Telecommunications Carriers' Forum

Report on the Telecommunications Service Obligation for Local Service

23 July 2008

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A. EXECUTIVE SUMMARY

1 The Telecommunications Carriers' Forum (TCF) is a New Zealand telecommunications industry body that works collaboratively to develop key industry standards and codes of practice that underpin the digital economy.

2 The Government is currently reviewing the Local Residential Telephone Service Telecommunications Service Obligation (TSO). The existing TSO agreement between the Crown and Telecom requires that Telecom delivers basic residential telecommunications services under a specific set of conditions. This includes toll-free local calling for residential customers. The telecommunications industry funds the cost for Telecom to provide this service to commercially non-viable customers.

3 The key objective of the TSO is social inclusion. The TCF recognises the importance of keeping people connected and supports the objectives of the current TSO. It ensures that people living in rural and remote areas are guaranteed a service that, in the absence of the TSO, may be unaffordable because of the higher costs of serving them. While the current TSO has in the past delivered on that objective, it is no longer the most appropriate mechanism to deliver affordable and effective telecommunications services.

4 The telecommunications market has changed significantly in recent years. Competition is increasingly delivering the objectives of the TSO in New Zealand. Competition has seen new players arrive with new technologies and more options for customers.

5 More market participants with competing technologies place an increased requirement on policy makers to ensure policy mechanisms such as the TSO are provided in a way that does not favour particular technologies or particular market participants and reduces cross subsidies between competitors. The market and technologies have moved on and the TSO needs to be thought about differently.

6 Following public consultation on its draft report, the TCF recommends that the TSO objectives would now be best delivered by a model which maximises contestability and minimises the impact on the market. This means that:

- the TSO service description should be amended so that it can be provided by a variety of technologies that meet the service standard – including satellite. The service description will include toll-free local calling;

- a contestable process should be established for serving customers in areas for which it is not commercially viable [for Telecom][1] to provide the TSO service at the capped price;

[1] This is not agreed to by all TCF Members.

- any provider, including Telecom, should be able to tender for the rights to serve customers in those areas and the successful tenderer would then be responsible for providing a TSO service where requested;

- in areas where Telecom is no longer the TSO provider, it would be free to remove or reconfigure plant to avoid duplication and minimise overall costs; and

- the winner of the tender to serve this group of customers receives funding from either general taxation or an industry fund; whichever funding method is chosen New Zealanders pay for the social objectives to be met. There are strong efficiency arguments for using general taxation.

7 There is broad industry agreement for contestability. This would involve defining the group of customers for whom it is not commercially viable to be provided a TSO service at the capped price. This group of customers would then be placed into a tender pool. However, there are differing views over how this group of customers would be defined and could be included in the tender process. These two views are outlined below.[2]

8 Vodafone, CallPlus, Kordia and TelstraClear believe that only those customers who are commercially non-viable across all networks should be included in the tender for TSO services. Customers who can receive a TSO like service from two or more commercial networks – (including mobile networks) cannot, according to these carriers, by definition, be classed as commercially non-viable and should be excluded from the tender. Vodafone (and others) consider that such an approach is in line with a new approach to the TSO that is both technology and carrier neutral. Thus to link the pool of customers to one type of technology and one carrier is undesirable.

9 Vodafone, CallPlus, Kordia and TelstraClear consider that their proposed approach minimises any possibility that a carrier is required to subsidise network in areas where it has its own network and can provide a TSO like service on commercial terms. Vodafone believes this is one of the major perverse outcomes of the current system. Having to build network and subsidise a competitor's network is a clear disincentive for investment and may discourage the type of investment required to improve the services that can be delivered to rural customers. Vodafone believes that it already covers approximately 70 percent of current commercially non-viable customers and considers that it should no longer have to subsidise any TSO provider to provide services to these customers.

10 Telecom propose to nominate customers for which it is not commercially viable for it to serve at the TSO price. Telecom believes that its proposed contestable tender-based model is the best way to

[2] Paragraphs 8 to 12 outline alternate views of TCF Members on how the group of customers for whom it is not commercially viable to be provided a TSO service at the capped price would be defined and could be included in the tender process.

decide which is the lowest cost provider, whether that provider needs a subsidy, and what level of subsidy is required. If customers put forward by Telecom for tender are within the coverage zone of another network, that network operator may bid for those customers at zero, or minimal cost.

11 Telecom also believes that the existence of another network does not automatically make unprofitable customers profitable either for Telecom or for any competing carrier. The contestable approach means that TSO customers can migrate to the lowest cost provider and Telecom, unless it is the tender winner, can reduce costs by reconfiguring or removing network. If the tender process results in there being no nominated TSO provider for these customers, who may be unprofitable for all networks as local service customers, there is a risk that those customers would have no service guarantee at all. This would not be acceptable to TCF members and would need to be considered in the design phase.

12 A related concern for Vodafone, CallPlus, Kordia, TelstraClear and Woosh is the lack of certainty in relation to the number of possible customers that might be included in the tender process – for example if Telecom chose to put only a very limited number of customers into the tender pool the difference of views outlined above may be largely irrelevant. However, in the time available, it has not been possible for Telecom to identify how many customers that is and/or the exact best process for agreeing those numbers and defining those regions with the industry and other stakeholders. All TCF members including Telecom agree that participants knowing details of the proposed tender areas and customer location is critical to a robust and transparent tender process.

13 The concerns of all parties may be resolved by Telecom identifying the proposed areas and households it would like to include in the tender. This work will be undertaken as a matter of urgency in the detailed design phase. Following this, should parties be unable to agree on the acceptability of the proposed pool of customers, they reserve their rights to cease participation in the contestable approach. Telecom has undertaken that it's detailed tender plan, which relies on TCF agreement on key tender design issues, will be available within 6 months of starting the detailed design phase.

14 Outside the TSO tender winner, providers would be free to offer service and packages that best meet customer needs in any area of the country. Primary reliance must be placed on the market wherever possible. As is the case today, service providers connect new customers on a commercial basis.

15 However, to ensure that a basic telecommunications service consistent with the TSO service remains an option for those customers outside the tendered area, the TCF proposes that service providers commit to offer a TSO-like service as one of their packages to connected customers. The standard would be based on the new technology neutral standard TSO specification, and providers would be free to offer other or better packages. This would require acceptance in the industry to the Code (i.e. enough providers were prepared to sign up so that it was a real standard). The major carriers (Vodafone, TelstraClear and Telecom) have committed to work with the TCF to establish such a Code.

16 The revised TSO will future-proof the TSO and ensure the market can move forward. There are significant benefits:

- Redefining the TSO in a technology-neutral way will support the use of new and innovative technologies for all New Zealanders. The ongoing development of technology now means that many technologies, including copper, cellular, cable, wireless and satellite, are capable of providing similar functionality to Telecom's existing network. In many cases, these new technologies are capable of providing TSO services at a significantly lower price, with increased functionality, particularly for rural and remote communities. The TCF considers that the service description needs to reflect this new reality supporting competition and the use of the best and most modern technologies for rural customers;

- A competitive tender will determine the real cost of the TSO. The Commerce Commission's (the Commission) current approach is contentious and uncertain. Increased certainty around the TSO cost for the duration of a tender period will improve opportunities for further investment in infrastructure and technology;

- It ensures that the TSO complements industry broadband investment. New satellite, wireless and mobile technologies are well placed to provide a revised TSO service and broadband services to remote customers. By permitting these technologies in the TSO tender, an indirect consequence is likely to be improved availability of broadband services to remote customers.

17 Investment in rural broadband is often discussed alongside current TSO obligations. The TCF considers that investment in rural broadband will occur through competition between different technologies and this market continues to gather momentum.

18 As technology platforms develop there is also an increased chance that the most efficient means of providing broadband may differ from the most efficient means for providing a voice service. A broadband TSO would risk tying such platforms together, thereby reducing options for efficient delivery.

19 The recommendations in this report are part of a package to deliver on the social objectives in the more efficient way. For example, the TCF notes that contestability is likely to be effective only if the TSO service description is truly technology neutral. For this reason, careful consideration must be given to the impact of amending the recommendation, or adopting only components, as this may make the proposed package unworkable.

20 The TCF welcomes further dialogue on the recommendations in this report, and would welcome the opportunity to develop this proposal in conjunction with the Government into a practical and workable solution.

21 For further information, please contact Ralph Chivers, TCF Chief Executive on **(021) 576 424**.

B. PURPOSE

22 This report provides the TCF's recommendation on how the Government could best ensure the provision of a basic residential telephone service for all New Zealanders.

C. INTRODUCTION

23 Telecommunications networks provide a vital link to family, the wider community, health and social service providers and emergency services, which is of huge importance to all New Zealanders.

