

NZ Communications Limited

**Comment on the
Draft Report to the
Schedule 3 Investigation into Amending the
Roaming and Co-location Services**

RESTRICTED VERSION

31 August 2007

FINAL

1 Introduction

- 1.1 NZ Communications Limited (“**NZC**”) submits its comments on the Commerce Commission’s (the “**Commission**”) preliminary conclusions and recommendations on the regulation of roaming and co-location services, as contained in the Draft Report on the Telecommunications Act 2001: Schedule 3 Investigation into Amending the Roaming and Co-location Services, dated 3 August 2007 (the “**Draft Report**”).
- 1.2 NZC agrees with many of the preliminary recommendations of the Commission. However, NZC believes that there are a number of recommendations that require modification in the final report. Some of these recommendations arise from changes to the commercial environment since the submission of NZC’s preliminary comments in March. Other recommendations are founded in a reconsideration of the likely commercial and competitive outcomes that might arise from the Commission’s proposed resolution of the issues identified in the Draft Report. This submission addresses each of the areas of remaining concern to NZC, and proposes recommendations for revisions to be included in the Commission’s Final Report.
- 1.3 NZC notes that the Commission has, as a part of the Draft Report, made a preliminary conclusion to recommend rejection of the latest Vodafone Undertaking.¹ It is our understanding that comment on the Amended Undertaking is not subject to the time periods established for comment on the Draft Report, and therefore is not required at this time. We therefore reserve our right to provide substantive comment on the Vodafone Amended Undertaking at a later time.
- 1.4 This submission includes information for which NZC seeks protection under the Telecommunications Commissioner’s Confidentiality Order². Restricted Information has been marked in bold and enclosed between square brackets and designated as NZ Communications Limited Restricted Information as “**NZCRI**”. Information for which NZC requests additional protection is marked in bold and enclosed between square brackets and designated as “**NZCAP**”

2 Executive Summary

- 2.1 NZC agrees with the Commission’s conclusion that “*competition in the markets for roaming on GSM and CDMA networks is limited,*”³ and that designating the roaming service would result in a “*substantial reduction in the price of the service,*”⁴ provided the price of the roaming service is cost-based.
- 2.2 Since NZC’s initial submission, NZC’s primary shareholders, General Enterprise Management Services (HK) Limited and Communications Venture Partners Limited (CVP) have invested [] **NZCRI** in NZC. An additional [] **NZCAP** This substantial capital investment and its contribution to competition in New Zealand is at risk under the current regulatory environment; substantive changes that ensure access to competitive roaming and co-location are essential to ensuring such investments are used to build competitive, nationwide network infrastructure, providing substantive benefits to the downstream end-users of communications services. A failure to provide an accommodating commercial environment, through regulation or the threat of regulation, will redirect that investment to the incumbent operators, denying NZC from passing on competitive pricing to its end-users.

¹ The Amended Vodafone Undertaking, dated 22 May 2007, and submitted pursuant to Schedule 3A of the Telecommunications Act 2001 (the “**Amended Undertaking**”).

² Order made by the Commerce Commission under section 100 of the Commerce Act 1986, as applied by section 15(i) of the Telecommunications Act 2001, dated 15 December 2006.

³ Draft Report, para. 550.

⁴ Id, para. 551.

- 2.3 We applaud the Commission for the substantive steps it has taken in concluding its mobile market review and its preliminary conclusions contained in its Draft Report.
- 2.4 NZC remains concerned about the lack of progress on concluding commercial agreements for roaming and co-location. While some positive engagement continues, there is still substantial doubt that commercially viable agreements can be concluded through commercial negotiation. In particular, the failure to achieve any co-locations under the agreement executed with Telecom suggests that commercial agreements will be completed only to present token gestures of competition in order to avoid regulation.
- 2.5 It is clear that more pro-active measures will be necessary to realise the objectives of the Commission. The Commission's preliminary decision not to designate co-location, in light of recent setbacks in the implementation of a co-location agreement with Telecom, and the risks posed by Telecom's simultaneous right to roam on Vodafone's existing network, substantially undermine the otherwise positive decision of the Commission to further regulate the co-location and roaming services. While investment in cell site leases and mobile communications equipment continues, and some network deployment is likely provided the Draft Report conclusions are completed, a broader nationwide infrastructure build remains threatened.

The Commission must designate and regulate both price and additional non-price terms

- 2.6 **NZC Recommendations.** With respect to the recommendations of the Commission:
- 2.6.1 NZC agrees with the Commission's conclusion that the national roaming service be designated,⁵ with the following modifications to the Commission's recommendation:
- Fixed-rate TSLRIC pricing of voice, data, and SMS;
 - Initial pricing for voice should be benchmarked against international rates;
 - Initial pricing for SMS and data should be benchmarked at retail-minus rates;
 - An express rejection of set-up costs / access fees;
 - The exclusion of Telecom from the definition of Access Seeker, at least where Vodafone is the Access Provider of the designated roaming service
- 2.6.2 NZC disagrees with the Commission's conclusion⁶ that the designation of a co-location service is not necessary, and recommends that:
- Co-location be added as a designated service;
 - The Commission adopt specific co-location targets or quotas to ensure prompt implementation of co-location
- 2.6.3 NZC agrees with the Commission's conclusion⁷ that additional changes to the Co-location Code are necessary to better give effect to the goals and objectives of the Code and the Act, but concludes that additional changes over and above those recommended by the Commission must be incorporated into the Co-location Code, including:
- Consistent with existing obligations imposed by District Councils and other authorities, to maximise the efficient use of antenna headframe space through the use multi-band antennas and similar antenna reduction measures;

⁵ Id., para. 561-562.

⁶ Id. para. 560.

⁷ Id., para. 553.

- Eliminating unnecessary and controversial technical reviews by deferring resolution of interference issues to the Radiocommunications Act 1989 and by allowing installations to proceed provided they are properly certified by an Access Seeker's consultants.

2.6.4 NZC further recommends that any referral to the Telecommunications Carriers Forum (TCF) be made subject to express objectives and a very limited timeframe for completion so that the TCF does not again become a source of delay and frustration in the realisation of an industry Code.

2.6.5 NZC agrees with the Commission's refusal to accept the terms contained in the Vodafone Amended Undertaking and looks forward to providing a detailed commentary on the Amended Undertaking at the appropriate time when requested by the Commission.⁸

⁸ Id., para. 563.

ROAMING

3 Market for National Roaming.

- 3.1 NZC agrees with the Commission's preliminary conclusion that the relevant markets for the national roaming service are the national wholesale market for roaming on GSM networks and the national wholesale market for roaming on CDMA networks.⁹
- 3.2 In addition, NZC agrees with the Commission's preliminary view that the relevant downstream market for determining the effectiveness of regulation is the market for the supply of retail mobile services.¹⁰

The GSM roaming market will continue to have limited competition until there is a third entrant

4 National Roaming Competition Assessment.

- 4.1 NZC agrees with the preliminary view of the Commission that there is limited competition for wholesale roaming services, and that competition in the market is likely to remain limited without change in regulation.¹¹
- 4.2 As NZC noted in its Schedule 3 Submission, the two incumbent operators each have substantial market power in their relevant wholesale roaming market and in the downstream retail market.¹² New entrants would threaten their dominance of the downstream retail market, so there is an inherent interest in using substantial market power to deny access through non-competitive pricing in the wholesale roaming market.
- 4.3 Telecom's recent announcement that it will launch a GSM network in the next two years does not change this assessment, and in fact exacerbates the status of competition:
- Telecom cannot compete at the wholesale level for nationwide GSM roaming until it has completed the roll-out of its network. Telecom has announced that it will roll out its network over the next two years, so Telecom could not hope to provide a competitive roaming solution any earlier than 2009, too late for a new entrant.
 - Telecom's adoption of GSM will not modify the limited competition that exists in the retail market and will in fact provide an incentive for Telecom to delay any market entrant until such time as its GSM network is completed, and therefore there will continue to be no incentive for either Vodafone or Telecom to open their networks to roaming by a new market entrant.

