

**TELECOMMUNICATIONS ACT  
2001:**

**SCHEDULE 3  
INVESTIGATION INTO  
AMENDING THE CO-  
LOCATION SERVICE ON  
CELLULAR MOBILE  
TELEPHONE  
TRANSMISSION SITES**



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**Report on whether to amend the co-location service on cellular mobile telephone transmission sites or accept the Vodafone co-location undertaking as an alternative to amending the regulation**

**The Commission:** Dr Ross Patterson  
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**Summary of Final Report:** The Commission's recommendation is that the co-location service on cellular mobile telephone transmission sites (the "co-location service") should remain a specified service. The Commission recommends that the Vodafone co-location undertaking should not be accepted.

**Date of Final Report:** 14 December 2007

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## Executive Summary

### Background

- i. During its investigation into mobile termination rates in 2005, the Commerce Commission (“the Commission”) identified several features that suggested a lack of effective competition in the cellular mobile services market, including a highly concentrated market structure, significant barriers to entry, and high pricing in comparison with other OECD countries.
- ii. On 10 May 2006, the Commission announced that it would examine the reasons for lack of new entry into the cellular mobile services market as a prelude to deciding whether or not to commence an investigation into possible changes to the regulatory framework.
- iii. On 10 October 2006, following the conclusion of the investigation, the Commission announced that there were reasonable grounds to investigate (among other things):<sup>1</sup>
  - moving the co-location service on cellular mobile telephone transmission sites from a specified to a designated service.
- iv. The Commission’s process for the co-location investigation included the publication of an issues paper and a draft report as well as holding a conference. Interested parties have been afforded the opportunity to make submissions throughout the course of the investigation.

### Vodafone undertaking

- v. An undertakings regime was incorporated in the Telecommunications Act 2001 (“the Act”) via the amendments made on 22 December 2006. This allows a relevant access provider to submit proposed terms and conditions of supply of a service that the Commission is proposing to regulate, as an alternative to regulation.
- vi. On 19 January 2007, the Commission received an application for an undertaking from Vodafone in relation to the roaming and co-location services.
- vii. Following consultation, on 3 August the Commission issued a draft report rejecting Vodafone’s undertaking and recommending that the non-price terms of the roaming service be amended and that the roaming service should become a designated service. The draft report also recommended that the co-location service remain a specified service. However, the Commission considered that it was appropriate for

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<sup>1</sup> Commerce Commission, *A Review of Cellular Mobile Market Entry Issues*, 10 October 2006

changes to be made to the Co-location Code and the Master Co-location Agreement to cater for some unresolved issues.

- viii. On 2 November the Commission received two revised undertakings from Vodafone, one for the roaming service and another for the co-location service. It is for this reason the Commission has decided to split its report into two, one covering co-location and the other roaming.

## **Analysis**

- ix. The Commission considers that the relevant markets for this investigation are:
- the national wholesale market for co-location on cellular mobile telephone transmission sites; and
  - the downstream markets in which retail mobile services are supplied.
- x. With regard to competition in the markets identified, the Commission considers that:
- co-location on existing cellular mobile telephone transmission sites is limited; and
  - New Zealand's relatively high prices in the retail mobile services market are indicative of lower competitive pressures than in other OECD countries with lower price levels.
- xi. The Commission notes that despite co-location agreements being in force for many years, co-location has occurred on less than 0.5% of available towers.
- xii. The Commission considers that the issues preventing effective co-location are not related to price. The costs of a replacement facility and installation of equipment are relatively transparent within the telecommunications industry. There are minor issues relating to price but these relate to the apportionment and allocation of the cost of a replacement facility between the access provider and the access seeker.
- xiii. Instead the Commission considers that effective co-location has not occurred because:
- Incumbent operators retain control over optimal sites for co-location; and
  - Incumbent operators have no or limited incentives to support co-location on reasonable terms for competing cellular networks.

## Decision

- xiv. The Commission has considered the 2 November undertaking and is not satisfied that the 2 November undertaking is likely to promote competition because:
- The allocation of costs should be on the basis of the number of antennae on the mast and the use of floor space within equipment rooms;
  - On pre-existing leases, access seekers should only be required to pay an apportionment of the rental paid by Vodafone;
  - Targets and key performance indicators for timely co-location should be included; and
  - Implementation plans for cellular co-location similar to those developed as part of the standard terms development process (STD) for UCLL co-location should be part of the undertaking.
- xv. The Commission therefore recommends that the 2 November undertaking should not be accepted.
- xvi. The Commission does not recommend that the co-location service move from a specified to a designated service because it does not believe price has been a major barrier to co-location. The Commission intends to closely monitor co-location prices, and will act quickly if problems emerge for access seekers.
- xvii. In contrast, the Commission considers that non-price issues including the lack of targets and key performance indicators and robust implementation plans have created significant barriers to entry. The amendments made to the Act in 2006 provide the Commission with the necessary tools, through the STD process, to address these non-price issues. The Commission accordingly proposes to initiate a STD process for the co-location service early in 2008, with a view to developing a robust co-location regime similar to that developed for UCLL co-location STD.

