STOCK EXCHANGE ANNOUNCEMENT

4 May, 2012

COMMERCE COMMISSION MEDIA RELEASE – REVISED DRAFT DETERMINATION ON THE BENCHMARKING REVIEW FOR THE UNBUNDLED COPPER LOCAL LOOP SERVICE

The Commerce Commission has today released the attached media statements in relation to revised draft determination on the benchmarking review for the unbundled copper local loop service.

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Media Release

Issued 4 May 2012

Release No. 100

Commerce Commission releases draft price for the unbundled copper local loop for consultation

The Commerce Commission today published its revised draft decision re-benchmarking the wholesale price for the unbundled copper local loop service (UCLL). The UCLL service allows Chorus's competitors to use Chorus's copper network between an exchange and an end-user's premises to provide their own services to customers.

The proposed changes will result in a reduction in the geographically averaged UCLL wholesale price from its current average of $24.46 to a new average of $19.75.

The proposed UCLL prices will be phased in over two years from 1 December 2012. The new averaged price will apply to all lines from 1 December 2014. The current urban price will remain largely unchanged, while the non-urban price will fall from $36.63 to $19.75 over the next two and a half years.

The Commission is also consulting on whether there are reasonable grounds to commence a Schedule 3 investigation into whether the pricing principles for the unbundled copper low frequency service (UCLFS) should be amended. Currently the UCLFS price is the same as the UCLL price but the services are different. The UCLL loop length is 29% shorter on average than the UCLFS. As a result it may be the case that a different pricing formula is appropriate.

"This is a draft decision subject to rigorous consultation with all interested parties including TUANZ, access seekers, Chorus and local fibre companies. We will take their views into consideration when formulating the final decision," said Dr Ross Patterson, Telecommunications Commissioner.

Submissions on the draft decision are due by 1 June 2012. Cross submissions will then be due by 15 June 2012. If the Commission decides to hold a conference, it will be held in Wellington on 4 July 2012. The Commission expects to release its final decision by mid-August 2012.

You can find a copy of the draft decision on the Commission's website: www.comcom.govt.nz/re-benchmarking-prices-for-chorus-s-unbundled-copper-local-loop-service

Background

Unbundled copper local loop
The unbundled copper local loop network service (UCLL) enables telecommunications companies to have access to, and interconnect with, Chorus's copper local loop network. When telecommunications companies have this service they can supply voice and broadband services to retail customers without needing to replicate the local loop.

Unbundled bitstream access
The unbundled bitstream access service (UBA) enables telecommunications companies to access, and interconnect with, the part of Chorus's fixed public data network that connects the end-user's building to Chorus's first data switch (or equivalent facility) other than a digital subscriber line access multiplexer (DSLAM).

Unbundled copper low frequency service
The unbundled copper low frequency service (UCLFS) enables telecommunications companies to access, and interconnect with, the low frequency (being the frequency band between 300 and 3400 Hz) in Chorus's copper local loop network that connects the end-user's building to the handover point in Chorus's local telephone exchange.

The Commission's standard terms determinations that regulate the price and non-price terms for the UCLL, UCLFS and UBA services and related documents can be found at: www.comcom.govt.nz/standard-terms-determinations

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Public version

Revised draft determination on the benchmarking review for the unbundled copper local loop service

Draft Determination under section 30K and section 30R of the Telecommunications Act 2001

The Commission: Dr Ross Patterson
Anita Mazzoleni
Pat Duignan
Dr Stephen Gale

Date of draft determination: 4 May 2012

Confidential material in this report has been removed. Its location in the document is denoted by [ ].

