Blacktown City Council
Growing with Pride

6 February 2002

Director Energy
Independent Pricing and Regulatory Tribunal of NSW
ipart@ipart.nsw.gov.au

Dear Ms Towers

Underground Electricity Cables - IPART submission

I refer to your request for submissions on the IPART terms of reference regarding costs; benefits and funding of undergrounding electricity cables.

Please find attached Council's submission.

Should you require further information, please do not hesitate to contact the person named below.

Yours faithfully,

IAN REYNOLDS
GENERAL MANAGER

Your contact for this matter is: **Michael Cranny**
Phone: 9839 6000 Ext. 6422
File No.: 5-8-579

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UNDERGROUND ELECTRICITY CABLES

The Independent Pricing and Regulatory Tribunal (IPART) has called for submissions (closing 4 February 2002) as part of a review of costs, benefits and funding for underground cabling.

History

In response to ongoing representations made by the LGSA and Blacktown City Council through the local Members of Parliament, the Premier undertook to examine ways to reduce the number of overhead electricity cables in the State.

Of the 63,000km of overhead cabling in Sydney, there is over 1,000 kilometres of cabling in the Blacktown Local Government Area. It is understood that IPART will assist the Minister for Energy to examine the costs and funding options for placing cables underground and will also consult closely with relevant organisations including the LGSA.

The State Government is expected to annwnce by June 2002, details of a long term plan to place power lines underground, It is considered that fewer overhead cables will mean a more reliable electrical supply, increased safety during violent storms, reduced maintenance costs, an improved appearance for our streets and importantly, a reduction in motor vehicle accidents as a result of collisions with poles.

Terms of Reference

On 10 January 2002, IPART called for submissions with the terms of reference to identify:

- The level of capital expendlture required for putting electricity distribution cables underground in NSW urban areas (including Sydney and regional centres).
- The feasibility of undergrounding electricity cables with other utility services including telecommunications and any economies of scale that can be achieved.
- A comparison of the costs associated with maintaining the current network compared to undergrounding.
- The types of costs which are avoided as a result of undergrounding.
- The distribution and timing of benefits to those who benefit including an appraisal of the overall public benefit to the wider community.

Options for funding undergrounding projects. with regard to:

- improvement to the urban environment and public amenity
- reliability of electricity supply
- types of undergrounding projects including main roads, CBD / regional centres, shopping centres and residential streets
- impact on electricity pricing
- those who benefit and those who pay and
- the impact on customers and in particular any differential impact on rural or urban customers, pensioners and low income households.

Review process

In the review, IPART is requested to:

- provide an interim report to the Minister for Energy in March 2002
- undertake consultation including a public workshop in April 2002
- provide a final report by 10 May 2002.

Background to Council's involvement

1. In 1999 Sydney Cables Downunder approached Council for support for the undergrounding of cables in Sydney. At its Ordinary Meeting held on 26 May 1999, Council resolved that Blacktown City Council:

   "(a) Supports the undergrounding of all overhead cables by the State Government.

   (b) Write to all local members of State Parliament requesting that they lobby the government to actively pursue a policy of retro undergrounding of all overhead cables to be undertaken at the state government's cost. In the correspondence to the Sydney Cables Downunder and local members, it be pointed that this Council was one of the first local government authorities to require undergrounding of cables in new subdivisions.

   (c) Advise Mr. Peter Downey from Sydney Cables Downunder of Council's decision." Council at its Ordinary Meeting held on 8 September 1999 resolved that a detailed report in relation to the undergrounding of cables be prepared for consideration by Council."

2. Council received a response from the Hon. Kim Yeadon M.P., Minister for Energy via Jim Anderson M.P., Richard Amery M.P. and John Aquilina M.P.

3. The Minister's response was that electricity distributors fully co-operate with and assist communities or Councils who are prepared to meet the costs of undergrounding. The Minister's response refers to Finding 33 of the abovementioned Commonwealth report published in December 1998 which made 44 findings in relation to the undergrounding of cables. Finding 33 supported the funding principle that property owners are primarily responsible for the decision to put cables underground and bear most of the costs with some limited contribution by government.

4. Integral Energy's "co-operative" funding approach is demonstrated when Council needs to undertake road widening. If relocation of power lines is necessary, then Integral Energy has requested Council to underground the electricity cables in the new location.

   Council is asked to meet the full cost, The cost of undergrounding can be substantially more than the amount for relocating overhead cables. Integral Energy wants the benefits that derive from undergrounding cables but is extremely reluctant to make any contribution to the cost involved which usually amounts to hundreds of thousands of dollars. Given the extensive road network in Blacktown, the current practice represents a substantial liability and impost on Council. Council has sought a more equitable approach from the Minister for Energy.