5 Pricing.

Voice

Initial Pricing of Voice should be benchmarked against international mobile termination rates

- 5.1 Initial Pricing Principle. NZC agrees that the initial price of voice roaming should be benchmarked against international mobile termination rates.
- 5.2 Our review of international rates suggests that the appropriate benchmark should be around 8 cents per minute. For example, in Australia, the ACCC has proposed that mobile termination rates be set on a TSLRIC basis at AUD 5 to 6 cpm, a rate which is in line with the WIK Consult Report.¹³ Ireland's mobile termination rates, by industry compromise¹⁴, are currently in the process of being

⁹ Id, para 104.

¹⁰ Id, para 122.

¹¹ Id, paras. 139-141.

¹² See Econet Wireless New Zealand Limited's (now NZC) Response to the Commerce Commission on Telecommunications Act 2001: Schedule 3 Investigations into the Roaming and Co-location Services, 13 March 2007 ("**NZC Mobile Market Review Submission**"), especially paras. 5.1-5.6.

¹³ *Mobile Termination Cost Model for Australia*, WIK-Consult for the Australian Competition and Consumer Commission, January 2007 ("**WIK Consult Report**").

¹⁴ And therefore higher than what would be the preferred regulated rate.

reduced to sub-8 Euro cents per minute.¹⁵ Finland's mobile termination rates are between even lower, the most recent published report showing rates in 2005 between 7 and 10 Euro cents per minute (Finland, like Ireland, using asymmetric termination rates).¹⁶

5.3 As we have previously noted, the cost of providing the roaming service is less than the cost of mobile termination, and therefore the price of such services should also be less.¹⁷ Based on the foregoing, we estimate that an 8 cpm rate for roaming is a realistic benchmark, though it is highly likely to be reduced after a comprehensive TSLRIC review.

5.4 In addition, as mobile termination rates are on a schedule for regular downward adjustment, we would like to see the benchmarked roaming rate similarly reduced over time. Such an adjustment reflects the fact that roaming calls (both originated and terminated) cost less than mobile termination.¹⁸ Absent such downward pressure, new entrant's would be subjected to a classic "price squeeze" situation under which the access providers retail rates could well fall below the wholesale rates being provided to the access seeker.

5.5 We note that the Commission has made several assumptions already regarding possible benchmark rates. For example, in evaluating the potential effectiveness of roaming regulation, the Commission has benchmarked against an estimated cost of mobile termination of 14 cpm.¹⁹ While it appears this was used simply as an easy figure helpful for evaluating the Covec model regarding the business case for new entry, it would be inappropriate if this were to be assumed to be representative of the actual benchmarked rate. NZC considers that the factual of 14 cpm used in the Draft Report²⁰ is too conservative, for the reasons identified in Appendix 1.

5.6 Final Pricing Principle. NZC also agrees that the final pricing principle should be TSLRIC.

5.7 However, we disagree with the Commission's conclusion that²¹

...there may be some merit in some form of de-averaging of roaming rates in order to better reflect variations in the cost of providing the service in different areas.

Geographic-based pricing is inappropriate

5.8 We think geographic de-averaging ("**GDA**"), whether a "traditional" geographic approach or a modified approach as proposed in Vodafone's Amended Undertaking, is an inappropriate pricing methodology:

- Mobile is a non-geographic service: retail services in mobile are not provided on a geographic basis.
- International precedent: regulators use a fixed-price approach, not a GDA-price approach, for regulating the price of roaming in other OECD markets.
- Unnecessarily complex: cost-based (TSLRIC) GDA pricing would require substantial analysis of multiple LACs to determine the prices in each LAC.
- Difficulty of implementation: GDA pricing creates a great deal of difficulty to address in billing systems, particularly as mobile users move from one LAC to another.
- Lack of increased efficiency: GDA does not result in a material improvement to the efficiency of infrastructure deployment, and raises substantial risks for

¹⁵ See <http://www.comreg.ie/fileupload/publications/PR160807.pdf>.

¹⁶ See, e.g., http://www.ficora.fi/attachments/enqlanti_smp/5pHWWKXw2/Files/CurrentFile/M16marketanalysis2006.pdf.

¹⁷ See para. 35 of the NZC Mobile Market Review Submission; see also Appendix 1 of that submission.

¹⁸ This was discussed in detail in Appendix 6 of the NZC Mobile Market Review Submission.

¹⁹ Draft Report, para. 186, 188.

²⁰ See para. 186.

²¹ Draft Report, para. 187.

a new entrant due to a lack of certainty as to price and the potential for a price squeeze.

GDA does not reflect pricing of retail services

5.9 GDA is likely to have a negative effect on the price of mobile services in the downstream markets. Mobile services are sold to end-users at fixed-rate prices regardless of the location of the end-users within their service providers' geographic coverage area. In New Zealand, this means that a caller in Invercargill is charged the same for a call as a caller in Auckland. Both Vodafone and Telecom, and any new entrant, would be unnecessarily constrained if they were required to discriminate between the cost of services based on the end-user's LAC. Geographic de-averaging, however, would vary those costs based on the location of the caller within New Zealand. These costs must be addressed within the pricing plans made available to those end-users.

5.10 A GDA approach is therefore likely to unnecessarily constrain the pricing of services for end-users in higher cost coverage areas, leading to discrimination in either the pricing of plans by users in such high-coverage areas, or a restriction in the marketing, promotion, and availability of services in such areas.

5.11 Such a result would mimic outcomes arising from anti-competitive conduct, raising the prices of end-users who accept service from the new entrant. It would be counter-intuitive to conclude that a rising roaming rate, which would compel regular price rises in the services provided to a new entrant's customers, would be an appropriate means of regulating the price of roaming services.

GDA is inconsistent with international practice and precedent

5.12 Regulators throughout the world have regulated the price of roaming services. While a variety of means have been used to do so, we know of no situation in which a regulatory authority has agreed to a geographic approach.

5.13 GDA has traditionally been deployed in fixed-line UNE proceedings in order to reduce the costs a new entrant would face rolling out services in urban areas. In a fixed-line environment, the cost of providing services to customers in a heavily populated area are substantially less than the costs of providing services in rural areas, in which the costs of rolling out the "last mile" can be significant. The cost of adding just one rural customer in a fixed line environment (rolling copper loop to a remote farm), can be greater than the cost of connecting service to dozens or hundreds of end-users in a dense urban setting.

5.14 Unlike fixed-line infrastructure, however, mobile costs remain fairly constant per customer served. The cost of adding an additional end-user within range of a cell site is virtually zero. Indeed, only in metropolitan centres, where traffic is likely to be high and additional traffic might require the installation of additional cell capacity, would there be any incremental cost (and even that cost is relatively small compared to the cost of the overall network), and those are the areas the new entrant is most likely to cover with its own infrastructure first.

5.15 It would be the ultimate irony if GDA, a pricing system created to *lower* costs for new entrants in the wireline services sector to promote their competitive entry, would be used by an incumbent operator to *increase* the costs of new entrants in the wireless services.

GDA is unnecessarily complex to calculate

5.16 GDA is calculated by looking at the amount of commercial traffic in each Vodafone location area, and then compared with the costs of providing service within those areas (which includes a number of "shared" core-network costs that must be apportioned between the location areas). As GDA varies depending on the amount of traffic carried, these calculations must also be updated regularly to reflect changes in usage patterns or behaviour. Assuming a GDA approach would compel the Commission to a permanent duty of monitoring and maintaining the GDA pricing schedules. A flat-rate approach, on the other hand, while also complicated to initially calculate, is valid for the life of the roaming service.

GDA is difficult to implement

5.17 Geographic pricing would also be extremely costly and difficult to manage and maintain. Every call, and even portions of calls from end-users in transit between LACs, would need to be billed at separate rates. This would be expensive to implement and maintain.

GDA does not increase efficiency

5.18 GDA is inappropriate because it will not increase the efficiency. As the Commission noted, geographic pricing is more efficient “*where costs vary substantially from one region to another.*”²² The cost to Vodafone of providing roaming services is unlikely to increase in rural areas. On the contrary, the cost of providing the service in any particular geographic area is unlikely to substantially differ, and in fact is likely to decrease in most circumstances.