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Acronyms and abbreviations

ACCC	means Australian Competition and Consumer Commission
Act	means the Telecommunications Act 2001
Amendment Act	means Telecommunications (TSO, Broadband, and Other Matters) Amendment Act 2011
CFH	means crown fibre holdings
COI	means Commission only information
CPI	means consumer price index
DSL	means digital subscriber line
DSLAM	means digital subscriber line access multiplexer
ESA	means exchange service area
FAC	means fully allocated cost
FLCB	means forward-looking cost-based
FPP	means final pricing principle
FTTH	means fibre-to-the-home
FTTN	means fibre-to-the-node
FX	means foreign exchange
IPP	means initial pricing principle
LRIC	means long run incremental cost
MEA	means modern equivalent asset
MDF	means main distribution frame
MPF	means metallic path facility
MTAS	means mobile termination access service
POTS	means plain old telephone service
PPP	means purchasing power parity
STD	means standard terms determination

TELRIC	means total element long run incremental cost
TSLRIC	means total service long run incremental cost
TSO	means telecommunications service obligations
UBA	means unbundled bitstream access
UBA STD	means UBA Standard Terms Determination
UFB	means Ultrafast Broadband
UCLFS	means unbundled copper low frequency service
UCLL	means unbundled copper local loop
UCLL STD	means UCLL Standard Terms Determination
UNE-L	means unbundled network element - loop
VDSL	mean very-high-bitrate digital subscriber line

Executive summary

1. This revised draft decision sets out the Commission's views on updated prices for the unbundled copper local loop (UCLL) service. The UCLL service enables telecommunications providers to rent Chorus' copper telephone lines to provide voice and broadband services to consumers.

2. The views expressed in this Draft Decision are the Commission's current views and are subject to further consultation in accordance with sections 30K, 30L and 30R of the Act.

Reasons for undertaking the UCLL price review

3. Prices for the UCLL service were originally set over four years ago, as part of the UCLL standard terms determination which was released in November 2007.[1]

4. The Commission is required to set UCLL prices by international benchmarking. The purpose of the UCLL benchmarking review is to update the benchmarking data used to determine UCLL monthly rental and connection charges.

Approach to the UCLL benchmarking review

5. Updated UCLL monthly rental and connection charges have been calculated by benchmarking against current prices for local loop unbundling in other countries (the re-benchmarking approach). The Commission is required to benchmark against prices for similar services, in comparable countries, that use a forward-looking cost-based pricing method.

6. The Commission, in its draft decision in September 2011, updated the UCLL price by benchmarking trends in forward-looking cost-based prices (referred to as the indexing approach). The indexing approach was adopted because a limited number of countries met the benchmarking criteria.

7. However, the majority of the submissions at the UCLL averaging conference stated that a better approach to indexing would be to relax the comparability criteria and undertake a full re-benchmarking.

8. The Commission has in this revised draft decision relaxed the population density screening criterion, which had previously excluded most of the benchmarks, on the advice of WIK-Consult. WIK-Consult are experts in local loop network cost modelling.

9. When the population density criterion is relaxed, a robust benchmarking data set is available. Therefore, the re-benchmarking approach has been used to calculate updated UCLL prices.

[1] Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007.

UCLL monthly rental prices

Benchmarked monthly rental prices

10. New Zealand has a lower population density than all of the benchmarked countries. As a result, the Commission expects that there may be a downwards bias in the benchmarked prices due to relaxing the population density screening criterion.

11. The Commission had previously examined the impact of potential cost-drivers on UCLL monthly rental prices as part of an econometric model which is contained in the UCLL standard terms determination. The results of the econometric model have been used to adjust the benchmarked UCLL monthly rental prices to correct for the expected downwards bias.

12. The resulting benchmarked geographically averaged UCLL monthly rental price is $19.75. The de-averaged urban and non-urban prices are $15.82 and $29.19 respectively.

Impact of cabinetisation on the UCLL service

13. Since the UCLL standard terms determination was released in November 2007, Chorus has deployed a fibre-to-the-node network through a process referred to as cabinetisation. The aim of cabinetisation was to shorten the length of copper in its network in order to improve broadband speeds.

14. Cabinetisation has reduced the average copper loop length for the UCLL service from 2,066 metres, to 1,470 metres. This is a reduction of approximately 29%.

15. A shorter average loop length is expected to lead to a lower forward-looking cost-based UCLL monthly rental price. This is because loop length is related to trench length, which is one of the most important cost drivers for a fixed-line telecommunications network.

16. As a result of cabinetisation, the loop length for UCLL service is now comparable to the loop lengths of those countries in the benchmark set.