5. The subsequent report to Council examined the 44 findings of the report titled "Putting Cables Underground" produced by a Working Group for the Commonwealth Department of Communications, Information Technology and the Arts.

6. Following consideration of the report, Council resolved:

   1. *That the report FCS991235 be received and noted.*
   2. *A copy of this report be forwarded to the Local Government Association of NSW and to the Institute of Public Works Engineering Australia and they be requested to co-ordinate a position paper on this matter incorporating all Councils' Views for submission to the Minister for Energy, the Hon. Kim Yeadon, M.P.*
   3. *The matter be referred to both WSROC and LGSA for further action.*
   4. *Council seek a deputation, through the Local Members, to the Minister for Energy, the Hon. Kim Yeadon, M.P. to express Council's concern over the matter.*

7. A copy of the report FCS991235 is attached for your information.

8. At the 2001 Annual Conference of the NSW Local Government Association, Council supported a successful motion calling on the NSW State Government to immediately begin a project to bury all overhead power lines in the Sydney basin and to use the economies created to carry out cable burial in other population areas of the state. This submission supports this position.

Blackfown City Council submission

The following comments respond to each of IPART's terms of reference (in bold).

1. The level of capital expenditure required for putting electricity distribution cables underground in NSW urban areas (including Sydney and regional centres).

The Commonwealth report *Putting Cables Underground* stated in Finding 28 that the Working Group's best estimate of the total cost of putting electricity and telecommunications cables underground in urban and suburban areas of Australia was $23.37 billion in present dollar terms. Whilst it is agreed that the cost of putting cables underground in particular areas will vary with local conditions, the aggregate of around $24 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. Council supports the ALGA's view that this figure which represents a cost per property of around $6,000 is a substantial over-estimate. The real cost according to the ALGA 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. The feasibility of undergrounding electricity cables with other utility services including telecommunication and any economy of scale that can be achieved.

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. Council policy supports enforcement of this requirement to underground telecommunications cables within 6 months.

Council agrees with Finding 12 of the report 'Putting Cables Underground' that 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. Local government should be the approving authority for underground network design.

Council also agrees with Finding 14 that 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.

In Finding 10 the 'Putting Cables Underground' working group identified 28 innovative ideas which could potentially reduce the cost of putting cables underground. The working group estimated that for a large project this could be by up to 20 per cent in the first year and up to 35 per cent over five years. Council supports the ALGA 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. Council agrees with the Working Group's Finding 11 that there are potential benefits in terms of costs, 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. A comparison of the costs associated with maintaining the current network compared to undergrounding.

Cost Item See note A	Current network costs	Underground network costs
Motor vehicle collisions with poles - damages. See note B below.	Much higher incidence and damages	Much lower
Lasses caused by electricity outages	Higher losses	Lower
Network maintenance costs	Higher costs	Lower
Tree pruning costs	Much higher costs	Much lower
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
Bush fire damage	Much higher incidence and damages	Much lower
Unemployment cost [Undergrounding creates jobs]	Higher welfare and social cost	Lower
Intangible costs - environmental [visual amenity. *city* image, tourist attraction] and social [community pride, safety and well being]. See note C.	Much higher	Much lower

Notes:

A. **Tangible costs** have been quantified in the Commonwealth report 'Putting Cables Underground'. Further details appear in the section below **'Estimate** of main quantifiable benefits' below.

B. A review of accident data available to Council for 1999 shows a figure of 88 accidents involving **utility poles** within **Blacktown** Local Government Area Of these accidents there was **1 fatality** accident and **48** injury **accidents** with a total *of* 64 people injured.

C. **Intangible** costs

The Commonwealth 'Putting Cables Underground' Working Group's Finding 21 stated that the main other benefit of putting cables underground is improved urban amenity, **which** includes improvements in streetscapes and the visual appearance **of** a community. The group considered it was not **practical** to try to place a value **on** visual amenity. Council supports the ALGA view that intangible indirect benefits **have** been excluded in the Commonwealth report on the grounds that **they** are **not quantifiable.** Such benefits relate mainly to environmental **and** social cost savings. These important benefits relate to **community** values, urban design outcomes. the design of competitive urban places and urban renewal opportunities. In its submission to **the** enquiry, the ALGA provided a summary of **key** intangible benefits. These were not **taken into** account in the final report.