5.19 In terms of area covered, rural areas require fewer cell sites as the demand is not as great as in built-up areas. In a city, the average cell site coverage radius may be 300 to 500 metres. In the rural areas, however, the coverage radius could be as much as 15 km. In addition, while construction of any individual site might be higher in a rural area, their coverage area, and their excess capacity, are likely to mean that costs of providing additional capacity on these sites is substantially lower than an urban site, where capacity demands may require additional investment. It is therefore unlikely that the costs will be markedly different between location areas, and that differentiating the roaming rate based on geographic area is unlikely to promote more efficient infrastructure investment decisions.

5.20 If the costs of roll-out to rural areas were so significant, we would anticipate that Vodafone would price its rural services accordingly. Vodafone has not done so. Instead, Vodafone charges callers one rate wherever they are within Vodafone’s network – prices are not cheaper just because customers are in the city, for example.

5.21 We note the Commission’s concern that a variable rate based on perceived costs of providing the service may be necessary to prevent “free-riding” on existing infrastructure by new entrants and a failure to efficiently invest.²³ However, this issue only arises because the Commission has made the decision that new entrants should not face a nationwide build requirement. As noted in 7.3, below, we do not see how wholesale competition is promoted if a new entrant does not provide nationwide, facilities-based competition; a geographic pricing methodology is a poor solution to an unnecessary problem.

Addressing the “free rider” problem through pricing is unnecessary

5.22 To the extent that the free-rider problem can be said to exist at all, we are not convinced that this is a problem that requires remedy. As we have previously noted:²⁴

A mobile operator generally has an inherent incentive to own its communications network because:

- *It makes more efficient use of the spectrum owned by the access seeker;*
- *It creates opportunities for competing in the sale of roaming services to domestic and international end-users, and to enter into re-selling and/or MVNO arrangements;*
- *It has the potential for much higher profit margins;*
- *It creates an opportunity to compete against the access provider on coverage;*
- *It allows the access seeker to shift revenue its customer’s are paying to support the access provider’s network to its own network.*

²² Draft Report, para. 379.

²³ See, e.g., Draft Report paras. 544-546.

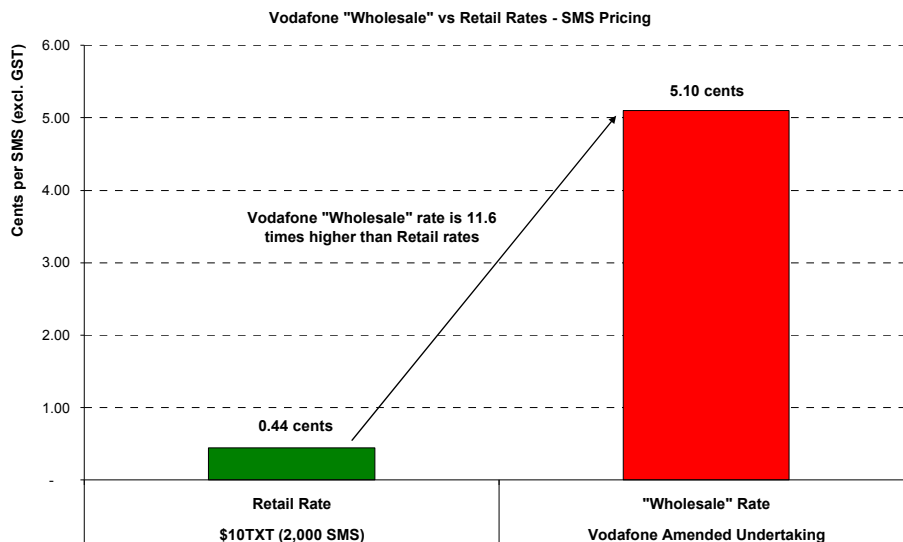
²⁴ NZC Mobile Market Review Submission, para. 37.2.

- 5.23 In addition to the national build-out requirement of 80% population coverage, an equally valid solution to remedying the free-rider problem is to promote network build by gradually decreasing the roaming price as network roll-out targets are met, thereby encouraging a new entrant to construct a site in order to obtain a corresponding reduction in the roaming rate.
- 5.24 For the foregoing reasons, we think that it is absolutely critical that the Final Pricing Principle be fixed at a single TSLRIC rate.

SMS

Sub-retail pricing of SMS roaming is a critical benchmark

- 5.25 Given the predominance of text messaging in New Zealand, the SMS roaming rate is very important to any new entrant. Exacerbating this issue, there has historically been an extreme imbalance between on-net and off-net pricing SMS driven by high SMS termination rates. This distortion is so extreme that is up to 90% cheaper for an operator to send an SMS to another operator in New Zealand via Hong Kong than directly through another mobile operator. NZC is concerned that this distortion will have a significant anti-competitive impact on SMS roaming rate. It is therefore critically important that the SMS roaming service be appropriately priced.
- 5.26 Initial Pricing Principle. Given the predominance of text messaging in New Zealand, the SMS roaming rate is very important to any new entrant seeking to compete for end-users. However, we think it will be very difficult for the Commission to rationally benchmark the initial SMS rate against international termination rates, as these rates have no rational bearing on the actual cost of providing SMS termination.
- 5.27 In addition, it is self-evident that there is no rational relation between the New Zealand termination rate and the cost of providing SMS termination or roaming. The Vodafone Amended Undertaking is an example of this problem, the SMS wholesale roaming rate being more than 10x their own commercial rate (see chart below).



- 5.28 Therefore, we would initially propose that SMS pricing be benchmarked against the retail rates, prospectively at one quarter or one third of the retail rate, a difference substantially similar to the difference between the voice termination rate and the retail rate.
- 5.29 Final Pricing Principle. The appropriate final pricing principle continues to be a cost-based price calculated using TSLRIC.

- 5.30 In order to determine this price, NZC recommends that SMS pricing is calculated at a factor of 0.15 of any regulated Voice rate. This factor is calculated by the following formula:

$$\text{Factor (0.15)} = 50\% \times 256 \div 864$$

$$1 \text{ SMS} = 256\text{Kb (maximum)}$$

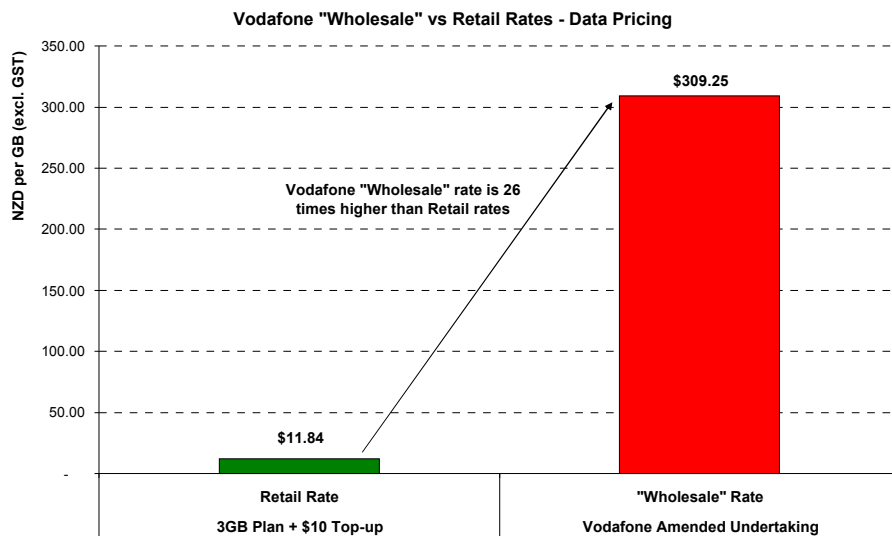
$$1 \text{ Voice Minute} = 14.4\text{Kb/s} \times 60\text{s} = 864\text{Kb}$$

The 50% factor accounts for the non-real-time nature of SMS versus the real-time nature of Voice.

For the current Voice rate guidance of 14 cents, an SMS rate of 2.1 cents would be more appropriate. As NZC submits that an appropriate cost-based roaming Voice rate is actually between 5-8 cpm, the appropriate cost-based SMS rate would be closed to 0.75 cents. As this rate is still above the effective retail rate of Vodafone pricing (.5 cents per text), additional adjustment may be necessary to more realistically capture the wholesale cost of providing the service.