## 1. Legal Framework

1. This section sets out the legislative framework for this investigation.
2. On 22 December 2006, the Telecommunications Amendment Act (No 2) 2006 (“the Amendment Act”) came into force. The Amendment Act sets up a transitional mechanism for Schedule 3 investigations already commenced but not completed. Under section 66 of the Amendment Act, the Commission had the option to complete the investigation under the old process or under the amended Schedule 3 process.
3. Using the amended Schedule 3 process in the Act, the Commission decided to undertake an investigation into moving the co-location service from a specified to a designated service.
4. Accordingly the Commission may accept an undertaking provided in accordance with Schedule 3A of the Act, as an alternative to the proposed regulatory changes.

### Schedule 3

5. Schedule 3 of the Act contains the procedure for altering regulated services. Under Part 1 of Schedule 3, the Commission may undertake an investigation into a proposed alteration and recommend to the Minister of Communications whether or not the proposed alteration should be made.
6. Under Part 2 of Schedule 3, the Commission may investigate whether or not a specified service should become a designated service (the proposed addition) and recommend to the Minister of Communications whether or not the proposed addition should be made.
7. The Commission is required to prepare a draft report, which must include the detail of the proposed alteration<sup>2</sup> or proposed addition<sup>3</sup> and identify any recommendations that the Commission considers to be sufficiently related to each other that they ought to be considered together.
8. The Commission must make reasonable efforts to prepare and deliver a final report to the Minister regarding the proposed alteration or proposed addition no later than 120 working days after the date of giving public notice of the investigation<sup>4</sup>. In preparing the final report, the Commission must consider all submissions made on

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<sup>2</sup> Clause 2 of Schedule 3

<sup>3</sup> Clause 9 of Schedule 3

<sup>4</sup> Clause 4(1) and clause 11(1) of Schedule 3

the draft report and all information and opinions presented or expressed at any public hearing on the draft report<sup>5</sup>.

9. The Commission's final report for this Schedule 3 investigation must include:
- the detail of the proposed alteration and addition; and
  - a recommendation by the Commission as to –
    - whether or not the proposed alteration and addition should be made;
    - whether or not the Minister's decision regarding the proposed alteration or addition should be deferred for any period that the Commission thinks fit; and
  - the reasons for the Commission's recommendation; and
  - the views of 2 members of the Commission (other than the Telecommunications Commissioner) regarding the recommendation<sup>6</sup>.
10. In making its recommendation on the Schedule 3 investigation, the Commission (and the Minister as the case may be) is required under section 19 of the Act to:
- (a) consider the purpose set out in section 18; and
  - (b) if applicable, consider the additional matters set out in Schedule 1 regarding the application of section 18; and
  - (c) make the recommendation, determination, or decision that the [Commission] or Minister considers best gives, or is likely to best give, effect to the purpose set out in section 18.
11. Section 18 of the Act describes the purpose of Part 2 and Schedules 1 to 3 as follows:
- 18. Purpose—**
- (1) The purpose of this Part and Schedules 1 to 3 is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers.
  - (2) In determining whether or not, or the extent to which, any act or omission will result, or will be likely to result, in competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand, the efficiencies that will result, or will be likely to result, from that act or omission must be considered.
  - (3) Except as otherwise expressly provided, nothing in this Act limits the application of this section
  - (4) Subsection (3) is for the avoidance of doubt.
12. The Commission is also required to have regard to economic policies of Government when exercising its powers under Schedule 3. Under section 19A, the Commission must have regard to any economic policies of the Government that are transmitted, in writing, to the Commission by the Minister. To date, the

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<sup>5</sup> Clause 4(2) and 11(2) of Schedule 3.

<sup>6</sup> Clause 4(3) and 11(3) of Schedule 3.

Government has not transmitted any economic policies to the Commission under this section.

### **Schedule 3A**

13. The purpose of Schedule 3A of the Act is contained in clause 2 of Schedule 3A:

The purpose of clauses 3 to 16 is to provide, as an alternative to a proposed regulatory change, a mechanism for an access provider to supply a service to all access seekers -

- (a) on a voluntary basis that avoids the need for regulation; and
- (b) on terms and conditions agreed between the access provider and the Commission.

14. Clause 3(1) of Schedule 3A of the Act provides that:

While the Commission is considering a proposed regulatory change, the Commission may accept an offer from an access provider to supply a service to all access seekers on the terms and conditions of a written undertaking (an **undertaking**).

15. Clause 3(2) of Schedule 3A of the Act provides that if the Commission accepts the undertaking, the final report (prepared by the Commission in accordance with clause 4 or clause 11 of Schedule 3 of the Act) may include -

- (c) a recommendation by the Commission that the Minister should accept the undertaking; and
- (d) any of the following recommendations by the Commission:
  - (i) that the proposed regulatory change should be made;
  - (ii) that the proposed regulatory change should not be made;
  - (iii) that the Minister's decision on the proposed regulatory change should be deferred<sup>7</sup>.

