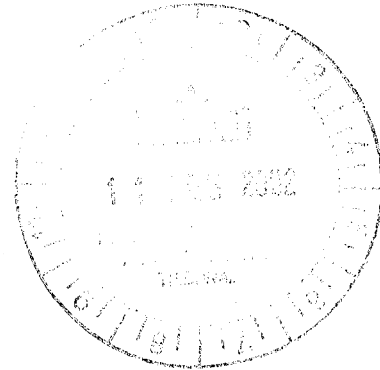




LOCAL GOVERNMENT and SHIRES ASSOCIATIONS of NSW

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Our Reference: R90/0326
Contact: Warren Taylor
8 February 2002



Mr Thomas G Parry
Chairman
Independent Pricing And Regulatory Tribunal
PO Box Q290
QVB POST OFFICE NSW 1230

Dear Mr Parry

Undergrounding Electricity Cables in NSW

The Associations have strongly campaigned for many years on the essential nature of undergrounding overhead electricity cables in urban areas of NSW.

The Associations have been pressing the Government for all Electrical Energy Supply authorities in NSW to be required to provide five year Action Plans detailing their program for the proposed undergrounding of power lines in the State.

The community has not been made sufficiently aware of proposals (if any) to underground supply lines. A five year action plan would raise community awareness and enable accountability, and provide an incentive for energy authorities to initiate an undergrounding planning process.

The Government has resisted this approach.

There has also been major controversy on the requirement that councils execute vegetation management plans and enter into firm agreements for removal and maintenance of trees under overhead wires.

It is understood that the Government is conducting an internal review, following the Association's submissions which concluded that:

- Implementation of Section 48 of the Electricity Supply Act is extremely expensive for local councils due to a backlog of line clearance works and the difficulty in achieving consistency in treatment across the diverse range of local communities in NSW.
- There is a strong consensus within local government that Section 48 of the Act is inflexible, unreasonable in its application and open to misinterpretation.

- A significant number of councils strenuously oppose vegetation reduction programs imposed by energy distributors, for sound aesthetic and environmental reasons. Many communities have a long history of extremely committed adherence to local control of street tree plantation.
- A minority of councils have entered into vegetation management agreements with their energy distributors, typically on a cost-sharing basis. This is seen as a viable solution in many areas, but is not being implemented in a coordinated and consistent manner.
- The fact that some energy distributors are actively commencing to enforce the Act, while others continue to bear full cost of the line clearance works within their franchise area, is inequitable and disturbing. This indicates a predatory approach on local government by other spheres of government, rather than an inclusive and consultative, whole-of-government, effort to resolve the issue.
- Within the energy distribution industry there is a view, which is supported by local government, that use of Section 48 should be avoided and instead, the three spheres of government should work together on a partnering arrangement to jointly manage and carry out line clearance works.
 - The implication behind Section 48 is that Local Government ratepayers must bear the cost of certain line clearance works in public roads, in lieu of the costs being paid by energy consumers. Either way, this is a liability of government that is not being fully funded by either local government or the energy distributors at present.
- There is a significant public infrastructure cost implicit in implementing line clearance works across NSW and a distinct lack of appropriate and equitable funding solutions.
 - Requiring energy distributors to publish a five year undergrounding plan would provide an incentive for distributors to continue funding a fair proportion of live clearance costs underground or provide aerial bundling.

The Associations have alerted councils to the PART review, and many submissions have been made direct to you from councils. The Association's submission reflects the views provided by Local Government.

Local Government's Submission

In response to widespread objections by local government and residents to the paid television aerial cabling installed during 1996 and 1997, the Senate amended the Telecommunications Act 1997 to cause the Federal Minister for Communications, Information Technology and the Arts to investigate the options for putting existing communications and electricity cabling along local streets underground throughout Australia.