Blacktown City Council places a very high **value** on the visual amenity **of** the environment. It is considered that to place no value on visual **amenity,** is a major flaw **in the Working Group's report.**

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 with poles See estimates 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, friends and 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 (nurserles, 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.

Issue Power poles with above ground cables	Underground network Types of costs avoided	Beneficiaries Private benefit Public benefit	Timing of benefits
Greenhouse gas emissions (due to reduced transmission losses)	Lower emissions have value as carbon credits. Lower transmission losses.	General pubfic (healthier climate) Electricity customers (lower prices - electricity)	Immediate and on-going
Unemployment cost	Undergrounding cables creates many new jobs over several years, Economic multiplier effect benefits the local economy.	Unemployed (employment opportunities) Businesses (business opportunities) General Public (strong economy)	Over the project period.
Intangible costs - environmental [visual amenity, city image. tourist attraction] and social [community pride, safety and well being].	Removing the urban visual blight of street coat hangers helps in tourlst promotion and developing community pride.	Residents (community pride) Tourists & General Pubfic (improved perception) Tourist Industry (competitive advantage) Electricity distributors (responsible civic image)	immediate and on-going

Estimate of the main quantifiable benefits

The Working Group's Finding 22 produced the following table [Table 1] which presents the group's best estimate of the main quantifiable benefits, on an ongoing annual basis, of placing overhead cables underground in urban and suburban areas of Australia with a population of over *30,000.*

Table 1

Type of benefit	Annual benefits (a) ($ per km of line)	
	Minimum	Maximum
Reduced motor vehicle accidents	1,358	2,793
Maintenance costs	18	1,531
Tree trimming	35	1,120
Reduced transmission losses	0	292
Total	1,411	5,736

Table 2.

Blacktown LGA - Annual benefits (b) Approx. $1,000 km of cable (b)	
Minimum	Maximum
81,358,000	$2,793,000
18,000	1,531,000
35,000	1,120,000
0	292,000
$1,411,000	$5,736,000

(a) Figures are indicative only of a best case and worst case scenario,
(b) Figures of Table 1 are applied to electricity cables in Blacktown LGA.
(c) The Blacktown LGA has mostly clay at cable trenching levels.

6. IPART seek options for funding undergrounding projects with regard to;

improvement to the urban environment and public amenity

reliability of electricity supply

types of undergrounding projects including main roads, CBD / regional centres, shopping centres and residential streets

impact on electricity pricing

those who benefit and those who pay and

the impact on customers and in particular any differential impact on rural or urban customers, pensioners and low income households.

6.1 Improvement to the urban environment and public amenity

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

Council supported the following motion [50E] passed at the 2001 Annual Conference of the Local Government Association:

Project to bury all overhead power lines 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 power lines in the Sydney basin, and then to use the economies generated to carry out cable burial in other population centres in the state.

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.

Promote the position that cost savings generated from the progressive burial of the wires and cables be used to offset the cost of electricity cable burial.'

6.2 Reliability of electricity supply

The funding method proposed by the NSW LGSA will produce a constant source of funds. This will assist planning, design and construction work to proceed according to the government's timetable. 'This approach offers the best opportunity to achieve reliability in electricity supply during construction.

6.3 Types of undergrounding projects including main roads, CBD / regional centres, shopping centres and residential streets

The funding method proposed by the NSW LGSA will produce a constant source of funds. This will assist in the construction of all the above types of undergrounding projects.

6.4 Impact on electricity pricing

The funding method proposed by the NSW LGSA will have a uniform impact on electricity pricing and will therefore not adversely affect competitive neutrality.

6.5 Those who benefit and those who pay

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

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

The funding method proposed by the NSW LGSA 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.

6.7 General Comments on funding

The ALGA stated in its submission to the working group on Putting Cables Downunder that governments pursue large scale infrastructure programmes for a range of reasons. Many such programmes could be shown using the macro modelling as having been conducted for this exercise, as having a negative impact on the national economy. However, the governments continue to implement them based on an assessment of the positive social and environmental impact (on which the working group report placed no value). Local Government firmly 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 programme. The working party report used macro modelling with stylised assumptions which suggest that other jobs might be created by using the resources for the programme, elsewhere.

Many Councils were concerned that the Working Party model was overly reliant on funding from individuals with sufficient spare financial resources to pay. It is important that social justice issues be accommodated resulting in undergrounding occurring in all areas and the pattern of undergrounding should not exacerbate quality of life differences across Sydney's urban areas. The LGSA's proposed financing mechanism will spread the cost of the project over time. This is appropriate given the long term benefits received from the project. The ALGA has stated that the Federal Government created the problems with telecommunications cabling and state governments created the problems with electrical cabling. It needs to be emphasised that both governments have the power to prevent the problem from becoming larger.