16. An undertaking accepted by the Commission has no legal effect unless it is registered under clause 6 of Schedule 3A of the Act<sup>8</sup>. Clause 6 requires the Commission to register the undertaking if the Minister accepts the Commission's recommendation that the Minister should accept an undertaking.

17. Clause 4 of Schedule 3A of the Act provides that the Commission must not make a recommendation in its final report unless the Commission is satisfied that the undertaking -

- (e) complies with this Act and any regulations made under this Act; and
- (f) complies with the standard access principles set out in clause 5 of Schedule 1 and any limits on those standard access principles set out in clause 6 of that schedule.

18. Clause 5 of Schedule 3A of the Act contains the requirements for the undertaking:

- (1) An undertaking must—

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<sup>7</sup> Clause 3(2) of Schedule 3A.

<sup>8</sup> Clause 3(3) of Schedule 3A.

- (a) be signed or executed by the relevant access provider; and
  - (b) specify the terms and conditions of the supply of the service; and
  - (c) specify the date by which those terms or conditions must be complied with by the relevant access provider; and
  - (d) specify a mechanism for the resolution by the Commission or a suitably qualified and experienced independent person of any issues or disputes that arise after the undertaking is registered; and
  - (e) provide for any other prescribed matters.
- (2) An undertaking must not be amended after the Commission has made a recommendation under clause 3(2) in respect of that undertaking.
19. Clause 7(1) of Schedule 3A of the Act provides that the registration of an undertaking is effective for a period of 5 years from the date of registration and any further period that the Commission and the relevant access provider may agree. Before agreeing to a further period, the Commission must consult with every person who has a material interest in the matter (clause 7(2)).
20. However, the Commission may make a recommendation in the final report to the Minister that the registration of an undertaking should expire earlier than the five year period in clause 7(1) having regard to the following matters:
- (a) the reasonable needs of potential access seekers; and
  - (b) the commercial lifetime of the service delivery technology concerned; and
  - (c) any other factors that the Commission thinks relevant<sup>9</sup>.
21. Under clause 7(5) of Schedule 3A of the Act, the registration of an undertaking expires on the date that the proposed regulatory change is made.

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<sup>9</sup> Clause 7(4).

## **2. Commission process**

### **Schedule 3 Investigation**

22. Following the completion of the Commission's review of entry issues in the cellular mobile market, on 16 November 2006 the Commission launched a Schedule 3 investigation into whether or not to amend the terms of the current roaming and co-location services in the Act.
23. An undertakings regime was incorporated within the Act via the amendments made on 22 December 2006, allowing for a relevant access provider to submit proposed terms and conditions of supply for a service that the Commission is proposing to regulate, as an alternative to regulation.
24. On 19 January 2007, the Commission received an undertaking application from Vodafone.

### **Draft Report**

25. On 3 August 2007, the Commission released its draft report. In the draft report, the Commission rejected Vodafone's undertaking and recommended that co-location on cellular mobile telephone transmission sites not move from a specified to a designated service. However, the Commission considered that changes should be made to the TCF Co-location Code and the Master Co-location Agreement to cater for some unresolved issues.
26. Following consultation, on 2 November the Commission received two undertakings from Vodafone, one for roaming and another for Co-location and sought submissions from interested parties.
27. This Final Report on the Schedule 3 Investigation into amending the co-location service on cellular mobile telephone transmission sites sets out the Commission's conclusions and recommendations in accordance with Schedule 3 and Schedule 3A of the Act.

### 3. Relevant Markets

28. As set out in its Mergers and Acquisitions Guidelines (MAG),<sup>10</sup> the Commission usually considers markets to have five dimensions. These are:
- the goods or services supplied or purchased (the product dimension);
  - the geographic area from which the goods or services are obtained, or within which the goods or services are supplied (the geographic dimension);
  - the level in the production or distribution chain (the functional dimension);
  - the timeframe or timing within which the market operates, where relevant (the temporal dimension); and
  - the different customer types within a market, where relevant (the customer dimension).
29. In the current investigation, the Commission is considering whether to alter existing regulation relating to the co-location service. Co-location is a wholesale service which allows a mobile network operator to share certain existing facilities of an established network, and to reduce the costs of constructing and extending a mobile network.
30. The Commission has therefore considered the market in which the co-location service is supplied.

#### Market for Co-location Services

31. Co-location can reduce the costs associated with the setting up of cell sites and the necessary associated infrastructure of a mobile network operator by the sharing of facilities. It can also avoid unnecessary and inefficient duplication of facilities.

