

# *Smart Power Auckland Ltd*

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## **Total Energy Management**

Ministry of Economic Development  
By email  
Attention Janet Humphris

28<sup>th</sup> Sept 2007

### **SUBMISSION ON REVIEW OF SECTION 62 OF THE ELECTRICITY ACT 1992** **'CONTINUANCE OF SUPPLY'**

#### Introduction

Section 62 of the Electricity Act provides that lines companies are to continue to supply line function services to places supplied as at 1 April 1993, unless certain circumstances apply. This provision remains in place until 1 April 2013 when it will be deemed to be repealed.

The Ministry of Economic Development has published a discussion paper that identifies a number of options for continuance of supply after 2013 and seeks feedback from stake holders on preferred options.

This feedback has been prepared by Smart Power on behalf of JDA & Associates who own and operate a communications network providing coverage to a significant proportion of the country's population. JDA's network is located in remote areas of New Zealand, and it is the power supplies to these remote sites which might be affected by the repeal of Section 62.

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#### Abbreviations used in this submission

RERC	Rural Electrical Reticulation Council
ODV	Optimised Deprival Value
ICP	Individual Connection Point
Discussion Paper	The discussion document originally published by the Ministry of Economic Development 21 <sup>st</sup> August 2007

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## **1. What does uneconomic supply mean and who does it affect?**

There is no one clear definition of uneconomic supply and we suggest ***this must be decided upon as a very first step***. Without knowing this it is impossible to know how many users will be affected and what level of costs and cross subsidies are involved. The discussion paper gives two possible definitions which are;

- i. When the revenue generated from the consumers connected to the line is insufficient to meet the costs of maintaining the line, including asset renewal. In a business sense, this means the asset (the line) generates a negative return and network assets used elsewhere must generate a higher return to cover the full cost of supply across the line company's network.
- ii. When it would be a lower cost to supply the same area by an alternative means (i.e. not by long distribution lines). This concept of 'uneconomic' is used by the Commerce Commission in its direction to lines companies on how to value their network assets.

The document goes on to discuss the lines companies' requirements under ODV as it relates to uneconomic lines. It makes note of the fact that to date it appears that no company considers more than 1% of their lines fall into that category as none has made any Economic Valuation adjustments for it.

This gives the impression that the issue of uneconomic supply is an issue for a very small proportion of customers only, i.e. less than 1%. However the paper contains definitions of uneconomic which it considers to be the main ones, implying that there would be others. If the first definition is applied then this would cover a much wider range of customers. The possible extent of this is shown in the graph of the proportion of lines built in each network area with RERC subsidy (paragraph 107 of the discussion paper). RERC, which administered a fund to subsidise lines construction mainly to farmers in remote areas, was disbanded in 1997. The fund was created by a levy on all Electrical Supplier Authorities of the time, in some cases this was up around 40%.

It is imperative that a firm definition of uneconomic supply is established and in our opinion it should cover no more than the customers who would be picked up by the ODV methodology.

## **2. Identification and quantification of cross subsidies**

Once the method of establishing the definition of uneconomic supply is decided then we suggest the next step must be to identify which customers (could be in broad geographic areas) are being subsidized and by whom, and how much is involved both for the person being subsidized and for those doing the subsidizing. Without that information we do not believe it is possible to have a meaningful discussion of Section 62 except in very broad principle based terms, but even then it is hampered by not knowing the extent to which cross subsidization is occurring.

***It is vital that these first two points are addressed before any final decisions on Section 62 are made. If it is not possible to address them within a very short period, e.g. 12 months, then we suggest that an extension is put in place to allow that to happen without shortening the term that customers will have to adapt to any changes once they are made. Note that as part of this, lines companies should be bound to maintain lines to their current standard in the meantime.***

## **3. Conflict with Government policy if Section 62 is removed**

### **3.1 Conflict between removal of Section 62 and other Government Policy on electricity supply.**

The intention of Government policy, both past and present, appears to have been to keep rural customers supplied at an affordable cost. How this is done could change, e.g. through the advent of new technology, but the general principle has been to maintain supply where it currently exists.