A Working Group was established which produced a report "Putting Cables Underground – Report of the review of options for placing facilities underground as required under Clause 49 of schedule 3 of the Telecommunications Act 1997" on 8 December, 1998. Forty-four findings are contained within the reports, the most significant of which include:-

1. The total cost of putting existing overhead electricity and telecommunications cables.

2. The total quantifiable benefits of putting cables underground include:-
 - * reduced motor vehicle collisions with poles;
 - reduced losses caused by electricity outages;
 - reduced network maintenance costs;
 - reduced tree pruning costs;
 - impact on property values;
 - reduced electrical transmission losses;
 - reduced greenhouse gas emissions (due to reduced transmission losses);
 - reduced electrocutions;
 - reduced bushfire risks; and
 - any beneficial indirect effects on the economy such as employment
3. The net quantifiable financial benefit of undergrounding cabling was estimated at between \$1,141 and \$5,736 per kilometre of line attributed to the following factors:-
 - * Reduced motor vehicle accidents
 - Reduced maintenance costs
 - Reduced tree trimming costs
 - Reduced transmission losses.
4. A “*Small Costing Tool*” and relating software to provide a detailed approach for the assessment of costs of undergrounding cabling applicable to a local area.
5. From a list of forty-eight potential sources, the Working Group identified four underlying sources of funds for the relocation of cables underground, namely:-
 - * Property owners
 - Electricity and communications suppliers
 - Taxpayers
 - A composite funding source comprising property owners and tax payers through consolidated revenue.
6. There is a need for appropriate environmental management strategies in any programme to put cables underground.
7. Any undergrounding of cabling should provide additional duct space to enable future users access to underground connections.
8. The most effective scheme for putting cables underground could include a combination of a top-down approach administered by a State or Territory body to achieve proper coordination between different areas an economies of scale, and a bottom-up approach to provide the necessary responsiveness to a commitment by local government and residents.

Notwithstanding the recommendations, there remains no commitment by Federal or State governments to finance the cost of placing cables underground. The matter has been left to local government and public lobby groups such as Sydney Cables Downunder to actively pursue and to identify local costings. Such an exercise could unrealistically raise community expectations in the event that finances were not made available to relocate the utilities underground.

The financial benefits identified in the report of up to **\$5,736** per kilometre of line undergrounded excludes an estimate of the benefits attributed to:-

- * impact on property values;
- reduced greenhouse gas emissions;
- reduced electrocutions;
- reduced bushfire risks; and
- any beneficial indirect effects on the economy, such as employment

In addition there are obvious benefits related to the potential to utilise this opportunity to implement improved technology which can lead to lower maintenance and environmental gains.

The Premier's News Release of **28 November 2001**, clearly places in perspective the fact that the NSW Government accepts that putting overhead power cables underground will reduce:

- power failures following storms;
- network maintenance cost;
- electrocution;
- bushfire risks; and
- car accidents with poles

The benefits are obviously significant and have been never more emphasised than in the recent storm events when there were substantial disruptions to power supply as a result of storms and of bushfires. However, the issue is obviously one of funding as opposed to one of cost.

Savings in insurance premium, savings in the provision of medical services, savings in compensation payments, savings in reduction of business losses and savings in maintenance and repair costs do not overtly provide a cash flow for funding the undergrounding of electricity cables. The avenues for savings however, provide a significant opportunity for the Tribunal to prepare a feasible funding proposal based upon the acceptable principles of equity of the distribution of the burden and ease of collection.

It is unrealistic to expect that the resident of a local government area individually would pay to relocate utility services underground. Consideration must be given to a co-operative approach by all spheres of Government, Federal, State and Local. Alternative funding sources must be found to remove this urban blight. There are obvious difficulties from a Federal perspective in that any charges must be levied across Australia as a whole, however the Federal Government should be encouraged to consider the distribution of funds specifically for this purpose, whether by grant or otherwise. This however, may be beyond the Terms of Reference or the authority of the Tribunal but should still be canvassed.

