



**Telecom New Zealand Submission on the draft Commerce
Commission Mobile Co-location STD**

Main Submission

Public Version

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Introduction

1. Below is Telecom's submission to assist the Commerce Commission (the "**Commission**") in the drafting of its final Standard Terms Determination ("**STD**"). Telecom considers that the Commission's draft Standard Terms Determination ("**draft STD**") provides a positive platform for further discussions about the mobile co-location service.
2. Telecom notes that in its draft STD the Commission has adopted a number of the changes proposed by Telecom in its submission on the Vodafone Standard Terms Proposal. Telecom has not identified each of these changes in its detailed submissions, but would like to reiterate its support for these changes.
3. Telecom expects to be both an Access Seeker and Access Provider and accordingly has reviewed the draft STD with this in mind. Telecom considers that its suggestions fairly balance the needs of both Access Seekers and Access Providers.
4. Telecom's submission also reflects the feedback it has been receiving from its customers. Over the past few months Telecom has been working with its customers to help it to achieve its goal of bringing the standard of delivery for mobile co-location up to the high standards Telecom has achieved with its other regulated products. These discussions are helping not only with the current commercial mobile co-location applications it is dealing with, but also in identifying ways that the regulated mobile co-location process can be streamlined going forward.
5. These discussions have provided useful context and information for this submission. Telecom would also urge the Commission to talk to not only mobile telephone operators but also operators who offer other wireless services to ensure they have a full picture of all parties who will want to co-locate.
6. Telecom kept three questions in mind when reviewing the draft STD:
 - (a) Whether what it has proposed will actually be for the long term benefit of end users of Telecommunications Services within New Zealand;
 - (b) Whether what the Commission is proposing is practically workable and the efficiencies that will result, or will be likely to result, from the regulatory intervention; and
 - (c) The extent to which what the Commission is proposing is consistent with previous STDs. Consistency, where possible, will provide regulatory certainty which is imperative to businesses operating in a regulated environment and ultimately for the long term benefit of end users.

7. Telecom considers these three questions to be crucial to the way the mobile co-location service is developed and would urge the Commission to consider these when it is finalising the mobile co-location STD. Telecom's view is that the mobile co-location service that has been proposed by the Commission in the draft STD can be improved. Telecom's analysis has identified the following key areas where it thinks improvements can be made:
- (a) Greenfields co-location;
 - (b) Site Alterations;
 - (c) Unacceptable performance degradation;
 - (d) Access Provider forecasting and use of reserved space;
 - (e) The appropriate service level terms and penalties; and
 - (f) The proposed implementation requirements.

We discuss these in greater detail below and address these along with other proposed improvements in our detailed submissions.

8. Telecom's submission is made up of the following parts:
- (a) **An overarching submission** - this provides background to Telecom's submission as well as setting out the details of key improvements it considers could be made to the draft STD.
 - (b) **A detailed submission on each document** - these detailed submissions are in a table form and identify specific details on Telecom's proposed improvements.
9. The full list of the documentation that has been supplied is set out below:
- (a) **Executive Summary**;
 - (b) **This Submission**;
 - (c) **General Terms** - table of submissions;
 - (d) **Service Description** - table of submissions;
 - (e) **Access Terms** - table of submissions;
 - (f) **Service Level Terms** - table of submissions;

- (g) **Operations Manual** - table of submissions;
- (h) **Interference Management and Design document** - table of submissions; and
- (i) **Implementation Plan** - table of submissions.

Greenfields

10. Telecom does not consider that the building stage of new cell sites should be regulated for the reasons set out below.

Ultra Vires

11. Telecom considers that the Commission's power to provide an STD for co-location on cellular mobile transmission sites is restricted to the scope of the specified service under Schedule 1 of the Telecommunications Act 2001 ("**Telecommunications Act**"). Put simply, Telecom does not consider that a Greenfields site which has not been built can be "read in" to the description of the service in the Telecommunications Act based on "broader context".¹ The description of the Service in the Telecommunications Act is quite clear in that it states that "relevant facilities" are facilities that are "**used** for the transmission or reception of telecommunications..., and are owned, managed or leased by the access provider ". Telecom does not consider a site that has not been built can be *used for transmission*. The specified service does not include any towers, poles, masts or similar structures:
- (a) which are **not** used for the transmission or reception of telecommunications via a cellular mobile telephone network; or
 - (b) which are **not** owned, managed or leased by the Access Provider.
12. The scope of the specified service is clearly limited to the relevant facilities which are owned, managed or leased by the Access Provider, and used by the Access Provider for the transmission or reception of mobile telecommunications. Thus, when an Access Provider builds or acquires a new tower, pole, mast or similar structure, and uses that structure for transmitting or receiving mobile telecommunications, that structure then falls within the scope of the specified service. Again, a structure does not fall within the scope of the specified service at any stage before it is built or acquired, and used.
13. Greenfields sites are included in the draft STD through the definition of relevant facilities. The Commission has defined relevant facilities to include a mast which is:

¹ Commerce Commission *Draft Standards Terms Determination for the specified service Co-location on cellular mobile transmission sites* 25 July 2008, page 17, paragraph 85.

any tower, pole, mast or other similar structure that is used **or that is to be used** for the transmission or reception of Telecommunications via a Cellular Mobile Telephone Network...