There is also an obviously unintended effect of Government policy since 1992 which has resulted in larger numbers of consumers falling into the uneconomic supply category and facing uncertainty of supply. The Government policy to which we are referring is the capping of the rate of any line charge increases to 15% per annum (Government policy in 1992). The current Government policy (2006) states "The Government expects distribution companies keep any changes to rural line charges in line with urban line charges. The Electricity Commission should monitor developments in rural charges".

However this makes it clear the Government wants electricity at affordable prices for rural consumers. The effect of both of these is to widen the range of customers who face uncertainty of supply, depending upon the definition used for uneconomic. It also removes the opportunity for marginally uneconomic customers to be charged a higher rate and change their status and maintain supply, which may well be a cheaper option for them than alternative supply.

If Section 62 is removed it would create a clear conflict between legislation and Government policy.

### 3.2 Conflict between removal of Section 62 and the Civil Defence Emergency Act 2002

Further conflict would result between the intention of the Civil Defence Emergency Act 2002 and the Electricity Act if Section 62 is removed. The intention of the Civil Defence Emergency Act is clearly for lifeline utilities to be maintained in rural areas. In fact the Act states "The economic viability of communities and of the nation as a whole depends upon the continued operation of lifeline utilities". If lines are removed to rural areas then a whole range of services will also disappear which are vital to Civil Defence. Primary amongst those are telecommunications facilities which are often in very remote areas. While many areas will totally lose facilities there will be another group which is less remote which will suffer a serious downgrading of facilities where they are maintained but without the security of supply which comes with lines.

Vital services such as the Police will be adversely affected by a degradation of telecommunications, and their own performance will be affected if their sites do not have the security of supply afforded by lines. For the emergency service in particular to have any site fail is significant as the sites are linked and communications will switch from one to another. This is extremely important in the case where Police are moving about as if one site goes out then they will lose large areas of coverage.

## **4. Original Reasons for including the sunset clause support an extension**

When the Energy Sector Reform Bill 1992 was drafted it included provision for maintaining universal supply to all existing lines, meaning that lines would be maintained in perpetuity. However when the Bill was discussed at the Select Committee a 20-year sunset clause was added. While the reasons for including the sunset provision were valid, the changes envisioned have not occurred and so, if the sunset clause were to take effect, it would create an environment which would not meet the Government's objective for all classes of consumer to have access to electricity that is delivered in an efficient, fair, reliable and environmentally sustainable manner.

The reasons for including the clause were:

- An open-ended (i.e. in perpetuity) obligation would make it difficult for companies to value it. We understand that the ongoing level of cross subsidies involved impacts the ODV of the assets and thus also impacts the required revenue calculations

*This remains true and an extension should be given rather than supply being in perpetuity.*

- The need not to restrict the environment for change

*This is still necessary and changes have occurred but not necessarily in the direction anticipated. The environment for change would not be restricted provided that the commitment is not in perpetuity.*

- The prospect of new technologies being developed that would substitute for electricity supply by lines.

*This has not yet happened to any degree which makes them viable for most customers. An open-ended obligation would stifle this but an extension would not have the same effect. In addition we suggest other means later in the discussion paper which would assist with the development and uptake of new technologies.*

- The obligation to serve distant consumers and to charge them no more than other customers involved a subsidy that would be difficult to maintain in the face of competition.

*This was said when the lines companies still had retail interests. This is no longer the case and lines companies are natural monopolies. Smart Power works with many customers of various sizes throughout the country and in almost no cases is there any opportunity for competition between lines companies.*

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The paper states that the Government's objective is for all classes of consumer to have access to electricity that is delivered in an efficient, fair, reliable and environmentally sustainable manner. The reasons that Government objectives will not be met if Section 62 takes effect are as follows;

- It will not be efficient.