Conclusion

For the reasons outlined in this report, Council actively pursues its policy of undergrounding electricity and telecommunications cables in all new development. Additionally, Council supports the proposed project to commence undergrounding all electricity cables in the Sydney basin.

Works & Finance

MinuteNumber: 23/02/2000

Council Meeting Date:

Report Number: FCS991235

Director Finance & Corporate Services Author; Cranny M. ,Manager: Dobson E.

ITEM: <#> WF1219

SUBJECT:

FCS991235 - Undergrounding of Overhead Cables

FILE NUMBER: *6-8-579*

RELATIONSHIP TO MANAGEMENT PLAN:

Priority Area:

Outcome/Objective:

SUMMARY OF REPORT:

1. Council at its Ordinary Meeting held on 8 September 1999 resolved that a detailed report in relation to the undergrounding of cables be prepared for consideration by Council.

2. This report examines the 44 findings of the report titled "Putting Cables Underground" produced by the Commonwealth Department *of* Communications, Information Technology and the Arts.

3. There are no attachments to this report.

SUMMARY RECOMMENDATION:

That a deputation be sought with the Minister for Energy, the Hon. Kim Yeadon M.P. regarding a strategy for the undergrounding of overhead cables.

REPORT:

1. Council at its Ordinary Meeting held on 26 May 1999 resolved that Blacktown City Council;

   "(a) Supports the undergrounding of all overhead cables by the State Government.

(b) Write to all local members of State Parliament requesting that they lobby the government to actively pursue a policy of retro undergrounding of all overhead cables to be undertaken at the state government's cost. In the correspondence to the Sydney Cables Downunder and local members, it be pointed that this Council was one of the first local government authorities to require undergrounding of cables in new subdivisions.

(c) Advise Mr. Peter Downey from Sydney Cables Downunder of Council's decision."

2. Council received a response from the Non. Kim Yeadon M.P., Minister for Energy via Jim Anderson M.P., Richard Amery M.P. and John Aquilina M.P.

3. The Minister's response was that electricity distributors fully co-operate with and assist communities or Councils who are prepared to meet the costs of undergrounding. The Ministers response refers to Finding 33 of the abovementioned Commonwealth report published in December *1998* which made 44 *findings* in relation to the undergrounding of cables.

4. A current example of Integral Energy's "co-operative" approach is demonstrated when Council needs to undertake road widening. If relocation of power lines is necessary, then Integral Energy has requested Council to underground the electricity cables in the new location. Council is asked to meet *the* full cost. The cost of undergrounding *can* be substantially more than the amount for relocating overhead cables. Integral Energy wants the benefits that derive from undergrounding cables but is extremely reluctant to make any contribution to the cost involved which usually amounts to hundreds of thousands of dollars. Given the extensive road network in Blacktown, the current practice represents a substantial liability and impost on Council. This report recommends that a more equitable approach be sought from the Minister for Energy.

5. A copy of the report 'Putting Cables Underground' is attached to Council's file and is available on the Department's web site. Each of the findings of the report are provided below, followed by staff comment, if required. Particular attention is given to the funding issue in which the Local Government Association strongly disagrees with the reports findings:

Finding 1
Provides a table summarising the key results of the stocktake undertaken by the group of electricity and telecommunications cablings, and duct utilisation for urban and suburban areas having a population of greater than *30,000.*

Finding 2
State and territory planning policies generally require new electricity and telecommunications cables in greenfield residential (and in some states, for example Western Australia, commercial) subdivisions to be installed underground. The Commonwealth, *State* and Territory Governments between them have the power to require all new cable installations be underground.

Comment

Blacktown City Council was one of the first Local Government authorities to require undergrounding of cables in new subdivisions.

Finding 3
At present there are no state or territory requirements for putting existing electricity cables underground, although there are a number of programmes to facilitate putting some cables underground in established areas.

Comment
Council at its Ordinary Meeting held on 26 May 1999 resolved to write to all local members of State Parliament requesting that they lobby the government to actively pursue a policy of retro undergrounding of all overhead cables to be undertaken at the state government's cost.

In Perth, the Western Australian government is currently undergrounding the whole of the Greater City Area. This is a good strategic initiative since it will reduce the state government's cost in relation to health care and emergency service costs associated with fatalities and injuries caused by motor vehicle collisions With utility poles.