Data

- 5.31 Initial Pricing Principle. As with SMS, it may be difficult to identify appropriate international benchmarks. Therefore, we would recommend that the Commission consider instead benchmarking the data price against the existing retail price of data services.
- 5.32 As with SMS pricing, we observe that the Amended Undertaking proposes wholesale rates substantially higher than their own retail rates, in this case 26.2 times higher than retail rates (the retail rates are \$11.84 per GB vs. a 'wholesale' roaming rate of \$309.25 per GB).



- 5.33 In addition, we note that Vodafone's Amended Undertaking proposes a data price 6.2 times higher than their previous proposal.
- 5.34 Final Pricing Principle. The appropriate final pricing principle continues to be TSLRIC, calculated as follows:

In terms of data throughput, 1MB of data is equivalent to 1.15 Voice minutes.

Using the 14cpm Voice price guidance, this equates to a rate of 8.3 cents per MB.

Using a TSLRIC Voice rate of 5-8 cpm, this equates to 2.9 cents per MB.

However, as this means that the wholesale rate is above Vodafone's effective retail rate of 1.16 cents per MB, additional evaluation would be required to put this final rate more in line with the retail rate.

6 Access Seeker Revisions

Including Telecom as an access seeker threatens the success of new market entry and of long-run competition

- 6.1 We disagree with the Commission's decision to include Telecom within the access seeker description. As the Commission has previously noted, a regulated roaming service is intended to promote new market entry by ensuring a new entrant can offer nationwide services, essential to competition.²⁵ We are unaware of any international precedent that supports the inclusion of an incumbent operator with substantial market power in a regulated roaming service.
- 6.2 While we agree that same-technology competition is important, we do not believe that there is sufficient evidence to conclude that Telecom's roaming on the existing Vodafone network will promote competition. Instead, the impact of Telecom's roaming is likely to increase the costs of Vodafone providing the roaming service, and therefore the expenses incurred by new market entrants, to the detriment of competition.
- 6.3 Vodafone's network will need to accommodate 100% of mobile traffic in New Zealand, not just the incremental increases to Vodafone's network occurring from a new entrant. This may require a substantial investment in capacity (and therefore the cost of the roaming service). A new entrant, on the other hand, is only marginally increasing the demands on Vodafone's network, and therefore is unlikely to require any material additional capacity costs.
- 6.4 In addition, we do not see that Telecom requires access to GSM roaming. Telecom has stated that it plans to complete its network build within two years, by late 2009. With such a short deployment schedule – made possible because Telecom can co-locate its equipment on existing infrastructure – we do not see how doubling the burden on Vodafone's existing network is beneficial or efficient. Such an infrastructure investment in Vodafone's network will result in substantial excess capacity, capacity which will not be required after 2009.
- 6.5 If Telecom is permitted to roam on the Vodafone network, it will have little incentive to invest in its own GSM/WCDMA network, thereby limited competition at the wholesale level.
- 6.6 Allowing any party to roam on Vodafone's network promotes only the interests and objectives of an incumbent operator, to the likely detriment of a new market entrant like NZC. The long-term consequences of Telecom's roaming could substantially interfere with the ability of a new entrant to compete, thereby maintaining the high-cost duopoly market prevalent today.
- 6.7 In light of these potentially significant impacts on new market entry, we would recommend that the access seeker definition continue to exclude Telecom from the roaming service. A separate proceeding would be the most appropriate forum for addressing any benefits of including Telecom, as a failure to fully assess the lop-sided benefits to Telecom could be an unbearable threat to competition and an unfair windfall to an incumbent with substantial market power.

7 Additional Amendments to the Roaming Service Specification.

- 7.1 In Section 8 of the Draft Report, the Commission provided its preliminary view on various other components of a designated roaming service, on which NZC provides its feedback below. In addition, the Commission noted a number of

²⁵ See, e.g., the 2000 Ministerial Inquiry into specification of roaming. “[I]mmediate national coverage is important in facilitating new entrants to achieve the customer base necessary to support the roll out of a national network.”

additional substantive components of a national roaming service in its review of the terms and conditions of the Vodafone Amended Undertaking.²⁶

- 7.2 While the pricing terms previously discussed remain a critical component of an effective regulated roaming service, the detailed non-pricing terms of service will also have a major impact on the implementation of national roaming. In light of the material impact these terms and conditions would have on a regulated roaming service, it is essential that these be addressed in the amended description of the Schedule 3 designated roaming service as well.
- 7.3 The key terms of an amended service description for a designated roaming service are outlined below.
- 7.4 Initial Coverage Area. We agree with the Commission's preliminary view that an appropriate initial coverage area would be either 100 cell sites or 10% population coverage.²⁷
- 7.5 National Build Requirements. NZC disagrees with the Commission's preliminary view that the requirement to commit to a national build should be removed.²⁸ A national build requirement is justified, as noted in our previous submissions,²⁹ and is essential for the creation of wholesale competition for the long-term benefit of end-users. Indeed, the national build requirement has always been envisaged as a fundamental building block of a roaming service.
- 7.6 We agree with the Commission that a time-bound national roll-out to 100% of the population is unreasonably stringent and inefficient³⁰ (and is arguably impossible). As NZC has previously noted, we feel a national build requirement of 80% of the population would best serve the goals and objectives of the Act, while simultaneously providing for the flexibility the Commission seeks to promote more efficient use of infrastructure.
- 7.7 We do not believe that the roaming service should be modified at present to promote regional entry in the mobile services market. In fact, the business case for regional entry is counter to conclusions reached by the Commission that a new entrant must be able to provide nationwide services in order to effectively compete. We can think of no business case in which a new entrant would require a nationwide roaming service while planning only a regional entry – it is counter-intuitive.
- 7.8 Regional entry is merely another form of thick MVNO. As the Commission itself notes:³¹
- An MVNO may put some limited pressure on retail margins, but is not likely to increase competition in the retail mobile services market to the same extent as a new mobile network operator.*
- 7.9 As MVNOs will arise where there is wholesale competition, it seems counter-productive to threaten the development of nationwide investment in infrastructure by instead promoting early adoption of MVNO arrangements, which will have limited impact on competition.
- 7.10 In addition, a national build requirement acts as a safeguard against new entrants who may wish to leverage others' infrastructure and not be willing to maintain and invest in networks. By incorporating this safeguard, variations in the roaming rate would be unnecessary to promote efficiency.

Nationwide build is necessary to create wholesale competition

There is no business case or international precedent for a regional mobile network

²⁶ See Section 7 of the Draft Report.

²⁷ Draft Report, para. 346.

²⁸ Id., para. 448.

²⁹ See, e.g., §§18 and 19 of the NZC Mobile Market Submission.

³⁰ Draft Report, para. 445.

³¹ Id., para. 150.

Security deposits should not be abusive, nor a guarantee of revenue

- 7.11 The creation of a regional operator is also likely to lead to inefficiency in the management of spectrum. Certainly the creation of a regional operator will prevent its spectrum from being available on a national basis. We believe that this is not in the interest of creating nation-wide competition.
- 7.12 We believe that the creation of regional operators at this stage is likely to lead to anti-competitive activities such as pocket pricing and price squeeze.
- 7.13 For the foregoing reasons, it would not be appropriate to regulate specifically to encourage, promote, and protect regional operations – such will arise naturally when there are a number of competitive wholesale providers of roaming services.
- 7.14 Security (a/k/a “Access Fees”). In addition, in Question 6.1 of the Draft Report the Commission has asked for guidance on the credit cover that should be provided. NZC does not feel that a \$20,000 up-front pre-payment, as noted by the Commission, is unbearable or unreasonable.
- 7.15 However, NZC does not believe that any substantial credit protections in excess of that amount, such as the alternate 25% of quarterly forecast revenue³² contained in Vodafone’s Amended Undertaking, are reasonable or appropriate. While we understand Vodafone’s concern that it not assume any unreasonable risk, the structure of the mobile communications industry, and the designated roaming service, do not leave Vodafone exposed to any unreasonable commercial risks: the access seeker must build out 10% of their network, own sufficient radio spectrum, and have a core network capable of interconnecting with the access providers network prior to accessing the roaming service. These will cost an access seeker many millions of dollars. A new entrant is therefore already well-funded, with a substantial amount of capital (and some extremely valuable assets), which should indicate that the credit risk is low.
- 7.16 Any substantial credit requirements would constitute an unfair additional financial burden on new entrants:
- Guarantees and bank bonds normally require the deposit of a substantial proportion of the capital guaranteed by the bonding institution, which capital would be unavailable for use for network build;
 - The access seeker will not always receive payment in advance for the minutes used from the end-user (if the end-user is on a post-pay plan);
 - The amount of roaming used by end-users is unpredictable, so a new entrant will have some difficulty appropriately budgeting revenue between network build and reserve for roaming fees.
- 7.17 We would also note that under clause 9.4 of Vodafone’s Amended Undertaking that this access fee is non-refundable. Any security must, by definition, be refundable, or it is merely a guarantee of minimum revenue. A non-refundable access fee would therefore be fundamentally inappropriate.
- 7.18 Set-up Costs. We agree with the Commission’s preliminary conclusion that each party should bear its own set-up costs.³³ We would also note that under TSLRIC pricing we understand that each party will be required to bear its own on-going implementation costs (such as the cost to increase network capacity or modify subscriber licenses), as these costs are already included in the TSLRIC calculation.