To this end, it is appropriate for consideration to be given to user charges being placed upon the utilities, levied by Federal and/or State governments, to provide a sinking fund for allocating cables underground. The sinking fund could be distributed to local governments or the utility services themselves through grants to facilitate the works. The Commonwealth Parliament has a general power to impose taxes including duties of excise. Taxes imposed by the Commonwealth cannot discriminate between the State or part of States nor can they give preference to any one State or any part thereof over another State or part thereof..

The Commonwealth could not impose a tax in respect of overhead lines in a particular State or particular part of a State. Any tax would need to apply uniformly throughout Australia. Such a law in its practical application might impose a greater burden to some States or areas than other (because there are more overhead lines in some States or areas) or probably not in the present case, result in an impermissible discrimination or preference. The Commonwealth could however still impose a tax on overhead lines within Australia.

The one significant qualification on Commonwealth powers under Section 114 of the Constitution is that the Commonwealth cannot impose a tax on property belonging to a State. Generally speaking, any tax on the ownership of State overhead lines would be an impermissible tax on State property for the purposes of Section 114. Tax revenue raised by levy would need to be credited to consolidated revenue fund in accordance with Section 81 of the Constitution. The Commonwealth could appropriate a corresponding amount for the purpose of making grants to the States under Section 96 of the Constitution or grants to other bodies, such as telecommunications carriers under Section 81 so as to fund the removal of overhead lines and the installation of the underground cables.

The report of the Putting Cables Underground Working Group also proposes a private sector financing approach which deserves special consideration but again Federal Government support appears essential. Consideration of this approach will give the Federal Government the opportunity of considering GST or general tax exemptions. Additionally the opportunity exists for the NSW Government to consider the separation of the infrastructure provider from the customer service provider.

There are obvious difficulties from a Federal perspective and although it may be beyond the Terms of Reference or the authority of the Tribunal the Federal Government should be encouraged to be an active participant in this worthwhile process. If the Federal Government lacks the foresight to appreciate the community gain in this exercise the proposal in NSW should not be stalled.

It also must be accepted that the whole community will benefit, not just isolated areas.

Car accidents occur randomly and can involve people outside their general home environment. Business and industry serve communities beyond a local area and reliability of electricity supply can benefit all, not just local customers.

As a result it is obvious undergrounding in one area can still be of benefit to the whole community and therefore, there must be a contribution by the whole community; business, industrial and residential. This obviously strengthens the argument for government involvement and leadership and a broad base for an income stream.

As previously stated, there will obviously be savings in insurance premiums, savings in the provision of medical services, savings in compensation payment, savings in reduction of business losses and savings in maintenance and repair costs. These potentially are avenues for the Tribunal to consider as possibilities for an equitable distribution of a financial burden.

IPART's Terms of Reference

1. The Level of Capital Expenditure

The undergrounding of power cables will consume significant resources, but does give rise to a broadscale opportunity to rationalise the distribution of utility services. Streets in major centres contain numerous pipes, ducts, cables and conduits for the various utility providers, all in separate trenches, crowding the sub-surface area. A more efficient and functional system for utility reticulation is desirable. A project to delivery such rationalisation may be developed through the encouragement of the newly emerging industry sector – utility distribution network providers. New approaches for joint reticulation ducting may delivery future cost benefits.

Street lighting on many streets is installed on the existing power distribution poles. Street lighting on the power poles will need to be replaced as the electrical distribution network is dismantled, and the lighting schemes redesigned to suit the proposed changes to the streetscape, and to introduce traffic impact safe poles. Construction of a new scheme of street lighting is an additional cost, but many further benefits arise from this work.

The benefits include improved light distribution designed to suit the location's needs and not the existing distribution pole spacings; the use of contemporary high efficiency lamps; and directionally accurate light distribution from modern luminaires. The new lighting schemes will deliver energy consumption reductions and further environmental gains from reduced light "pollution". In some location it may be cost efficient to use solar powered lighting in lieu of mains supply powered lights.