The undergrounding of cables in Greater Sydney requires a strategy coordinated by the Minister for Energy in which all stakeholders can contribute. Given the state government's close relationship with electricity distributors in NSW, it is appropriate for the Minister for Energy to demonstrate leadership in this area

Finding 4
While there are currently no requirements for initiating 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.

Comment
This finding reinforces the need for an appropriate strategy by the Minister for Energy.

Finding 5
Government policies for the electricity and telecommunications industries have been to promote lowest costs and improved services Fox consumers, including through use of competition and price regulation.

Comment
The electricity and telecommunications industries should not be protected by regulation from paying a fair and reasonable rent for the conveyance of cables over or under Council owned land.

Finding 6
It is likely that there will be a need for a cable-based electricity grid for the foreseeable future. While there will be increasing deployment of wireless

technologies in telecommunications, there will nevertheless continue to be a need for cable-based distribution networks, particularly for the carriage of broadband communications.

Comment
Agreed.

Finding 7
There are only two basic options for replacing overhead with underground cables:

- **deploying the cables into a trench (trenching); and**
- **deploying them into a bore drilled for that purpose by specialist equipment (boring).**

There is a range of different trenching and boring techniques which can be used. To date in Australia, trenching has typically been used around 80% of the time and boring 13%. It is not appropriate to provide any generic rating of these techniques, given the need to take account of particular circumstances.

Comment
Agreed.
Ending 8
The group estimated typical indicative costs of trenching and boring under different circumstances (details provided).

Finding 9
The relative cost of boring as compared to trenching over a given distance intends to increase as:

- The number of services to be placed underground rises;
- The incidents of sub-surface rock increases;
- The housing density increases; and
- The cost of reinstatement decreases.

Comment
Agreed.

Finding 10
The working group identified 28 innovative ideas which to the extent that they are practical, economically beneficial and appropriately implemented could, potentially reduce the cost of putting cables underground. For a large project this could be by up to 20 per cent in the first year and up to 35 per cent over five years.

Comment
The costing methodology in the report has not accommodated 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, according to the ALGA submission.

Finding 11
There are potential benefits in terms of costs, innovative network design, and urban planning (through design and location of padmounted substations), and facilitating smaller scale projects to put cables underground by the development of a longer term overall underground network plan for an area.

Finding 12
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.

Comment
Agreed.

Finding 13
Appropriate safety standards are important to maintain, and improve network construction and operating safety.

Comment
Agreed.

Finding 14
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.

Comment
Underground cable location maps must be provided to Councils for reasons of occupational health and safety. This should not be regarded by telecommunications carriers as commercially privileged information. Councils could incorporate the underground capable location on their own land information systems.

Finding 15
There is a need for appropriate environmental management strategies in any program to put cables underground.

Comment
Agreed.

Finding 16
The main technical issue in relation to future market development is whether there should be an obligation on those putting cables underground to install additional duct capacity at the time any such project is undertaken. The group concluded this should be decided by the participants in any particular program, because it is difficult to predict the future direction of an industry with any certainty, and in particular, the requirement (if any) for future duct capacity; and because the additional cost of providing for possible future expansion or competition would fall to the existing

companies and their customers.

Comment
Council would be seeking a co-operative approach on this matter from all stakeholders.

Finding 17
Co-location of different types of cabling represents an opportunity to reduce the cost and disruption associated with putting cables underground in many cases. However, co-location also sometimes presents significant technical, safety, contractual and regulatory challenges which, in some cases, can substantially reduce or even negate the net benefits of co-location.

Comment
Agreed.

Finding 18
Given the number of potential variables which are likely to contribute to the success (or otherwise) of co-location, the decision to enter into particular co-location arrangements is most appropriately left as a commercial matter for the parties concerned, depending on the circumstances of each particular location or project.

Comment
Agreed.

Finding 19
The feasibility of moving existing cables underground is best determined on a case by case basis, and is linked to the funding issues involved.

Comment
Council's objective is for the undergrounding of all overhead cables throughout the Blacktown Local Government Area Once the funding issue is satisfactorily resolved, then this could be achieved in a staged works program.

Finding 20
The potential quantifiable benefits of putting cables underground identified by the group 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.

Comment
Agreed.

Finding 21
The main other benefit of putting cables underground is improved urban amenity, which includes improvements in streetscapes and the visual appearance of a community. The group considered it was not practical to try to place a value on visual *amenity.*

Comment
Intangible indirect benefits have been excluded in the Commonwealth report on the grounds that they *are* not quantifiable. Such benefits relate mainly to environmental and social *cost* savings. These important benefits relate to community values, urban design outcomes, the design of competitive urban places and urban renewal opportunities. In its submission to the enquiry, the *ALGA* provided a *summary* of key intangible benefits. These were not taken into account in the final report.

