



**Discussion paper on Review of  
Section 62 of the Electricity Act  
1992 ‘ Continuance of Supply’**

**Submission on behalf of  
ONTRACK (New Zealand  
Railways Corporation)**

**September 2007**

**Prepared by  
Anne Herrington  
Smart Power Ltd  
PO Box 57 058  
Mana  
Wellington**

## **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 This provision remains in place until 1st April 2013 when it will be deemed to be repealed.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.

ONTRACK have engaged Smart Power Ltd to prepare its submission. ONTRACK are very concerned that a removal of uneconomic lines involving the removal of reliable power supplies in remote areas will affect their ability to provide suitable safe and economic operation on sections of the national rail network. ONTRACK estimates that it has at least 200 rural sites that could be affected by Section 62 if it comes into force and that there are also other sites which will be in areas that may be considered marginal.

Reliable power supplies are required to operate supporting rail infrastructure including railway signalling, level crossing alarm systems and train control radio repeater sites, all of which affect rail safety. Many of these sites are also provided with backup power supplies to cover for short time outages, and it is considered that alternative technologies are currently not practicably capable of providing an equivalent reliable supply at the required power capacity in the vast majority of cases.

## INDEX:

1. There is no definition of uneconomic supply
2. Identification and quantification of cross subsidies
3. Conflict with Government Policies
  - a. affordable prices for rural consumers
  - b. Civil Defence Emergency Act
4. Original Reasons for the Sunset clause
5. Likelihood of extreme hardship
6. Users connected since 1993
7. Options Given in discussion document

### **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 that it is impossible to know how many users will be affected and what level of costs and cross subsidies are involved. The document 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 (Optimised Deprival Valuation) 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 have made any Economic Valuation adjustments for it.

This gives the impression that the issue of uneconomic supply is only an issue for a very small proportion of customers i.e. Less than 1%. However the discussion paper contains definitions of uneconomic which it considers to be the main ones (this implies 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 discussion paper's graph of the proportion of lines built in each network area with RERC (Rural Electrical Reticulation Council) subsidy. The 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 the portion of lines established using the subsidy is 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 subsidised by whom and how much is involved both for the person being subsidised and for those doing the subsidizing. Without that information we don't believe that 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.**

### **A: Conflict between removal of section 62 and other Government Policy on electricity supply.**

The spirit 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 principal has been to maintain supply where it currently exists.

There is also an obviously unintended effect of Government policy since 1992 which results 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) and the current government policy statement (2006) which 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.

### **Conflict between removal of section 62 and the Civil Defence Emergency Act 2002**

Further conflict would result between the spirit of the Civil Defence Emergency Act 2002 and the Electricity Act if section 62 comes into force. The spirit 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.

Emergency services will be adversely affected by a degradation of telecommunications if their sites don't have the security of supply afforded by lines. For the emergency services in particular to have any site fail is significant as the sites are linked and communications will switch from one to another.

Lifeline utilities also include those water pumping and treatment facilities provided by councils Without certainty of supply in rural areas, council's ability to meet civil defence obligations would be seriously at risk.

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

When the Energy Sector Reform Bill 1992 was formed 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. The reasons for including the sunset provision were valid, however the changes envisioned have not occurred and so if the sunset clause is to take effect it will create an environment which will 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. *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 wouldn't have the same effect. In addition we suggest other means later in the document 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 Ltd works with many customers of various sizes throughout the country and in almost no cases is there any threat of competition for lines companies. This is particularly true in most rural areas.*

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 clause 62 takes effect are as follows;

- It will not be efficient. *While it may appear inefficient to cross subsidise 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 less efficient 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. 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 e.g. Telecommunications and Broadcast Transmission Sites and suffer a downgrading of Civil Defence assistance and emergency services.*
- 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. This is particularly relevant in cases where the load requires considerable capacity. In the case of some very remote sites e.g. some telecommunications, ONTRACK's radio sites, rail signals, safety measures at level crossing such as lights, bells and arms, pumping or water treatment sites, there is no way of alternative supply being as reliable as they are at present. Obviously in terms of these services there are safety, public health and environmental issues to also consider. At present some already have backup generally via diesel generators but some sites are inaccessible for months at a time and in that situation fuel could not be brought in. Also providing N-1 security by means of another generator is not good practice, as 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 clause has been in legislation since 1992 and if publicised well next year customers would still have 5 years to prepare, if clause 62 was 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 depending 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. In the case of ONTRACK, they have not received any formal communication that this event is looming, nor that any internal risk analysis should be carried out. (Note 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 has 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 or come under threat e.g. television reception, telecommunications and while rail services would probably continue they would be disadvantaged on a cost basis compared to roading. Also organizations such as Council's, Emergency Services and Civil Defence organizations will be compromised in their ability to maintain the same level of service that exists at present. In the case of Police services to rural communities which are already difficult in terms of it not being feasible to station police permanently in rural areas servicing those areas will become more difficult as communications are degraded. In the case of rail there are considerable safety issues for rural people if level crossing supplies are less secure.