17. The benchmarked geographically averaged price of $19.75 represents a 19% decrease from the current price of $24.46.

Glide path for UCLL monthly rental prices

18. While there are arguments for and against using a glide path, the Commission's preliminary view is that a glide path should be used to transition from the current UCLL prices[2] to the single averaged UCLL price that will apply from 1 December 2014.

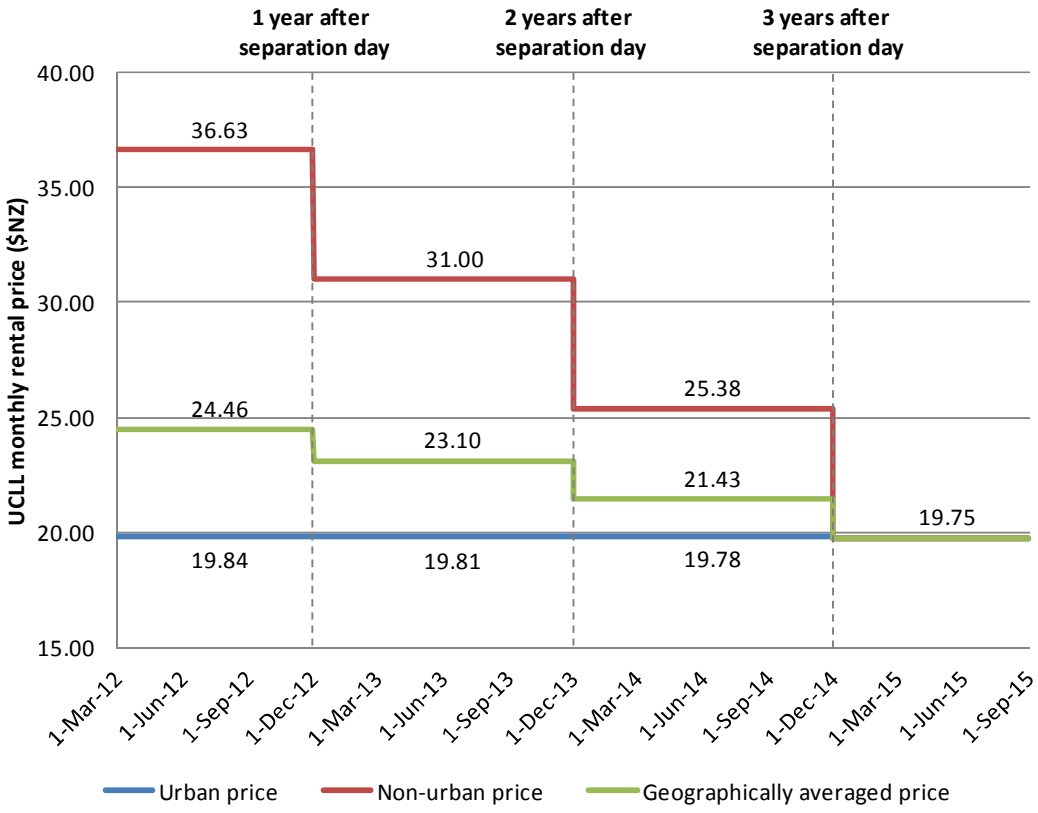
19. The price fluctuation due to geographic averaging (which would take place in the absence of a glide path) is a situation created by the recent amendments to the Act. The Commission is required implement the geographically averaged price in a way

[2] The current prices are $19.84 in urban areas, $36.63 in non-urban areas and a geographically averaged price of $24.46.

that is likely to best promote competition for the long-term benefit of end-users. The Commission's preliminary view is that a glide path meets this requirement.

20. The proposed glide path is shown in Figure 7 below.

Figure 1: Glide path for the UCLL monthly rental service[3]



Availability of the final pricing principle

21. A party may apply for a pricing review at the conclusion of the UCLL benchmarking review. The Commission considers that amendments to the UCLL prices resulting from this review still qualify as a determination under section 30M and section 30R of the Telecommunications Act, and therefore, are capable of a pricing review under section 42.

Sub-loop UCLL and UBA without POTS prices

22. When the UCLL benchmarking review was initiated, the Commission noted that it would also update prices under the UBA and Sub-loop Services standard terms determinations that are affected by the UCLL benchmarking data update.