Blacktown City Council places a very high value on the visual amenity of the environment. For the report to place no value on vimal amenity is a major flaw in the report.

Finding 22
The following table presents the group's best estimate of the main quantifiable benefits, on an ongoing annual basis, of placing overhead cables underground in urban and suburban areas of Australia with a population of over 30,000.

Type of benefit	Annual benefits (a) ($ per km of line)	Annual benefits (a) ($ ptr km of line)
	Minimum	Maximum
Reduced motor vehicle accidents	1,358	2,793
Maintenance costs	18	1,531
Tree trimming	35	1,120
Reduced transmission losses	0	*292*
Total	1,411	5,736

(a) Figures are indicative only of a best case and worst case scenario.

Comment
A review of accident data available to Council for the period 1995/1996 shows a figure of 176 accidents involving utility poles within Blacktown Local Government Area. Of these accidents there were 5 fatality accidents and 75 injury accidents with a total of 102 people injured. *25* of these accidents resulted in serious injury.

Finding 23
The main quantifiable benefits *are* likely to accrue principally to electricity

distributors, telecommunications carriers, local government and the insurance industry.

Comment
Local government receives the smallest quantifiable benefit.

Finding 24
The effects on property values of putting cables underground (where there is the potential for a quantifiable individual benefit) appear to be area and location specific, with variations ranging from negligible to five per cent having been reported by State Valuers-General. It is likely that the effects on property values decrease as underground cables become more widespread.

Comment
In view of this findings, it would appear to be inappropriate for the cost burden of undergrounding cables to be borne by ratepayers.

Finding 25
The group's views on the main direct cost factors of placing cables underground, and their relative importance, has been captured in two models which are an important part of this report. The national costing model captures the higher level cost factors and their relative importance and relationships, while the small area costing tool, provides a more detailed approach, applicable to a local area.

Comment
The ALGA stated in its submission to the working group that governments pursue large scale infrastructure programmes for a range of reasons. Many such programmes could be shown using the macro modelling as having been conducted for this exercise, as having a negative impact on the national economy. However, the governments continue to implement them based on an assessment of the positive social and environmental impact (on which the report places no value). Local Government firmly believes that the real Stimulating effect on the national economy of a national undergrounding project will be more positive then the modelling suggests. The model is based on a set of assumptions that have not been clearly articulated. Given the uncertainties associated with macro modelling, there should be statements detailing the assumptions and the possible areas of error. The report failed to do this. 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 national undergrounding programme. The report uses macro modelling with stylised assumptions which suggest that other jobs might be created by using the resources for the programme, elsewhere. Many Councils were concerned that the model is overly reliant on funding from individuals which does not accommodate social justice issues which will result in undergrounding occurring only in those areas with sufficient spare financial resources to pay. Such a pattern of development will potentially exacerbate quality of life differences across Australia's urban areas.

Finding 26

There are potential indirect costs in relation to co-ordination and administration of my scheme; environmental costs (although, if a project is properly managed, these should be low); and potential indirect effects on the economy.

Comment
Agreed.

Finding 27
The distribution of costs to different parties depends principally on the funding mechanism used.

Comment
Agreed.

Finding 28
The group's best estimate of the total cost of putting electricity and telecommunications cables underground in urban and suburban areas of Australia was $23.37 billion in present dollar terms. The cost of putting cables underground in particular areas will vary with local conditions.

Comment
The aggregate of around $24 billion for a national programme that has been quoted in the report has provided opportunities for sensationalism and can cteate a reluctance for interested parties to seriously look at the issue. It is the ALGA's view that this figure which represents a cost per property of around $6,000 is a substantial over-estimate. The real cost according to the ALGA is closer to $3,000 per property. Recent and ongoing experience by Western Power with modest scale retrospective undergrounding projects have 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.

Finding 29
Most of the direct *costs* will be incurred during the planning and implementation phase of any project to put cables underground. However, the group identified several financing mechanisms that can be used to spread the cost of the project over time. The appropriateness of these financing mechanisms depends on the particular circumstances of the project.

Comment
Local government generally supports the federal and state governments making a significant contribution as the most realistic way of funding and achieving undergrounding. The report failed to place a need on these contributions by federal and state governments. The ALGA stated in its submission that the federal government created the problems with telecommunications cabling and state governments created the problems with electrical cabling. It needs to be emphasised that both governments have the power to prevent the problem from becoming larger.