Each party should pay its own set-up costs

³² See Clause 9 on page 29 of the Vodafone Amended Undertaking.

³³ Draft Report, para. 337. See, also, Table 7: Summary of Cost Allocation Principles.

Access seekers should be free to wholesale services

- 7.19 Wholesale Services. NZC agrees with the Commission that an access seeker should be free to wholesale their retail services.³⁴ A limitation on wholesale agreements would be contrary to the express intent of the Act, as any limitation would reduce wholesale competition, thereby denying the benefits of such wholesale competition to end-users of communications services in New Zealand.
- 7.20 Limitation on Access Seekers. As NZC stated in its previous submission, Condition (a) of the proposed National Mobile Roaming Service, which bars an access seeker from access to the regulated service if it already has a roaming agreement in place, is extremely prejudicial to new market entrants.³⁵ This provision encourages an access provider with substantial market power to delay conclusion of a roaming agreement in order to compel a new entrant to either (i) accept unsatisfactory commercial terms, which cannot be remedied even if it is inconsistent with the principles set by the Commission, or (ii) accept the extended delay incurred by pursuing the determination process.
- 7.21 As we have previously noted, this abuse of substantial market power underlies the Telecommunications Amendment Act 2006 deletion of §22(a). As Condition (a) is now inconsistent with the policies and objectives set forth in the main body of the Act, this condition should be deleted.
- 7.22 Similarly, Condition (b) should be deleted. It is inconsistent with the goals and objectives of a regulated roaming service if an access seeker is precluded from roaming on one operator's network simply because there is a pending determination on another service provider's network. The continued presence of this provision is inconsistent with the current proposals of the Commission, particularly in light of the Commission's emphasis on opening roaming to all access seekers and providing for technological neutrality.
- 7.23 Excluded Operator. While NZC disagrees with the Commissions' conclusion that Telecom should not be considered an Access Seeker for the purposes of a designated roaming service, NZC agrees with the Commission's conclusion that Telecom and its subsidiaries should not be excluded from receipt of roaming services under any individual agreement,³⁶ though for different reasons.
- 7.24 Consistent with NZC's view on an access seeker's right to provide wholesale services to any party, NZC believes that an access seeker should be permitted to wholesale its retail services, or on-sell roaming services, to Telecom. Such an arrangement would help promote competition for roaming services, while simultaneously promoting new market entrant and efforts for new entrants to compete with the incumbents at the wholesale competition level.
- 7.25 Exclusive Provider. NZC agrees with the Commission's view that exclusivity would be inconsistent with the objectives of promoting competition.³⁷ We disagree with the Commission's position that the six month termination right for acquisition of roaming services from another access provider is consistent with this position or with promoting competition.
- 7.26 Roaming services might be subject to alternate arrangement other than that of a comprehensive technology-exclusive, nation-wide service. While we do not currently anticipate seeking roaming service through a variety of mutually supporting alternative arrangements at the present time, we do see the possibility of these arrangements becoming beneficial to competition in the future.
- 7.27 For example, an access seeker might find that an alternative provider of the same service is providing superior coverage in some areas to those provided by their principle service provider. In such circumstances, the access seeker might exclude that area from their principle service providers roaming service area, and

There should be no right to restrict the receipt of similar roaming services from other providers

³⁴ Draft report, para. 343.

³⁵ NZC Mobile Market Review Submission, para. 45.4.

³⁶ Draft Report, 347.

³⁷ Id., para. 296.

enter into a separate agreement with the other provider to provide roaming services in another area.

7.28 In another example, another party might provide coverage through an alternate technology (e.g., WiMax) not currently provided by the existing access provider. While this service would be similar to that of the national roaming service, it would be wrong to allow the access provider to terminate its obligations merely because the access seeker is competing using multiple technologies.

7.29 We therefore conclude that the Commission should not allow a roaming services agreement to be terminated merely because an access seeker has obtained similar services from another party; such a right would not fulfil the goals and objectives of the Act.

Roaming should be technology-neutral

7.30 3G-3G Roaming. NZC agree with the Commission that facilities-based new entrants must be able to compete on an equal footing with incumbents.³⁸ As NZC has previously noted, the exclusion of 3G services would restrict competition in the mobile market, to the detriment of end-users,³⁹ and would undermine efforts to increase the uptake of 3G services in New Zealand. NZC therefore agree that roaming should not be restricted to '2G-like' services.

Roaming should not restrict fixed-to-mobile number portability

7.31 Numbering. NZC supports the Commission's position that the roaming service should not be restricted to 02X Non-Geographic Service Numbers. Any number which complies with the Number Allocation Rules should be allowed access to the service; this will provide opportunity, subject to changes to the Number Administration Deed, for fixed-to-mobile substitution, a growing trend in most OECD countries.

Roaming should not be used to restrict certain end-users from obtaining service from new entrants

7.32 International Roaming. NZC agrees with the Commission's conclusion that an access seeker should be permitted to provide service to international roaming end-users, and to be able to offer "SIM-swap" options to those users.⁴⁰ In addition to the reasons noted in the Draft Report, we note that international end-users, while in New Zealand, are end-users of communications services as defined in §18 of the Act. Excluding those end-users would violate the very principles of the Act, and undermine its fundamental objectives.

7.33 Call Hand-over. NZC agrees with the Commission that call hand-over is an integral part of the roaming solution and should be included in any undertaking or determination.⁴¹ NZC would also expect that any roaming service be fully compliant to the relevant technology standards, including the requirement to provide seamless inter system handover for all mobile station operating modes.

³⁸ Draft report, para. 306, 484.

³⁹ See the NZC Mobile Market Review Submission, para. 22.

⁴⁰ Draft Report, paras. 353-355.

⁴¹ Id., paras. 356-357.

CO-LOCATION

8 Market for Co-location.

- 8.1 NZC agrees with the Commission's preliminary view that the relevant market for co-location is the national wholesale market on cellular transmission sites.⁴² We also agree with the Commission's conclusion that the downstream markets for co-location are the markets for supply of retail mobile services.⁴³

There remains limited competition in the provision of co-location services

9 Co-location Competition Assessment.

- 9.1 NZC further agrees with the Commission's conclusion that there is limited competition in the national market for co-location.⁴⁴
- 9.2 In addition to the number of factors indicating a market failure previously submitted and noted by the Commission, we would point out that the cost-saving benefits of co-location mentioned in paragraph 106 of the Draft Report apply to both the access seeker and to the access provider. The absence of active co-location despite these cost-saving components demonstrates the failure of competition in the co-location market.
- 9.3 NZC must therefore respectfully disagree with the Commission's preliminary conclusion that designation of the co-location service is not necessary.⁴⁵ First, the reasons for designation of co-location remain self-evident from the previous submissions of NZC and other parties:

- Operators with SMP have an inherent interest in delaying a new entrant's network build and raising their costs for optimal sites;
- Because of the mutual benefits of co-location (reduced infrastructure costs), an absence of co-location is indicative of competitive market failures.

