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SUBMISSION TO THE MINISTRY OF ECONOMIC DEVELOPMENT

REVIEW OF SECTION 62 OF THE ELECTRICITY ACT 1992

Continuance of Supply Beyond 2013

Introduction

1. Network Tasman Limited (NTL) appreciates the opportunity to submit its views on Section 62 of the Electricity Act 1992 and the continuance of supply beyond 2013.
2. Network Tasman supplies 35,100 connections in the upper South Island. NTL's network is supplied via 5 GXP's and services a mixture of urban, rural and remote rural areas. The supply area stretches from Springs Junction in the south, to Cable Bay about 30 km north of Nelson and runs south along the West Coast on its western extremity beyond Collingwood. From the head quarters in Richmond it is a 2.5 hour drive to the southern extremity and a 3.5 hour drive to the western extremity.
3. NTL is a member of the Electricity Networks Association and supports their submission. NTL is also a member of the PWC Group and likewise supports their submission on this topic.

NTL's current position regarding continuance post 2013

4. At this juncture NTL has made no formal or public commitment to either continue or cease providing line function services beyond 2013 to customers connected at 1 April 1993 and supplied from uneconomic network segments. To date, NTL, like most other distributors, has remained silent on the issue.
5. However being a consumer trust owned electricity distributor, it would be extremely difficult and unlikely for NTL's trustees or its directors to curtail supply to particular groups of current consumers (owners) based solely on considerations of locality and supply economics. Nevertheless given the ongoing detrimental impact of energy policy and regulatory initiatives on distribution business viability (outlined below) it would be commercially irresponsible to make unequivocal commitments to supply uneconomic segments of the network beyond 2013.
6. While the 2013 supply obligation extends only to those consumers connected to the network at 1 April 1993 the reality of the situation is more complex. A number of additional customers have been connected in uneconomic areas since 1993 and are entitled to be treated ostensibly on the same terms as those connected prior to 1993. At no stage have these new customers entered supply contracts with specific termination

dates and so they hold reasonable expectations their supply will remaining intact beyond 2013.

7. NTL's current asset management plan (AMP) covers the 10 year period to 2017 and it assumes (as have previous AMP's) continuance of supply to all existing network areas. Indeed it specifically identifies planned renewal and maintenance expenditure necessary for continuance of line function services to all remote rural and uneconomic areas. NTL is expecting and planning to systematically replace a number of aging cross arms, insulators, and conductors and supply transformers in areas that are readily identified as uneconomic to supply. In most instances this activity is driven on an "as needed" basis at component level rather than on a wholesale renewal basis so the expenditure is "smoothed and manageable" rather than "a lumpy wall of wire".

MED Discussion Paper

8. NTL does not believe the MED discussion document fully meets its terms of reference and does not form an adequate basis for a decision to extend distributors supply obligations beyond 2013. NTL highlights and refers readers to ENA's submission in this respect. The long list of options provided detract from the core issues that surround uneconomic supplies and are largely unnecessary at this stage of the consultation process. NTL does not necessarily object to extension of the supply obligation beyond 2013 however there are number of accompanying measures and assurances that are necessary before and extended obligations can fairly reside with distributors. These measures involve adjustment of policy and regulatory settings to properly recognise the true cost of remote supply plus the removal of contradictory aspects of a number of current initiatives. Additional assurances are necessary concerning the ability of distributors to sustain cross subsidisation over time and achieve fair valuations for the underlying assets involved.

NTL sample analysis of uneconomic network segments

9. NTL has performed analysis on a sample of uneconomic network segments characterized by low customer and energy densities and physical remoteness. We would note that customer and energy densities have a greater influence on network viability than does remoteness by itself. The line revenue derived from these segments is generally insufficient to meet the current operating and maintenance expenditure required to service these assets let alone cover the depreciation necessary to provide for asset renewal / replacement expenditure or to provide any return on the ODRC of the assets employed. (i.e. return of capital and return on capital employed). This is of concern to NTL.
10. The sample analysis shows NTL line charges would need to increase by around 3 to 4 times over their current level to fully recover the transmission, operating and depreciation costs attributable to these segments. This is before any contribution can be expected towards the upper distribution network. In simple terms line charges need to increase from current levels of 6-7 cents / kWh to somewhere between 18 – 25 cents / kWh. At this point the existing assets could be sustained in the long term on a simple cash costs plus depreciation basis but the company would receive no return on capital employed (ODRC of the assets). This outcome would be reasonably tolerable given many of these remote assets were originally built via RERC subsidies.
11. To fully recover the operating costs, depreciation plus WACC on the ODRC on this sample of remote uneconomic distribution assets, line charges would need to increase by a factor of 5 to 6 times over their current level. This would equate to a line charge of something in the order of 35 -45 cents / kWh and suggests the costs of alternative

energy systems are reasonably competitive with electricity supplied through conventional line function services, provided lines service are fully costed and cost reflective pricing is employed. However given current network assets are an irrecoverable sunk cost it is rational to keep them in use for their remaining economic lives provided the income they contribute at least recovers their cash operating costs. It is however irrational to upgrade or reinforce these existing lines or under take any new builds of this type of asset.