Emergency services also use remote telecommunications sites. Sites are in very hard to access and remote areas. Some being accessible only by helicopter or horse and many by 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 etc. 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. Many urban customers also benefit from remote sites as sites servicing urban areas are often on distant sparsely populated hilltops. 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 on going security of supply as there has been no publicity about it.

## **7. Potential options given in discussion document.**

### ***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 better 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 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. emergency services we do not foresee the replacement of lines with any of the existing technologies as 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's customers providing Telecommunications services or in the case of suppliers of emergency services then there isn't generally any room for trade off and quality etc are the main drivers. As stated above we don't see any of the existing alternative technologies being able to replace lines at present but do not wish to see the legislation block the possibility that something may 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?

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 and negotiated compensation to remove any subsidies from those customers. For some customers such as those providing Telecommunications, emergency services or other vital services such as pumping stations, 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. As stated by a lines company, 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, transmission services and rail the subsidy should also probably remain as the result of increases will possibly be reconstituted as a cross subsidy. In the case of telecommunication services it could result in a degradation of telecommunications. For many services like TV or FM radio and Emergency Services communications the situation is complex as urban customers are often supplied from remote rural locations so in effect urban customers are also receiving a subsidy! In the case of rail it would result in a further disadvantage when competing against roading where there is cross subsidisation.. As there is a significant 'public good' in having good communications throughout the country to remove the subsidy to 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. Council water treatment and pumping stations for small communities would also be affected and in times of natural disaster a lower security of supply is more likely to result in public health and environmental problems. Rail services run through rural areas but generally to get goods from one urban area to another. 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-subsidise 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 via 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?

This is very unclear for consumers and retail contracts are vague. The only area that we have seen conditions re 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 doesn't talk about the possibility of disconnection it just states (page 6) that all installations that comply to remain connected. Nowhere is uneconomic supply mentioned. We haven't done a comprehensive search of lines company's 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 clause 62.

***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 there to be practical and cost effective options to be developed. We don't believe that they exist for the majority of rural customers at the moment. Of course this depends a little on the definition of uneconomic. We don't 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 exactly where each individual customer fits on the scale be notified. This would be important as if you were to site a new development in an area at considerable expense and it was marginal it could within a few years become uneconomic e.g. once the lines reached 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 how much any ICP is being cross subsidised by 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 sites 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 expect that the lines companies would generally wish to advise their customers via 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 as 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 via a retailer have not generally been good. The retailers are just passing things through, there is no money in it for them and they aren't really interested and often don't understand the issues.

Other than passing the advice on we don't believe retailers would want to be involved and don't 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 any thing that is at all different to 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 don't consider that this is a good option. Lines companies should have an obligation to supply either via 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 via a lines company owned alternative and they agree to go it alone (probably with some compensation). This should be reviewed at some point in the future but at present alternatives to lines can not generally provide the same level of service at the same cost as the lines with the current levels of subsidy.

***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 subsidise suitable (and the emphasis here would have to be on suitable) alternatives to the extent that they are subsidising lines and the ability to insist that customers take that option up market development of alternatives would be assisted. It is very 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 services sites in extremely remote areas than it is for the majority of consumers and that at present we don't 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'. Or the government needs to define it (this 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 that the market for alternatives will develop further, customers initially assisted into alternatives will opt (for up front incentives) to go it alone and at least everyone will 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 don't believe it is so much a matter of setting a time in terms of years but rather in terms of what must be in place and what options must be available before the obligation can be removed without causing considerable hardship.

### ***Continuance of supply using lines or alternatives with no expiry date subsidised 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 subsidised by. This is required anyway for a whole variety of reasons.

At present most urban users will be subsidising 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 cost per individual ICP for subsidising is low (see quote in discussion document) 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 wipes out the market for alternatives. The aim should be to supply efficiently, fairly, reliably and in an environmentally sustainable manner in line with Government policy. Not to pick the technology to be used.