Sub-loop UCLL

23. Monthly rental prices for the sub-loop UCLL service have previously been set as 60.4% of the full UCLL prices. 60.4% is the benchmarked proportion of sub-loop to

[3] Note: This figure contains a non-zero vertical axis.

full loop prices in jurisdictions where forward-looking cost-based access prices are available.

24. The sub-loop UCLL service has not been subject to the reduction in loop length that has occurred in the full UCLL service. Therefore, the Commission considers that applying the 60.4% proportion to the proposed UCLL monthly rental prices may lead to below-cost prices for the sub-loop UCLL service. The Commission's preliminary view is that the sub-loop UCLL prices should be updated in a subsequent review.

UBA without POTS

25. The Commission has previously determined that the UBA without POTS (naked UBA) uplift is to be set by reference to the geographically averaged UCLL price contained in the UCLL standard terms determination.[4]

26. Changes to the geographically averaged UCLL price now automatically flow through to the naked UBA service.

Link between UCLL and UCLFS prices

27. The price for the unbundled copper low frequency service (UCLFS) is currently required to be set with reference to the UCLL price. However, as described above, the average copper loop length for the UCLL service is now approximately 29% shorter than it was in 2007, which is likely to be reflected in the updated UCLL price.

28. The UCLF service, on the other hand, has not been subject to this reduction in average copper loop length. As a result, there is a risk that Chorus will under-recover forward-looking costs for the UCLF service if the UCLF price continues to be based on the geographically averaged UCLL price.

29. Therefore, the Commission's preliminary view is that there are reasonable grounds to investigate this matter under clause 1(1) of Schedule 3. Any investigation would consider whether the pricing principles for UCLFS should be disconnected from the UCLL service.

UCLL connection charges

30. Revised connection charges have also been benchmarked. The updated connection charges are:

- where no truck roll is required: $64.78
- bulk transfers: $48.59
- where truck roll is required: $138.63.

[4] Commerce Commission, Decision No. 739: *Final decision in relation to the review of the UCLL, UBA and Sub-loop Services standard terms determinations (STDs) for the purpose of implementing clause 4A of the Telecommunications Amendment Act 2011*, 24 November 2011.

Introduction

31. This revised draft decision is released as part of the unbundled copper local loop (UCLL) benchmarking review. It sets out updated monthly rental and connection charges for the UCLL service.

32. The views expressed in this Draft Decision are the Commission's current views and are subject to further consultation in accordance with sections 30K, 30L and 30R of the Act.

Structure of this decision document

33. The key sections of this revised draft decision document are summarised below:

    33.1 **Determination framework:** Describes the statutory powers that the Commission is required to apply for the purpose of the UCLL benchmarking review.

    33.2 **Approach to benchmarking UCLL monthly rental and connection charges:** Describes the approach to updating benchmarked prices for the UCLL service.

    33.3 **Applying the IPP for the UCLL service:** Describes the approach to applying the initial pricing principle (IPP) for the UCLL service. This section explains how we have applied each of the key components of the IPP: benchmarking against prices for similar services, in comparable countries, that use a forward-looking cost-based pricing method.

    33.4 **UCLL monthly rental prices:** Summarises benchmarked UCLL monthly rental prices for countries that meet the benchmarking criteria. Urban, non-urban and geographically averaged UCLL monthly rental prices for New Zealand are calculated based on the benchmarking data.

    33.5 **Glide path for UCLL monthly rental prices:** Considers whether a glide path should be used to transition from the current UCLL prices, to the proposed averaged UCLL price that will come into effect 1 December 2014.

    33.6 **Sub-loop UCLL and UBA without POTS prices:** Considers whether any changes are required to the sub-loop services STD or the UBA STD to reflect the proposed UCLL prices contained in this revised draft decision.

    33.7 **Link between UCLL and UCLFS prices:** Describes the Commission's preliminary view that there are reasonable grounds for a Schedule 3 investigation.

    33.8 **UCLL connection charges:** Summarises benchmarked UCLL connection charges for countries that meet the benchmarking criteria. Transfer, bulk transfer and new connection prices for New Zealand are calculated based on the benchmarking data.