24 As providers of telecommunication services, we recognise the importance of keeping people connected and we support the objectives of the current Local Residential Telephone Service TSO, to ensure the widespread coverage of an affordable residential telephone service for all New Zealanders.[3]

25 We agree with the general international consensus that the focus should be on providing access to basic quality, affordable, telecommunications services with the key objective of allowing citizens to participate in society – i.e. social inclusion.

26 Competition is increasingly delivering the objectives of the TSO in New Zealand. Competition has seen new players arrive with new technology and more options for customers. As the Organisation for Economic Co-operation and Development (OECD) has noted in its yearly *Communications Outlook,* competition drives prices down while improving choice and service quality.

27 However, a small and shrinking minority of households still require the safety net of the TSO to guarantee an affordable residential telephone service. We believe that as technology continues to develop and competition intensifies, the need for such a safety net will decline – but we also recognise that we are not yet there and it is important that the TSO continues to protect potentially vulnerable customers.

28 Accordingly, it is important that a solution transparently targets those customers who cannot be served on commercial terms. It is also crucial that the solution is technology neutral so that different customers can be served by the most appropriate technology for their situation. This is particularly important now that several competing technologies are able to offer a useful residential service.

29 Finally, we believe the TSO is purely a backstop or safety net and should not be used as a tool for addressing other challenges such as promoting the uptake of broadband. For example, establishing a system where a wireless, satellite or mobile operator has to subsidise

[3] The Local Residential Telephone Service TSO is one of two TSO instruments established to date under the Telecommunications Act 2001. The other is the Telecommunications Relay Service TSO and is not the subject of discussion in this report. For the sake of brevity we refer to the Local Service TSO as 'the TSO'.

Telecom to roll out broadband access in remote areas would make no sense for users or market participants.

30 The recommendations in this report are based around the overarching principles of social inclusion, access and affordability.

31 Our overriding objective is the promotion of social inclusion at lowest cost. This implies a focused basic access service, minimum intervention, technology and competitive neutrality to foster competition, and a simple, transparent, funding model.

32 In addition to these overarching principles, the TCF recommendation has included two further government requirements – access to toll-free local calling and the possibility of continued industry funding of the TSO. While the TCF's recommendation incorporates these requirements, we consider that these requirements could limit the use of some technologies or are a higher cost means of funding the TSO than the alternatives.

33 Alternative, more flexible, approaches rather than unlimited toll-free local calling, are likely to better address affordability. Imposition of the TSO costs directly on the industry diminishes the incentives for further investment at a time when meeting the objectives of the Digital Strategy will require significant and ongoing investment in new technologies. This report traverses alternative approaches to affordability and funding of the TSO.

D. BACKGROUND

34 The Ministry of Economic Development (MED) released a discussion document on the TSO Regulatory Framework in August 2007.[4] The review identified the central role that telecommunications services play, by enabling economic growth and the development of a knowledge-based economy, as well as providing essential social benefits and timely access to emergency services.[5]

35 The review looked at how the current TSO might be amended to better deliver these requirements in the face of changing technology, the challenges of rural infrastructure investment, and whether any obligation should be extended to include broadband. The MED received submissions from a cross-section of the community[6] including a submission from the TCF on behalf of our members.

36 The TCF's submission supported the policy objectives set out in the MED discussion document, of a minimum voice service at an affordable price. We also felt that the objectives of the TSO could be met in a more efficient manner than the current TSO provides, potentially minimising the impact on competition and investment. We also said that broadband should be dealt with separately from the

[4] MED, Telecommunications Service Obligations Regulatory Framework Discussion Document, August 2007.
[5] ibid, p. 5
[6] http://www.med.govt.nz/templates/ContentTopicSummary____32177.aspx

provision of an affordable basic telecommunications service. While the uptake of broadband is increasing, there is no clear public policy rationale to include it as a 'basic' service.

37 Due to the degree of commonality amongst TCF members on MED's review, we offered to do further work on a solution by establishing a working party that would develop a comprehensive proposal for the Minister for Communications and Information Technology by April 2008.[7] We proposed that the working party would consider:

(a) a minimum retail voice standard for Local Service; and

(b) service availability requirements.

38 In March 2008, the TCF released its draft report for public consultation. The TCF received submissions from InternetNZ, Local Government New Zealand, New Zealand Business Round Table, New Zealand Police, Rural Women of New Zealand, TUANZ and Yellow Pages.[8] The TCF has given careful consideration to all submissions received. The submissions received were broadly supportive of the TCF's proposed approach.

39 This final report provides the TCF's recommendation to the Government on a mechanism that will best ensure the provision of a basic telephone service for all New Zealanders at an affordable price, what consumers could expect from such a service, how this can be provided in a technology and competitively neutral way. We have also given careful consideration to ensuring that any mechanism minimises the competitive impact and cost imposition on the industry.

[7] Telecommunications Carriers' Forum, *Submission on the Telecommunications Service Obligation (TSO) Regulatory Framework Discussion Document*, 15 October 2007.

[8] Copies of these submissions are available on the TCF's website - http://www.tcf.org.nz/tso

E. THE CURRENT TSO

Agreement between the Crown and Telecom

40 The TSO for local residential telephone services requires that Telecom delivers basic telecommunications services under a specific set of conditions, including the provision of free local calling for residential customers.

41 The original 'Kiwi Share' agreement was established in 1990 when Telecom was privatised. At that time the emphasis was on residential voice call services. The TSO agreement between the Crown and Telecom was established in 2001. The TSO Agreement sets out the requirements for the minimum service specifications, coverage requirements, and the maximum price that Telecom may charge for the local service. This includes minimum requirements for dial-up internet calls.

42 There is a strong consensus within the telecommunications industry that the TSO in its current form is not an appropriate mechanism to deliver on the Government's objectives going forward. This report does not focus on fixing the deficiencies of the current Local Residential Telephone Service TSO.

TSO Framework

43 The Telecommunications Act 2001 established the regulatory framework for the TSO instruments. Under this framework, the Commission is responsible for measuring compliance with TSO instruments, and allocating the cost of meeting these obligations among the telecommunications industry.

44 In the case of the Local Service TSO, the Commission models the economic cost for Telecom to serve commercially non-viable customers to meet its TSO obligation. That cost is then allocated among the industry according to their share of industry revenue.

Development of technology and the telecommunications market

45 Telecommunications is a rapidly changing and evolving market. At the time that the Kiwi Share was conceived in 1990, Telecom was the only major provider of residential telephone services in New Zealand.

46 Since that time, there have been significant changes in the telecommunications market and the expectations of telecommunication services by New Zealanders. Today, the majority of New Zealanders have a choice of providers and technologies, including cellular, cable, wireless and satellite to deliver basic telecommunications services. The existing TSO has been unable to reflect the changes and development in the telecommunications market place.

47 The following table, while not exhaustive, demonstrates the significant changes in the telecommunications market, and the many

ways in which New Zealand consumers are now able to access basic telecommunications services.

Technology	Company	Capability	Coverage
Copper PSTN	Telecom	Delivery of voice and data services	Near ubiquitous coverage
Mobile	Telecom (CDMA)	Delivery of voice and data services	Covers "around 97% of the places New Zealanders live, work and play". [9]
	Vodafone (GSM)	Delivery of voice and data services	Covers "around 97% of New Zealanders live, work and play within Vodafone coverage".[10]
Cable	TelstraClear	Delivery of voice and data services	TelstraClear Residential Hybrid Fibre Coaxial (HFC) networks in Wellington and Christchurch
Satellite	IPStar (via retail providers)	Delivery of voice and data services Supports voice applications over IP network with "uniform high quality nationwide service anywhere"[11] Supports off-the-shelf Analogue Telephone Adapter, IP or LAN Phone & PABX and Enterprise & Carrier VoIP Gateway.	Ubiquitous coverage
Wireless	Kordia Extend (via retail providers) [12]	Delivery of voice and data services Kordia Extend Network via retail providers "The Extend network uses 'Line-of-sight' (LOS) radio transmission. These run between end user premises and local high sites with a path length of around 50km. This means that telecommunication companies are able to provide rural and provincial New Zealanders - who currently can't access fixed-line broadband - with high-speed voice and data services.	Regional coverage
	Woosh	"So long as you're within our coverage area, you can get Woosh Phone with voicemail for around the same cost as your Telecom phone line with voicemail, and we'll throw in the broadband, free*"[13]	

[9] http://www.telecom.co.nz/content/0,8748,200499-201927,00.html?text=mhp1
[10] http://www.vodafone.co.nz/help/coverage/
[11] http://www.ipstar.co.nz/en/p_voice_app.html
[12] http://www.kordia.co.nz/node/1074
[13] http://www.woosh.com/ContentClient/Phone/PhoneOverview.aspx

48 Further developments, both on a regional and a national basis are expected to continue, including New Zealand Communications' announced national entry into the market.

49 The market is developing rapidly and no longer fits well with a TSO policy designed for an environment with a single, fixed-line provider.

Why is competition important?