*While it may appear inefficient to cross subsidize lines other inefficiencies are created if lines are removed. Those inefficiencies are not all in the energy area but also relate to the performance of the rural sector and Civil Defence organizations which will face considerable costs or reduction in services if lines are removed. Some parties with the financial resources may put in place alternative means of supply, probably diesel generation, the costs of which should be weighed against the cost of cross subsidizing lines.*

- It will not be fair (e.g. there is a need to assess whether remote, rural users will continue to have access to electricity at reasonable prices, comparable with supply to other users.)

*This cannot be met at present with existing technology. In addition, they will lose other services at the same time, i.e. telecommunications and Broadcast Transmission Sites, and suffer a downgrading of Civil Defence assistance and the emergency service.*

- It will not be reliable (e.g. assess whether the option leads to enabling sufficient, reliable supply; assess the change in level of involvement required of the consumer).

*At present technology has not advanced to the stage that other options will provide the same level of security at similar prices. In the case of some very remote sites, e.g. some telecommunications sites, there is no way an alternative supply could be as reliable as lines are today. At present they already have backup, generally by diesel generators, but some sites are inaccessible for months at a time and in that situation fuel could not easily be brought in. Also, providing N-1 security by means of another generator is not good practice because a generator backing up another generator is not as reliable as a generator backing up lines. There will also be a much higher level of consumer involvement often uninformed (i.e. fix it yourself especially in very remote areas) which has a propensity for accidents.*

- Environmentally sustainable (e.g. assess whether the outcome is consistent with climate change considerations.)

*Some alternatives are, i.e. wind power or solar, however in general diesel generation will be the replacement supply with its attendant carbon emissions. In some very remote locations which run 24/7 there would be considerable road miles to be covered by tankers bringing in diesel to keep generators running.*

## **5 Likelihood of extreme hardship**

Although the Section 62 has been in legislation since 1992, given good publicity next year customers would still have 5 years to prepare for the change. However, if Section 62 were to take effect as it stands now it would cause extreme hardship in some rural areas. Depending on what definition of 'uneconomic' is used by lines companies and on what area of the country this could affect very large numbers of users.

Most customers are totally unaware of this legislation and it is unfair to expect that they would be up to date with a specialist area such as this. To our knowledge it has not been publicised at all by the lines companies and it has come as a surprise to large commercial and Government customers, and will be equally a surprise for smaller rural customers. The exception to this is those people in very remote areas, e.g. high country farmers, who are probably aware that they are vulnerable. Federated Farmers have done some work in this area. If alternatives to lines were readily available at an economic cost then provided that there was extensive publicity next year the date of 2013 would be quite reasonable. However those alternatives do not exist in any economically viable manner at present and it would be quite a leap of faith to imagine that they will suddenly become available by 2013.

If lines are removed then many other services to rural communities will also be removed, and the ability of organizations such as Police and Civil Defence to maintain the same level of service that exists at present will be compromised. In the case of Police services to rural communities, which are already difficult in terms of it not being

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feasible to station police permanently in rural areas, servicing those areas will become more difficult as communications are degraded.

Emergency services also use remote telecommunications sites. The sites are in very hard to access, remote areas, some being accessible only by helicopter or four wheel drive and then only in good weather. For those sites security of supply is essential and they currently have battery or diesel backup but, as in the case of other telecommunications sites, supply by lines is a major step up in security of supply from just having two generators. It is essential for these sites to be maintained and removal of lines should not be an option. The only question here should be who is to pay. At present a cross subsidy spread amongst all electricity users would seem to be a fair and equitable way of paying for the sites.

## **6. Users connected since 1993**

While in theory these users should be well aware that they do not have security of supply, in practice it is likely that they are not. For instance it may have been made known to the person building the house that there was no ongoing commitment to supply but it is unlikely the next purchaser would be aware.

For the small minority of customers whose supply would fail the ODV measurement of economic it is unlikely that they would have been connected in recent times. However if the other definition given in the paper is used there could be a large number of people affected.

