributors unless the application of a customer's load causes a supply voltage variation at the customer's terminals, or any other customer supplied by the feeder, to vary more than the range specified in the distributor's Electricity Service Standards. In these cases the customer shall be the responsible for the augmentation costs.

In most cases the connection of 63A single phase or 32A 3 phase, which are the minimum consumer's mains sizes specified in AS3000, will not require augmentation works. The voltage range limit is nominally +/- 5% as defined in the Electricity Service Standards.

Lumpy investment

The Tribunal also expressed concern that augmentation could involve lumpy investments, where the customer may not have control over the size of work involved. Most augmentation is associated with reducing voltage drop by increasing conductor size, or increasing transformer capacity. Both conductor sizes in terms of equivalent aluminium area and transformer capacities are constructed in step sizes, with the next available size or least available size possibly producing a result that is greater than that required to satisfy the minimum augmentation requirement. In these cases there is no alternative but for the customer to contribute to the works using these materials.

However, if the distributor decides to install additional capacity for future load growth, then the incremental cost in excess of the minimum required should be met by the distributor. The concern by the Tribunal infers that distributors do not try and provide the least cost solution to customers, which is not the case, although the customer's perception of the minimum works required to satisfy his/her requirement may be vastly different to the actual works required to meet that requirement, whilst maintaining supply quality and reliability to existing customers.

Augmentation limit

The view has been expressed by the CCIWG that an actual limit should be specified rather than leaving it to each distributor to calculate, to avoid the possibility of different views by customers and distributors. However, irrespective of the method of specifying threshold levels for augmentation responsibility, if a customer is required to contribute to augmentation works, then there will be a requirement to calculate the limit of augmentation works required. This will then need to be agreed to by the customer. The distributor's dispute resolution procedures could deal with any difficulties.

Calculation of the limit and responsibility of augmentation works by AIE is as discretionary as specifying the augmentation threshold level.

Obligation to connect

In some rural areas, connection of additional normal load to SWER lines in particular is not technically possible, without significant augmentation works. This is the "straw that breaks the camel's back" situation, where even the connection of a 63A minimum single phase residential service (as specified in the Wiring Rules) is not possible, due to the technical constraints of the line relating to supply quality.

In this case the legislative obligation to connect could not be complied with without significant augmentation works, which would be inequitable to recover from the customer.

Although stand-alone systems could be used to meet the obligation to connect it has been AIE's experience that customers prefer grid power supply rather than stand-alone systems even though reliability may be lower.

Uneconomic augmentation

As mentioned previously, in many rural areas, the connection of an additional normal load can become "the straw that breaks the camel's back" without significant augmentation works. This usually also involves a significant contribution from the customer, causing the works to become uneconomic, and imposing significant O&M costs for AIE.

Recommendation 5:

A scheme to reimburse previous customers where new customers are connecting to assets that were previously funded by customer contributions should be reintroduced. New customers would be responsible for their proportion of line extensions constructed within the previous six years.

AIE supports the reimbursement scheme principles as outlined in the CCIWG final draft, as reimbursements will have little effect on AIE. To date, AIE has received only two applications in the past six years.

A concern does however exist with item seven in its reference to agreed capacity ratings and the proportional effect in determining reimbursements to refund receipt and charges to refund payees. It must be acknowledged that the process in assessing such ratings is undertaken with consistency and transparency.

Recommendation 6:

An agency should be appointed to assess the merits for funding assistance to customers subject to capital contributions. This agency would consider the social, environmental and extrinsic commercial impacts of new connections to establish whether funding assistance is appropriate. Funding options that the agency may consider could include:

- **increasing tariffs and revenues in that distributor's geographic area**
- **increasing tariffs and distribution revenues across all customers in NSW**
- **an industry fund which could include retailers**
- **explicit taxpayer funding through NSW consolidated revenue**

AIE does not support the formation of another agency to assess the merits for funding assistance to customers subject to capital contributions, as there are a number of agencies in existence that could undertake this function. In most cases distributors would have business development officers that could assist customers in making submissions to existing agencies such as Regional Development Boards and State Development.