50 As the OECD noted in its 2007 Communications Outlook, competition and the drive for new technology has provided benefits to customers and providers by reducing the cost of providing services. This has resulted in direct flow-on benefits to customers who pay less.[14] The OECD argued that competition has provided more flexible pricing packages and lower prices – improving affordability, increased incentives for efficient operation and enhancing the quality of services while encouraging investment. [15]

51 As competition drives greater choice and lower prices it also has flow-on effects that deliver social benefits in ways that are not always anticipated by policy makers.

52 The growth of the mobile telephone market is a good example of this. In particular, pre-pay mobile phones have provided a cheaper and more effective phone service for many New Zealand families – enabling people to keep control of their monthly bills, while staying connected to friends, family and the community.

53 The existing TSO provides free local calling for a fixed monthly charge. However, as a result of competition, demand and usage patterns of New Zealand consumers are changing. The 2006 census suggests more than 80,000 New Zealand households use an alternative to the traditional telephone for telecommunications purposes[16]. Telecom's results show an ongoing reduction in its fixed line services by *8,000* year-on-year as customers substitute their services for mobile and other fixed services. Anecdotally, pre-pay services appear to be increasingly considered as a substitute for a fixed service. For some customers, these services are a low-cost alternative for a traditional fixed line TSO service. The average spend per month for a Telecom and Vodafone pre-pay customer is $10.00[17] and $21.40[18] respectively.

54 In 2007, Ofcom, the United Kingdom regulator, found that household mobile penetration was 93 per cent, household fixed-line penetration 90 per cent, with the majority of UK households having both. Ofcom research found that mobile-only households tend to be in lower socio-economic groups who wanted to have the "greater control and

[14] OECD, *Telecommunications Outlook,* July 2007, p. 34.
[15] Xavier, *What Rules for Universal Service in an IP-Enabled NGN Environment, ITU Background Paper,* 2006, p. 9.
[16] http://www.stats.govt.nz/census/2006-census-data/classification-counts/about-households-families-dwellings/access-to-telecommunication-systems.htm
[17] http://www.telecom.co.nz/binarys//mda_mar_08.pdf
[18] As at 30 June 2007

flexibility over spending offered by pre-pay mobile".[19] This is in spite of requirements on British Telecom to provide low-cost tariffs for low-income households.

55 The European experience has shown that competition in the mobile market has also had positive benefit for customers in remote rural areas. For mobile operators, coverage acts as a key dynamic of competition and thus competition has driven rural access to mobile more extensively than previous regulatory coverage targets. Geographically-averaged mobile prices mean that mobile price competition is equally robust in rural (expensive to serve) and in urban (lower cost to serve) European regions.

56 Although rural coverage has been the subject of state-assisted intervention in a number of markets, it is still a significant European public policy success – with access and affordability being delivered by competition rather than formal Universal Service Obligations (USO) style regulation[20].

57 This strongly supports the view that government interventions for ensuring access to affordable services should focus first on promoting competition and providing the certainty required for investment through quality decision-making.

Other reviews underway

58 There are a number of other reviews underway that impact basic telecommunications services. The increasing diversity of providers means that obligations that could previously have been placed on Telecom are better dealt with through industry-wide solutions.

Access to Emergency Services

59 The industry recognises the importance of access to emergency services and at the request of the Minister of Communications, the TCF is developing an industry code of practice to provide the general public with the reassurance of a responsible industry approach to emergency services.

60 Any changes to the TSO framework must ensure that any minimum service adheres to the emergency services code of practice.

[19] C2DE is a social classification used in the UK and Ireland encompassing 'skilled working class', 'working class' and 'those at the lowest level of subsistence'. http://www.nrs.co.uk/about_nrs/data_available/definitions_of_social_grade.

[20] See for example European Commission, *Report regarding the outcome of the Review of the Scope of Universal Service in accordance with Article 15(2) of Directive 2002/22/EC,* SEC(2006)455, p.3.

Disconnection Code

61 There is currently no agreed set of minimum standards between telecommunications providers in regards to disconnection. Given recent public interest in disconnection practices in the electricity industry, the TCF is developing an industry code for disconnection.

62 Consumers must be informed in a timely manner about the discontinuation of their service, particularly for those customers where basic telecommunications services may be a lifeline.

63 The providers of basic local services would need to adhere to the disconnection code of practice.

Customer Complaints and Dispute Resolution Service

64 The telecommunications industry has recently launched the Telecommunications Dispute Resolution Service (TDRS) which is a free and independent service to help work out disputes between consumers and telecommunications companies.

65 Most members of the TCF are signatories to this scheme and have agreed to adhere to a Customer Complaints code which sets out the principles and processes for customers to make a complaint and the handling of those complaints/disputes.

F. PUBLIC POLICY OBJECTIVES

66 Any market intervention must be underpinned by transparent public policy objectives. In the case of telecommunications services, many countries have established arrangements to ensure widespread availability of services (typically called Universal Service Obligations (USO)), and to regulate the provision of residential PSTN services for consumer protection reasons. These requirements are currently being reviewed in many markets to reflect the availability of new technologies and regulatory requirements.

67 There is no standard definition of what constitutes universal service, although it generally focuses on expanded access to affordable basic telecommunications services in remote and under-served areas. The overarching principle of such frameworks, including the TSO is social inclusion. Access and affordability are the key components of this principle and the TSO.

68 The Government's objective when establishing the TSO was to ensure the delivery of "cost- efficient, timely and innovative telecommunications services on an ongoing, fair and equitable basis to all existing and potential users."[21] Within that overarching objective, the purpose of the TSO being to ensure the telephone service remained affordable irrespective of the remoteness of the household and to address market power concerns[22].

Social Inclusion

Access

69 The TSO ensures that New Zealanders have access to a basic telecommunications service at a capped price with unlimited local calling, irrespective of the cost to provide those services.

70 This ensures that people living in sparsely populated areas are guaranteed a service that, in the absence of such protection, may be unaffordable due to the higher costs associated with serving such customers. The costs of serving such "commercially non-viable" customers are shared among all providers.

Affordability

71 Access to a service alone does not meet social objectives if the service is not affordable. Ensuring that New Zealanders have access to basic telecommunications services, irrespective of the remoteness of their property, at a reasonable price is important for social inclusiveness.

72 If there was no pricing protection in areas that were expensive to serve or where competition was not sufficient to keep prices down, such as rural communities, consumers may be less able to afford basic

[21] MED, *Telecommunications Service Obligation Regulatory Framework Discussion Document*, August 2007, p. 20
[22] MED, *Telecommunications Service Obligation Regulatory Framework Discussion Document*, August 2007, p. 21

access services. The TCF agrees with the objective of ensuring that all New Zealanders have access to basic telecommunications services at a reasonable price.

73 Many jurisdictions take a different approach to the issue of affordability. The current approach is to maintain free local calling with a monthly access charge. Section J discusses alternative approaches to TSO cost allocation that might more effectively ensure that all New Zealanders have access to affordable basic telecommunications services.

Consumer Protection

74 Consumer protection is a core element of the TSO. Clearly, in areas where there is little competition the TSO serves as a form of protection from price increases that can result from the monopoly provision of a service. However, the TSO also specifies a wider range of components that sit behind a basic telephone service such as service standards.

75 As the range of services and providers has grown, it makes greater sense to ensure that protection for consumers of telecommunications services is provided by other means.

76 Much of the work of the TCF has been to establish codes of practice for the purposes of consumer protection.

Economic Transformation

77 Telecommunications has a significant role to play in achieving the Government's five economic transformation goals of:

(a) growing globally competitive firms;

(b) building world-class infrastructure;

(c) encouraging innovative and productive workplaces;

(d) establishing Auckland as an internationally competitive city; and

(e) promoting environmental sustainability.

78 We are acutely aware of the importance of telecommunications for New Zealand's economic transformation, in particular for improving productivity and environmental outcomes.

79 Achieving these goals will require ongoing investment in telecommunications infrastructure. The Digital Strategy feeds directly into the economic transformation strategy and consists of three major components: connection, content, and confidence.

80 The provision of basic telecommunications services for all New Zealanders should not interfere with or undermine incentives for all telecommunication providers in invest. For that reason, any mandated requirement to provide the services must be competitively

neutral, cost efficient, and should maximise incentives for further investment in developing technology.

81 Previously, when there was a single telecommunications provider, an instrument such as the TSO could have been a suitable instrument for setting wider government objectives on issues such as economic growth. However, as the market has evolved so have Government policy responses.

82 In recent years Government interventions, including the operational separation of Telecom, the Unbundling of the Local Loop and Bitstream Services, and the broadband challenge, have demonstrated that the overriding approach is to ensure that competition can be the key driver of investment and innovation.