Finding *30*
From a list of 48 potential sources, the working group identified four underlying

sources of funds which were then subjected to more derailed consideration against the funding principles (see Finding 31). The underlying funding sources are:

- property owners;
- electricity and telecommunications suppliers (and, through them, their customers);
- taxpayers through consolidated revenue; and
- a composite funding source comprising property owners and the taxpayer through consolidated revenue.

Finding 31

The group identified ten funding principles, which form in its view, the appropriate criteria for evaluating funding issues. The following funding principles are based on the matters specified by the terms of reference, including the requirement to have proper regard for the equity and efficiency implications of funding mechanisms.

1. Decisions on whether to put cables underground should consider all costs, including opportunity costs, against benefits.

2. The community should receive the level of underground cables for which it is willing to pay.

3. Market failures should not be addressed by distorting relative prices.

4. Upstream and downstream effects should be minimised.

5. Where possible, non-distortional (lump sum) taxes and subsidies should be used.

6. Putting cables underground should not create barriers to market entry or otherwise hinder competition.

7. Administration and compliance costs should be kept to a minimum.

8. Payments for putting cables underground should be proportional to benefits received.

9. Payment for putting cables underground should not be used as a redistributive mechanism.

10. Subject to the other nine principles, any funding options should be realistic and should maximise outcomes.

Comment

The report findings below do not represent a fair and reasonable application of the above principles.

Finding 32

Based on the funding principles, the group found that any scheme to fund a program to put cables underground should require those who receive quantifiable benefits from such a program to contribute to the funding an amount not less than the value of those benefits. For example, electricity distributors and communications carriers should make a contribution to represent any identified savings in operations and maintenance costs from putting cables underground. The funding approaches assessed by the group relate only to funding the *'gap'* between the total cost of the project and these quantifiable benefits.

Comment
The ALGA have questioned the amount of the 'gap' payment and the very limited quantifiable benefits. Why should electricity distributors and communications carriers not contribute for the use of the land over which *their* cables travel?

Finding 33
The group subjected the main funding approaches to a rigorous scrutiny process using the funding principles. On this basis, the group found the approach which most fully meets the funding principles is that under which affected property owners are primarily responsible for the decision to put cables underground and bear most of the costs, but which allows for the possibility of some limited contribution by government to reflect the value to the broader community of putting cables underground. This is followed by having property owners bear the full cost of the remaining gap. The least preferable approach is to require (either through taxation or other means) industry suppliers to meet all of the gap costs.

Comment
It is unfair and inequitable to expect property owners to meet 'the full cost of the remaining gap' since Finding 24 stated that the effects on property values ranged from negligible to 5% with the values decreasing as underground cables become more widespread. The most preferable approach is to require an excise on industry suppliers to meet all of the 'gap' costs following contributions by state and commonwealth governments. These industry suppliers will receive profits in the long term through recurrent lower maintenance costs and reduced transmission losses. Furthermore, industry suppliers have the ability to pay.

At the 1999 Annual Local Government Conference the following resolutions was carried:

> "That the Association request the Federal Minister for Communications, Information Technology and the *Arts*, Senator the Hon Richard Alston, to establish an excise on communication utilities conveyed by aerial cabling and establish a fund to facilitate its relocation underground and that the LGA commission research to evaluate material with a view to implementing the most ecologically sustainable option for relocation of cables underground."

Finding 34
The Commonwealth, State and Territory Governments between them have the

constitutional powers to require all existing overhead electricity and telecommunications cables to be put underground.

Comment
The present problems have been created by industry suppliers putting cables aboveground. The Commonwealth and state governments have contributed to the problem. They have a responsibility to contribute to a solution.

Finding 35
A wide range of issues needs to be considered and different approaches could be taken, in developing practical programs for placing existing cables underground. These include the need for the program to take account of the funding source; approaches to longer term financing; and the particular legislative and administrative arrangements and policy settings applying in the jurisdiction where the project is planned.

Comment
These are issues that need to be addressed by the Minister for Energy in developing a suitable regulatory approach in consultation with local government.

Finding 36
Governments will need to assess any legislative proposals associated with putting cables underground for impact on competition in the Australian telecommunications and electricity industries in accordance with their commitment to a consistent national competition policy approach. Issues for consideration include the effect of such laws upon:

- existing regulatory arrangements, for example the impact of putting cables underground on price regulation;
- barriers to entry, for example whether a policy to put cables underground for new entrants operates to hinder entry to a market by new competitors;
- access to infrastructure, for example access costs;
- competitive neutrality; and
- government business enterprise pricing.

