# Sydney Cables Downunder

**The Chairman**
**IPART**
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**Sydney**
**NSW 1230**



**22.04.2002.**

**RE: Undergrounding Electricity Cables In NSW.**
**Submission to the Interim Report.**

Dear Sir,

Sydney Cables Downunder having studied the interim report would like to make the following submission.

## 1. TECHNICAL ASPECTS.

The proposal put together by the Tribunals technical consultant Meritec appears farsighted and imaginative. It has been noted that their "optimised approach takes into consideration current and anticipated load factors and makes use of current technology as opposed to the burying "Like for like" approach, which is built upon past technologies.

It has been noted that the Meritec "Optimised" approach also has the ability to reduce the amount of High Voltage cable in urban areas. This can only be commended as we have for sometime wrestled with this problem, which was effectively, ignored in the earlier ''Putting Cables Underground" report. One of the greatest problems we faced were approaches by people concerned with Electo Magnetic Radiation from these cables.
Two notable submissionsto us were from a Chemist who had observed a noticeable increase in cerebral tumours in his clients and plotted them on a map. The map showed that they all lived roughly along the line of a 133kV Cable.
The second was from a resident in the Ku-Ring-Gai area who had to have special precautions put in place when it was found that her roof was at a potentially dangerous Voltage as a result of **an** induced current from nearby HV power lines.

We are aware that there are areas of Sydney where growth and other factors such as policies of urban consolidation have over recent years seen a shift in Electricity loadings, resulting in some areas effectively having over capacity while others are running at or close to 100% capacity. This is a matter of serious concern, which needs to be addressed with or without any new Electricity Reticulation System. For this reason, even without the obvious cost savings we would like to see the Optimised approach applied.

Any funds saved as a result of not needing the necessity to upgrade the current system should be quarantined and offset against the cost of cable burial.

Although Meritec would appear to have gone outside their brief, they are to be congratulated for thinking "Outside the square" and enhancing any future underground project.

## 2. ECONOMIC ASPECTS.

There are a number of economic issues raised in the report that we have difficulty with. Rather than refer to these as "Quantifiable" and "Unquantifiable" we believe a better choice would be "Internal" (cost savings within the industry) and "External" (cost savings outside the industry. ie; Consumer) and "Miscellaneous" (eg; Motor vehicle accidents.)

### 2.1 Internal.

Without access to internal accounts and the ability to review the way they are constructed, we find it difficult to come to terms with the avoided costs (3.1.3) of $M105 or $M2.63 P/A given in the report.
Tree trimming for Energy Australia alone would cost more than this projected saving.
As a consequence, there would also appear not to be any allowance for storm damage, which is likely to continue and increase in severity and frequency due to climate change and will be a progressively greater impactor on the maintenance budget.
Likewise there would appear to be no allowance for not having to maintain poles or attend to other maintenance issues.
We have fbrther difficulty with this figure as it represents the cost saving during the transition or construction period, which does not give a true before and after comparison.

### 2.2 Reliability.

The report states that reliability (3.1.2) will increase by between 20% & 45% yet there is ample evidence in the PCUG report that the actual anticipated increase in reliability is a factor of four. This figure is likely to increase further with climate change. We would fbrther submit that when examining the issue of reliability both the number as well as the duration of any outage should be taken into consideration. Currently much equipment both domestic as well as commercial is becoming more computerised. This equipment is more susceptible to interruptions to the power supply with the tolerance of some being as low as three cycles or three fiftieths of a second. As a result the number of interruptions may well be becoming a greater factor than total outage time.
It is also noted that if the "optimised" approach by Meritec is adopted the mix of HV as well as LV cables included in the approach will have a significant influence on the final outcome.

### 2.3 Lost Revenue.

Due to lack of reliable data we are unable to quantify this figure, but believe that it may be significantly greater if climate change is factored in.
In addition although not lost revenue as such, in an ever increasing litigious society the impact upon profits as a consequence of litigation resulting from power outages needs to be considered.

### 2.4 External.

Unfortunately these are largely unquantifiable. Government organisations due to reasons of accountability are much better at keeping records. With private industry, not only are there problems of lack of record keeping but also any records that may be available are subject to confidentiality constraints.

We have attempted to obtain figures on employees thrown out of work in industry and commerce as a consequence of blackouts and the ramifications for employers, but this information is not available.
We have also tried to put a figure on the amount of food spoilt due to power failures in supermarkets and delicatessens etc and dumped but again this information is not available.
The best than can be said is that if lost revenue to DNSPs is in the order of $M0.5 to $M0.7 then, as this is only one cost input to industry and commerce the actual cost to energy consumers is several magnitudes greater.
Should this situation continue, then the cost to industry and commerce will become unsustainable and we will see a loss of investment capital to other cities in the region where the supply is more reliable.

Another factor that is only now coming to be recognised is the effect that interruptions to supply are having at the domestic level. While this factor is somewhat less in a freestanding single dwelling, in the ever-increasing residential tower blocks being constructed along Sydney's transport corridors and commercial areas, the ramifications are far greater. Provided you are not trapped in a lift when the power goes off and you are young and fit, the climb up, up to ten flights of stairs is little more than an annoyance. If you are older then the climb may well be impossible.