83 The Government has also emphasised the potential for wireless providers to play a significant role, particularly in rural and provincial areas. Recent auctions in the 2.3 GHz, 2.5 GHz and 3.5 GHz bands have created opportunities for new entry. As wireless and satellite technologies continue to develop, and become better able to meet the needs of customers, they have the real potential to remove the need for many of the protections of the TSO.

84 In such an active environment of government and industry activity it is important that the TSO be as focused as possible on meeting its objectives rather than being broadened in a way that will impact on other initiatives that are underway.

G. DESIGN PRINCIPLES – GUIDING QUESTIONS

85 This section of the report sets out the principles used to inform our recommendation of a technology-neutral contestable TSO to achieve the social objectives in the most efficient manner.

(a) **What services should be included?** Should it provide only voice services, or should it include data service capabilities for a facsimile service, a narrowband internet service or even broadband services?

(b) **How should the quality dimension of the service be set?** The two key options for regulating the quality of the service are to regulate the inputs to the service (e.g. the technology or network elements employed in providing the service) or the outputs of the service (e.g. the quality of the service, bandwidth, and interference).

(c) **Who should provide the service?** The service provider may be a designated operator or the provider(s) could be selected using a contestability model.

(d) **How can the cost of the policy be funded?** For example, should the cost of the policy be funded by industry or government? If funded by industry, how should the funding model be designed? How should the cost of the policy be measured?

86 A comprehensive, certain and predictable service policy based on sound principles and objectives should promote competition and investment in the telecommunications industry.

Overriding policy objective - social inclusion at lowest cost

87 Policies encouraging universal access have underlying economic and social objectives. Society places value on its members being able to communicate, and economic welfare can be improved by increasing telecommunications access above what might be achievable by the market.

88 The 'level' of universal service must be set having regard to:

(a) basic New Zealand community expectations with respect to communications access; and

(b) the cost of maintaining the minimum level of universal service given the cost has to be shared by other consumers.

89 Whatever level of universal service is chosen, it should be achieved at minimum cost to New Zealanders.

90 Meeting the basic requirements of New Zealanders might legitimately be thought of as providing a 'social safety net'. Cost for providing such a service should be minimised. A decision to increase the level of the universal service beyond the basic requirement will increase

the cost of provision. Any such decision should be 'proportionate' and transparently balance the value of increasing communications opportunities and the associated costs. This balancing is critical in the context of supplying more advanced services (e.g. data services) in rural and remote areas where the costs of providing those services are very high.

91 The associated costs of meeting different levels of obligations goes beyond the direct costs of providing those levels. They extend to the costs and distortions associated with raising the funds to cover the loss associated with providing the TSO service below cost, and these costs should be minimised.

92 Implementing other policy objectives within the TSO scheme is also likely to impose significant cost and must be objectively assessed. For example, measures meant to promote competition such as allowing all users to choose their provider of national and international services, or their internet service provider, may impose significant cost with limited benefit to competition due to the focused scope of the TSO.

93 More detailed principles that follow from this are set out below.

Supporting principles

Intervention restricted to the provision of 'necessities'

94 The TSO should not be used to ensure that all New Zealanders consume the same quality and quantity of telecommunications. This is because:

(a) Beyond the basic minimum service, New Zealanders have the responsibility for determining what services they access and how much they want to use or spend on telecommunications services;

(b) Also, the fact that a majority of users consume a good is not a reason for policy intervention to ensure universal access. For example, even in the case where the good or service increases social inclusion (e.g. motor vehicle or television ownership) the existence of majority ownership does not in and of itself warrant intervention to ensure universal access; and

(c) Technological advancement has seen an increasing number of users access services solely via a mobile handset, whilst others use their personal computers to make telephone calls (i.e. voice over internet protocol services such as Skype). These developments mean that it is increasingly difficult to define one service which generally meets the needs of the average user.

95 The efficiency of markets can best be harnessed by a policy that, beyond the basic requirements, allows the market to determine the scope of services provided and allows prices to reflect the cost of providing them. This also ensures that users adapt their demand for services to reflect the cost of providing them – and that those who enjoy the most benefit also bear the most cost. For example, some

users will make significant use of facsimile services, and would gain great value from its provision, however, for many other users facsimile services are likely to provide little benefit and the savings from not providing that service capability universally could be significant.

96 For these reasons, we believe that any service obligations should be restricted to the provision of basic technology neutral access services to ensure that the TSO is future-proofed.

Clear focus on public policy objectives

97 In order to meet the objective of minimising the cost of universal service it is important to recognise the cost of preventing the market operating efficiently. An intervention can limit the nature of competition between firms (by favouring some competitors over another) or influence consumer choices (by mandating a service that consumers would not otherwise choose).

98 The form of regulation should be chosen to minimise the cost of interventions. Alternatives include:

(a) Measures to facilitate network expansion (e.g. spectrum policy and network sharing); and

(b) Lightening of price regulation, including relaxing retail price controls in non-TSO areas (allowing for some cross-subsidies) and reassessing interconnect arrangements to increase revenue streams from TSO areas; this could also be done on mobile networks to improve the economics of rollout in marginal areas.

99 In general, competition is more effective at establishing the cost/quality tradeoff demanded by consumers. The market has the unique ability to match the preferences of users, their willingness to pay, and the cost of providing services. Where competition is effective it should be relied on in preference to regulation. In circumstances where government must play a role in setting standards and prices it should take into account the same factors the market would for example consumer valuations and cost.

100 The Government should be particularly cautious in regulating services such as narrowband and broadband internet, and should be aware of its impact on investment in next-generation paradigm-shifting technologies. The market for these services is still evolving so it is important that we look to future-proof the TSO by being technology neutral. For example, looking ahead, it is likely that the demand for broadband will dominate that for narrowband internet. This means that:

(a) Including a narrowband service in the TSO is likely to be inappropriate as it risks encouraging investment in infrastructure that is unsuitable for broadband services; and

(b) Including a narrowband service in the TSO may distort future policies in relation to promoting the use of broadband, particularly attempts to introduce contestability in the delivery of services.

101 Including a broadband service in the TSO would be premature. It is unclear as to how the market for that service will develop and uptake is still relatively low. It is also likely that other options may be more effective in promoting broadband use, such as the Government's Digital Strategy and other central and local government broadband initiatives.

102 An ITU report on the issue of evolving Universal Service Obligations notes that broadband penetration rates are at present "well under the penetration level where a household's inability to access broadband services at a 'reasonable rate' could be considered a form of social exclusion." [23]

Damage to competition should be minimised

103 Competitive/contestable supply of TSO services should be relied on where feasible.

104 Effective competition is the best means of constraining price and ensuring high performance levels. Minimum standards in competitive areas of New Zealand could now be removed as consumers can choose their preferred quality of service.

105 In other areas where competitive supply is not likely to meet the universal service objective, contestability will best deliver on the over-arching policy objectives.

106 The benefits of contestability typically come in two forms – competition for the market or competition in the market.

(a) Competition for the market is achieved by a contestable arrangement in which operators compete to be the TSO provider for a service or for an area; and

(b) Competition in the market is achieved by a contestable arrangement in which operators compete to be the TSO provider for a particular user.

The TSO should not determine the technology used

107 TSO obligations should be technology neutral. For example, mobile and broadband technology is increasingly being used to provide voice services in preference to traditional methods. A TSO qualifying basic voice service must be able to be delivered over different access options.

[23] Xavier, *What Rules for Universal Service in an IP-enabled NGN environment, ITU* Background Paper, 2006.

108 Avoiding technology specific regulation is best achieved by defining the nature of the TSO according to the outcomes it achieves for users rather than the inputs or characteristics of networks needed to deliver the service.

109 We believe that technology neutrality will promote contestability and hence increase the potential for identifying the least cost of supply of TSO services. In the case of voice services, the definition of required service outcomes should have regard to the potential of both fixed and mobile networks.

110 Suppliers must also be free to deploy technology that lowers current and/or expected future costs – irrespective of contestability provided it allows the TSO services levels to be met.

Certainty

111 Significant change and investment is continually occurring in telecommunications infrastructure. Therefore, certainty of current and future obligations is a key goal. This will minimise the perceived exposure to TSO cost for suppliers in both TSO areas and competitive markets.

Funding model - equitable, simple, transparent and efficient

112 A funding model must be equitable, simple, transparent and efficient.

113 The TCF is strongly of the view that direct Government funding of the TSO is superior to an industry specific levy across all of the criteria mentioned above. This reflects the broader taxation base available to the Government (reducing the efficiency costs of raising revenues), the progressiveness of the Government tax base (which promotes equity) and the transparent nature of Government taxation.

114 The TCF has not commented on whether the current approach to apportioning costs, as set out in the Telecommunications Act, is appropriate. There are likely to be widely divergent views on this issue.

115 Transparency of the funding model can relate to the funding mechanism, who is paying for the TSO fund and who are the customers who benefit from the fund. To the extent that an industry levy model is retained there are different options for meeting the above objectives.