Finding 37
There are three broad philosophical approaches available to Government when developing practical programs for putting cables underground:

1. Work within the present regulatory environment without further adaptation or intervention;
2. Develop an administrative framework for use in local level programs, that is, a 'bottom-up' approach; and

3. Impose a requirement that cables be put underground according to a timetable and source of funding, that is, a 'top-down' approach.

Finding 38
State and Territory Governments are best placed to choose the type of overall regulatory approach to suit their particular circumstances, in consultation with appropriate bodies including the Commonwealth and Local Government.

Finding 39
The group identified the following key generic implementation issues, for which a consultative and decision making process will be required in any project to put cables underground:

- notifying potentially affected persons and organisations (e.g. residents, carriers, electricity distributors, councils) of the project or program;
- estimating the cost, and communicating this to potentially affected persons and organisations, prior to a decision being taken as to whether to proceed.
- making the decision whether to proceed with a project, and managing the decision making process;
- ensuring that there is a process for taking account of other relevant stakeholders and interests (e.g. heritage and environmental perspectives);
- arranging for the work to be done efficiently, including co-ordination between councils, carriers and electricity distributors; and
- arranging for contributions towards the cost of the work, including the implementation of longer term financing arrangements if required.

Finding 40
The group identified a number of ways of addressing each of the practical issues for a regulatory scheme (details provided).

Finding 41
The group obtained specific legal advice on these questions (details provided).

Finding 42
The working group presents its findings to enable those considering whether to put cables underground to make informed decisions. The group makes no recommendations as to whether such a decision is warranted or how it should be implemented. The complete body of research is presented to assist individual jurisdictions to select technical, economic and regulatory options that best suit their needs.

Finding 43

The group considers it likely that an effective scheme for putting cables underground could include a combination of a 'top down' approach, administered by a State or Territory body (such as government) to achieve proper co-ordination between different areas and economies of scale, and a 'bottom up' approach to provide the necessary responsiveness to, and commitment by, Local Government and residents.

Finding 44
Private sector financing schemes are possible. However the group found no Australian examples of financing schemes specifically directed towards projects to put cables underground

6. Conclusion

(a) Under the *Telecommunications Act 1997*, where overhead electricity cables are removed, any existing telecommunications cables must also be removed within 6 months. (Finding 4). An effective scheme for putting cables underground would be to include a combination of a top down approach, co-ordinated in New South Wales by the Minister for Energy and a bottom up approach provided by local government. The report makes a finding that the state government does have a role to play to achieve proper co-ordination with local government and to achieve economies of scale.

(b) Clearly, the Minister for Energy has an important leadership role to play in choosing the best type of regulatory approach to adopt in consultation with local government and the Department of Communications Information Technology and the Arts (Finding 38).

(c) It is appropriate to forward a copy of the report to:-

(i) Institute of Public Works Engineering Australia (IPWEA) which works with the Local Government Association (LGA) on public utility matters, and,

(ii) The LGA and they be requested to co-ordinate a position paper on this matter incorporating all council views for submission to the Minister for Energy.

RECOMMENDATION:

1. That report FCS991235 be received and noted.
2. A copy of this report be forwarded to the Local Government Association of NSW and to the Institute of Public Works Engineering Australia and they be requested to co-ordinate a position paper on this matter incorporating all councils views for submission to the Minister for Energy, the Hon. Kim Yeadon, M.P.

ATTACHMENTS:

COMMITTEE RECOMMENDATION:

1. That report FCS991235 be received and noted.

2. A copy of this report be forwarded to the Local Government Association of NSW and to the Institute of Public Works Engineering Australia and they be requested to co-ordinate a position paper on this matter incorporating all councils' views for submission to the Minister for Energy, the Hon. Kim Yeadon, M.P.
3. The matter be referred to both WSROC and LGSA for further action.
4. Council seek a deputation, through the Local Member, to the Minister for Energy, the Hon. Kim Yeadon, M.P. to express Council's concern over the matter.

COUNCIL RESOLUTION:

1. That report FCS991235 be received and noted.
2. A copy of this report be forwarded to the Local Government Association of NSW and to the Institute of Public Works Engineering Australia and they be requested to co-ordinate a position paper on this matter incorporating all councils' views for submission to the Minister for Energy, the Hon. Kim Yeadon, M.P.
3. The matter be referred to both WSROC and LGSA for further action.
4. Council seek a deputation, through the Local Members, to the Minister for Energy, the Hon. Kim Yeadon, M.P. to express Council's concern over the matter.

[redacted]