Likewise these buildings require pumps to supply water for drinking and sanitation on the upper levels that will become inoperative under such circumstances. While lobbies and stairwells have emergency lighting this lighting has a finite life. Given the recent storm damage to the current overhead network with power being out for days at a time, this is an important consideration.

Additionally at times of natural disaster ie; storm and fire, reliability of the system is paramount for the provision of domestic water and sanitation. There is also the issue of a reliable water supply for fire fighting purposes. Though this is difficult to quantify in dollar terms

Unless a larger and more thorough study is undertaken all the criteria listed above cannot be quantified but must be expected to be quite large.

These costs although not taken into consideration in the report are bourn by the total community and result in an increase in the form of increased costs and charges. We submit that when examining the cost issue, it would be a serious error not to take into consideration the total cost to the community.

### *2.5* Miscellaneous.

Motor vehicle Collisions are another area we have difficulty with. We take particular issue with the statement (3.1.1) that ***"Although it will not reduce the number of off road accidents, the removal of roadside poles currently housing, overhead cabling is likely to reduce the severity of these accidents."***
The problem being that a great many poles are sited immediately behind the kerb so as not to interfere with roadside and or private foliage. This siting also makes it unnecessary to negotiate "easements" should the powerlines stray over private property.
Due to the siting of these poles they pose a serious collision obstacle in the event that a driver swerves and simply puts two wheels up on the nature strip. Thus what may have been a simple off road excursion resulting in no personal or property damage becomes a potentially life threatening collision. The writer has actually witnessed one such accident and the full ramifications of another.

Likewise the statement that the same result could be obtained as a result of a road safety campaign must be questioned. We must refer to previous campaigns that have resulted in a "Spike" in the statistics during their running but failed to realise any long term result.
Road safety is as much an issue of the road and roadside environment as it is an issue of driver attitude.

It is a little known fact that many truck drivers prefer not to drive on the kerbside lane as they run the risk of damage to their "Wing" or rear view mirrors on passing power poles.

In our discussion paper we used figures for road crashes with utility poles (Power poles) supplied curtesy of the RTA and applied costs from the report "Road Crashes In Australia" "Report number 102" this showed that for a three year period the total cost of road crashes in NSW averaged over a three year period cost the community $M224 at 1996 dollar values. We are therefore uneasy with what would seem a low figure for of approximately $M48-$M53 of cost savings. We further note that the Tribunal has used figures from an earlier report by the BTE dated 1998 in which the figures quoted are considerably lower than in Report 102, which is a more researched and fuller report by the same authors and dated May 2000.

**2.6** Other Issues.
In the report item "3.2.3 New opportunities", the last item dealing with economic advantages flowing from the project the report states ***"However most economic activity generated by the process of undergrounding will be transferred from other areas, with little net impact."***
While in theory this may well be the case there can be no denying the fact that the economy is in general, sensitive to building booms etc, of which the recent Olympic building boom is a typical example. There is no reason to believe that a project to bury the Power distribution system should be any different.

**2.7** Economic Summary.
As has been stated elsewhere, we believe that the issue of economic benefit is difficult to prove for all the above reasons. It is not that the theory is perhaps unsound but that the data has never been generated, collected or collated. Worse, on previous experience few businesses would seem to have mechanisms in place to handle the issue and just write it off as a business expense.
We also believe that this is an issue of Vision and amenity and as such to examine the economic issue in isolation would be wrong, and distort the final outcome.

## 3. COST ISSUES.

We are generally in agreement with the costs assembled for the burial of cables.
Initially, at least, we believed that the Meritec costs were on the low side however upon closer study they seem achievable.

Until now a lot of speculation has taken place about the actual cost of cable burial in Sydney but it has to be realised that Sydney has a lot of natural advantages that previous projects in other states have not had.

## 4. FUNDING OPTIONS.

4.1 Power

This is an area in which we have a lot of difficulty.We have examined the issue and looked at it from several directions. In the end we believe that the simplest and most straightforward to be the best.

Although we had seen other systems in place in other states, as obviously the tribunal has, we felt that with NSW it was best to start off with a clean sheet. The reasons for this are many and varied including a different demographic profile and the projected size and complexity of the project.

The main issues that have to be taken into consideration are as follows;

A. Any scheme to bury cables must have an aspect of social equity.
B. Any scheme to bury cables must be as wide spread as is practical to generate high economies of scale and allow the network to be redesigned and optimised.
C. Funding costs should be as low as possible to make them affordable and acceptable to the community at large.
D. They should also show on the same account, offsetting cost savings.
E. They should also be levied on a user pays system.
F. They should have an aspect of beneficiary pays.
G. They should not divert funds away from other essential government services ie; Health, Education and Law & Order.