Whilst it is agreed that the cost of putting cables underground in particular areas will vary with local conditions, the aggregate of around **\$23** billion for a national programme that has been quoted in the report has provided opportunities for sensationalism and can create a reluctance for interested parties to seriously look at the issue. A cost per property of around \$6,000 is a **substantial over-estimate and the real cost** according to the Australian Local Government Association is **closer to \$3,000 per property**. This costing is supported by ongoing experience by Western Power, with modest scale retrospective undergrounding projects having produced more realistic costs of **\$3,750** per property or \$3,000 per multi dwelling units. Close control over costs, practices and design can reduce the cost of undergrounding electricity cables to around \$3,000 per property.

2. Feasibility of Common Utility Trenching

Since the original installation of overhead electrical distribution in Sydney, many further modifications and additions have been made to the utilities located in the road networks. Natural gas required a revision and relining of the gas reticulation networks. Telecommunication services have been multiplied many fold and are likely to continue to expand. New service providers have added additional utility networks. The potable water reticulation network will require renewal progressively in the coming decades. Each utility is separately installed and maintained in separate corridors within the road reserves. Only in recent decades has common trenching been introduced in mostly new greenfields subdivisions.

All the modifications, additions and renewals raise the opportunity for a rationalisation of utility distribution. This project brings an opportunity for a multiple use utility duct network to be installed by a new industry sector. A large duct, with capacity to house multiple telecommunications cables, power cables, gas reticulation, water reticulation, and other networks yet to be rolled out, could be placed in many streets. As utility providers upgrade and replace existing networks, they would relocate into the common duct provided and maintained by a provider from the new industry sector.

Councils are awaiting the outcome of the appeal to the Court decision on Council's powers to levy rents for utilities occupying road reserves. Joint duct occupation would be of benefit to all parties, and would potentially be cheaper for utility companies in the long term.

Alternatively, there is capacity to utilise the existing underground telecommunications infrastructure. Telecommunication cables are already underground in most urban areas, and in many locations the existing buried services have surplus cable capability and/or surplus conduits. Duplication of conduits in streets where existing surplus capacity exists is wasteful and unnecessary.

The industry structures adopted when Telecom Australia was corporatised placed the ownership of the cable reticulation network within Telstra. If it was with separate government authority, then access for all telecommunications service providers could be assured. There is no economic benefit in having multiple cable systems buried in separate ducts along roads. Practical space requirements would make such an outcome unworkable.

While there are currently no requirements for initially putting existing telecommunications cables underground, there is a requirement under the Telecommunications Act 1997 that, where overhead electricity cables are removed, any existing telecommunications cables must also be removed within six months.

The application of innovative underground network design and proper planning can optimise co-location and the efficient use of network resources, which could potentially result in savings on network construction costs.

Accurate and readily accessible cable location maps for an underground electricity network, and public awareness of their availability, are major factors in reducing the incidence of electrocutions. Underground cable location maps must be provided to Councils for reasons of occupational health and safety. This should not be regarded by carriers as commercially privileged information. It should be provided in a suitable format to help local government incorporate underground cable locations on their **own** land information systems.

The Associations support the view that the costing methodology in the report did not adequately accommodate the decrease in cost that will be delivered with the wide spread use of innovative techniques, economies of scale, standardised practices and private sector competition. There are potential benefits in terms of cost, innovative network design, and urban planning (through design and location of pad mounted substations), and facilitating smaller scale projects to put cables underground by the development of a longer term overall underground network plan for **an** area.

3. Comparison of Maintenance Costs

Savings will be gained from the reduction in the maintenance of street trees, trees within fronting properties, and trees along the individual property service cables. The frequency of faults due to storm events and impacts with poles and cables will be reduced. However, a different deterioration and damage incident regime will apply for underground cables.