The Telecom – NZC co-location agreement will require regulatory intervention to be made effective

- 9.4 In addition, the primary reason the Commission cited for refusing to designate co-location – the agreement reached between NZC and Telecom – has failed to result in any co-locations, and current announcements by Telecom put any co-locations under that agreement in doubt.
- 9.5 The intention of NZC and Telecom to execute a mutually agreed co-location agreement was announced at the time submissions were due for the Issues Paper.⁴⁶ NZC executed the agreement contemporaneously with its submission. [

]TNZTRI/NZCRI

- 9.6 As the Commission is aware, shortly after Telecom executed the co-location agreement with NZC, Telecom announced that it would deploy a nationwide GSM/WCDMA network. [

]TNZRI/NZCRI

⁴² Id., para 119.

⁴³ Id, para. 122.

⁴⁴ Id, para. 145.

⁴⁵ Id., para. 273.

⁴⁶ *Telecommunications Act 2001: Schedule 3 Investigations into Amendments to the Roaming & Co-Location Services: Issues Paper*, Commerce Commission, 15 December 2006.

- 9.7 Based on Telecom’s current stated requirements, our analysis suggests that fewer than 25% of the 139 TNZ sites considered of interest by NZC would actually be made available for co-location.
- 9.8 In addition, it has been publicly announced that Telecom has acquired TelstraClear’s existing cell site infrastructure in New Zealand (consisting primarily of leases and RMA consents), constituting in excess of 100 sites in Auckland, Wellington, and Tauranga.
- 9.9 We cannot but help to conclude that, despite acquiring a substantial right to additional infrastructure, and the prolonged internal decision-making process that would have accompanied the decision to deploy a nationwide technology change, that Telecom has been less than forthright in its negotiation and execution of the co-location agreement.
- 9.10 It is therefore evident that the Commission must be prepared to put in place meaningful incentives for Access Providers to ensure a competitive co-location market emerges. By the Commission’s own analysis, to fail to do so would be to fail to improve the competitive conditions of the current mobile market. Specific recommendations for such incentives are included in section 12, below.

Co-location has a significant impact on the business case of a new entrant

10 Impact of Co-location.

10.1 NZC disagrees with the Commission’s conclusion that designation of co-location is likely to have only a minor incremental impact in terms of promoting competition.⁴⁷

Co-location ensures access to “optimal” sites

10.2 NZC has previously noted that many optimal sites have already been leased to the incumbent operators, and therefore coverage in such areas cannot be replicated without co-location, though in some circumstances it may be possible to do so through the construction of multiple sites to meet the same coverage that would have been provided by the optimal site. The control of these optimal sites gives the incumbent operators a substantial competitive advantage over new entrants, and substantially increases a new entrants costs, and in some circumstances might make coverage impossible to replicate.

Co-location may be dictated by the RMA

10.3 We also feel the Commission fails to take into account the impact of the Resource Management Act on the value of co-location. Many of the current Telecom and Vodafone sites were constructed prior to the more rigorous review of Resource Management Act applications, or were the sole such structures in especially difficult areas to obtain RMA consent, such as high-density residential areas. Obtaining RMA consent at such locations is now extremely difficult.

10.4 New structures, for example, might require approval under the prolonged notification process of the RMA. This will result in substantial delays in the deployment of competing infrastructure, and may lead to adverse public outcry against mobile communications infrastructure in general, which would have a substantial impact on mobile competition.

Co-location may also be dictated by District Council

10.5 In addition, in order to reduce the visual impact of communications structures, the local District Councils may require that a new entrant co-locate on existing telecommunications infrastructure rather than construct a new mast or similar structure. In such circumstances, the new entrant has no choice but to forego coverage within the area or agree to the terms and conditions dictated by the incumbent access provider.

10.6 These problems are likely to be exacerbated once WiMax and other new technology operators commence the roll-out of additional network infrastructure.

⁴⁷ Draft Report, para. 273.

10.7 The absence of co-location can therefore have a significant impact on the business case of a new entrant.

11 Price

11.1 NZC agrees that the Commission’s conclusion that it would be more equitable for a CapEx / OpEx cost distribution formula if costs were pro rated between the parties based on their use of antenna and shelter space.⁴⁸ However, as noted previously, NZC disagrees with the Commission’s conclusion that co-location should remain a specified service,⁴⁹ and recommends that the Commission move the co-location service to the designated services section of the act.

11.2 Initial Pricing Principle. As previously noted in our NZC Mobile Market Review Submission, we believe an appropriate initial price could be derived simply by looking at the average rent paid for a cell site by the co-locating parties.⁵⁰ As noted in our March submission, an appropriate benchmark formula may be easily calculated as follows.

$$\text{Co-location Access Price} = (\text{Rent Benchmark plus shared OpEx}) * \text{Use}$$

$$\text{Where Use} = (\text{Access Seeker Use} / \text{Total Use})$$

Co-location pricing must be certain and predictable: the regulated price must cover a range of sites, and should not be adopted on a site-by-site basis

11.3 Final Pricing Principle. The price of a tower should consist of an annualised pro rata capital payment and the pro rata share of actual operating expenses, or:

$$\text{Co-location Access Price} = (\text{Annualised MEV} * \text{Use}) + (\text{Shared OpEx} * \text{Use})$$

The pro rata share is determined based on the use of antenna and group space, and the annualised capital payment is made using the Modern Equivalent Value (“MEV”) of each agreed tower type, where the annualisation factor (“AF”) is calculated as follows:

$$AF = ((1+r)/(1+a))^u * ((1+a)^{(t-1)}) * (r-a) / (1 - [(1+a)/(1+r)]^n)$$

where

		Value
a	= annual change in price of asset	0%
r	= pretax WACC	12%
u	= time to build (years)	0
n	= economic life of the asset (years)	35
t	= year for which calculation made	1

11.4 A critical result of NZC’s negotiations with Telecom using this formula (albeit with different values for the annualisation factor) was agreement on a specific price for the two broad categories of Telecom towers on which NZC expected to co-locate. The price of co-location was not intended to be determined on a site-by-site basis.

11.5 While NZC’s OpEx contribution will vary slightly from site-to-site, this arrangement avoids any complex calculations on a site-by-site basis, and substantially reduces the cost variability for such co-locations. Therefore, even though the price is expressed in the form of a calculation similar to that used by the Commission in certain TSO calculations, in actuality the outcome of the negotiation is a fixed “market rent,” just as if the parties had negotiated only a specific dollar value for each site rather than a formula for valuing the sites.

⁴⁸ Draft Report, para. 553.

⁴⁹ Id.

⁵⁰ See NZC Mobile Market Review Submission, §53.

- 11.6 This outcome was essential to avoid the unnecessary re-negotiation of the CapEx cost co-location for each site. As OpEx costs fall within a very predictable and small range, the result of these negotiations is that the cost of co-location on any co-locatable site can be easily budgeted and estimated, thereby substantially expediting the conclusion of individual site agreements. The result is therefore a fixed per-site cost, albeit framed as a formula for determining the price of sites on a site-by-site cost-based analysis.
- 11.7 It is essential that a designated co-location code set prices in a similar fashion. A known, fixed price is essential as it will:
- increase certainty for new entrants, and allow for more accurate budgeting;
 - will ensure more efficient construction of mobile infrastructure;
 - will reduce repetitive and inefficient re-negotiation of costs on a site-by-site basis.

The Co-location Code has failed – further modification is required

12 Modifications to the Co-location Code.

- 12.1 The Commission has recommended that the Telecommunications Carriers Forum (“TCF”) make two modifications to the Co-location Code:⁵¹
- Insert a dispute resolution mechanism for determination of the replacement costs, and
 - Provide for the apportionment of costs based on space utilisation.
- 12.2 The Code suffers from a number of fundamental flaws, as is clear from the continued absence of any co-location since acceptance of the Code last year despite the execution of a co-location agreement pursuant to the Code. In order to have an effective co-location code, the following changes must also be required:
- Antenna space reduction and antenna space optimization requirements;
 - Interference and antenna separation requirements;
 - Technical testing and evaluation issues; and
 - Co-location targets.
- 12.3 NZC’s view on the changes proposed by the Commission, and indicated by the delay in implementation of co-location, are discussed below.
- 12.4 Dispute Resolution and Site Valuation. NZC tentatively agrees with the Commission’s conclusion that a dispute resolution process be used to resolve certain pricing issues.⁵² We remain concerned, however, that adding yet another dispute resolution process will only further delay implementation of the Code, as parties enter into an endless cycle of dispute resolution to determine the price of each site.
- 12.5 It is therefore our recommendation that instead of a formal dispute mechanism, the Commission recommend the formation of a tower valuation working party (and possibly the appointment of a professional valuation mediator), tasked with categorizing tower infrastructure into discrete categories, and that a specific valuation be pre-determined and applicable to all sites within those categories.