Unfortunately we can see little of these aspects in the tribunals report. While we initially considered a roll for Local Government in this issue, as has been the case in other states, we found that this raised further issues of lack of transparency, unnecessary complexity and could be seen as "Cost Shifting." We also noted that in South Australia for instance, the State Government in part offset Local Government contributions. One issue that is often overlooked when councils are required to collect such levies is that traditionally they rate properties on the basis of their value. This property value approach applies a different set of criteria to the value of energy usage and is further diluted when one rateable property may contain several residents and tenants, especially if they all have largely differing energy demands. Consequently, if a user pays approach is adopted and applied to a council rating system it creates distortions between high and low energy consumers, and makes it more difficult to build in protections for pensioners and the not so well off.

For the above reasons we favour a single line item on the Energy account detailing the contribution with a second line showing the offsetting cost savings.
This form of payment then is direct and transparent and does not introduce unnecessary third parties into the system.

We also believe that the larger users would be the greatest beneficiaries of a safe and secure energy supply and as such they should be prepared to pay more.
There is also subjective evidence that the less well off and pensioners tend to be frugal with their use of power. As a consequence we would favour a tiered levy system that would not disadvantage those at the bottom, but would reflect the reliability benefit to large energy users at the top.

There will always be exceptions to any scheme but it is our belief that this form of levy approach goes a long way to resolving most equity issues.

There is also the issue of road safety. It has been noted that in areas where the power is underground there could be a reluctance to pay a second time to have cable burial extended to other areas. Yet these same residents would be subject to the road safety aspect whenever they travel outside their own areas. There is also the issue of existing overhead feeder lines, which these areas rely on and being subject to environmental damage. As a consequence we would propose that a small levy be applied to motor vehicle registrations and shown as a separate line item on the registration form. This levy should be applied to all vehicles registered in the general postcode area where undergrounding **is** to be carried out and adjacent areas that are already underground.

Whichever form of levy is introduced it should be sold on the basis of encouraging consumers to "Opt in." To "Opt out" as stated earlier would create economic as well as social issues that are completely unnecessary and an administrative nightmare. They also make it more difficult to design and construct an optimised system.

Further on the issue of equity there is the issue of cost savings. It has always been accepted practice that the cost of general maintenance and repair after storms etc be seen as a legitimate cost of carrying on a business and is consequently spread across the total revenue base of the energy provider. If users are to pay to have their power buried, then should they be expected to receive a larger discount for the part they have played in reducing operating costs? On one hand they may be entitled to it but on the other this would create greater social distortions.

Thus the only logical way forward is a universal and all encompassing scheme.

**4.2 Communications.**

Communications companies in Australia are generally private companies, this raises a number of ethical and legal issues. These issues are then clouded by what services a customer uses and it could be argued that a resident should not have to pay to bury a cable whose service he or she does not use and did not originally want erected aerially in front of his or her property.

Some of the points raised are as follows;

1. If you don't use these communications services do you still have to pay to have them buried?

2. If you pay to have them buried does that constitute a change of ownership of the cable, from the carrier, to you?

3. Could it be construed as a government subsidy of a private company?

4. Should it be seen as a legitimate cost in capital works or upgrading, and the cost, spread evenly across the total cost and revenue base of the carrier?

   And what are the tax implications?

We are not saying these companies should not be treated with sympathy nor helped. Just that this is a separate issue.

Before the issue can be resolved the above points plus others that may have been overlooked require full examination.

## Conclusion.

Being a public lobby group with limited resources, we have not been able to examine the **PART** Interim report in fine detail in the time allowed. Instead we have concentrated on the points and issues that would seem to be the most the most critical.

Two aspects we found confusing in the report is that it does not compare like costs with like. This is compounded by the fact that Meritec to their credit have put forward two different solutions, which introduce different criteria when assessing the data. **While it is important to determine the cost savings over the transition or construction period, a truer indication of their value would be a before and after approach.**
We also believe that some of the figures presented may be also have used a discounted cost analysis while others used current net value, which further compounds the problem when making comparisons. To **minimize confusion in this area we would submit that all figures should be stated in current net value terms.**

We appreciate the work that **PART** has put into its report under difficult and demanding time constraints. However unless a proper study is carried out with sufficient time and resourcing to determine the actual and reasonable costs both internal and external then no one can claim that the true costs outweigh the benefits. Given the effort that Sydney Cables Downunder has in the past put into the same endeavor only to find that the data does not exist, then it would be surprising to find that a similar study carried out by any other organization could come up with a significantly different result.

While it would be possible to construct such a study by using quantitative research it would be costly and very time consuming and there is no guarantee that at the end of the day it would provide a conclusive answer.

Instead we would point to other desirable features that a cable burial scheme could provide and suggest that with the growing popular grass roots support that the issue has, that it should proceed without further delay.

It is a matter of fact that Sydney, a city built around the world's greatest harbour and that regards itself as one of the great cities of the world, trails behind the other great cities by up to 120 years with respect to its power reticulation system.

With the prospect of being left further behind it is perhaps time to accept the inevitable, grasp the nettle, and forge ahead. After all New York, London, Paris & Rome can not all have got it wrong. As evidenced during the recent public forum even a number of third world countries now have underground power.

It is perhaps wrong to burden IPART with this statement as it is outside its terms or reference, but the comparison cannot be ignored and the point must still be made.

Yours faithfully

Peter Downey
Chairman
Sydney Cables Downunder.