Cost Item	Current network costs	Underground network costs
Motor vehicle collisions with poles – damages.	Much higher incidence and damages	Much lower
Losses caused by electricity outages.	Higher losses	Lower
Network maintenance costs.	Higher costs	Lower.
Tree pruning costs.	Much higher costs	Much lower costs
Tree removal and replanting.	Lower costs	Higher costs
Property values – investment opportunity cost.	Slightly higher	Slightly lower
Greenhouse gas emissions (due to reduced transmission losses).	Higher emissions	Lower
Electrocutions.	Much higher electrocutions	Much lower

Bushfire damage.	Much higher incidence and damages	Much lower
Unemployment cost (Undergrounding creates jobs).	Much higher incidence and damages	Much lower.
Intangible costs – environmental (visual amenity, city image, tourist attraction) and social (community pride, safety and well being).	Much higher	Much lower

Tangible costs have been quantified in the Commonwealth report “Putting Cables Underground”.

4. Types of Costs Avoided

The routing of oversize vehicles is a difficult task, and when the load height exceeds the clearance height of aerial cables it becomes the governing constraint. Significant costs are incurred to find routes with governing constraint. Significant costs are incurred to find routes with sufficient clearance, and for the temporary removal of cables to permit the passage of an oversize load. The removal of overhead wires will free up the movement of many oversize loads such as the relocation of houses.

Damage repairs and hazards to life when trucks hit wires, such as garbage trucks emptying wheelie bins, trucks delivering materials, and construction equipment will be avoided. Crane safety will be enhanced. It will no longer be necessary to shield overhead cables at worksites, or use alternative materials handling methods because of the constraints imposed by the presence of overhead wiring. The costs associated with accidents and the accident histories of machinery striking wires is recorded by Worksafe, and all such costs will be avoided.

Road safety will be improved by the removal of roadside rigid poles. Poles on roadside for other purposes can be designed to be frangible, or provided with protective barriers.

Street lighting can be designed for the locality’s lighting needs, to suit the new tree planting pattern, and not be limited to coinciding with the electricity distribution pole spacing. Lighting poles can be slip based or other frangible designs, and can be located in optimum locations for safety and lighting. To develop a comparative cost saving, the data from roadside collisions with poles in the ACT could be compared with similar data for NSW. The ACT has had a policy of banning rigid poles from roadsides for many years, and represents what NSW could achieve with similar a roadside hazards policy.

Replacement of street lighting can deliver modern sustainable street lighting solutions. The new lighting schemes will deliver energy consumption reductions from contemporary energy efficient lamps and further environmental gains from reduced vertical light discharge into space from efficient luminaires. In some locations remote from mains power supplies, it may be cost efficient to use free standing solar powered lighting in lieu of mains supply powered lights. These savings are however to be offset against the cost of replacing the existing street lighting systems.

Electromagnetic radiation around aerial cables exceeds the radiation distributed around buried cables. Burying power cables will significantly reduce the level of passive exposure to this energy field.

Environmental costs related to the value of wildlife that will no longer be subject to electrocution, (bats, birds and possums) should be considered.

The costs of incidents from the hazards of overhead wires to recreational pursuits including flying kites or moving sailing craft should also be considered.

Electrical power losses through discharge to the surrounding air and tree branches brushing wires would no longer be experienced. Additionally, the inductance and capacitance effects and resultant problems arising from corroded aerial cables in seaside localities are avoided. The costs of power losses and additional protection systems will be avoided.

An attachment to this submission are costings undertaken by Blacktown City Council in support of costings avoided.

Examples of special considerations that IPART has been requested to endorse by Local Government include:

- Electrical authorities to enter into Agreements with Council specifying infrastructure placement locations. Separate Street opening Conference do exist, but there is heavy reliance on the NSW Conference to govern locations. Footpath allocations for services in regional Australia has generally been managed poorly, and is the product of past bad practices and growth.
- Keeping of accurate records: there needs to be an onus on all authorities working under different legislation within Council road reserves to keep accurate records of infrastructure locations and provide as-constructed details to Council's when and if requested.
- Electricity ducting and cabling should be overdesigned for steady future growth, to restrict the potential for premature excavation of footpaths especially in high use and high risk paved areas.
- Underground cabling alignments should be well marked, especially on kerbs to delineate road crossings. This would greatly reduce the probability of damage to cables during road maintenance activities.