116 Further, there should be funding certainty for both funders and the TSO provider. Any funding obligations should be predictable over a reasonable period. For TSO providers, predictable TSO funding and conditions for selling incremental services is important.

H. A TECHNOLOGY-NEUTRAL RESIDENTIAL SERVICE

117 Social inclusion implies that a reasonable quality, basic service needs to be available at an affordable price. There are potentially multiple technologies and providers of voice services for consumers, which is why we hold the view that the definitions and measures must be technology neutral.

118 Consumer protection is important. However, this can be provided through self-regulatory codes such as the Emergency Services Code and the recently established Telecommunications Disputes Resolution Service, general consumer protection law and through the wider objectives of the Telecommunications Act, which seeks to promote competition for the benefit of end users. Also regulatory codes such as Lawful Intercept and Number Portability could ensure that any basic voice service will be supported by these consumer protection mechanisms.

Elements of a Technology-Neutral Residential Service

Functionality

119 The table below outlines the major elements of the proposed service and how they are currently provided. In setting the requirements, we weighed them against the policy objectives and design principles.

Service element	Importance for policy objective and proposed approach	How this is currently provided
Voice access that supports a single simultaneous call	Very important Must provide	TSO deed
Access to calling – including receiving and terminating from other service providers	Very important Must provide	TSO deed
Free local calling	Government requirement Must provide	TSO deed
Emergency Services Calling (ESC)	Very important Must comply with Emergency Services Calling Code	In part TSO deed
Fax calling	See discussion below. This should be redefined to support technology neutrality.	TSO Deed

Service element	Importance for policy objective and proposed approach	How this is currently provided
Internet access	See discussion below. Would support current dial-up speed using different technologies.	TSO Deed
Ability to carry a Telecommunications Relay Service	See discussion below	Covered as a different TSO
Directory listing	Must provide access to	TSO Deed
Directory assistance	Important Must provide access	TSO Deed
Availability of caller number presentation	Low	Not covered
Ensuring the ability of subscribers to be supplied TSO local service on a 'ported in' local number.	Low for social inclusion but possibly significant from an implementation perspective.	Not covered

Internet Access

120 As shown in the table above, internet access forms part of the proposed basic access service. This is in line with the existing TSO requirement for dial-up internet access.

121 The MED's discussion document raised the question of whether broadband access should be included as a requirement. The industry, the Commission and the Telecommunications Users' Association of New Zealand have argued for the separation of broadband from the requirements of a basic telecommunications service.

122 Submissions received also support the proposition that broadband should be dealt with separately from the basic service TSO itself.

Current Requirements

123 The TSO Deed requires that Telecom provide free local-calling for standard internet calls as follows:[24]

> 11.1 *Line connect speed capacity for standard Internet calls*
> The measures (which apply for standard Internet calls from and after the second anniversary of the commencement date) are:
>
> (a) 95% of all existing residential lines meet the 14.4 kps connect speed; and

[24] TSO Deed, Part II – Service Quality Measures, clause 11.1, *Line connect speed capacity for standard Internet calls*

(b) 99% of all existing residential lines meet the 9.6 kps connect speed.

124 The Commission annually confirms that Telecom is meeting these requirements.

Technology Neutrality

125 The current TSO Deed specifies that dial-up access be provided at the minimum speeds outlined above.

126 To ensure that other technologies are able to provide the service references to 'dial-up' internet should be removed. However, the service would continue to provide the functionality of a narrowband internet service.

127 The means by which the customer connects with the internet should not be specified as it differs across technology platforms. For example GPRS data connections across a mobile network offer similar functionality to dial-up internet access and this may be a more appropriate means of providing access to some consumers in certain areas.

128 The access and function itself is the key element rather than the means by which this is done.

Extending Coverage

129 As indicated in the MED discussion document, the Government is keen to ensure there is a minimum service level for all consumers. In the case of dial-up internet, however, we believe this could drive considerable cost without a corresponding consumer benefit.

130 In countries where a minimum data rate has been set there has been debate on the required coverage. In Ireland, for example, a minimum rate of 28.8 kbps was set but the regulator, ComReg, believed it would be inappropriate to require 100 percent of lines to meet the standard. It weighed the benefit of the increased speed to the users affected against the overall cost to Eircom and concluded that the impact on individual users would be negligible while the overall impact on Eircom would divert funds away from projects that would have greater consumer welfare benefits.

131 The result of the decision was that Eircom was required to report publicly on the number of lines that do not meet the 28.8 kbps standard.[25]

Broadband developments

132 The aim of the Local Residential Telephone Service TSO is to ensure access to a minimum level of service for the purpose of social inclusion. Our objective is to do this with minimal distortion to both the basic telephony market and adjacent markets.

[25] Comreg, Decision Number D9/05.

133 As noted above, much work is being done to promote the growth of the broadband market – including the operational separation of Telecom, local loop unbundling, wireless spectrum auctions and the Broadband Challenge fund.[26] Competition in the mobile market is also likely to see expanded 3G footprints over time. It is important that TSO requirements do not impact on the growth of this market particularly in rural areas where there might be different access technologies for broadband and telephony, for example voice over PSTN combined with broadband over wireless.

134 MED's research into rural broadband access found that of the 114 households in the survey which had a broadband connection, 49 percent had either satellite or wireless connections. We see these as extremely important nascent markets particularly for rural businesses.

135 We are optimistic about the degree to which competition across technologies will drive investment further into the regions.

Facsimile

136 The ability for 'document transfer' is the underlying functionality provided in the TSO service. While facsimile is one form of document transfer, much of the functionality has been replaced by email, particularly for residential rather than business use.

137 On top of declining usage, technological changes are posing difficulties for facsimile machines that are designed to run across a normal fixed PSTN. IP-based networks require different interfaces to allow facsimile machines to function so there may be challenges for facsimile users as networks are upgraded.

138 If document transfer forms an important aspect of a service designed to promote social inclusion for residential consumers then, given the aim of technology neutrality, the service does not need to be specified as facsimile access in today's terms as it could exclude consumers from having the best technology fit available to them. For example, a computer or internet-based facsimile service could be appropriate for some customers and could be easily accessed via a satellite broadband service.

Telecommunications Relay Service requirements

139 The Relay Service is important for social inclusion and agree that it remain required as part of the basic access service. The Relay Service can currently be accessed via the internet. Any network supporting TSO local service would need to facilitate access to the relay system via the internet.

140 The Relay Service is being considered for re-tendering when the current service expires at the end of 2009. Any tender will need to ensure that the relay service can be provided across a wide range of technology platforms.

[26] For information on the Broadband Challenge fund see http://www.digitalstrategy.govt.nz/Funding/The-Broadband-Challenge/

Directory Listing

141 The current directory listing and directory assistance obligations should continue as part of the basic access service. There are a number of ways this could be implemented and this should be investigated further in any implementation phase.

Other service elements considered

142 Officials have raised other issues for consideration which we have analysed against the public policy objectives and principles. These are outlined below.

Emergency services calling first answering point

143 This is an important service which is currently provided via Telecom's network. Management of the emergency services' first answering point should be dealt with separately from the TSO for local service. The Emergency Services Code will address this issue and the provider of the TSO service will have to comply with the code.

Ability to retain current number

144 Contestable provision of TSO services may result in some customers having to change service provider. To facilitate the migration of customers to a new TSO provider, its likely to be important that customers are able to retain their number where possible.

Service performance and measures

145 Specific service performance and measures could be considered in the implementation of revised arrangements.

146 In order to ensure competitive neutrality and encourage the growth of competition across technology platforms it is important that call 'quality' is developed in an appropriate manner.

147 Measures that are narrowly designed around a PSTN network are likely to exclude technologies that will play an increasingly important role in serving rural customers such as mobile, wireless and satellite. Such an approach would also be unsuitable for Telecom's NGN when it is operational.

148 Trends in fixed line to mobile phone use show that consumers find performance acceptable, and any slight decrease in voice quality is more than compensated for by the convenience of mobility. Also, the number of people switching to generally low quality VOIP services in order to avoid international call charges is an example of consumers being willing to trade voice quality for price.

149 The TCF recommends that the service standards set out in the Emergency Services code set the basic requirement for call quality, availability and reliability. The baseline set by the Emergency Services Code is a minimum level. This would not prevent a provider from tendering to provide service at a higher level if that was possible without unduly impacting price.

I. A CONTESTABLE TSO

150 With the proposed re-defined technology-neutral residential service it's likely there will continue to be customers for which it isn't commercially viable to provide service at the price cap.

151 However the number of households who cannot be served on commercial terms is likely to decrease as competition across technologies improves coverage and reduces cost.

152 The TCF recommends that contestable provision of the TSO service will best achieve our objectives for provision of the TSO. These objectives are:

- minimising cost;
- allowing for competitive neutrality;
- providing a stable funding mechanism; and
- ensuring quality outcomes for customers.