AIE agrees that distributors are inappropriate to allocate State funding for individual development proposals, with the allocation of State funds essentially a Government or Treasury function. Particularly in isolated rural areas, the social equity issue of electricity supply to customers is a government policy matter and not the responsibility of the distributor or any government agency.

Recommendation 7:

Distribution system assets on public property (or subject to easements) should generally be owned by the franchise area distributor. Customers should own and have responsibility for consumer mains.

AIE supports the recommendation that customers do not own system assets on public property, this view is held primarily from a safety, system security, maintenance and liability issues view point. Distributors have a vested interest in maintaining network assets and are best equipped to undertake this work.

The distributor should be recognised as being the owner, with control over and with responsibility for maintenance for any assets in public streets. Once the asset is located on private property, the issue of ownership is optional, however control over and responsibility for maintenance of the assets would continue up to a **"point of demarcation"** which would identify the commencement of the consumer's mains. The consumer's mains will continue to remain owned and maintained by the customer.

The CCWG recommendation states: **"Customers should own and have responsibility for consumer mains",** however the **"point of demarcation"** between the DNSP owned and/or controlled assets and the customer's consumer's mains is not easy to determine.

The CCIWG paper advised that Energy Australia obtained two senior counsel opinions both of which state that under the *Electricity Supply Act* distributors in NSW have the maintenance responsibility for all electricity mains up to each customer's premises. In this context the **"customer"** is the end use consumer of electricity, and **"premises"** is the location at which the electricity is being converted into something useful for consumption (eg cooking).

This leads to complicated descriptions of where this point of demarcation might be on the customer's property and hence the point at which the customer's main commence.

The opinions lead to the conclusion that the rising mains in multi-tenanted buildings (office buildings in the CBD or high rise residential towers) or the low voltage mains in community titles in private access roads become the maintenance responsibility of the distributor. This sudden responsibility for a large new body of assets must be compensated by IPART in the revenue cap. Other responsibilities relating to safety will also change.

As assets currently considered to be customer funded and owned and installed are being installed to a standard (AS3000) which is a lesser standard than Energy Australia would regard as the minimum acceptable for its assets. Consequently should responsibility for these assets be then transferred to the distributors as a consequence of these legal opinions, future maintenance costs will be higher than assets built to normal network standards.

The opinions also insist that mains off the property must reside with the distributor. In all these situations the concept of "ownership " and " responsibility " are not necessarily interchangeable or coincident. If the advice were well based, it would be simpler to change the Act than to continue under any complications arising out of these opinions.

Recommendation 8:

Connection assets funded by distributors should derive appropriate returns and associated operating cost recovery through regulated revenues. Contributions received from customers should not provide returns to distributors, however, associated operating and maintenance costs incurred by distributors should be recovered through regulated revenues.

AIE supports the CCIWG recommendation on this point. AIE suggests that the opening balance of the WDV assets as at 1/3/96 should be treated as wholly distributor funded assets and only capital contributions received since that date be excluded from any calculations.

Option 3 Modified current guidelines

Continuation of the current guidelines, modified such that customers are required to contribute to shared assets, together with a reimbursement scheme to allow refunds to customers for shared assets would be a positive step towards removing one of the inequities faced by distributors under the current guidelines, particularly for uneconomic extensions.

However, if this option would not impose customer liability for upstream augmentation, then the distributor still faces the risk of significant capital expenditure for augmentation works in rural areas due to specific customer loads that may be atypical for the distribution network in that area. This may also lead to stranded assets, resulting in asset devaluation at future regulatory resets, due to the inability to generate suitable return on the asset investment.

Re-introduction of an infrastructure charge paid directly to distributors as a proxy for augmentation costs would be an alternative, providing a capacity rather than locational signal, addressing some of the concerns regarding augmentation costs, and reducing potential stranded asset liability issues.

Option 4 Modified CCWG guidelines

The basis of the CCWG proposal was that it be considered as a package, particularly that a contribution be required for augmentation works if the load was above a dominant threshold, offset by the application of the economic test.