#### Product Dimension

32. The regulated co-location service is restricted to ‘relevant facilities’ that are used for the transmission or reception of telecommunications via a cellular mobile telephone network, and that are owned, managed or leased by the access provider (who must operate a cellular mobile telephone network).<sup>11</sup>
33. For the purposes of defining the product market for co-location, the Commission must consider whether there are any substitutes for co-locating on cellular mobile transmission sites.

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<sup>10</sup> Commerce Commission, *Mergers and Acquisitions Guidelines*, page 14.

<sup>11</sup> Refer to the description of the service above.

*Vodafone's view*

Vodafone argued that roaming and co-location are substitutes and therefore in the same market, and that the Commission's market definition for co-location was too narrow and contrary to common sense. According to Vodafone, buildings were substitutes for cellphone sites in urban areas and Kordia or Transpower sites were substitutes for cellphone sites in rural areas.<sup>12</sup>

*Commission's view*

34. The Commission considers that the number of sites available for the co-location of cellular transmission equipment is limited, due to the suitability of sites for transmission, planning, resource management, health and environmental considerations and lease terms, which all require additional time and cost for a site to be suitable for cell site location.
35. Broadcast transmission equipment is generally located on sites that lend themselves to a high level of geographic coverage transmitting at high power (tens of kilowatts as opposed to tens of watts for cellular sites) in order to achieve optimal population coverage using as few sites as technically possible.
36. Broadcast towers are also tall structures usually on elevated land to allow the achievement of the widest coverage possible, whereas cellular mobile transmission equipment is usually placed on towers with mast heights of between ten to twenty metres. For these reasons, the Commission considers that the numbers of broadcast sites that can be used for co-locating with cellular transmission sites are limited, and are not substitutes for co-locating on cellular mobile transmission sites.
37. High voltage power transmission towers are not suitable alternatives for co-locating with cellular transmission equipment. Most high voltage power transmission towers are located around areas that do not provide the best possible location for cellular transmission equipment especially in terms of traffic volumes to warrant the expense of installing a cell site. The Commission considers that this would make high power transmission towers unsuitable for co-locating with cellular providers.
38. Wireless networks are deployed in only a few centres around New Zealand. Accordingly, co-locating with wireless networks does not offer a substitute to co-locating on cellular mobile transmission sites due to the minimal coverage of such networks in New Zealand.
39. Most roof-top sites are owned by third parties and are not in control of the access provider. Moreover, these sites are limited to central business districts.

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<sup>12</sup> Vodafone NZ, *Submission to the Commerce Commission, Market Definitions for Roaming and Co-location Services*, February 2007

40. It is the Commission's view that there are no substitutes for the co-locating of cellular transmission equipment. The product market is accordingly restricted to co-locating on cellular mobile telephone transmission sites.

#### Functional Dimension

41. Co-location services are supplied to a mobile network operator for the purpose of supplying downstream services to retail customers. The Commission considers that the relevant functional level is wholesale.

#### Geographic Dimension

42. While each co-location site covers a limited geographic area, a site by site geographic dimension of the relevant product would be too narrow. The demand for co-location is national, given that the current geographic coverage of the two existing mobile networks is national, and co-location is a way that an entrant can efficiently build out its network.
43. The Commission considers that the market for co-location is a national market.

### **Downstream Markets**

44. The assessment of the long-term benefit to end-users requires a focus on the downstream markets for retail mobile services. An increase in the number of competitive alternatives at the wholesale level is likely to increase the degree of price quality and service competitiveness at the retail level
45. The Commission considers the relevant downstream markets in the case of the current investigation to be the markets for retail mobile services.<sup>13</sup>

### **Commission's view on relevant markets**

46. The Commission's view is that the relevant markets are the national wholesale market for co-location on cellular mobile transmission sites and the markets for the supply of retail mobile services.

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<sup>13</sup> These are the retail markets for the supply of all mobile services including subscription, origination, termination, SMS and data services.

## 4. Competition Assessment

47. In assessing whether or not to recommend moving co-location from a specified to a designated service, the Commission must have regard to competition in the market for co-location services.

### Competition for co-location

48. Prior to the mobile conference, the Commission wrote to both Vodafone and Telecom requesting information as to the level of co-location on the same mast that exists between them.<sup>14</sup> The current co-location regulation only provides for co-location between cellular mobile operators on cellular mobile transmission sites.
49. Incumbent operators retain control over the optimal sites for co-location. They have no or limited incentives to support co-location on reasonable terms for competing cellular networks.
50. Telecom and Vodafone have indicated that there are only seven sites in New Zealand where Telecom and Vodafone have antennae on the same mast.
51. Both Vodafone and Telecom have in excess of 2000 sites in New Zealand. Seven co-located sites represents less than 0.5% of the sites.
52. Telecom and NZC have reached agreement allowing NZC to co-locate on Telecom's cellular mobile telephone transmission sites. However, the Commission understands that there remain a number of unresolved technical issues and co-location, though anticipated, has not yet taken place.
53. The Commission notes that not all the 2000 sites present in New Zealand can be co-locatable. However, Vodafone previously informed the Commission that co-location was possible on around 50% of their sites.<sup>15</sup>
54. NZC has announced entry into the mobile market in 2008 and will be erecting towers/masts capable of co-locating with other operators.
55. NZC's entry is however premised on being able to secure co-location from Vodafone and Telecom on reasonable terms. It is therefore unlikely that NZC's entry would represent a constraint on the existing incumbents, as NZC needs access to co-location from Vodafone and Telecom before being able to offer mobile services.