153 A contestable process will give the greatest transparency around the cost of serving a group of customers. It will require that carriers are willing to tender to ensure competition drives the cost down and service quality up.

154 In its draft report, the TCF tested other options to achieve our objectives including amending the existing TSO mechanism (amended status quo) or developing a phased approach to migrate from the existing mechanism to contestable provision of the service over the medium term. The TCF has concluded that these alternative options would not be as effective as a shift to a contestable TSO process.

155 Contestable provision of the TSO service is based on the concept that customers to whom carriers would not voluntarily provide a TSO service, at or below the current price cap, should be put out for tender. The successful tenderer then becomes responsible for delivering service to those customers. TSO funding would be limited to the value of the tender.

156 Operators who did not win the tender, including Telecom, would be free to reconfigure or withdraw network from tendered areas to minimise overall costs.

157 There are risks in a contestable process for TSO-liable parties with regard to a lack of certainty. Internationally, tender processes have had mixed success. This is due, in part, to a perceived inability of new entrants to compete effectively with the incumbent carrier who has existing infrastructure in the tendered regions. However, the changing cost and potential of different technologies means that contestable arrangements are now possible.

158 This requires the updating of the TSO service specification to make the most of new digital and wireless platforms for service delivery.

Assessment against our Design Principles

159 Of the options considered, a contestable approach best supported the Design Principles. The key considerations that formed the TCF recommendation are set out below.

Minimise overall costs in delivering desired outcome

160 A contestable TSO is likely to minimise the costs to the industry, the market and future innovation. This is because:

(a) A contestable process allows the most productively efficient technologies to be used to provide the service. Further, it allows efficient technology choices and losing providers are free to optimise their networks and withdraw service when it is efficient for them to do so. From the customer perspective, a contestable process which ensures modern technologies are deployed facilitates innovation and the deployment of new services.

(b) The TSO provider obligations and costs are aligned, i.e. the cost, customer and funding of service must be kept together. As cost is driven by availability, unfunded providers are free to reconfigure their networks to reduce costs. To ensure costs are minimised, where Telecom is not the TSO tender provider, it is able to remove or reconfigure the network.

161 Obligations and funding should fall away over the medium term where competing overlay networks that offer the basic access service are deployed. The existence of competing networks in itself suggests that customers can consume services they value without the need of any inefficient restrictions on the industry.

Competitive neutrality

162 Competitive neutrality is important in terms of the funding obligations and access to any funding, as well as the effect of funding on the provision of underlying infrastructure, and the provision of retail services.

163 The contestable provision of any subsidised service would minimise distortions in the retail markets in order to maximise the value delivered to consumers.

164 There are different forms or layers of competitive neutrality. For example:

(a) the sourcing of the funds should be neutral. The allocation of funds to operators who offer the TSO would be competitively neutral. The current regime results in Telecom being the sole recipient of funding; and

(b) the supply of the key inputs for the TSO service would be competitively neutral, where providers have equal opportunity and obligations when providing services for TSO customers.

165 Overall, competitive neutrality means that all operators are treated equitably. In particular Telecom (the current provider) would be free to participate in a manner similar to other industry participants. Similarly, if Telecom through a competitive process does not end up being the provider of the service in any area, it would not be required to maintain any network in that area or be a provider of last resort.

166 Competitive neutrality is closely aligned to the principle of technological neutrality. Technological neutrality will not discriminate between operators based on their technology choices, which is a general criticism of the current TSO.

Stable funding mechanism

167 The industry has little confidence in the current funding arrangements. Telecom has argued that the funding is insufficient to recover its costs to provide the current TSO service, while other providers consider that it is an unnecessary and unfair imposition on their business.

168 The industry must have confidence in how funding is derived and that it is applied in a predictable manner over time. A contestable model allows the market to determine the level of funding rather than contentious administrative arrangements. Certainty is important for both the service provider and those who provide the funding. A specified value is one mechanism that would give all providers greater certainty.

Ensuring quality outcomes for customers

169 The overarching TSO objective will not be met if customers do not end up with a quality, usable residential service. It is therefore extremely important that any new approach is as seamless as possible and is signalled early to customers who will be impacted.

170 Further, the process must not hold back or impinge on the use of modern and innovative technologies.

How a contestable model would work

171 The new technology-neutral TSO service would be agreed by stakeholders. This would form the basis for the tender - although potential TSO providers would be free to offer customers enhanced services or features.

172 It will be necessary to identify areas that that would be included the TSO tender process. Telecom would identify areas, and customers in those areas, that it no longer wishes to serve with a TSO level service at the capped price. Those customers would migrate to the tender winner over the period of the tender contract. These would be

customers outside the competitive areas discussed above, although not necessarily all of those customers.[27]

173 The areas would then be put up for tender. Potential providers would tender for a subsidy to provide a TSO service to customers in the tender region. The winning provider would be obliged to offer service in the region for the period of the time.

174 The tender winner would connect new customers in the tender area on a commercial basis. The commercial arrangements would need to reflect that, once connected, the TSO service would be available to those customers.

175 Tender participants would be free to purchase or lease supporting infrastructure from, for example, a satellite provider to ensure coverage of all customers in an area.

176 Were Telecom to lose a tender, it would be free to reconfigure or remove network and would not be required to continue as the provider of last resort in that tender area. Consequently, Telecom wholesale services would also not be available in those areas.

177 Appendix 1 sets out further detail as to how a tender process could operate. The TCF would welcome the opportunity to develop this further.

Next step: detailed feasibility and design

178 While there are significant potential benefits to a contestable process, the TCF has yet to consider the detail of how it will work in practice. Until that work is completed, it will be difficult for stakeholders - Government, customers and potential TSO tender participants - to commit to the tender process. Ultimately, the key protection for stakeholders is careful tender design and confidence that a contestable process will be contested.

179 Accordingly, the TCF propose that the next step would be a detailed feasibility and design of a contestable process. If acceptable to Government and stakeholders, the TCF would work with officials to complete the tender design within six months of agreement to the TCF proposal.

180 During the design phase, consideration will need to be given to the following elements.

<u>Detailed specification of a TSO access service</u>

181 The detailed technology-neutral specification will need to be agreed by all key stakeholders. MED has engaged Dr Murray Milner as a consultant to develop a detailed specification of the basic access service. The MED is consulting the TCF working party as it develops its TSO specification.

[27] Paragraph 172 relates to the discussion set out in paragraphs 8 to 12 of this report.

Identifying the customer sites and tender areas

182 The identification of customer sites and tender areas will need to be set to maximise the success of the tender.

183 In parallel to the defining of the TSO service, Telecom will provide detailed information relating to the proposed areas and location of customer sites that it believes are uneconomic for it to serve at the capped price. This would be available to those participating in the tender design. While dependent on the design project issues and working party data requirements, a view would be available within 6 months of starting detailed design. At this stage, the number and location of these customers is unknown and this impacts the ability and interest of other telecommunications providers to commit to participating in a tender process.

184 Those sites would then be grouped in to areas for a tender process, the optimal grouping being a balance between administrative efficiency and scale required to participate in the tender.

Consumer choice

185 The TCF believes it is extremely important to facilitate consumer choice, in particular choice of calling provider and choice of ISP, regardless of the underlying technology used to supply the TSO services. It is recognised that these services enabling consumer choice may not be offered across all technologies today, and therefore there will be implementation matters that need to be elaborated at the design phase.

Access to wholesale services

186 The TCF has yet to consider what obligations the TSO provider would have to provide wholesale services. There may be a variety of ways in which such choice can be enabled, especially as services and technologies evolve, and there will be costs and benefits associated with each. This issue will need to be considered in the detailed design phase, to assess the extent of the issue and weigh up the costs and benefits.

187 The interplay and dynamic between the contestable TSO model and wholesale services currently regulated under the Act would also need to be considered.

Managing customer migrations

188 As part of a contestable model, customers may need to migrate to different providers or infrastructure. While competing providers may choose to maintain and provide service in TSO areas (for no subsidy), to reduce costs Telecom and others will need to remove or reconfigure network. The TCF needs to consider the impact on customers, including business customers and how to manage customers who may be unwilling to migrate to the successful tender provider.

Administrative arrangements

189 Administrative arrangements would need to be resolved, including

(a) tender/auction design;

(b) frequency of the tender; and

(c) what constitutes failure of the tender and what occurs when that happens. For example, consideration would have to be given to what would happen in the event that Telecom was the only bidder in a tender process.

190 Appendix 1 sets out the further detail on the considerations that will be required to implement the TCF's recommendations, to ensure that the development of an appropriate tender process reflects these market changes. This Appendix also addresses such considerations as a regional or national tender, and transition and migration of customers from Telecom to another supplier in the event Telecom did not win the tender.