⁵¹ Draft Report, para. 553.

⁵² Draft Report, para. 553.

Access Providers must agree to minimize their use of antenna space

- 12.6 Antenna Reduction and Optimization. One of the critical non-commercial barriers to co-location is the limited space available on the masthead for access seeker antennas. This space limitation can be readily eliminated through efficient use of multi band and cross polarization antennas, combiners, and through a variety of antenna reduction technologies commonly employed by operators throughout the world. NZC believes that the Commission needs to consider how these types of technologies should be used to remove the barriers to co-location.
- 12.7 NZC, for example, proposes to use tri-band antennas that can operate in both the 900 MHz, 1800 MHz, and 2.1 GHz frequencies, thereby limiting its requirements to one antenna per sector on co-location sites. Telecom, however, insists that no antenna space is available, but uses only single-band antennas, thereby eliminating all available headframe space for co-located antennas. Costs and technical installation issues are no longer a concern: these antennas are inexpensive, and easy to install.
- 12.8 Headframe space optimization and antenna reduction requirements are already imposed on existing operators by a number of District Council agreements, and are often required by some governmental authorities and other quasi-governmental lessors in bulk site transactions. Therefore, a network-wide requirement to upgrade sites with new equipment so as to maximize the use of available antenna space would be consistent with existing obligations and not an unreasonable new burden on access providers.
- 12.9 We therefore recommend that the Commission require modification to the Code requiring the Access Provider to make use of antenna reduction technology in order to accommodate co-location. A brief overview of antenna separation and optimisation is included in Appendix 2.

Resolution of interference concerns must be left to the Radiocom. Act

- 12.10 Interference and Antenna Separation. The Code grants the Access Provider broad powers to deny co-location based on perceived interference risks or technical issues. These can and have been used to frustrate efforts at co-location by imposing unnecessary, time-consuming, and expensive testing requirements and exceptionally high interference protection standards. For example, the imposition of a minimum 3 meter separation between the Access Seeker's and Access Provider's antennas on a 15 to 20 metre tower would leave an Access Seeker unable to provide effective coverage.
- 12.11 NZC would note that interference issues are already the subject of Government regulation under the Radiocommunications Act 1989.⁵³ We therefore see no reason why additional interference criteria or testing should be required prior to co-location.
- 12.12 NZC would therefore recommend that the Code be changed to eliminate the right of an Access Provider to deny access, to require minimum separation distances, or to require testing due to interference concerns.

Ability to delay or prevent co-location for technical testing reasons must be limited

- 12.13 Reduction of Technical Reviews. It is apparent that there is a fundamental lack of commitment to implementing co-location, and that technical testing, desk studies, and other reviews can and will be used to prevent or delay co-location. No dispute resolution process, no matter how detailed, is likely to resolve the continuing delays and obstructions that can be employed by the incumbent operators.
- 12.14 NZC would therefore recommend that the existing technical study requirements included in the Code be eliminated or substantially reduced. The Access Seeker will already be required to perform its own structural analyses and interference studies in order to reduce the risk of having to modify its installation or to recompense the access provider for any damage caused to the site. The Access Provider is further protected by the insurance obligations and standards of care

⁵³ See, e.g., Part 12 of the Radiocommunications Act 1989.

expected of the Access Seeker, and therefore such studies are redundant and unnecessarily cautious.

- 12.15 Where an Access Provider raises concerns with respect to an Access Seeker's proposed installation, we would expect that the Access Provider and Access Seeker resolve their concerns within a limited timeframe – 10 business days would be more than sufficient. If the technical issues are not resolved within this time period, we would expect that the co-location would be permitted to proceed, provided the Access Seeker's plans were approved by a certified engineer.
- 12.16 NZC would therefore recommend that the Code be modified to set only minimum technical compliance requirements to be verified by the Access Seeker only, acting in good faith consistent with the requirements of the Code and the Act.
- 12.17 Co-location Targets. It is clear that only specific co-location targets and commitments will ensure implementation of co-location. Establishing targets is not without precedent. We would note, for example, that Vodafone has received substantial benefit from the targets established by the Commission for the co-location of "D-Slam" units.
- 12.18 In light of recent failures in co-location, we would therefore recommend that the Commission require specific co-location targets.
- 12.19 Timeframe for Code Revision. We are concerned with the proposal to forward the Code to the TCF for amendment. The TCF has twice undertaken to implement an effective Code. The TCF seems ill-suited for its roll in these circumstances. While NZC was invited to participate in the development of the Code on both occasions, NZC was not a voting member of the TCF, and was the sole voice of objection to the current Code when it was submitted in 2006. One year on, NZC is the only new market entry actively seeking co-location.
- 12.20 In addition, the governance of the TCF is dominated by the two incumbent operators, and there are a number of parties with substantial voting input on the process who have no interest in, or direct experience with, mobile infrastructure co-location. This dynamic substantially limits and undermines the effectiveness of a TCF working group tasked with revising an industry Code.
- 12.21 In order to expedite implementation of a revised Code, NZC would therefore recommend that the Commission require the TCF to submit a revised Code consistent with these requirements within 30 days of the Commission's request. In the event the TCF fails to conclude the revisions within the time allotted, the Commission could then undertake to make such modifications to the Code itself, consistent with its powers under §14 of Schedule 2 of the Act.

Co-location targets would ensure prompt implementation of the Code

13 Conclusions

- 13.1 NZC agrees with the Commission's decision to designate roaming, and recommends that roaming be provided on a fixed-price basis, subject to regular review, or a review mechanism, to ensure that a "price squeeze" doesn't arise due to a discrepancy between the regulated rate and the retail rate. In addition, to ensure the prompt and effective implementation of a designated roaming service, NZC recommends that the Commission include in the revised service description the critical non-price terms of service discussed in the Draft Report and noted in this submission.
- 13.2 NZC would also recommend that the Commission hold workshops with industry, as they have done as part of the LLU process, in order to address and resolve any technical implementation issues. Resolution of a number of technical issues, such as call hand-over, can be addressed in such workshops.
- 13.3 With respect to co-location, the Commission has concluded that the execution of the first Code-compliant co-location agreement indicates that further regulation of

co-location, other than with respect to apportionment of costs based on actual usage of a communications site, is no longer necessary due to the execution of a co-location agreement between Telecom and NZC.

- 13.4 It is now evident, however, that this decision was premature. The failure of Telecom and NZC to actually co-locate equipment at any potential co-location site indicates that there has been a substantive failure in the Code itself. Based on the recent developments, it is clear that designation and further amendment to the Code, including but not limited to specific co-location targets and the mandatory use of antenna reduction measures and space optimization efforts, is essential to overcoming current anti-competitive barriers to effective and efficient co-location.