The determination of a suitable threshold for dominant loads to apply across all networks has proven a difficulty, and it is unclear whether the original 100A threshold was based on ASMD, or peak loading.

Similarly, the economic test contribution based on fixed $/MWh for different consumption classes across the State imposes inequities between distributors, particularly those with a higher cost rural network without the offset of a growing urban customer base to pay for the economic contributions.

Adoption of a simplified economic test based on fixed revenue offsets, as in the South Australian approach, would be simple to administer and calculate, however, there is still the scope for customer's to overstate expected consumption, to maximise returns based on future DUOS.

However, this would lead to the same projected increase in capital expenditure funding over current levels for AIE, resulting in significant increases in network tariffs to all customers to pay for the distributor funded contributions, whilst maintaining projected levels of internally funded capital.

To exclude customer liability for upstream augmentation assets imposes the same risk to the distributor as exists under the current determination, where the distributor is effectively subsidising the establishment cost of certain business activities, implicitly assuming a government regional development role.

APPENDIX

CASE STUDY 1: RURAL SMALL CONNECTIONS

Telstra gas pipeline communication sites

The communication sites were previously supplied by stand-alone generators powered by gas flow through the pipeline. Telstra requested grid connection, paying the connection costs which varied between $60,000 - 100,000 per site for a SWER extension and standard 25kVA substation. The design ADMD of each site is 3kVA, 12A.

Telstra made the commercial decision to capitalise their future maintenance and running costs, thereby shifting the ongoing electricity supply burden to AIE. The annual consumption and corresponding profit from each site is minimal, but the likely maintenance costs due to transformer failure from lightning strikes are high from date of commissioning.

In an economic assessment of these sites, there is unlikely to be a distributor contribution towards the connection cost, providing the same outcome as under the curent determination. However, should the site consumption indicate that an economic test be conducted and a contribution by AIE be made,the customer has made the business decision to effectively minimise their future maintenance, transferring the liability to AIE. It therefore would seem to be inequitable for AIE to then refund part of their contribution.

If a communication site was to be shared by a more than one user, under the current determination AIE would be responsible for the shared asset to supply these customers, unless a joint application was made. The net annual revenue from two communication customers is likely to be significantly less than from a typical rural domestic customer, but the overall capital works required for connection may be similar.

RTA campsite power supplies

The Roads and Traffic Authority provide a number of campsites within the Unincorporated area of NSW for accommodation of road maintenance crews. These campsites have been traditionally supplied by 25-50kVA diesel generators, with the occupancy varying dependent upon road maintenance programme and weather.

The RTA paid the connection cost to a number of sites, each with a SWER extension and 25-50kVA transformer, depending upon installation size. As in the case of the Telstra sites, the RTA has made the commercial decision to capitalise their future maintenance and running costs, thereby shifting the ongoing electricity supply burden to AIE.

The annual consumption and corresponding profit from each site is variable, but the likely maintenance costs due to transformer failure from lightning strikes are high from date of commissioning.

In assessing these sites, there is unlikely to be any contribution by AIE towards the connection cost. However, should the sites have closer to average consumption usage where an economic test may indicate a contribution by AIE be made, the customer has made a business decision to effectively minimise their future maintenance, transferring the liability to AIE. It therefore seems inequitable for AIE to refund part of their contributions.

One site has not been utilised since commissioning, effectively providing a stranded asset.