J. FUNDING THE TSO SERVICE

191 The proposed options put forward by the TCF focus primarily on the social objectives being delivered by the industry, where the true cost to provide the basic access service is not transparent to the consumer. The TSO regime hides the true cost to serve commercially non-viable customers by effectively requiring the TSO provider and funding contributors to absorb the cost of the TSO obligation.

192 While the options discussed in this report are consistent with the industry-funding model contained in the current TSO obligation framework, and the TSO Review appears to favour such an approach, the TCF notes that other funding options would equally, or in some instances better, deliver on the government's policy requirements from a social perspective.

193 The TCF has considered the relative merits of funding the TSO by use of an industry fund compared with general taxation. We believe that there are strong public policy reasons that favour funding the TSO from general taxation. Should funding via general taxation not be implemented, we believe a customer levy would provide a second-best alternative.

194 Such alternative approaches are likely to deliver the same outcome and adhere to the principles espoused in this report - revealing the true cost to deliver basic services to customers, rather than such costs being passed through indirectly to customers via the costs of telecommunications services as a whole.

195 Furthermore, such options would ensure that the notion of competitive neutrality is adhered to – the object being to eliminate potential resource allocation distortions operating in a contestable environment, encourage fair and effective competition in the supply of goods and services and potentially give greater certainty to the industry.

Funding principles

196 The purpose of the TSO is to promote social inclusion and the aim is to meet that objective in the most effective way.

197 Public finance theory has identified a set of principles for optimal funding approaches as well as a framework to estimate the economic losses that can result from inefficient funding models. These principles are set out in a recent issues paper prepared by the Competition Economists Group (CEG) as part of the contribution to the EU debate[28].

198 CEG outlines the key principles as:

(a) Economic efficiency - minimising the administrative burden and market distortions;

[28] See CEG, *Reforming Universal Service Policy*, A report for GSM Europe, available at: http://www.gsmworld.com/gsmeurope/documents/uso_final_report_0208.pdf

(b) Vertical equity – reflecting ability to pay;

(c) Horizontal equity – people in similar economic circumstances should pay similar contribution;

(d) Competitive neutrality – minimising impact on competition and business decisions of firms; and

(e) Enforceability, simplicity, transparency and certainty.

199 In applying these principles, funding of the TSO through general taxation will be superior to current industry funding.

Central Government funding results in the least distortion

200 In applying these principles, funding of the TSO through general taxation is likely to be superior to current industry funding.

201 Administering an industry-specific fund requires a standalone organisational structure (including legal structure and enforcement groups) whereas, through general taxation, only an incremental change is required to the existing tax base.

202 The other, and generally more significant, economic cost associated with taxation is the cost of distorting the decisions of consumers and taxpayers. Taxes reduce demand for the items taxed (because they cost more) and result in what economist call "deadweight loss". The impact of this loss is greater when applied to a narrow range of products or industry – because the narrower the tax base the higher must be the tax rate required to raise the requisite revenue. Accordingly, and counterproductively, an industry-funded TSO levy discourages the use of the telecommunications services that the Government is seeking to promote. The impact applies equally to businesses and consumers.

203 Moreover, an industry levy runs the risk of distorting technological choices by the businesses and end users. Industry funds are often imperfectly designed and lead to competitive distortions or distortions of business structure decisions.

204 In fact, it is difficult to conceive of any industry fund that would be practical to implement but would not create some competitive distortions. This is especially the case given the rapid rate of technological changes and market changes in the industry - as services and networks converge, more diverse companies (such as VoIP providers) enter the sector and vertical linkages become more rather than less complex.

205 The efficiency costs of ad valorem style revenue taxes used to fund the USO have been studied in the US. As CEG notes:

> "*When account is taken of these factors it is reasonable to believe that the deadweight loss associated with an industry levy on telecommunications will exceed the actual value of tax revenue raised. In fact, Hausman has estimated the*

deadweight loss of the industry levy in the US to actually exceed the amount of revenue raised. He calculated that in raising US$2.25 billion, the use of this industry fund would result in additional efficiency losses of at least $2.36 billion, i.e. for each dollar raised an additional $1.05 to $1.25 would be lost to the economy.

By contrast, estimates of the deadweight loss associated with general taxation tend to be around 10% to 30% of the amount of revenue raised. This alone is a strong basis for preferring general taxation to an industry level fund."[29]

206 Similarly, an industry levy does not seek to reflect vertical or horizontal equity in the same way as general taxation. An industry revenue levy penalises the highest users of telecommunications services who can often be those who rely most heavily on telecommunications to achieve a sense of social inclusion.

A customer levy

207 The TCF working party also considered recovering the TSO costs by way of a levy on all telecommunications customers. For example, the funding of the Electricity Commission is met through a levy on the general public's electricity bill.

208 A fixed levy per customer connection is likely to be more transparent and less distortionary than the current liable revenue-based approach. This is for three reasons. First, because consumers' purchasing decisions are less likely to be impacted by a levy on access relative to other value-added services. Second, the approach has the potential to be technologically neutral (especially if connection is defined with respect to a telephone number). Third, this approach is likely to be easier, simpler and less costly to administer especially in its extension to apply to new internet-based providers. The chairman of the FCC has identified a customer levy as the best means to fund the US universal service obligations:

"I believe the Commission needs to revise the way in which it collects universal service monies. The current interstate revenue-based method is outdated. It simply does not reflect the competitive and dynamic communications market that exists today.

For example, it doesn't account for the increase in bundled service offerings, the increasing migration to wireless and VoIP services or the shrinking long distance market. Whatever we do to ensure the sufficiency and sustainability of the universal fund, it is critical that people who live in rural and high cost areas continue to receive service at affordable rates.

[29] Ibid, page 49.

How can we accomplish this? As I have said on numerous occasions, the means of assessing universal service contributions must change. For some time now, I have advocated a mechanism based on telephone numbers. This methodology has many advantages - it is easy to administer, it would be readily understandable by consumers, and it promotes telephone number conservation.

Equally important, this method would be competitively and technology neutral. Any phone service that uses a telephone number would be required to contribute to universal service."[30]

[30] Remarks of FCC Chairman Kevin J. Martin TELECOM 05 Conference United States Telecom Association Las Vegas, NV October 26, 2005 Available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-261868A1.pdf

K. OTHER REGULATORY OBJECTIVES

A preference for market solutions

209 The current TSO objectives include social inclusion and addressing market power issues. This report focuses on the best means for serving customers who are unlikely to be served on a commercial basis.

210 In tender areas, customers will have assured access to a TSO level service through the tender process. Where competition is possible, we believe that competition is the best means of ensuring affordability, availability and quality of service. In these circumstances the market is best placed to determine what services customers and we do not believe that TSO obligations are necessary, i.e. there is no strong reason why there should be any service level obligations or any mandating of toll-free local calling.

211 The TCF has developed specific Codes, in collaboration with the MED and Commission, that seek to address industry-wide consumer issues. The key Codes developed, to date, include the Consumer Complaints and Disconnection Codes. For example, an Emergency Service Calling Code setting minimum standards for 111 calls is being developed in consultation with Emergency Service Providers. We believe the industry-led approach is the most effective way for the industry to address consumer issues.

212 However, there may be areas that will not be tendered and competition is seen to be limited. In practice, this is likely to comprise only a small number of customers. The vast majority of New Zealanders, approximately 97 per cent, already have access to at least two service providers offering voice services at prices comparable to the current TSO service (providers such as TelstraClear, Woosh, Vodafone, the planned NZ Communications network, satellite providers and Telecom).

213 Further, in many areas new entrant providers offer retail services using wholesale products at regulated price, including unbundled local loops and broadband services. Access to Chorus UCLL and to Telecom Wholesale Services on an equivalent basis means that there is potential for facilities-based competition in such areas. The need for further regulation through a TSO instrument is questionable.

An industry Code

214 The TCF believes that the Emergency Calling Code standard will set an appropriate standard to protect consumers. In practice, higher quality services will be available if that is what customers want. However, if the Minister or officials are concerned that a higher standard telephone service - with administratively determined quality and features - should be mandated and available across the market, a pragmatic approach would be for the industry to develop a TCF Code that sets out a minimum standard for a telephone offering.

215 Carriers who sign up to the Code would agree to offer to connected homes, as one of its packages, a standard telephone (or better) at the current price cap as one of its available offers. The standard service would be based on the technology neutral standard set out in section H. Providers would be free to offer any service packages they choose as long as they also offer a standard telephone compliant service package. The service would be available to all customers connected to the service provider.

216 To be implemented and effective, there would need to significant industry commitment to the Code. Provided the Code had widespread support in the industry, the TCF Tier 1 carriers (Vodafone, TelstraClear and Telecom) would be prepared to commit to join the Code. The TCF would be happy to work with Officials on developing this Code.

APPENDIX 1 – A CONTESTABLE TSO

1. The TCF supports a contestable process as the most efficient least cost mechanism to deliver the policy objectives of the TSO. The design and implementation of the tender process are crucial to the success of a contestable model.