We believe that it is unfair to these customers not to have ongoing security of supply as there has been no publicity about it.

## 7. Potential options given in discussion document

### **7.1 Continuance of obligation to maintain line function services with no expiry date, and continuance of supply, using lines or alternatives, with no expiry date.**

- a) Should access to electricity supply for pre-1993 connections be maintained with no expiry date? What issues could this raise?

The two options should be separated for this question.

For the option of a continuance of obligation to maintain lines with no expiry date, we suggest that this is not a good option. While it could be good for those customers supplied by uneconomic lines we do not believe that it is a practical solution and would be counterproductive for everyone else if suitable (i.e. effective and affordable) alternatives were to become available. We believe that this would dampen the market for alternatives and perpetuate an economically inefficient method of supply. Legislation should be aimed at the end result, i.e. getting energy to people at an affordable cost, not at picking which technology will do it.

For the option of no expiry date and continuance of supply using lines or alternatives, we suggest that this is a good option as it would encourage the lines companies, i.e. those with the knowledge and capital to assist with the development of alternatives, to do so. It does not attempt to pick a particular technology and gives certainty to users. There is always the option for users to disconnect and once disconnected there is no obligation for the network company to reconnect them. Hence there would be the option for network companies to encourage disconnection once acceptable alternatives were up and running. It would be very important for alternatives to be acceptable, e.g. either have the same level of service or a lower level of service at a cheaper price, but it would need to be a customer choice. As long as the base level of service is set at what they received previously with lines supply this could be a very good option. Customers could for instance be given a one-off payment to encourage them to 'leave' once they were happy with the alternative arrangements. This option would need some work but could be one which suits all parties and provides the sort of gradual transition which does not create a large amount of hardship for users, assists the development of the market for alternatives, eventually removes cross subsidy and also eventually removes the issue for lines companies. For some users, e.g. Police with their emergency services, we do not foresee the replacement of lines with any of the existing technologies because we do not believe they

would provide the same level of security of supply which is the major driver. However if such technology did exist in the future it could also apply to these sites.

- b) What expectations should there be from consumers around price, quality, reliability and capacity for continuance of supply (either by lines or by alternatives)?

In either instance the expectations would be for a continuance of status quo in all areas, i.e. price, quality, reliability and capacity. For most customers the possibility always exists for a trade off of price against quality etc but in the case of Smart Power customers providing telecommunications and Broadcast Transmission services or essential services such as Policing and the emergency service then there is not generally any room for trade off, and quality, reliability and capacity remain the main drivers. As stated above we do not see any of the existing alternative technologies being able to replace lines but do not wish to see legislation block the possibility that something might exist in the future.

- c) What scope is there for remote rural consumers to be supplied using alternative supply methods or, for example, the method outlined in paragraph 47 of the discussion paper?

It would depend upon the customer. The starting point should be that the existing level of service with the price pegged to urban consumers should be maintained. Any drop in the level of service should be agreed to by the customers on a line and should be matched by a corresponding drop in price otherwise the service will gradually be eroded away with consumers bearing the brunt of the change. We believe that for a large number of customers change is possible over time as alternatives develop but that it should be gradual and the costs should be borne by all users as is the case at present until it is possible either through improvements in technology or negotiated compensation to remove any subsidies from those customers. For some customers such as those with telecommunications and Broadcast Transmission sites and Police's emergency services, removal of lines without a corresponding drop in service is not possible with existing technology and a drop in level of service could not be compensated by a drop in price.

- d) To what extent should there be a subsidy from other network users to those in remote, rural areas? (E.g. domestic urban consumers to domestic rural consumers).