12. The energy and retail component of electricity tariffs would add about a further 13 – 15 cents /kWh to distribution tariffs requirements identified above. In conclusion it is clearly inappropriate to build any new lines or reinforce existing lines in these areas – it would basically commit good money after bad. However the full cost of continued use of existing sunk assets probably remains cheaper than the cost of alternative energy sources provided cost of capital considerations are set aside. From a customers perspective continued lines supply is likely to be far more attractive given it offers a simpler, easier and more reliable electricity service than other alternatives.
13. NTL has expectations of continuing supply via existing uneconomic lines beyond 2013 and as stated in Para 5 above we plan to maintain and replace these existing lines. Where spare capacity is available on uneconomic lines NTL will connect new loads to these lines however a substantial connection fee is, and will continue to be, charged in uneconomic areas. The connection fee
 - reflects the inadequacy of line charges revenue derived in these areas
 - encourages new loads to minimise their maximum demand requirements
 - encourages new loads to consider alternative energy supply solutionsNTL does not want to be put in a position where it needs to invest in reinforcing or upgrading these uneconomic lines and so needs to retain the right to be able to refuse new connections on these network segments once when their capacity limits are reached. Once at their capacity limits the lines will tend to be as near to being economic as they are ever likely to get but will not justify new upgrade capital.

Energy Policy and Initiatives

14. NTL has a number of reservations about the impact of government energy policy and regulatory initiatives on supply to uneconomic areas. We believe some policy and regulatory initiatives are seriously flawed and increase the likelihood of supply curtailment to uneconomic economic areas beyond 2013 and they are also stifling the development of alternative remote area power supplies.
15. Previous NTL pricing policies sought to differentiate charges geographically by each GXP. Generally line charges for consumers supplied from NTL's three rural GXP's were set at higher levels than for those supplied from NTL's two larger urban GXPs. For simplicity and income certainty the differentiation was achieved within fixed charge structures. This policy improved the cost reflectiveness of NTL network pricing and reduced the inherent cross subsidies between the dense economic areas of the network and the less economic segments.
16. Two recent policy initiatives, combined with the Part 4A price threshold mechanics, have forced NTL to completely rework its approach to network pricing. The introduction of the policy requirement for rural and urban line charges to remain aligned plus the introduction of the low user tariff option for residential customers has forced NTL to abandon any price loadings in rural areas where the uneconomic segments of the network invariably reside. To meet the new policy requirements in a simple and effective manner NTL reduced fixed line charges to 15 cents for all Group 1 consumers (75% of consumers) and no longer carries any regional differentiation in line

pricing. As a consequence the rural segments of the network have become even more uneconomic and the level of cross subsidy from urban to rural areas has unsurprisingly increased to compensate. This policy shift has done harm to the best and most efficient network users while the least efficient users have been rewarded. By increasingly sheltering the least efficient users and those relying on uneconomic segments of the network from the true costs of supply, incentives for uptake of new technologies and alternative power systems have been seriously muted. NTL no longer retains any network pricing signals that indicate it costs considerably more to deliver power to the extremities of the distribution network than it does to supply the more centralized and densely populated urban areas.

17. NTL acknowledges cross subsidies are inevitable and that they are an inherent part of any network pricing plan. However considerations of economic efficiency (allocative, productive and dynamic) argue that the reduction of cross subsidies through cost reflective pricing will produce the best long term economic outcome for the industry and the country. Cost reflective pricing encourages resources to be allocated where they are best used and provides proper signals to encourage substitute services. Current policies tend to contradict this fundamental economic premise.
18. Network Tasman is fortunate that the number of customers on uneconomic network segments is a reasonably small percentage of total consumer numbers. Consequently while the cross subsidies are highly material to those receiving them (as shown above) the cost is spread across a large number of other customers and hence is relatively small on a per customer basis. Rightly or wrongly recent policy and regulatory initiatives have increased the extent of these cross subsidies. From a distributors perspective the ongoing ability to rely on cross subsidisation is absolutely fundamental to NTL's willingness to continue to supplying uneconomic segments of the network beyond 2013. Any restriction or curtailment of these cross subsidies without a compensating ability to adopt more cost reflective pricing will necessarily force NTL to review its current position with respect to supply continuance beyond 2013.