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<sup>14</sup> Email from Forster (Commission) to Glass (Vodafone) and van der Zouwe (Telecom), 27 September 2007

<sup>15</sup> Vodafone however, noted that half of the possible co-locatable sites may require structural modification, which is a costly process

## Conclusion on competition for co-location

56. Co-location of mobile antennae on cellular towers/masts, in the Commission's view, will contribute towards removing barriers to entry and lead to the improvement of the competitive conditions in the retail mobile services market.
57. The Commission notes that there appears to be no or limited incentives to support co-location on reasonable terms for competing cellular networks. While co-location agreements have been negotiated and agreed, the problem appears to be in the implementation of these agreements by the incumbent operators.
58. The Commission has assessed the level of competition in the national market for co-location on cellular mobile transmission sites and considers that this market is subject to limited competition.

## Retail Mobile Services

59. Downstream retail markets are the markets in which any benefit to end-users will emerge. To the extent that there is limited competition in the co-location market (in terms of incentives on incumbent operators to allow co-location), this is likely to flow through to the retail mobile services markets (in the form of lack of entry).
60. Recent OECD data indicates that New Zealand performs unevenly in terms of mobile prices.<sup>16</sup> New Zealand's performance over time has varied, depending on the level of usage, although the margin by which New Zealand mobile prices exceed the OECD average has narrowed in recent years. The Commission notes however, that some of the plans used by the OECD to rank New Zealand which have improved New Zealand's overall ranking have a number of restrictive conditions, including a two year contract term (reduced from three years for the December quarter), heavy early termination penalties, no handset rebate and no international roaming, which is likely to make it unattractive to the vast majority of mobile phone users and indirectly increase the cost to the consumer.<sup>17</sup>
61. Parties have argued in the past that there are cost features of the New Zealand mobile market that contribute to relatively high prices and low usage.<sup>18</sup> The Commission has previously<sup>19</sup> noted that it is unlikely that cost differences between

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<sup>16</sup> Commerce Commission, *Telecommunications Key Statistics*, September Quarter 2007

<sup>17</sup> Ibid

<sup>18</sup> See Commerce Commission, *Schedule 3 Investigation into Regulation of Mobile Termination*, Final Report, 9 June 2005

<sup>19</sup> Ibid

New Zealand and other countries explain New Zealand's relatively high retail prices for mobile services.<sup>20</sup>

62. In a market with significant fixed costs, relatively high prices when compared to other OECD countries and relatively low usage, the prevailing market conditions would be expected to lead to new entry into the market. There has been no new entry in this market. A factor cited by potential entrants has been an inability to conclude roaming and co-location agreements on reasonable terms in a timely manner.

*Vodafone's view*

63. Vodafone submitted that New Zealand does not have relatively high prices for mobile services, and disputed the correctness or completeness of the OECD figures used by the Commission as evidence of what was happening in the New Zealand mobile market.<sup>21</sup> Vodafone suggested that alternative data, like Vodafone's revenue per minute calculations, showed that voice prices were comparable with other countries and falling quickly.<sup>22</sup>
64. Vodafone argued that voice prices fell 30% in the last year.<sup>23</sup> Vodafone also claimed that revenue per user was falling, and showed that Vodafone New Zealand's monthly customer ARPU were in the lower third of Vodafone's Operating Companies.<sup>24</sup>
65. Vodafone submitted that voice minute usage for the average Vodafone customer has been increasing quickly, expecting the outgoing minutes to increase, by April 2008, to more than twice the level of the previous two years.<sup>25</sup>
66. Vodafone concluded that falling ARPU and rising minutes indicated that customers continued to get a better deal on mobile and that, from its review of the evidence, competition in the New Zealand mobile market was healthy.

*Commission's view*

67. The Commission has compared Vodafone New Zealand's revenue per minute with other Vodafone Group's operating companies<sup>26</sup> and disagrees with Vodafone. The evidence provided by the data<sup>27</sup> suggests that Vodafone Group's mobile customers in other countries have been better off in terms of relative prices and average

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<sup>20</sup> In the mobile termination investigation, the mobile operators submitted that New Zealand usage is significantly lower than the standard 'medium' and 'high' OECD mobile baskets.

<sup>21</sup> Vodafone, Submission on Draft Report, 31 August 2007, para 201, page 48.

<sup>22</sup> Ibid, para 232, page 56.

<sup>23</sup> Ibid, para 207, page 48.