For domestic and small business users (e.g. farm buildings) in the medium term (i.e. until comparable alternatives are available) the subsidy should stay as it is. We note that an observation by a lines company, (see point 39 of the MED discussion paper) on a per connection basis the level of subsidy from urban to rural consumers is not significant, while for a rural consumer to lose the subsidy is significant, i.e. many urban consumers, few rural consumers. For commercial services such as telecommunications and transmission services the subsidy should also probably remain because the result of increases will merely be reconstituted as a cross subsidy on telecommunication services or result in a degradation of telecommunications. As there is a significant 'public good' in having good communications throughout the country removal of the subsidy in an attempt to achieve purest economic outcomes would be nonsensical. The benefit of nationwide telecommunications and transmission exists not just for those living in the area but for those doing business with, holidaying in or travelling through rural areas. Telecommunications also plays a large part in Civil Defence and as such a small cross subsidy on lines to ensure that those services are in place and effective seems a sensible way to achieve this. Alternatives would be to pay for it out of general taxes but as most households are connected to a lines company and the situation already exists it would seem to be a waste of time to change it with the only reason being to achieve a purist economic outcome.

What should be done is to put in place mechanisms to clearly identify the level of the cross subsidy. In fact until this is done any discussion on this issue can only be made in very general terms.

- e) If the continuance of supply is by lines or alternatives, should lines companies be able to cross-subsidize alternative-supply customers from lines-connected customers?

Yes, as this would enable lines companies to prompt the market for alternatives at this difficult early stage and if the subsidy was no more than they were subsidizing the lines then it would appear to be to everyone's benefit. As mentioned earlier it should also be possible for lines companies to negotiate a one-off payment to users of alternatives to continue without lines company involvement. This could be by a capitalization of the cross subsidy. This is an area which would obviously require quite a lot of work but which appears to be one of the best solutions.

- f) What terms and conditions for continuance of supply do consumers that were connected after 1993 have in their contracts?

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This is very unclear for consumers, and retail contracts are vague. The only area that we have seen conditions about continuance of supply is in the force majeure section and it gives the indication that supply may be discontinued in times of emergency, not just because the lines are considered to be uneconomic. The model interpose agreement also does not talk about the possibility of disconnection, it just states (page 6) that all installations that comply are to remain connected. Nowhere is uneconomic supply mentioned. We have not done a comprehensive search of lines companies' web sites but the few we have looked at with this question in mind are silent on the subject as far as we can see.

This reinforces our argument that most customers will be unaware of their vulnerable position given Section 62.

## **7.2 Obligation to maintain line function services expires but lines companies provide advance information on intentions. An obligation to maintain line function services expires but lines companies assist in transition to alternative supply**

- a) If an advance notice period is used, what length of time should it be?

An advance notice period would have to be long enough for practical and cost effective options to be developed. We do not believe that they exist for the majority of rural customers at the moment but of course this depends a little on the definition of uneconomic. We do not consider that a sensible timeframe in terms of years can be put on this at present. This raises another question, would it be a permanent reprieve for those lines not notified or could they be given notice at a later date? If so, would the criteria for uneconomic be set and not able to be altered, and would each individual customer be notified exactly where they fitted on the scale. This would be important because if we were to site a new development in an area at considerable expense and it was marginal it could within a few years become uneconomic and risk disconnection before the line reaching replacement age.

- b) What other requirements could or should be placed on lines companies if continuance of supply expires?

They should have to be able to provide at all times an up to date register of by how much any ICP is being cross subsidised, and whether or not that meets the criteria of uneconomic supply. There should also be a policy which is clear enough for any individual customer to ascertain whether they are considered to be uneconomic and if so what the plan for their site is, e.g. removal of lines in event of a natural disaster causing significant damage or that the lines company has no plans to remove their lines. This of course would have to be teamed up with a requirement for a significant, e.g. 5 year notice period, if there was to be a change in a site's status.

- c) What role would you expect the retailer to take as the continuance of supply expires and a change in supply is signalled?

We anticipate that the lines companies would generally wish to advise their customers through the retailers and we would oppose that. This should be the lines companies' responsibility and we would not like to see them pushing it through to retailers because it would be a major issue for the customers affected, and retailers would just be getting information second hand. It is of such significance that we consider that lines companies should not be able to get a third party to deal with it. Our previous experiences of having to deal with lines issues through a retailer have generally not been good. The retailers are just passing things through, there is no money in it for them, they are not really interested and often do not understand the issues.