14. Similarly, the relevant facilities definition includes buildings. A building is defined as:

any building (or part thereof) on a Site, that is associated with a Mast and that is the subject of a Relevant Occupation by an Access Provider that is used **or that is to be used** to house equipment in connection with a Cellular Mobile Telephone Network...

15. The Commission's reasoning for extending the scope of the specified service to include structures that may be used in the future is that:

The Commission considers that Vodafone's interpretation of the description of service in the Act fails to take into account the broader context of the description of service, including its purpose to promote competition in telecommunications markets for the long-term benefit of End Users of telecommunications services within New Zealand, and the public policy arguments raised by Kordia and TUANZ.

16. The Commission argues that its interpretation is based on a purposive approach to the Telecommunications Act. Telecom does not consider that there is an issue of interpretation here; Part 3 of Schedule 1 of the Telecommunications Act clearly sets out the requirement that the structures "are used", and "are owned, managed or leased" by the Access Provider. The provisions do not include structures which are likely to be used for transmitting or receiving mobile telecommunications in the future, or structures which are likely to be owned, managed or leased by an Access Provider in the future.

17. Other aspects of Part 3 of Schedule 1 of the Telecommunications Act clearly contemplate a distinction between actual use and likely use. This distinction is made in the definition an Access Seeker, which is defined as:

any person who—

- (a) operates, **or is likely to operate**, a cellular mobile telephone network; and
- (b) seeks access to the service

18. This definition shows an intention to include users and likely users of the relevant facilities as Access Seekers. However, the description of the services for co-location on cellular mobile transmission sites refers only to assets which **are** used and **are** owned, managed or leased by an Access Provider. By not including a reference to:

- (a) structures which will, or may in future be, owned, managed or leased by an Access Provider; or
- (b) structures which will, or may, in future be used by an access provider to provide co-location

within the description of service for co-location on cellular mobile transmission sites, there is clearly no intention to include such structures within the specified service.

19. With no clear intention to include such structures within the specified service, the words of the Telecommunications Act may not be circumvented, or the rights of an Access Provider encroached, by a STD made in relation to a specified service. In *A-G (Canada) v Hallet & Carey Ltd* [1952] AC 427 HL Lord Radcliffe states at 450:

[T]here is a well-known general principle that statutes which encroach upon the rights of the subject, whether as regards personal or property, are subject to a "strict" construction. Most statutes can be shown to achieve such an encroachment in some form or another, and the general principle means no more than that, where the import of some enactment is inconclusive or ambiguous, the Court may properly lean in favour of an interpretation that leaves private rights undisturbed.

20. In "Constitutional and Administrative Law in New Zealand" (2nd ed, Brookers, 2001) Philip A Joseph states:

The courts insist on clear statutory authorisation in order to uphold delegated legislation that encroaches on personal rights. They will not readily construe the requisite authority as implied or residing in the general grant of legislative power. The courts will construe such a power only where the whole object of the enabling Act would be defeated without a power to override individuals' rights.

21. Telecom does not consider that the clear words of the Telecommunications Act can be extended by an STD so that structures which are not used for transmitting or receiving mobile telecommunications are to be included within the meaning of specified service under Part 3 of Schedule 1 of the Telecommunications Act. The definitions of a mast, building and utility service proposed in the draft STD are outside the scope of the specified service, and are therefore *ultra vires*.

Practical considerations

22. The Commission's interpretation will also cause practical difficulties for Access Seekers and Access Providers. For example, it would result in a regulatory anomaly because the

Greenfields provisions only apply to existing Access Providers. Part 3 of Schedule 1 of the Telecommunications Act defines Access Provider as:

every person who operates a cellular mobile telephone network.

23. This would mean that a party who is not, at the time, an Access Provider, can build or acquire masts and buildings without the need to consult under the Greenfields process, whereas an existing Access Provider would be required to. Telecom does not consider that this distinction can be justified and its view is that it would be contrary to any efficiency arguments, and an unnecessary disadvantage for existing network operators.
24. Another practical consideration arises from the fact that the definition of mast has been extended to include "*a building, or part of a building*". This means that all of Telecom's 3,500 (*approximate*) buildings could be classified as relevant facilities for the purpose of the mobile co-location service. This would be on the basis that it would be possible for Telecom to use them for the transmission or reception of telecommunications via a Cellular Mobile Telephone Network and it is unclear when the phrase "to be used" applies to them. The inclusion of buildings could see Telecom being required to follow the Greenfields process whenever it starts negotiating leases for new corporate property or any other building. This would seem well beyond what is intended to be caught by the description of service that is included in the Telecommunications Act.
25. Telecom submits that if the Commission wants to extend the definitions of a mast and building, it requires an amendment to the service description in Part 3 of Schedule 1 of the Telecommunications Act.
26. If the Commission decided to regulate Greenfields builds without a legislative amendment, it would be an indication that it did not feel constrained by its empowering legislation; this has the potential to undermine business confidence in the regulator and the regulatory regime. Having confidence that a regulator will make principled decisions is important to the industry because as Cabinet have recently acknowledged, "clarity, certainty, timeliness and predictability" in regulation are important to regulated businesses, particularly when they are looking to invest.²

Public Policy Justifications

27. As noted earlier, the Commission has relied on broader public policy justifications for the interpretation it has taken. Telecom does not consider that the Commission's proposed Greenfields regulations will deliver the public policy outcomes that it is hoping to achieve.