<sup>24</sup> Ibid, para 217, page 51.

<sup>25</sup> Ibid, para 220, page 53.

<sup>26</sup> The Commission looked at the Vodafone Group's Key Performance Indicators for 2005, 2006 and 2007

<sup>27</sup> Ibid

minutes of voice call usage than Vodafone mobile customers in New Zealand (the exceptions are for mobile customers in Albania and Malta).

68. The Commission therefore considers that New Zealand's high prices are likely to be indicative of lower competitive pressures than in other OECD countries with lower price levels.
69. Given these conditions in the retail mobile services market, the Commission considers that the regulatory changes under consideration in this investigation are likely to facilitate new network-based entry, and this would likely result in significant benefits to end-users in the form of lower prices and greater service innovation.

### **Commission's view on competition**

70. The Commission has assessed the level of competition in the national market for co-location on cellular mobile transmission sites and considers that this market is subject to limited competition as very little co-location is taking place between cellular operators and on cellular mobile transmission towers.
71. The Commission considers that New Zealand's high prices are likely to be indicative of lower competitive pressures in downstream markets than in other OECD countries with lower price levels.

## 5. Impact Analysis of Amendments

### Evaluating the Impacts on Competition of Designation

72. In considering whether to recommend designation of the co-location service, the Commission must have regard to the extent to which price related issues have led to the low level of co-location.
73. In the absence of price regulation, there may be insufficient incentives for existing mobile network operators to offer co-location services at a reasonable price to a potential entrant.
74. The Commission was informed through the submissions and at the mobile conference that price concerns are not a major issue regarding co-location. There was consensus that the issues that made co-location difficult to achieve were non-price terms, in particular implementation issues.
75. NZC has informed the Commission that the price proposed by Telecom in the issues paper is acceptable. The Commission was further informed by NZC that the price proposed by Vodafone in its undertaking is acceptable subject to some modifications regarding calculating the value of the replacement cost.
76. The Commission has not attempted to calculate a cost-based co-location price. Such costs are likely to be specific to the type of site at which co-location is sought. Telecom's submission on the issues paper also refers to the variety of co-location facilities, including different mast types, site-specific foundations, and access and utility costs.<sup>28</sup>
77. As such costs are likely to vary from site to site, there would be considerable regulatory costs associated with determining site-specific co-location costs.
78. Moreover, it appears that co-location costs are capable of being resolved in a commercial context. Part of the co-location costs could be determined from independent sources, for example equipment vendors in the case of structures, and civil engineers in the case of foundations. Determining these costs may be amenable to some form of expert arbitration, in the event that the parties are unable to reach agreement.

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<sup>28</sup> In the letter supporting the 22 May undertaking, Vodafone also noted that the replacement costs of the structures supporting co-location will vary between different sites.

## **Conclusion on amending the co-location service**

79. The Commission's analysis leads to the conclusion that the designation of co-location would be likely to have a relatively minor incremental impact in terms of promoting new entry. However, should the Commission become aware that price is a barrier in negotiations for co-location the Commission will launch an investigation into designating the co-location service.
80. In contrast the Commission concludes that non-price and implementation issues may deter entry and these need to be addressed in order to facilitate more effective co-location on cellular mobile telephone transmission sites for the long-term benefit of end-users.
81. The Commission considers that the non-price terms for co-location should be addressed (and where appropriate aligned to the targets and timeframes contained in the UCLL Co-location Service).
82. The Commission considers that the best approach in ensuring consistency and alignment between the two co-location services would be to undertake a STD process for mobile co-location. The Commission intends to launch a STD process for mobile co-location immediately following the conclusion of the Schedule 3 Investigation into the mobile co-location service.
83. The Commission considers that the Mobile Co-location Code and Master Co-location Agreement provides a reference point that can be melded with aspects of the UCLL co-location service to produce a STD for the mobile co-location service that is sufficiently robust enough to allow for initial negotiations and the implementation of mobile co-location.
84. The Commission will be holding a scoping workshop for the STD process in early 2008.

## 6. Vodafone Undertaking

### Introduction

85. This chapter assesses the 2 November Vodafone co-location undertaking and whether accepting the undertaking as an alternative to regulatory change is likely to best give effect to section 18 of the Act.