Tree Regulations

19. As a further example the Electricity (Hazards from Trees) Regulations 2003 has increased many distributors' cost of service considerably. NTL is currently spending about \$300 per kilometer of overhead line on tree management to meet its new obligations under these regulations. These new obligations are particularly onerous in rural areas and have been introduced in an environment where regulation and policy initiatives required distributors to:

- offer uneconomic low fixed charge options to all residential consumers in all network areas
- keep rural and urban line charges closely aligned irrespective of relative costs of supply
- conform to a price capping mechanism that has forced network pricing to fall in real terms each year for 5 consecutive years

Given NTL's average distribution revenue per customer for 75% of its customer base is less than \$400 per annum (after allowing for transmission recoveries) it is pretty obvious that low density network segments will fail to cover their basic annual operating costs, and in some areas fail to even cover average tree management costs.

Part 4A Regulatory Regime

20. The regulatory framework developed by the Commerce Commission as part of its obligations under Part 4A of the Commerce Act also has ramifications on distributors' willingness to supply uneconomic segments beyond 2013. Key issues regarding the Part 4A regime and supply continuance are:
- a) The price pathway limits price movements to less than the rate of inflation and therefore constrains overall line revenue. Materials, labour, tree management and regulatory and compliance costs have generally increasing at a faster rate than allowable network revenue over the last 5 years and as a consequence network profitability has been squeezed.
 - b) NTL, like many other networks has entered a period of significant capital expenditure due to the demands of regional growth and the need to maintain and improve supply reliability. The regulatory regime to date has not accommodated new investment growth particularly well and when combined with point (a) above, the rate of return on network assets has tended to decline
 - c) The regulatory asset valuation methodology (ODV) prescribes a set of standard replacement costs for distribution assets. While these are updated periodically (every 4-5 years) distributors frequently find that network assets cost more to erect or replace than the allowances provided in the handbook. This poses a risk of asset spends in excess of standard replacement cost being excluded from the regulatory asset base and from any revenue allowance that may be derived from it in the future.
 - d) Economic viability tests on uneconomic segments of the network are an inherent part of the current regulatory asset valuation methodology. A failed economic test leads to an impairment based valuation being applied to the assets concerned. To date the economic tests have been applied to sufficiently broad network segments and asset write downs have been largely avoided – effectively the economic value test recognizes the value to the company of cross subsidization between consumers.
 - e) In post breach investigations of Unison and Vector the Commerce Commission has displayed a desire to assess network performance by customer group and by regional area. It has sought to identify cross subsidies and over charging and is effectively promoting a rational economic model using cost reflective pricing. Obviously if extensively employed this type of analysis raises issues for all rural electricity consumers and the cross subsidies necessary to prop up uneconomic segments of the network.
 - f) The Commerce Commission, as part of revamp of the Information Disclosures Requirements for distributors, is considering a more prescriptive approach to pricing methodologies. This follows on from work done by the Electricity Commission and the Electricity Networks Association. If the work places any credence on concepts of economic efficiency (allocative, productive & dynamic), promotion of cost reflective pricing models become inevitable. Again this raises questions about both the long term ability of distributors to continue cross subsidizing uneconomic segments within their networks and about the contradictory nature of government regulatory and energy policy.

The regulatory framework presents challenges to distributors' ability to prop up uneconomic segments of networks through the cross subsidies increasingly inherent within line pricing. Clearly curtailing supply to high cost / low revenue network segments post 2013 provides a rational response to the adverse impact associated with every one of the points (a) to (f) listed above. The control regime in its current format encourages review of uneconomic supply beyond 2013. As a consequence it is commercially responsible for NTL to reserve the right to review its commitment to

supply continuance beyond 2013 given the risks faced under the current regulatory model.

Transmission Costs

21. Transpower's transmission pricing also poses challenges for segments of the distribution network that have poor economics. Grid connection costs exhibit economies of scale so in smaller and more remote areas the grid connection cost per customer tends to be higher than for urban areas. This is exacerbated where areas (usually rural) are deemed to be deep connected and must pay for transmission line segments as well as substation components in connection charges. Under TPNZ's current pricing methodology interconnection charges also tend to be higher per customer in rural and remote areas due to the lack of diversity of demand compared to urban areas (a small number of consumers doing essentially the same thing at about the same time). However Transpower's new methodology based around regional coincident peaks will soften the impact of interconnect charges on a number of rural areas. Distributors repackage transmission charges and inevitably significant cross subsidies exist between rural and urban areas within most line charge regimes.