Appendix 1

Review of Australian MTR Case Study

1. Apart from noting the “significant improvement” in view of the drop in the voice roaming price from average rates of 21.5 cpm to 14 cpm between the original and the Amended Undertakings⁵⁴, the Commission in its Draft Report deals only with concerns about geographic de-averaging. There seems to be an assumption that such a 14 cpm rate is the correct average rate even though the Commission provides no detail to support this.
2. However this is not clear from the Draft Report, which, by default, and as no other proposal is made, has the 14 cpm as the accepted price for the Schedule 3A Amended Undertaking. It is unfortunate that the Commission’s view on this important component of the Amended Undertaking is left unclear. It should be clarified.
3. Some key, but incorrect, assumptions have been made when deriving the factual of 14 cpm for the purposes of the Schedule 3 investigation.⁵⁵ NZC is concerned that the material in this section, helpful though it is, will filter through directly to support a final price for the Amended Undertaking, when that is not justified.
4. First, the factual/counterfactual analysis seems to be elevated to the status of fixing final pricing (say, on an equivalent of an interim pricing principle basis). This is illustrated by the statement in the draft report, when dealing with the calculation of the factual, that “The Commission has previously estimated a cost based MTR to be 15 cpm, declining over time”.
5. However, there is an important distinction. The Commission in fact was not estimating the ultimate MTR when it fixed that 15 cpm figure. Rather, it is a figure used as a factual, simply for the purposes of the threshold question of whether MTR should be regulated. Of necessity, this is a rudimentary calculation, well short of an Initial Pricing Principle assessment, let alone a Final Pricing Principle assessment. Yet the impression is given that the 15 cpm (from which the roaming factual of 14 cpm in the mobile services draft report is directly derived) is a more robust assessment. That the MTR factual calculation is rudimentary appears from Paras 94-101 of the Commission’s MTR Schedule 3 Reconsideration Final Report and also its predecessor Final Report.
6. The same error is made in the Minister’s decision to accept MTR Undertakings dated 30 April 2007⁵⁶, where the factual is elevated to a more robust calculation than it in fact is (see the final Paragraph of the decision justifying the Minister’s approach). This puts doubt on the degree to which the undertakings to the Minister are a suitable benchmark for roaming costs (and, in any event, the MTR undertakings are out of touch with benchmarked pricing, let alone the factual itself of 15 cpm).
7. Possible haste in reaching a final MTR price (upon which the voice roaming price would be based) is demonstrated by the Commission’s statement at Para 185 of its draft report that ACCC has announced that Australian MTR has reduced from A\$0.12 (NZ\$0.1395) to A\$0.09 (NZ \$0.1046). That is not correct; rather, the ACCC has produced a *draft* report for comment by the parties. Optus, Vodafone and Telstra have lodged submissions this month on the draft and a final decision is yet to come.⁵⁷
8. The most significant information for assessing the appropriate voice roaming price (based on benchmarked information and pricing) is the MTR information produced by the ACCC and the Australian Competition Tribunal (in numerous decisions in both bodies, culminating in the latest draft). The New Zealand undertakings are of only limited value, as they amount to commercial resolution for reasons that are generally not known to the parties other than the Minister, Telecom, and Vodafone (and those rates are considerably out of step with international data and benchmarks anyway).

⁵⁴ Draft Report, paras. 367-369.

⁵⁵ Draft Report, paras. 180-188

⁵⁶ http://www.med.govt.nz/templates/MultipageDocumentTOC_26538.aspx

⁵⁷ All the ACCC MTAS documents are at <http://www.accc.gov.au/content/index.phtml?itemId=783052>

9. It is expected that ACCC will produce its final decision before a decision is made on pricing in the Schedule 3A Undertaking, assuming the Commission decides to move to accepting an undertaking. NZC wishes to make further submissions when that ACCC final decision is available as it so critical to pricing. It is important that this happens. The Commission's draft report is quite unclear about how roaming pricing is to be treated under the Schedule 3A Undertaking, which is all the more reason to allow further submission.
10. If the Commission is going to move to accept the Schedule 3A Undertaking, it should articulate clearly the basis on which it proposes to do so (including as to voice, SMS and data pricing) so that the parties can submit as to clear methodology.
11. NZC notes that the Commission, when considering price on a Schedule 3A undertaking, can take account of a variety of material, not just benchmarked pricing: that can include the draft reports, decisions such as that of wik-Consult provided to ACCC, etc, in coming to its view.
12. In the meantime, NZC's comments are preliminary only. First, ACCC has decided, at this draft stage, that MTR, on a TSLRIC+ basis (which is the same basis as our TSLRIC) is in the order of Australian 5 to 6 cpm. This is of course a powerful benchmark for helping determine roaming prices and indicates the NZ 14cpm in the draft undertaking is grossly excessive. This is a carefully worked up assessment in Australia, and the Commission and the parties are fortunate to have this model available.
13. Following approval from the Australian Competition Tribunal (in particular the December 2006 Vodafone decision), ACCC has taken a "bottom-up" approach to assessing TSLRIC, having regard to the costs of efficient operators. That is appropriate in this market. Operators with a lower market share have been used as the benchmark (for that and other reasons, the appropriate TSLRIC cost here can be expected to be even lower than in Australia).
14. Telstra, in its August 2007 submissions, which are adopted in full by NZC (and the Commission is specifically referred to the content of those submissions), makes the point that it is difficult to understand why ACCC has decided, at this draft stage, to adopt a price higher than Australian 6 cpm. A number of compelling reasons are given that apply generally to the setting of roaming pricing in New Zealand. In any event, to the extent that the higher price is driven by concerns about the impacts on existing businesses of the incumbents, and glide path considerations, those considerations do not apply to roaming prices. Indeed, drawing on the parallel of the well accepted concept of asymmetric MTRs for new entrants in, for example, the EU, there are strong arguments that the voice roaming price should immediately be based on MTR benchmarks, excluding glide-path and similar mechanisms (that is they should be based on TSLRIC calculations such as Australian 5 to 6 cpm: that has a similar affect, with similar policy and economic outcomes, as asymmetric MTR pricing). The same principles and drivers don't apply to roaming, calling for a glide path or other approach that keeps roaming prices above a genuine assessment of TSLRIC at initial pricing principle stage. The Commission is able to reach that position too.
15. For the 5 year term in the Undertaking, there should be opportunity to reset roaming prices: this can be accomplished by an independent expert mechanism in the Undertaking, or an ability to refer the issue back to the Commission. Ideally there would be a mechanism equivalent to the Final Pricing Principle, to enable a full TSLRIC calculation.
16. The roaming price would be lower than the appropriate comparable MTR benchmark due to the different network components involved in the service (see App. 6 of the NZC Mobile Market Review Submission).

Appendix 2

Antenna Separation and Optimisation

1. The concept of an inter-operator separation distance is a complex way of describing how far apart antenna belonging to different operators (usually utilizing different technologies) need to be in order for both systems to operate normally. When different radio systems are operated in close proximity there are a number of complex effects that may occur to degrade the performance of one or both systems, these include *receiver blocking*, *intermodulation*, and *receiver desensitization*. That being the industry is well equipped with the “know how” to ensure that co-location is trouble free.
2. A key factor that influences the requirement separation for antenna is the *required isolation* between systems. As a general rule *isolation* may be achieved either physically by separating the antenna in space or by the installation of additional equipment (usually filters). When isolation is being obtained by physically separating the antenna, vertical separation achieves more isolation per unit distance than horizontal⁵⁸.
3. The *zero risk* approach to co-location is usually therefore to separate antenna vertically by 3m⁵⁹. This distance is a standard adopted from the US cellular market (arguably also the market that has the most experience with co-location), where it is common practice to locate a large number of operators on large towers with the antenna centre points separated by 10' (3M). It should be noted that a large number of cellular towers in the US achieve heights in the range of 200' (approx 60m) and therefore the lowest operator will often have antenna located at a significant height.
4. In the New Zealand market the majority of cellular network sites located in urban areas are between 15m and 20m above ground level. The impact of a 3m reduction in height⁶⁰ between the location of an *access seeker* antenna and an access provider antenna may be mathematically modeled using the classical Okumura-Hata propagation model. This analysis shows that the impact of a 3m loss in height at 15m results in a 14.7% decrease in coverage.⁶¹ The same analysis conducted at 20m shows an 11.7%⁶² decrease in coverage. Thus any reduction in available height has significant consequences for the access seeker.
5. The solution to this issue is to mandate that both the access seeker and access provider will use all available measures including (but not limited to) the installation of filters to minimize separation distances in both the horizontal and vertical separation situations. Furthermore the maximum separation distance should be limited to 3m in the vertical sense.

⁵⁸ This is the case for cellular antenna that have wider horizontal beamwidths than vertical

⁵⁹ As measured between the centre point of the antenna.

⁶⁰ As measured between the centre points of each antenna.

⁶¹ This may also be viewed as a 17.3% increase in the number of sites required.

⁶² This may be also viewed as a 13.2% increase in the number of sites required.