- There needs to be more effort and care placed in minimising in and above ground footpath obstructions and amenity associated with electrical infrastructure. Badly located and unslightly kiosks, substations, pits should not need to be tolerated in an area which has undergone (or is undergoing) streetscape improvements.

5. Distribution and Timing of Benefits

Value of this new undergrounding work, and the associated street lighting and streetscape planting works in the economy will be of major significance.

Improvement to the urban environment and public amenity will be gained. The value of trees in streetscapes and as individual trees will be enhanced when they are no longer distorted by years of polling and pruning. The additions to the urban forest which will be possible when the overhead cables are removed will add great value to the urban environment. Additional wildlife habitat will be created on streets and front gardens with fewer losses of wildlife due to electrocution on the wires. Wildlife movement corridors will be enhanced. Additional greenhouse gas reduction capacity will also result from the increase in the mass of the urban fores.

Plantings of major trees of a wider selection, not restricted to small trees and shrubs that can be accommodated under the wires, will enhance species diversity. Avenue planting will become possible on most streets, creating streescapes of significance. Compare the value of a Canberra streetscape of a mature avenue of trees, to the value of the hit and miss plantings to avoid services in Sydney. The only difference applying in Canberra is that the power lines are not on the street frontage, whilst the other utilities are all under the road as in Sydney.

Better landscape outcomes are not limited to the public lands. Private frontage gardens can be better planted, without the need to avoid plantings where aerial feeds exist overhead.

Submissions already made by a number of councils provide costing details on tree pruning and other associated costs.

6. Options for Funding Undergrounding Projects

Funding of the net capital costs, after adjusting for cost savings due to the alterations to maintenance programs and costs, may be from a levy on all electricity consumers, with an apportionment for the quantity of power consumed. The net capital costs must also include the entire replacement of street lighting, as no Councils would be funded for the full replacement of these assets, and this electrical work is closely related to the undergrounding of the reticulation.

The entire community benefits from most of the outcomes of undergrounding power cables. Payment for the projects should not be levied on all land owners or land managers, as that will place an inequitable burden on public land managers. Much public land does not use or need electricity services, and where electricity is used, the service and the amount consumed is paid for. Payment for undergrounding projects should be linked to the service provision and level of usage, and not to the existence of supply where it is not used. A levy on land managers where a supply is adjacent but not used would place a unreasonable burden on land used for recreation and other purposes.

Improvement to the urban environment and public amenity

The Associations agree with the Working Party's Finding 27 that the distribution of costs to different parties depends principally on the funding mechanism used.

The following motion 50E was resolved at the 2001 Annual Conference of the Local Government Association:

Project to bury all overhead powerlines in the Sydney basin

In light of the fact that:

- A. The Western Australian State Government has successfully run a program of burying the electricity distribution system over the last five years in Metropolitan Perth;
- B. The South Australian State Government has been burying substantial sections of Adelaide's electrical distribution system over a similar period;

The Queensland State Government has run a pilot program in the Inala District and has a Standing Parliamentary Committee investigating the burial of all power lines in the greater Metropolitan Brisbane area,

The Local Government Association:

1. Calls on the New South Wales State Government to immediately begin a project to bury all overhead powerlines in the Sydney basin, and then to use the economies generated to carry out cable burial in other population centres in the state.
2. Promote the position that should funding for such a project be by way of a levy or surcharge on the consumer's account, that it be amortised over an extended period of time so as not to create an undue burden for consumers.
3. Promote the position that cost savings generated from the progressive burial of the wires and cables buried.

Reliability of Electricity Supply

The funding method proposed by the Local Government Association Conference Resolution will produce a constant source of funds. This will assist planning, design and construction work to proceed according to the governments timetable. This approach offers the best opportunity to achieve reliability in electricity supply during construction.