² Cabinet Economic Development Committee, Review of Parts 4 and 4A of the Commerce Act, November 2007.

28. It is also particularly concerning that the Commission considers it appropriate to regulate Greenfields co-location when the industry, through the TCF mobile collocation working party, agreed that this is an area which should be left to voluntary arrangements.³
29. While the arguments raised by TUANZ and Kordia in favour of the regulation of Greenfields sites may seem conceptually appealing, Telecom's experience suggests that the practicalities associated with erecting masts may make this type of regulation unattractive and/or unworkable. For example, the construction of cell sites requires a party to work through a number of difficult issues including landlord approval and gaining Resource Management Act 1991 ("**RMA**") consent. If the party that initiated a site build was forced to seek landlord approval and RMA consent on behalf of two parties it could delay its network roll-out. The potential for delay is a key reason why parties should not be forced to undertake joint Greenfields builds.
30. Another example of why it should be left to parties to negotiate agreements commercially is the fact that in many cases, local authorities have shown a preference for having equipment on two sites (particularly on lighting pole sites) rather than a joint build for reasons of amenity, safety and space. In this situation the regulation of the Greenfields process would force a party to pursue a joint build even though a local authority does not want it to occur. This will slow down the deployment of new technology and improvements in coverage as Access Providers and Access Seekers are forced to go through a process that local authorities are unlikely to consider favourably.
31. Telecom notes that the Commission did not raise this issue during the recently completed Schedule 3 investigation. Consultation during that process would have revealed that whether a joint build occurs is a complex commercial decision focused on real economic issues. A consultation process would have discussed questions that will make the regulation of Greenfields mobile co-location difficult. The types of questions would have included:
- (a) When would a party be required to approach other parties about a co-build? This would be crucial to the process because if the regulator did not get this right it might discourage parties from initiating cell site builds;
 - (b) How agreement is to be reached on site specific details like the equipment and specifications that are to be used at a site. Again, this will be crucial to determining whether a Greenfields co-build could go ahead;

³ Telecommunication Carriers Forum *Recommendation for final agreement at the mobile co-location working party meeting* 28 March 2005, page 35

- (c) What would happen if more than one Access Seeker wants to take part in a joint build? The economics of a joint build may favour choosing one party over another, but choosing this party would be to the exclusion of other interested parties; and
- (d) When a party is able to opt out of the process? This is important because parties' commercial imperatives may change once the process has commenced. Therefore, it is essential that they are given a reasonable opportunity to opt out during the process so that parties have the flexibility required in an industry where technology developments are occurring quickly.
32. Telecom considers that the Commission would need to address these questions before it could be in a position to decide whether to regulate Greenfields site builds.
33. Telecom's view is that Greenfields site builds do not need to be regulated because commercial incentives will deliver Greenfields builds where they are economically viable. Telecom is happy to make a public commitment to exploring joint builds with interested parties wherever they are commercially viable. Telecom has already discussed the Greenfields concept with other operators and parties have expressed interest in the concept. This is encouraging because from Telecom's perspective in some situations a joint build is a win-win situation as it will allow both parties to reduce capital expenditure.
34. However, the proposed regulation of Greenfields will require parties to consider joint builds even when they are not commercially viable. This process will slow the deployment of new technologies and coverage improvements without any benefit for end users.
35. Telecom has looked at overseas jurisdictions to see if it could find examples of workable Greenfields regulation. Australia has a voluntary Greenfields process and that is the only country that Telecom has been able to identify where a process has been adopted by a regulator. The Australian approach is similar to the voluntary approach proposed by Vodafone in its Standard Terms Proposal ("**STP**") and Telecom confirms its support for this type of approach.
36. If after this STD process the Commission still thinks it is necessary to request a change to the Service Description in Schedule 3 to allow for the regulation of Greenfields, Telecom considers that it would be prudent for the Commission to engage with the industry through a TCF process prior to making a request. Telecom considers that it would only be through that process that the Commission could accurately gauge whether the regulation of Greenfields was for the long term benefit of end users.

Interference Management Considerations

37. Telecom welcomes the Commission's acknowledgment that interference management considerations will play an important role in "determining co-location solutions that are appropriate for the New Zealand environment".
38. However, Telecom does not consider that "a link budget reduction of 1.0 dB is an appropriate threshold for determining unacceptable performance degradation in relation to the Mobile Co-location Service". This view is based on the fact that this level of interference will result in a reduction of the quality of service that the customers of Access Providers and Access Seekers receive. Telecom's view is that performance degradation resulting from interference from Access Seekers should not exceed 0.5 dB.
39. Performance degradation of 1 dB will have a material impact on the quality of service that Access Providers are able to provide to end users and Telecom considers end users should be able to expect consistent service from their mobile operators.
40. It is also important to note that a number of different factors can contribute to interference, for example; the distance between antenna, the use of filters and the affects of antenna sub optimisation. It is important that these factors are not looked at in isolation and that the cumulative value of the different impacts are all added together when calculating the link budget reductions and whether a proposed co-location would exceed the 0.5 dB threshold.