2. This Appendix sets out in more detail the:

   - key design elements of a competitive tender; and
   - issues that would require further consideration as details of the competitive tender process for the TSO are worked through.

3. Should the Government decide to progress the recommendations contained in this report, the TCF would welcome the opportunity to assist with the development of the process in conjunction with the Crown.

How the tender process would work

4. The key elements of the tender process are set out below.

Element	Description
TSO Service Specification	• The technology and provider neutral service specification forms the minimum design service under normal operating conditions. • Providers can offer customers enhanced services or performance.
Any price obligations	• Any pricing obligations, including the basis for usage charges, is set in the tender documents. This may include free local calling.
The customer group to be tendered	• Telecom would identify customer sites for which it did not wish to be obliged to provide the TSO level service at the capped price, subject to any refinement to the sites following industry consultation. • The dwellings would be relinquished over a set period. Tendered customers would not all have to be served at the start of the tender period, i.e. Telecom could relinquish different customers at different times over the tender period but they would have to specify the timing up front.
New connections	• New connections to the network would be on a commercial basis. • The commercial arrangements would reflect that, once a customer is connected to the TSO provider, the TSO specified service would be available.
Use of existing	• Tender participants would be free to purchase or

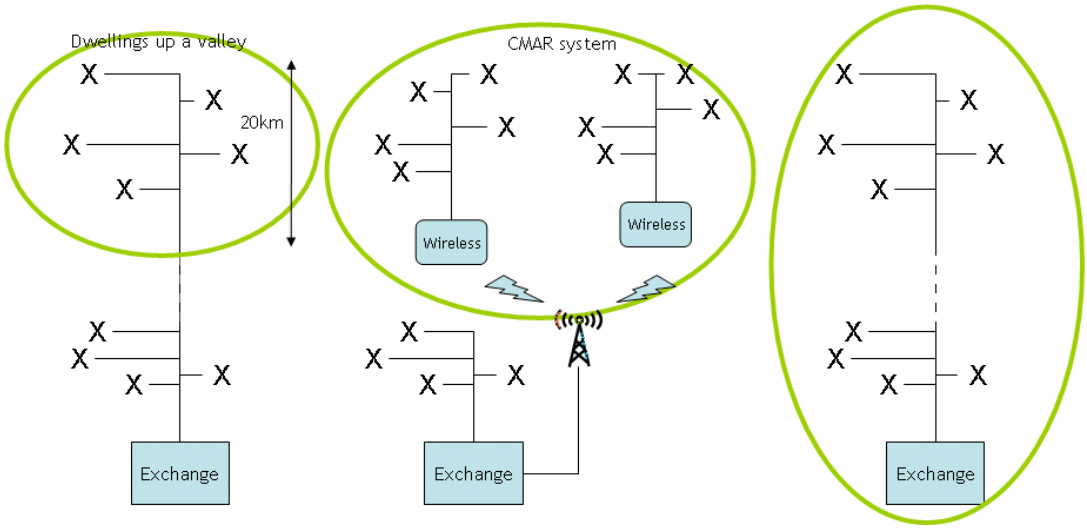
Element	Description
infrastructure	lease supporting infrastructure.
Funding	• The successful tender provider will be responsible for ensuring the provision of service to those dwellings and to any other dwelling who requests it within the specified area. TSO funding would go to only that provider. • For the identified dwellings, the tender price would be set for the period of the contract, irrespective of actual demand.
Obligations on other providers	• Operators who did not win the tender would o not be required to act as provider of last resort in that tender area and be free (but not required) to reconfigure or remove network to minimise overall costs, o be free to compete for any customer if desired (albeit for no TSO funding). • There would be no residual requirements on Telecom other than working with the winner to ensure smooth customer migration. This includes the option to remove any equipment unless contracted to the winner to provide services.

Tender areas

5. Tender areas will typically comprise groups of customer sites that reflect the geography and historic fixed network in an area. Set out below are scenarios where there are a small number of customers in a valley and a wireless-based system (CMAR: customer multi access radio).

6. The tender areas are the area in the green circle, or an aggregation of a number of such areas in a region.

Figure One: scenarios of possible tender areas.



Detailed feasibility and design

7. The next step would be detailed feasibility and design. That phase would consider key design issues including:

   - detailed specification of a TSO service;
   - identifying the customer sites and tender areas;
   - consumer choice;
   - access to wholesale services;
   - managing customer migrations; and
   - administrative arrangements.

8. This Appendix sets out the key issues that would require further consideration in a competitive tender process for the TSO. The TCF has significant skills and expertise to assist with the development of the process.

Detailed specification of a TSO service

9. Agreeing a technology-neutral TSO specification is key to a contestable process. This would be based on the criteria set out in section G.

Identifying the customer sites and tender

Regional or national tender

10. The geographic design of the tender is likely to impact the number of eligible tenderers.

11. A national tender covering all New Zealand is likely to be administratively efficient and allow for scale efficiencies. However, such efficiencies must be balanced against a risk that niche and regional telecommunications providers are excluded from the tender process, on the basis that they would be unable to provide a national solution.

12. The scale of different telecommunications infrastructure providers, the nature of the different technologies deployed (fixed vs wireless, for example), and the scope of retail operations, will impact the ability of a number of niche and regional players being able to tender on a national basis.

13. A regional tender, as an alternative, may allow niche or regional providers to participate in a competitive tender, and provide efficient solutions on a regional basis. Such an outcome would not exclude a telecommunications provider with capabilities of providing a national solution from tendering for all regions.

14. At this time, the TCF does not have a preferred view on whether a regional or a national structure would be most effective and efficient. The TCF considers that this could be decided on the basis of an initial expression of interest where, based on the responses received, a decision could be made as to whether to tender on a regional or national basis.

Identification of customer sites

15. The TCF proposes that the competitive tender would be for sites for which Telecom identifies are not commercially viable to serve at the capped price, and for any other dwellings in the specified area who request access to that service. [31]

16. The number and geographic location of these customers is currently unknown. Ultimately, the number and location of these customers may impact the ability and interest of other telecommunications providers to participate in a tender process.

17. The TCF proposal does not specify an upper limit on the number of customers that Telecom might choose to include in the tender process. As a result, a risk exists that the number is significantly larger than contemplated by TCF members. This may undermine the efficiency of the competitive provision over the status quo. Conversely, if the number is small and geographically scattered, this may undermine the interest of other providers competing for those customers.

18. The tender process will require that Telecom identifies those customers and their geographic location at the commencement of the process.

19. To provide certainty to all parties, the number and precise location of the dwellings Telecom proposes for the tender will need to be binding for the duration of the tender. This would not preclude Telecom from reasonably phasing those customers over the duration of the tender, provided that this phasing was specified upfront. The TCF notes that the nature of such phasing may, however, impact on the level of interest in the tender.

20. This information would be required for the feasibility and design phase, and prior to the request for expressions of interest in participating in the tender process.

[31] Paragraphs 15 to 20 of this Appendix relate to the discussion set out in paragraphs 8 to 12 of the main body of this report.

Consumer choice

21. As the services such as calling provider and choice of ISP may not be offered across all technologies today, there would be implementation matters that need to be elaborated at the design phase.

Access to wholesale services

22. The tender design would need to set out the TSO provider's obligations to provide wholesale services.

Managing customer migrations

23. As part of a contestable model, customers may need to migrate to different providers or infrastructure. While competing providers may choose to maintain and provide service in TSO areas (for no subsidy), to reduce costs Telecom and others will need to remove or reconfigure network. Accordingly, the tender process will need to consider the impact on customers, including business customers and how to manage customers who may be unwilling to migrate to the successful tender provider.

Administrative arrangements

Frequency of a tender

24. The TCF considers that the tender process should be for a fixed period. In determining an appropriate duration, a balance must be struck between a longer duration that would provide sufficient certainty for the tenderer to legitimise the business case, providing certainty for TSO customers and for the industry, against the reality that rapid technology changes continue to occur within the telecommunications industry, potentially further reducing the costs to serve remote 'high-cost' customers in the future.

25. The TCF's preliminary view is that the initial tender period for a period of five years is likely to appropriate balance these objectives.

Tender design

26. The result of the tender process would be a binding and enforceable agreement between the Crown and the successful tenderer to supply the TSO service. The TCF would welcome the opportunity to provide its expertise and input into developing such a framework.

27. The TCF considers that contestability is the optimal approach to delivering TSO services in the future. However, should the tender not deliver the expected outcomes, we acknowledge there may be grounds where the acceptance of any tender by the Crown would not best meet its objectives.

28. To provide tenderers' confidence to participate in the tender, it will be necessary to establish clear evaluation framework to assess the tenders, and determine which, if any, tender would form the agreement with the Crown.

29. Further, clear criteria for the Crown deciding not to accept any tender would need to be established. The tender process would have effectively failed.