CASE STUDY 2: RESPONSIBILITY FOR AUGMENTATION WORKS

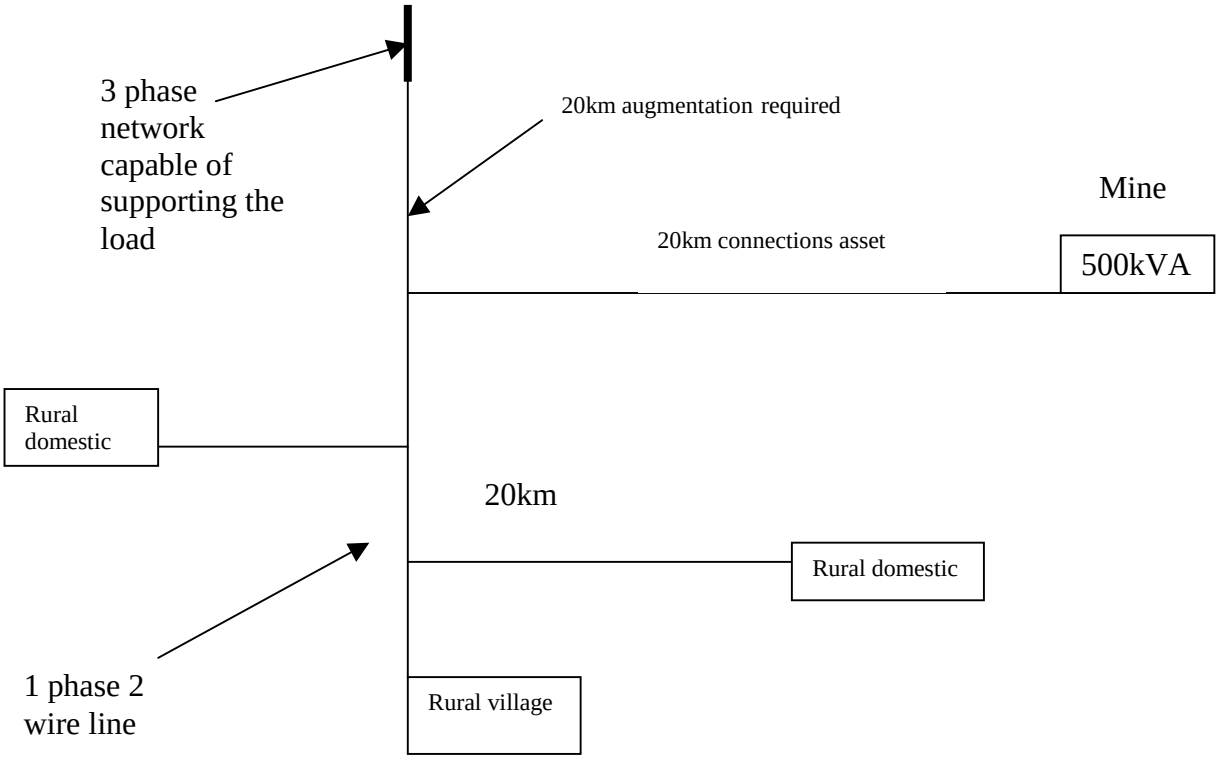
Isolated open-cut mine

An open-cut non-metalliferrous mine supplied by a stand-alone 500kVA generator is located 20km from a 22kV single phase line which supplied a rural village and some rural grazing property homesteads. The line was originally constructed in 1963 to provide supply to the village, with limited spare capacity.

The customer would be required to fund the dedicated line from the mine to connect to the 22kV line.

Under the current determination AIE would be responsible for augmenting the single phase line to three phase back to the point on the network capable of supplying the load without adversely affecting the quality of supply to other customers, at a cost of $300,000. This could lead to stranded assets in the future, as the life of the mine depends upon availability of reserves and an ongoing profitable market for the product.

Under the recommendation of the CCIWG, as the load is in excess of 100A single phase, or purely a dominant load, the augmentation works would be funded by the customer.



Irigation pumps

A commercial nursery located at the end of a 30+ year old rural 3-phase line uses diesel powered irrigation pumps to provide water to the nursery. The powerline provides general supply to the installation.

To enable connection of the pumps would require augmentation of approximately 20km of line, at a cost to AIE of $400,000, which would be AIE's responsibility **under the current determination,** unless this expenditure satisfied the three conditions relating to augmentation works.

This could lead to stranded or under-utilised assets in the future, depending upon availability of irrigation water licences or land-use changes by the customer. If the asset was subsequently under utilised, then the value of the augmentation funded by AIE is likely to be written down at the next regulatory reset.

Under the recommendation of the CCIWG, as the load is in excess of 100A single phase, or purely as a dominant load, the augmentation works would be funded by the customer, but the economic contribution by AIE may be a significant proportion of the dedicated connection asset (substation + HV line) to supply the proposed customer.