The price/quality trade off

41. Vodafone noted in its submission on its STP that to meet the objectives of the Telecommunications Act the Commission needs to balance two competing objectives:
- (a) the possible pro-competitive and efficiency benefits that may result for end users as a result of co-location on a given cellular transmission site; and
 - (b) the likely detriment to end users that will result from any performance degradation that such co-location may cause.
42. There is currently no data on how large the increase in the Long Run Marginal Cost will be and therefore it is not be possible to assess the size of any pro-competitive and efficiency benefits for end users. On the other hand, end users will lose coverage and receive lower data speeds as a result of the increased interference.
43. Telecom agrees that it is important that these tradeoffs are understood and managed to ensure that the tradeoffs that are made are for the long term benefit of end users.

44. Vodafone submitted that it can provide estimates of the potential detriments to end users resulting from performance degradation of 1dB, but that it was unaware of any estimates of the benefits consumers may be expected to receive as a result of co-location.
45. In order to address this issue the Commission has presented a hypothetical example in order to illustrate tradeoffs between:
- (a) the loss of productive efficiency through the loss of 1dB in quality;
 - (b) gains in allocative efficiency through minimising network requirements; and
 - (c) gains in dynamic efficiency that would be achieved through a new entrant entering the market.
46. These tradeoffs are illustrated in the graph in figure 3 of the Commission's draft STD. However, this graph only establishes a conceptual model as it is not based on real data. In particular:
- (a) there is no data on how large price decreases will be;
 - (b) there is no data on how many more minutes customers will consume given a reduction in price; and
 - (c) there is no data on the loss of scale benefits to the industry if the market moves from two operators to three.
47. Consequently, Telecom considers that this approach does not enable any meaningful analysis.
48. The Commission appears to have assumed that customers will be happy to receive a lower quality service. Telecom's research suggests that retail customers do place significant value on the quality of coverage for mobile voice and data services in both the consumer and SME market segments. It is a key factor that drives churn. Telecom does receive specific requests from large firms and factories for improved coverage along with a willingness to fund the additional quality of coverage where their commercial demands are not satisfied. Telecom is currently investing heavily to enhance our network and coverage to meet the growth in demand for quality coverage.
49. Importantly, the Commission has not presented any clear evidence as to whether the trade offs associated with a loss of service that arise from Unacceptable Performance Degradation being set at 1 db will ultimately be for the long term benefit of end users. In the Commission's view, all New Zealanders should forgo 1 dB of quality (which may, for

example, be loss of coverage in rural areas or within a building) in return for an assumed reduction in price following entry. The Commission seems to assume that end users are willing to accept a lower quality service for a given reduction in price. Practically, Telecom knows that will not always be the case.

50. In rural areas the consequence of a loss in 1dB of quality will likely be no coverage at all for customers at the cell edge. To illustrate this point the plots in **Appendix A** graphically depict the loss of coverage associated with 1 dB of interference. Customers who are losing service are unlikely to be happy with the trade off the Commission is about to make on their behalf.
51. Similarly, in urban areas there is likely to be a reduction in coverage in some office buildings. Telecom has not seen analysis as to whether end users who usually receive this service would be willing to forego their current level of service for a reduction in price. In addition to this, the Commission has not indicated what price reduction they expect consumers to get through the entry of a third mobile operator.
52. Nor have we seen analysis of the impact that 1dB of interference will have on the high speed data services market. This is particularly concerning given that Telecom is rolling out a new network that delivers these services. Telecom also notes that broadband speeds are a focus of government policy, the goal of which is "the widespread availability of fast and affordable broadband meeting the needs of New Zealanders".⁴ Again, there seems to be an assumption that consumers are prepared to accept a lower quality high speed data services for a cheaper price. While that might be true for a segment of the market, there will also be end users who are willing to pay for high quality services. These customers will be impacted by receiving slower data throughput rates and will no longer be able to receive the service that they want.

Considerations for the different co-location alternatives

53. The question that the Commission seems to be addressing in its analysis is: what is the most optimal option for efficient entry that is sustainable? In deciding the best approach to mobile co-location it is useful to understand the costs and benefits of the alternatives. Telecom sees there to be three main options available to facilitate co-location. However, each option comes with costs and benefits. The options are:
- (a) New network site build; as Telecom has already outlined, this requires commercial site by site analysis to determine whether it is an economically viable option. Some of the areas that Telecom would consider when assessing the economics of new site deployment are:

⁴ Draft Digital Strategy 2008 (April 2008, Ministry of Economic Development).

Areas of new coverage	Areas of existing coverage areas
Traffic in the area Cost of the site (including RMA restrictions) Ability to facilitate through routes of clusters (to minimise call drop)	Holes emerging in coverage Traffic growth (voice and data) Specific customer requests

- (b) Existing antenna rearrangement using minimisation technology: in adopting this approach it must be recognised that an operator will need to undertake investment in order to restore the loss of 1dB of service quality:

Benefits		Costs	
Less network replication required		Loss of 1dB of coverage	
	Co-location enables network sharing to take place reducing cost for a new operator and may encourage competition.		Customers at the edge of cell sites will be unable to use their mobile phone for voice service and data services. Across the site data services will be slowed.
		Additional infrastructure requirements	
			No investment to existing sites will restore the lost coverage for those wanting to initiate mobile services.
		Loss of the ability to optimise networks	
			This has the potential to limit network operators ability to optimise networks.
		Short-term solutions	
			There are significant long-term cost implications that arise with this solution thereby rendering it a

			short-term option that will only greater incentivise entry. The long-term costs, which are likely to outweigh the short-term gains, are the increasing complexity of optimising cell site clusters as these clusters become more dense through network design that better sustains growth in use of the network.
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(c) Mast replacement, extension or revision: this option is Telecom's preferred option:

Benefits		Costs	
Less network replication required		Additional infrastructure requirements	
	Co-location enables network sharing to take place reducing cost.		Additional Capital expenditure for each cell site collocated to restore coverage.
Encourage entry - if entry occurs prices may decrease		Resource Management Act	
	With increased possibility of entry, the corresponding competition may drive retail prices lower.		A mast replacement, extension or revision option may have RMA implications. Where this is the case there may be additional costs.