Comparison with Telecoms

22. It is instructive to make a cursor comparison of telecommunications delivery with electricity services in uneconomic geographical areas. The services rely on a similar style of infrastructure however electricity assets are more complex, robust and expensive. Generally the consequence of service failure in electricity is more immediate and disruptive and hence expectations of service standards are considerably higher in electricity. Telecoms fixed residential line charge is \$44 per month or \$528 pa and Telecom receives this revenue regardless of use. The low fixed charge option is \$27.50 per month or about \$330 per year. In some remote areas the free calling area is often quite small so callers also pay for many calls. Recent wholesale access determinations have recommended a considerably higher access rate for non urban areas in recognition of higher supply costs. Telecom also charges very solid new connection fees in non urban areas and waiting times are not unknown. In contrast the low user regulations have forced NTL to place all residential consumers on a 15 cents / day or \$55 per annum fixed line charge and so low use rural customers basically are getting a relatively free ride. In contrast to Telecom charges, NTL previously had a fixed line charge of \$182 pa in rural areas before overridden by the low user charge regulations. NTL's average revenue from residential consumers is about \$450 per annum but most rural households use less than electricity than average due to access to cheap solid fuel. Generally electricity networks are operating more substantial assets to a higher standard in uneconomic areas but are doing so with more highly constrained & regulated levels of revenue.

Answers to selected question posed in the discussion paper

23. Continuance of Supply with no expiry date (5.1 & 5.2)
- Unacceptable to extend obligations without changes to the current policy & regulatory environment
 - Can't reasonably separate pre 1993 consumers from post 1993 new connections so they should be treated the same
 - Policy & regulatory settings require change and better coordination
 - Proper recognition of full costs of supply required
 - Assurances about asset valuations are necessary
 - Assurance about ongoing sustainability of cross subsidisation is fundamental

- Expectations should be for current service levels only with no expectations of enhancements – should simply supply service from existing sunk cost structures while service potential remains intact
- Network must retain the right to refuse new customers / loads on uneconomic segments to prevent the need to upgrade / reinforce the capacity of already uneconomic lines
- High cross subsidies, reliability and simplicity of lines based services remove all serious / useful incentives to adopt alternative supply methods for existing consumers
- Cross subsidies levels will vary depending on network segment and customer mix on both sides of the equation. Ideally all segments should be priced to a level where they recover their cash costs & preferably their depreciation as well. This can't be done under existing low user and rural urban price equalization policy requirements
- Cross subsidisation of alternative supply customers by lines companies will create additional anomalies and misallocation of resources and should be rejected outright. Better to adopt more cost reflective pricing in the first instance to encourage use of alternatives.
- Post 1993 consumers don't have specific terms in their contracts and have reasonable expectations for continuance of their supply – to the same extent as those connected as at 1 April 1993
- Under this obligation for continuance it is absolutely imperative periodic reviews are scheduled to ensure this remains good policy in light of changing technologies, changing relative costs, and the condition of aging infrastructure.

24. Expiry of Obligations but additional requirements on lines companies (5.3 & 5.4).

- Advance notice must be given and this should be at least 3 years in duration as alternative systems will take time to procure, install and get operating satisfactorily.
- Lines companies have specialized expertise in lines based distribution systems and not alternative systems. There is a potential conflict of interest having lines companies promoting alternatives to uneconomic electricity consumers. Private markets with multiple suppliers are best placed to provide alternatives at competitive prices; these parties already exist and ought to have more experience and knowledge of these systems. Lines companies' involvement will potentially crowd out these budding businesses and allegations of cross subsidisation are probable.
- The only reasonable role for distributors would be providing some form of pre installation fitness for purpose review of proposed alternative systems.
- Retailers are unlikely to want to become involved unless promoting alternatives. Retailers may be able to provide historic load / meter data to help with design of alternative systems.
- Lines business should have a very limited role in transitions and responsibility should cease at the end of the notice period. As stated lines companies have potential conflicts of interest.

25. Continuance of Supply for limited time beyond 2013 (5.5)

- Extending the transition period essentially raises the same issues as those outlined in 5.1 & 5.2 but potentially obviates the need for periodic review if the period of extension is reasonably short.
- A maximum of seven years to 2020.
- Either the obligation to supply would cease at the terminal date or a further review would be required to determine the way forward given the environment at the time.