Other than passing on the advice we do not believe retailers would want to be involved and do not see they would have any role.

We do however believe that if a group of customers takes over the lines and forms a community-owned network they are likely to have difficulty getting retailers to supply them. Currently retailers are reluctant even to supply on established embedded networks and it is likely to be worse for owners of small community networks. There are issues with agreements and in our experience anything that is at all different from the standard often falls into the too hard basket for retailers. Their systems are not set up to deal with one-offs.

- d) At what point after a lines company has assisted a transition should its responsibility cease?

We do not consider that this is a good option. Lines companies should have an obligation to supply either by lines or alternatives for an extended period of time. This could be negated by negotiation with the customer whereby the customer is now being supplied by a lines company-owned alternative and they agree to go it alone, probably with

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some compensation. This should be reviewed at some point in the future but at present alternatives to lines cannot generally provide the same level of service at the same cost as the lines with the current levels of subsidy.

### **7.3 Continuance of obligation to maintain supply, using lines or alternatives, for a limited time beyond 2013**

a) Should the transition period be extended?

Yes, it needs to be extended until there are suitable alternatives to lines. This will be different for different customers. Without other action there is a danger this would stifle the market for alternatives but it should be possible to have a scheme that still encourages alternatives. For instance, if the lines companies had the ability to subsidize suitable alternatives, and the emphasis here would have to be on suitable, to the extent that they are subsidizing lines, and had the ability to insist that customers take that option up, market development of alternatives would be assisted. It would be most unfair to cut customers off with no current suitable alternatives and just hope that the market develops. It must also be noted that it is a far more complex situation for telecommunications, transmission or emergency sites in extremely remote areas than it is for the majority of consumers and that at present we do not see any suitable alternatives.

It must also be extended to allow time for questions such as transparency of cross subsidy to be addressed and lines companies must answer the question of what they consider to be 'uneconomic'. Alternatively, the Government needs to define it which in our opinion is the better option.

b) If so, how long should it be extended for and what should happen at the end of the period?

It should initially be extended for another 20 years provided that systems are in place to allow lines companies to assist customers into alternatives. During that time lines companies should set out what they mean by uneconomic and exactly which of their customers are uneconomic, and make cross subsidy transparent. It is likely with this in place that over the next 20 years the market for alternatives will develop further, and customers initially assisted into alternatives will, with up front incentives, opt to go it alone, and everyone will at least have information about where they stand in terms of being economic or not. If there is no great change over the next 20 years then the obligation should be further extended.

We do not believe it is so much a matter of setting a time limit in terms of years but rather a matter of an outcome of what must be in place and what options must be available before the obligation can be removed without causing considerable hardship.

### **7.4 Continuance of supply using lines or alternatives with no expiry date subsidized by all electricity users.**

a) What issues are there with creating and employing a different subsidy mechanism in order to socialize the costs across all electricity users?

Firstly, you must know what uneconomic means and exactly how much each site is being subsidized by. This is required anyway for a whole variety of reasons.

At present most urban users will be subsidizing some rural users in their network areas. There are two ways of looking at this, one is that communities are supporting their local areas, and the other is that for some network areas where there is a low urban population and a high number of remote sites there may be a greater burden on those urban users than elsewhere.

At present the network companies have advised that the subsidy cost per individual ICP is low but there is little information in this area. A central bureaucracy to administer this if the amounts are not significant would be unwieldy and expensive. The extent of the problem needs to be discovered first.

Also, supply of uneconomic lines in perpetuity is not a good idea as it effectively discourages the market for alternatives.

In Summary We wish the Ministry to consider:

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That Section 62 should not be repealed and that Section 62 should be extended for another 20 years

Kind regards

Peter Alderdice  
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