Additional collocation options			
	Taller masts will enable access seekers to co-locate at points higher and the mast providing greater options with minimal interference as cell clusters thicken with growing demand.		

54. Whether one option is preferred over another, or there is a desire for a mixture of options it is crucial to understand the array of benefits and costs and their magnitude associated with each option. This analysis is intended to assist with the Commission's analysis.
55. Finally, the one piece of tangible evidence that that the Commission has provided to support its proposal to reduce quality to facilitate co-location is that in the Australian market co-location arrangements were entered into as a means of *defraying the overall costs associated with the 3G network build-out*. Telecom agrees that co-location provides a good way of reducing costs in appropriate circumstances. However, as previously noted by Telecom, Australian operators do not have Resource Management Act limitations that are present in New Zealand. Telecom reiterates that it will support mobile co-location wherever this is possible, but Telecom asks the Commission to acknowledge that New Zealand companies face restrictions that are unique to New Zealand.

Emergency services requirements

56. When defining "Unacceptable Performance Degradation", the Commission has also acknowledged the importance of mobile services to the emergency services through the specific exception they have created for "Antenna solely dedicated to the Provision of Emergency Services". The Commission has said that for this type of antenna Unacceptable Performance Degradation should be set at 0.2 dB.
57. Telecom agrees with the Commission that the provision of cellular services to Emergency Services is crucial to New Zealand society. However, Telecom does not agree that the risk that end users may no longer have access to emergency services is covered off by creating an exception for antennae that are used solely for the provision of those services.

58. The reality is that this is a much wider issue; the public also rely on the cellular services of Access Providers and Access Seekers to contact emergency services. 57% of 111 calls are made from mobile telephones, which equates to 2.4 million calls per year. If the Commission sets Unacceptable Performance Degradation at 1 dB a small percentage of these calls are no longer going to get through. The public are unlikely to be happy to make this trade-off. Telecom does not think that an end user who is desperately trying to call the police, ambulance or fire brigade will be happy if they cannot reach the emergency services they require because of the coverage loss caused by regulation.

Antenna Minimisation

59. Telecom does not consider that Access Provider's should be forced to:
- (a) rearrange its existing antenna; or
 - (b) use antenna minimisation technology.
60. Antenna minimisation can interfere with an operator's network. For example, dual band antenna minimisation will remove a network operator's ability to optimise their network. This may result in inefficiencies that were not present when the network was rolled out. In the past the Commission has recognised network operator's property rights to ensure that regulation does not distort investment decisions. This is equally important in the case of mobile co-location.
61. Telecom has confirmed to the Commission that in certain circumstances it will agree to certain types of antenna minimisation commercially. However, Telecom still considers that in the majority of cases it will not be the best or most cost effective solution. Telecom's view is that if the Commission felt that it was necessary to regulate a solution for making space available for Access Seekers, it should make provision for mast replacement, revision or extension. This is the solution that is commonly adopted in overseas jurisdictions. For example, mast replacement is regulated in Australia under the ACCC code of Access to Telecommunications Transmission Towers, Sites of Towers and Underground Facilities. Mast replacement is also regulated in the EC regulations for Sharing of Infrastructure.
62. Mast replacement, extension or revision should be the preferred option because it can provide a long term solution and increases the likelihood that a number of parties will be able to co-locate on a mast. Antenna minimisation only provides a short term solution and does not resolve the long term issues. Regulation which allows a party to co-locate through antenna minimisation will be at the expense of the next party that wants to co-locate. For example, if a party wants to use antenna minimisation because a mast is at its maximum structural capacity limit, the Access Seeker is effectively using antenna

minimisation to push the inevitable mast replacement on to next party that wants to place equipment on the site. New Zealand already has a number of parties wanting to co-locate, mandating antenna minimisation would incentivise a solution that will discourage tower extensions, or the building of the larger towers. These are the solutions that are used in other countries and these are the solutions that are necessary to accommodate multiple Access Seekers. As a short term solution, antenna minimisation, is not in the long term interests of end users of downstream mobile telecommunications.

63. Mast replacement extension or revision can provide a cost effective solution without the interference concerns or performance impacts that result from antenna minimisation. For example, Telecom's initial analysis shows that a two metre mast extension would cost about the same, or less than, a standard antenna minimisation solution.
64. Finally, mast replacement, extension or revision will provide a solution that is free from the interference issues or performance impacts that are associated with antenna minimisation because the mast will provide the space needed to avoid them. Therefore, mast replacement, extension or revision will not result in degradation to the quality of service or coverage provided by Access Providers or existing co-locators to their customers. This is a key advantage to this approach
65. Other benefits associated with mast replacement:
- (a) it gives Access Seekers considerable control in regard to the design and implementation of the mast replacement;
 - (b) it will enable the Access Seeker and Access Provider to work together to ensure that they both achieve an optimal outcome (an Access Seeker may end up above an Access Provider); and
 - (c) it provides the opportunity for an Access Seeker to receive a return on its investment. An Access Seeker would be entitled to a proportion of the rental charges that were paid by any subsequent Access Seekers.
66. As set out in Telecom's previous submission, where Telecom identifies a mast that needs replacing it would be happy to work with an Access Seeker to agree a solution that is suitable to them.
67. Other reasons for not regulating antenna minimisation include:
- (a) the fact that in the past the Commission has accepted that Access Providers' property rights, and their rights to operate their business, should not be

unnecessarily restricted. Telecom considers that the Commission should take a consistent approach here;