### *Allocation of Costs*

86. In the draft report, the Commission considered that the area of likely contention for co-location is with respect to the value of the replacement cost of the facility on which co-location takes place. While the level of appropriate replacement costs may be contentious, and such costs are likely to be specific to a particular site, these costs should be reasonably transparent.
87. The Commission also considered that a specific dispute resolution mechanism should be included in the undertaking, as the determination of the actual replacement costs is likely to be the most contentious issue regarding co-location. Given the level of specificity, in particular in terms of site preparation, the services of an independent valuation expert could be sought to make a ruling on the replacement costs if a dispute arises.
88. Vodafone agreed with the Commission that it would be appropriate to provide for a specific dispute resolution mechanism and has included this in the 2 November undertaking.
89. The Commission considered that a better method for apportioning costs would be an allocation made on the basis of the number of antennas on the mast and use of floor space within equipment rooms. The 2 November Vodafone undertaking does not cater for this allocation method.
90. Vodafone argued that the key determinant for the allocation of costs should be a product of both the number of antennae on a mast multiplied by the number of services supported by those antennae. For example where a single antenna supported both a 2G and 3G network, then they ought to be counted as two when apportioning the costs.<sup>29</sup>
91. NZC argued that the proposal from Vodafone to have the allocation of costs to be a product of both the number of antennae on a mast multiplied by the number of services supported by those antennae is inefficient, and has no relationship to the actual burden of the co-location on the access provider's mast.<sup>30</sup>

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<sup>29</sup> Vodafone NZ, Commentary on revised undertaking, 31 August 2007

<sup>30</sup> NZC, Cross submission on Draft Report, 18 September 2007

92. NZC argued that the “n” in the formula for co-location in the Vodafone undertaking should be 35 years as this is the appropriate asset life of a standard long term telecommunications facility investment. NZC also argue that the current formula with a 20 year asset life (or remaining length of lease) allows Vodafone to over recover the capital cost of the Relevant Facility.
93. Relevant Facility is defined as “any towers, poles, masts or other similar structures... that are owned, managed, or leased by Vodafone...”<sup>31</sup>. In reviewing the formula, the Commission considers that where the asset is owned by Vodafone then the formula used may be appropriate provided the asset life chosen is the industry standard. However where the Relevant Facility is leased by Vodafone a simpler approach would be to apportion the rental payment between the access seeker and Vodafone. The lease payment Vodafone is making is in effect an operating fee for the use of the Relevant Facility.
94. The Commission considers that costs should be allocated based on the space used and not on the services an access seeker delivers from a co-located site as what is being purchased is space on the mast. .

### *Implementation*

95. The Commission explored the issue of co-location with parties at the mobile conference. There was consensus that the issues that made co-location difficult to achieve were not related to price but rather issues relating to non-price terms, in particular implementation issues.
96. NZC suggested that there needed to be an implementation plan similar to that used in the UCLL for the co-location of DSLAM units in Telecom exchanges. NZC noted that such a plan will ensure that there is an onus on the part of the access provider to implement the co-location agreement in a timely manner.<sup>32</sup>
97. After the mobile conference, the Commission gave Vodafone a further opportunity to submit a revised undertaking and noted that such an undertaking must endeavour to resolve some of the issues raised at the mobile conference. Some of the key issues discussed by parties at the conference included the inclusion of implementation plans for cellular co-location similar to those developed as part of the STD process for UCLL co-location and timeframes for resolving operational matters and disputes.<sup>33</sup>
98. Vodafone, in their covering letter accompanying the 2 November undertaking<sup>34</sup> noted that they had reviewed the targets and timeframes in the co-location service

<sup>31</sup> Vodafone NZ, Undertaking in respect of co-location services, 2 November 2007 Schedule 1

<sup>32</sup> NZC, Comments on the Vodafone undertakings into Roaming and Co-location Services, November 07.

<sup>33</sup> Commerce Commission, Letter from Patterson (Commission) to Chignell (Vodafone)

<sup>34</sup> Vodafone NZ, Letter accompanying the undertaking in respect of co-location services, 2 November 2007

for UCLL. Vodafone concluded that while UCLL Co-location and mobile co-location have some similarities they could not find any UCLL targets or timeframes relevant for mobile co-location which had not already been addressed within the Mobile Co-location Code (and Master Co-location Agreement). Vodafone's reasoning was that with mobile co-location it was the access seeker of the service that "builds"; such as reinforcing foundations, installing antenna or equipment on the access provider's masts or towers. This is in contrast to UCLL where the access provider (Telecom) drives the initial build<sup>35</sup>.

99. The Commission notes that in section 6.2 of the UCLL Co-location Operations Manual "Overview of the Co-location Service" that a basic element of the service is the Telecom Build, but only where that build is necessary. Section 20 of the UCLL Co-location Operations Manual relates to the access seeker build. The Commission considers that the UCLL Co-location service accommodates both access seeker and access provider builds and the situation where a Telecom Build is unnecessary.
100. The Commission disagrees with the distinction Vodafone attempts to draw in relation to the build commitments between the UCLL Co-location Service and the mobile co-location service. The fundamental aspect of each co-location service is to ensure that an access seeker who wishes to install their equipment on the access provider's infrastructure secures the necessary access to do so. In both co-location services the access provider is renting space on their infrastructure to the access seeker. Accordingly, the Commission considers that an implementation plan similar to that used in UCLL Co-location service could be developed for mobile co-location.
101. Vodafone also submitted that most of the commitments set out in Appendix 1 of the UCLL Co-location Service Level Terms<sup>36</sup> were reflected in the Mobile Co-location Code (or the Master Co-location Agreement). Annexure 2 of the Mobile Co-location Code (along with the Master Co-location Agreement) sets out the timeframes each party is committed to, from initial identification of relevant sites through to the acceptance and ready to build stage.
102. Vodafone consider that any targets or KPI's in relation to mobile co-location would need to be defined, measurable and within the control of the party which commits to them. Further, that should the Commission wish to add to, or amend, targets and KPI's within the Mobile Co-location Code (and Master Co-location Agreement) then the appropriate forum for this rests with the TCF.<sup>37</sup>

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<sup>35</sup> The 'build' Vodafone refers to is contained within section 9 of the LLU Co-location Implementation Plan and section 18 of the Co-location Operations Manual.