Types of Undergrounding Projects including main roads, CBD / regional centres shopping centres and residential streets

The funding method proposed by the Local Government Conference Motion produce a constant source of funds. This will assist in the construction of all the above types of underground projects.

Impact on electricity pricing

The funding method proposed by the Association's Conference Resolution will have a uniform impact on electricity pricing and will therefore not adversely affect competitive neutrality.

Those who benefit and those who pay

The funding method proposed by the Conference Resolution will ensure that all resident, businesses and groups in the Sydney basin who consume electricity will contribute to the construction costs of undergrounding electricity in their region.

The impact on customers and particular any differential impact on rural or urban customers, pensioners and low income households

The funding method proposed by the Conference Resolution will produce cost savings and efficiency gains which will benefit other NSW regions which undertake undergrounding at a later stage. A similar arrangement for concessions to pensioners which previously applied to the environmental levy on water accounts should apply to the proposed new environmental levy on electricity accounts.

General Comments on funding

Local Government believes that the real stimulating effect on the national economy of a major undergrounding project will be more positive than the working party's modelling suggested. Their model was based on a set of assumptions that were not clearly articulated or stated. For example, the model shows the measurable net benefits as slightly negative for employment. Clearly there would be guaranteed direct jobs that would be created with a major regional undergrounding problem.

It is important that social justice issues be accommodated resulting from undergrounding.

The Term of Reference are noted to apply to urban areas. Some country councils have emphasised that a program of undergrounding in rural areas would do nothing more than attract a levy on rural electricity subscribers to the detriment of a struggling rural economy.

By way of conclusion, the Associations:

- I. Support the undergrounding of cables in urban areas.
- II. Local government should not bear the cost for underground cabling
- III. Profit making entities are better placed to pass on the costs to consumers,
- IV. All future development be required to put cables underground.
- V. Undergrounding of cables include cabling for electrical, television and communications.

The Executive of the Local Government Association of NSW on 8 February 2002 resolved that the Government develop an equitable priority implementation system for the undergrounding of electricity powerlines in urban NSW.

Yours sincerely



Brenton (Alby) Taylor
Executive Director

Attachment

Terms of reference 4 & 5.

The types of costs which are avoided as a result of undergrounding and the distribution and timing of benefits to those who benefit including an appraisal of the overall public benefit to the wider community.

Issue Power poles with above ground cables	Underground network Types of costs avoided	Beneficiaries Private benefit Public benefit	Timing of benefits
Motor vehicle collisions See table below. Electrocutions Bush fire damage	Loss of life Health care costs of injuries & trauma Economic loss through death & injury Emergency services costs and Asset replacement costs Property damage Insurance premiums	Accident victims, their families & colleagues. General public - (Health care premiums, hospital waiting times.) Accident victims, their families, associates and employers. General public - (funding services through taxes and charges.) Property Owners (financial loss) Insurers (lower premiums)	Immediate and on-going for a lifetime. Immediate and on-going. Immediate and on-going. Immediate and on-going.
Losses caused by electricity outages	Losses through disruption of service and perishable stock.	Businesses and customers benefit through lower costs and prices.	Immediate and on-going
Network maintenance costs See estimates below.	Access Occupational Health and Safety Plant and Equipment	Electricity distributors & telecommunications carriers (lower mtce costs), their employees (OH&S) and customers (lower prices).	Immediate and on-going
Tree pruning costs to avoid lines See estimates below. Tree removal and replanting unsuitable trees.	Eliminated Undergrounding will involve removal of trees, replacement of existing concrete & brick paving in most streets. Replanting required.	Electricity distributors (lower costs) Residents & public (improved image) Businesses (nurseries, pavers)	Immediate and on-going Increased sales
Property values	Cluttered cable 'coat hangers' reduce the image of adjoining properties.	Property Owners (improved value)	Immediate and reducing.