- (b) an Access Seeker would be able to degrade an Access Provider's service by targeting their sites for co-location. This would occur where an Access Provider was forced to bear 1 dB of interference on a number of sites; and
- (c) mandating antenna minimisation would be a "world first" in that Telecom has not identified any jurisdiction in which it has been done despite most jurisdictions having regulatory frameworks in place that would enable such a requirement to be imposed.

Access Provider Forecasting

Reasonable Forecast Requirements

- 68. Telecom does not consider that a forecast horizon of two years strikes an appropriate balance between "allowing Access Providers the ability to reasonably reserve space for their future deployment plans, and the benefit to end users that will result from allowing a new entrant to co-locate where feasible".
- 69. Telecom supports the principle of a forecasting period of five years. As discussed in our submission on the draft Vodafone STP, a forecasting period of five years is consistent with the five year "use it or lose it" period applied by the Government to recent spectrum acquisitions, and provides parties with sufficient certainty to enable them to manage the uncertainties that currently exist around the delivery of new technologies (like Wimax and LTE).
- 70. The timeframe of five years also takes into account the time period required to plan and deploy new technology and services on a regional or nationwide basis. It is unworkable for any service provider to rollout new services across New Zealand within two years.
- 71. New services are generally rolled out in stages, usually starting with areas of highest density and then moving to areas of lower density. They may also start in selected areas which would serve for testing of new technology, before continuing to rollout the service to other regions.
- 72. Telecom is well placed to comment on this issue because of its recent experience in planning its WCDMA rollout. Initial planning for the roll out began in 2001 and site acquisition and detailed planning work began in 2004. The detailed planning work resulted in the Telecom Board giving approval for Telecom's WCDMA rollout in June 2007. The next key date was September 2007 when the order contract for deployment

of the new network was signed with Alcatel Lucent for a progressive launch starting in late 2008. The progressive launch will provide WCDMA2100 coverage in three main cities and full nationwide GSM850 coverage. After that the WCDMA2100 will progressively rolled out to other cities and towns and will be completed in 2011.

73. Telecom's experience with the WCDMA rollout demonstrates the requirement for staged rollouts of new technologies and services. Telecom considers that for any effective rollout of a new technology, a five year period is required. Two years would not even be a sufficient timeframe for completing one stage of a rollout.
74. If Telecom had had less certainty about whether it would have access to its own cell sites it would have added a further level of uncertainty to its business case and would increase the cost of a roll out.
75. Shortening the forecast horizon below five years has the potential to undermine a company's ability to build a business case for the deployment of a new technology. It is important that the Commission understands that the commercial reality is that major investment decisions and decisions associated with the deployment of new technologies take time. One of the reasons Telecom needs the flexibility associated with the five year time frame is because when Telecom (and we would imagine this would be the same for other New Zealand based operators) can offer a service will ultimately be determined by what happens in other markets. While Telecom will have made a firm commitment to a technology path, such as GSM/EDGE (2G), followed by WCDMA/HSPA+ (3G) and towards LTE (4G) , by purchasing spectrum and having internal sign off for the business case, how quickly a product will be able to be offered will depend on what happens in larger markets. For example, Telecom does not have the international scale to influence when a manufacturer can supply the handsets it will need to deliver a service. Economies of scale dictate that this will depend on when other countries also require those handsets. This does not mean Telecom is not committed to delivering a service, it is just that the final delivery date is out of its control. This was accepted by the Ministry of Economic Development when it opted for a five year "use it or lose it" period for spectrum.
76. In opting for two years the Commission has noted TUANZ's submission that "the product cycle in telecommunications systems is quite rapid and it is almost axiomatic that ageing equipment is replaced with new equipment that requires less power, less space and less environmental protection than the previous generation". While new technologies might become available regularly, this does not mean that Telecom will always want to deploy them. This is because:

- (a) any technology upgrade will require a period to enable parties to transition off old equipment and on to the new equipment. In the short term this may actually result in more equipment, and less room for co-location, on a mast; and
 - (b) the reality is that a company that has a sunk investment is not able to replace equipment every time a piece of new technology comes along. Just because a technology exists does not mean that a company is able to (or should) deploy it. If a company is not able to build a business case that will show that it will be able to make a return on its investment a piece of technology will not be deployed.
77. The Commission has also stated that it considers that a five year forecast horizon would create uncertainty around new and developing technologies. Telecom considers that there will be uncertainty whether the forecast horizon is two years or five years.
78. Telecom acknowledges that the Commission is concerned that Access Providers might block forecast space when they did not have specific plans to use it. However, Telecom notes that clause 9.1 of the provisions of the Operations Manual sets adequate requirements on the Access Provider to ensure their forecasts are genuine. Sub-clause 9.1.5 requires the Access Provider to have reasonable intent and ability to deploy its forecasts, evidenced by its holding suitable spectrum management rights or demonstrating the new technology it plans to deploy is recognised by the ITU.
79. Telecom notes that the reasonable forecast requirements provisions do not currently deal with the issue of when a forecast "expires". Setting clear requirements around the expiry of a forecast will reinforce the Access Providers inability to block space without a specific plan to use it. As discussed above, rollouts of new technology and services tend to be carried out in stages. Telecom does not think five years will always give it enough time to complete a full nationwide network build. Because of this Telecom considers that the Commission should adopt a process similar to that used by local authorities when they deal with RMA Applications. This process would mean that the Access Provider will be deemed to have deployed a forecast would after five years where:
- (a) the build has been completed prior to that date; or
 - (b) "substantial progress or effort has been, and continues to be, made towards giving effect to the forecast".