<sup>36</sup> Commerce Commission, Standard terms Determination for Telecom's Unbundled Copper Local Loop Network Co-location Service, Appendix 1 of Schedule 3, 7 November 2007

<sup>37</sup> Vodafone NZ, Letter accompanying the undertaking in respect of co-location services, 2 November 2007.

103. The Commission has compared the KPI's and timeframes contained within the UCLL Co-location service to the Mobile Co-location Code (along with the Master Co-location Agreement) to ensure that, where possible, a consistent approach is applied with respect to mobile co-location. The Commission notes that there are a number of similarities between the two co-location services; of which the following are some examples:
- forecasting requirements,
  - initial and full site audits (UCLL) v feasibility studies (mobile) of a relevant sites,
  - prioritisation (UCLL) v queuing (mobile)
  - assessment of space restrictions.
104. When comparing the KPI's and timeframes contained within the UCLL Co-location service to the Mobile Co-location Code (along with the Master Co-location Agreement) the Commission notes that the UCLL Co-location goes beyond the scope of the current mobile Co-location Code (and Master Co-location Agreement) in that it provides for a robust implementation plan, in addition to setting out the KPI's and timeframes for reaching a co-location agreement.
105. The Commission can see advantages in aligning the two co-location services, along with introducing an implementation plan into the mobile co-location service to incentivise each party to "build/facilitate" the co-locations agreed upon.

### **Conclusion on Vodafone Undertaking for Co-location Services**

106. In making a decision on whether or not to recommend that the Minister should accept the undertaking, the Commission must make a recommendation that the Commission considers will promote competition for the long-term benefit of end-users.
107. The Commission has assessed the 2 November undertaking for co-location submitted by Vodafone in response to the Commission's draft report on the Schedule 3 investigation.
108. With regard to the apportionment of costs, the Commission considers that a better method of apportioning costs would be an allocation made on the basis of the number of antennas on the mast and use of floor space within equipment rooms. The Commission does not consider that costs should be allocated on the basis of the number of services delivered from an antenna.
109. In relation to the calculation of the monthly rental, the Commission considers that a distinction is required with regard to a Relevant Facility that is leased by Vodafone, rather than owned. Apportionment of the rental paid by Vodafone under the pre-

existing lease with the access seeker is a more appropriate approach. Additionally, there appears to be some conflict with regard to the asset life in relation to the Relevant Facility that need addressing.

110. The Commission considers that the non-price terms for co-location should be adequately addressed by the inclusion of targets and a robust implementation plan for co-location, as implementation issues have been largely responsible for the lack of co-location in the mobile market. Vodafone's undertaking does not adequately address the implementation issues as it is dependent on the Co-location code and the Master Co-location Agreement which have not resulted in any timely co-location in the industry.
111. As a result of the reasons outlined above and the fact that no targets and timeframes have been included in the Vodafone co-location undertaking, the Commission is not satisfied that the amended Vodafone undertaking for co-location will promote competition for the long-term benefit of end-users.

## 7. Conclusion and Recommendation

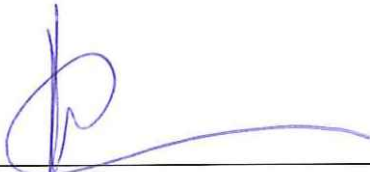
### Conclusion

112. The Commission considers that the issues preventing effective co-location in the mobile services market are non-price related and therefore the co-location service should remain a specified service.
113. The Commission considers that although a Co-location Code and the Master Co-Location Agreement has been agreed to by the industry, it has not resulted in any timely co-location. The Commission considers that a STD process for mobile co-location will resolve the issues currently preventing effective co-location in the mobile services market.
114. The Commission has considered the 2 November co-location undertaking submitted by Vodafone as an alternative to regulation. However, the Commission considers that the 2 November co-location undertaking is not likely to promote entry into the New Zealand mobile market.

### Recommendation

115. The Commission recommends that the specified service of co-location on cellular transmission sites should not be added to the designated services contained in Part 2 of Schedule 1 of the Act.
116. The Commission recommends that the 2 November Vodafone undertaking should not be accepted.

DATED this 14<sup>th</sup> day of December 2007



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Dr Ross Patterson  
Telecommunications Commissioner