Use of an Access Provider's Reserved Space

80. Telecom does not consider that Access Seekers should be able to make use of space that an Access Provider has reserved for its own use. While as a concept it may seem appealing, Telecom considers that the practical difficulties associated with the proposal would ultimately make it difficult to administer.
81. As an Access Seeker, Telecom would be reluctant to use the concept because it would be difficult to justify spending the money required to co-locate on a site without any guarantee as to tenure (particularly when the shortest tenure period could effectively be six months). It must also be remembered that co-location solutions are site specific and may not be a case of simply transferring equipment to a new site or to a new position on the mast. In addition to this there will be one-off expenses including land owner and RMA approvals.
82. Telecom would also have concerns as an Access Provider, because when it provides notice to the Access Seeker that it needs its forecast space, if the Access Seeker could not make alternative arrangements within the specified six month period the Access Provider would be placed in the unenviable position of having to require the Access Seeker to turn off a service that is being delivered to end user customers. Even if there were very clear and strict obligations placed on the Access Seekers to remove their equipment from a site, a desire to serve their existing customers may mean that an Access Seeker may not see compliance with an obligation to remove equipment as being in their commercial best interests. Any delay in removing their equipment and the consequential continued service to their customers, may ultimately be worth more to them than the cost of defending an action to remove the equipment. Telecom considers that the Commission should be cognisant of these types of risks.

Service Level Terms

83. Telecom considers that Service Level Terms is an area where the Commission should be looking to be consistent across different STDs, as this will assist companies who are required to implement and companies who engage with multiple service level regimes. The Service Level Terms proposed by the Commission for the mobile co-location service contain significant changes to the service levels that have been used in previous STDs. Telecom considers that the work that has been done when developing the service level terms for previous STDs can provide useful guidance for the Commission. Telecom would urge the Commission to follow this guidance where possible.
84. One justification that is given for moving away from previous service level regimes is "the importance of condensed rollout periods for mobile networks" and the idea that this

means that greater emphasis should be placed on incentives for compliance with the timeframe set out in Service Level Terms.⁵ Telecom has a different perspective on this. It notes that:

- (a) In all of the fixed line STDs the Commission has placed considerable pressure on Telecom's Service Level delivery requirements. They have left Telecom with little, if any, latitude on when and how these services are able to be delivered. The delivery requirements have been consistently short to ensure that Telecom was put under pressure to deliver the service. The approach appears no different here; the only difference from Telecom's perspective is that in this case the service requirements seem unrealistic; and
- (b) Telecom questions the observation that a condensed rollout period is more important to mobile services than to fixed line services. Telecom considers that fixed line operators are as anxious to get their products to market as mobile operators.

85. Telecom agrees with the Commission that service levels terms should be about providing companies with the right incentives. Telecom considers that the right incentives are created by applying service levels to key tasks and this will ensure speedy delivery of every task. Telecom notes that the Commission has used this approach in previous STDs and would urge it to also follow that approach, as opposed to the blanket approach that is included in the draft STD.

86. Similarly, the Commission has chosen to attach performance penalties to a larger number of service levels. Telecom considers that further analysis could be done as to whether this will drive the right behaviour. Telecom is particularly concerned that this might cause perverse behaviour, for example, it might cause an Access Provider to focus on those services levels at the expense of the quality of the service as a whole.

87. Telecom also considers that it would be preferable for the Commission to align its approach with the UCLL co-location STD particularly in regard to:

- (a) the number of service levels; and
- (b) the service level performance penalties.

The number of services levels

88. Telecom's concern here is not with the number itself, but the fact that the Commission has chosen to implement service levels for tasks that do not appear to be key to the

⁵ Commerce Commission, submission on *Draft Standard Terms Determination for the specified service Co-location on cellular mobile transmission sites*, 25 July 2008, page 25, paragraph 131.

process. Telecom considers that service levels should only apply to key tasks and it would like to see further analysis as to why the matters that have service levels terms are key to the process.

Service Level Performance Penalties

89. Telecom's view is that service levels penalties should only apply to the key parts of the process it identified in its submission on Vodafone's STP. This will drive Access Providers to focus on these key tasks enabling Access Seekers faster access to the Service. Performance penalties should therefore apply to:

90. **Application processing** – to ensure applications are delivered in a timely manner; and

91. **Faults** – to ensure Access Providers fix the fault by the time specified.

Cumulative delay days

92. Telecom also questions the need for the performance penalties for "cumulative delay days" when there are already performance penalties for individual service level defaults.

93. In essence the "cumulative delays" regime will result in the Access Provider being penalised twice for the same default.

Financial Penalties

94. Finally, Telecom does not agree that the rate of financial penalties should be increased from 7% to 20%. Telecom considers that, as was the case in the seven previous STDs 7% provides the right incentives, whereas 20% would seem to be more punitive. Telecom consider that regulations should be designed with the aim of creating the correct incentives and not punishing parties.

Price and service levels

95. As noted by Telecom in previous STDs, the service levels that apply to a service and the price of a service are inextricably linked. Telecom considers this applies equally whether a service is specified or designated and Telecom would urge the Commission to consider this when setting the Service Level Terms.

96. Service levels are a cost of doing business. Service levels can be very robust, but this will require the input of significant resource which must be reflected in the price. The commercial reality is that where the Commission mandates enhanced service levels this will need to be reflected in the price that is charged to Customers.

97. An example of the relationship between price and service levels is evident in the model used by British Telecom ("**BT**"). In its model BT offers an "enhanced package of care" and a "standard package of care". Different prices are paid for each and in Telecom's view the service that is currently being proposed would be in line with an "enhanced package".
98. In previous STDs the Commission has provided a basic level of service, leaving it open to the parties to negotiate enhanced service levels commercially. Telecom considers that this should also be the approach the Commission takes for the mobile co-location service.
99. Telecom has been engaging with its customers to assist it in developing its mobile co-location service. The feedback it has received suggests that some parties tend towards a cost effective service rather than an enhanced one. Telecom will continue to talk to its customers about what they want from the service and it would urge the Commission to also talk to as many Access Seekers and Access Providers as possible to get their views on this issue.

Implementation plan

100. The objectives of the Implementation Plan are to allow Access Providers and Access Seekers to develop new systems and processes to deliver the service and to test and improve those systems so that both Access Seekers and Access Providers have confidence that they can be operated on a business as usual basis.
101. Access Providers and Access Seekers will need more time than that provided in the current Implementation Plan to achieve these objectives and considers that without more time the Implementation Plan may ultimately prove to be unworkable.
102. Telecom will continue to work on its operational support systems and standard site database until the release of its final STD. However, even with this continuing work Telecom does not consider the five working day timeframes that the Commission has given the parties for the delivery of these aspects of the service are realistic. Telecom provides more details below.

Operational Support Systems

103. Telecom is committed to providing a first class mobile co-location service. Telecom is continuing to work on these systems, but will need the details that will be included in the final STD to complete development of these. It is unclear whether Telecom's previous work will assist satisfying the requirements of the final STD. Telecom considers it will take longer than five working days to complete this work and considers that 40 days

would be a more realistic timeframe to finalise a robust set of systems and to test these systems.

Common Format Site Database

104. Again, Telecom is continuing its work on the common format site database but will need to wait until the final STD is issued to identify the exact requirements of the database and to complete this work. Telecom submits that the Commission should return to the timeframes that Telecom sets out in its submission on the Vodafone's STP.
105. Even with the head start that Telecom has in developing this database it will still take some time to complete. The main reason for this is that at present, the information required by the Common Format Site Database is held in nine different databases within Telecom. These databases will have to be combined to deliver the Common Format Site Database.
106. Telecom's concerns are compounded by the fact that Commission has chosen to extend the scope of the Common Format Site Database to "All Relevant Facilities". Telecom strongly advocates going back to the wording proposed by Vodafone in its STP.⁶ If the Commission required all Relevant Facilities to be included in the database, based on current definitions, Telecom would potentially need to include 3,500 (approximately) sites in the database. Access Seekers would receive little benefit from the inclusion of many of these sites in the database. For example, in the past Access Seekers have indicated they are primarily interested in Telecom's 140 type 1 and 2 towers in Auckland, Wellington and Christchurch and 321 type 1 and 2 towers nationwide. This is a very small proportion of Telecom's towers. In addition to this Telecom can see little value in including towers that are not capable of "reasonably and/or practicably capable of supporting the mobile co-location service".

Soft Launch

107. Telecom believes that the Soft Launch should be time-based. This is consistent with the Implementation Plans for other STDs and gives Access Seeker's the time they need to; consult on, test and revise their systems and processes.
108. The current Implementation Plan is volume based and does not allow Access Providers to improve their end to end systems because insufficient time is given for the identification of problems and the implementation of solutions. For example, Access Seekers are required to provide electrical drawings at the time of application. The Soft Launch may reveal that these drawings are better provided at the Project Plan stage.

⁶ Vodafone proposed that only sites that were "reasonably and/or practicably capable of supporting the Mobile Co-Location service" should be included in the database. Vodafone, Standard Terms Proposal for Mobile Co-location, 28 April 2008, Operations Manual clause 27.1.1.

The Access Provider will not be able to improve this process without the risk of incurring performance penalties.

109. The Soft Launch also gives Access Seekers time to adjust to new systems and processes used for the delivery of mobile co-location. If the volume based system is used it may be that one Access Seeker uses all of the volume to which the Soft Launch applies. A time based Soft Launch would ensure that other Access Seekers to get the benefit of a Soft Launch as well.
110. Telecom proposes that the timeframe for Soft Launch should be the same as that suggested in Telecom's submission on Vodafone's STP. Telecom considers this timeframe was reasonable given the requirements to implement the service.
111. Telecom asks that the Commission takes a pragmatic approach to setting delivery timeframes.