Background to the UCLL benchmarking review

34. In August 2011 the Commission commenced a review (the UCLL benchmarking review), under section 30R of the Telecommunications Act (the Act), for the purpose of:

    34.1 updating the benchmark data set used in the UCLL STD to determine the monthly UCLL prices and UCLL connection charges

    34.2 updating prices under the UBA and Sub-loop Services STDs that are affected by the UCLL benchmark data update.

35. The benchmarking review was launched in addition to a separate section 30R review for the purpose of implementing clause 4A of subpart 1 of Part 1 of the Act, which had been initiated on 7 July 2011 (the clause 4A review).

36. On 9 September 2011 the Commission released a combined draft decision for the two reviews.[5] In relation to the UCLL benchmarking review:

    36.1 The Commission considered updating the benchmark set contained in the UCLL standard terms determination (UCLL STD) to identify movements in prices for **similar services** in **comparable countries** that use a **forward-looking cost-based** pricing method. However, an update of the benchmark set produced only two observations (Finland and Sweden). The Commission considered that using the price change observed in two jurisdictions was not sufficiently robust to set updated UCLL monthly rental and connection charges for New Zealand.

    36.2 Therefore, the Commission benchmarked price trends for those jurisdictions that consistently applied a forward-looking cost-based pricing method at the time of the UCLL STD (in 2007) and at the present day (the indexing approach). This generated a sample set of seven jurisdictions, where there was a trend in prices for the UCLL monthly rental service, and six jurisdictions, where there was a trend in prices for UCLL connection charges.

37. The Commission received submissions and cross-submissions on the draft decision and a conference was held on 27 October 2011.

38. At the Conference parties raised the following issues:

    38.1 Indexing is not appropriate, and if the Commission changes its methodology then extra consultation is required[6]

    38.2 The Commission should include US states in the benchmark set[7]

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5 Commerce Commission, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA up-lift*, 9 September 2011.

6 FINAL TRANSCRIPT UCLL and UBA Averaging and Section 30R Reviews Conference, 27 October 2011, page 15, line 10-18 & page 162, lines 2-11.

38.3 That the reduction in loop length resulting from cabinetisation should have an effect on the forward-looking cost-based price for the UCLL service.[8]

39. On 4 November 2011 the Commission released a revised draft decision for consultation.[9] In that draft, the Commission's view was that the two reviews should be separated, with:

39.1 The clause 4A review to be completed before separation day

39.2 The UCLL benchmarking review to be completed after separation day.

40. The Commission released its final UCLL averaging decision on 24 November 2011. That decision confirmed that the clause 4A (averaging) and the benchmarking reviews were to be separated, with the benchmarking review (this review) to be completed after separation day.[10]

41. On 17 February 2012 the Commission released a discussion paper seeking views on a number of unresolved benchmarking issues that were identified in the final UCLL averaging decision.[11] These issues included the impact of loop length on a forward-looking cost-based UCLL price and whether the Australia and US states should be included in the benchmark set. Submissions on the discussion paper were received on 9 March 2012.

42. This revised draft decision is the next step towards completing the benchmarking review.

43. A more detailed background of the process for the UCLL benchmarking review is included in Attachment F.

Consultation on this revised draft UCLL benchmarking review decision

44. We invite submissions on the preliminary views in this revised draft decision by **4pm on Friday 1 June 2012**. Cross-submissions will then be due by **4pm on Friday 15 June 2012**.

45. If the Commission decides to hold a conference it will be held in Wellington **on 4 July 2012**.

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7 FINAL TRANSCRIPT UCLL and UBA Averaging and Section 30R Reviews Conference, 27 October 2011, page 88, lines 18-24.

8 FINAL TRANSCRIPT UCLL and UBA Averaging and Section 30R Reviews Conference, 27 October 2011, page 83-84, lines 15-3.

9 Commerce Commission, *Revised draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL and Sub-loop Services standard terms determinations and consequential changes to the UBA up-lift*, 4 November 2011, page 2-3, paragraph 2.

10 Commerce Commission, Decision No. 739: *Final decision in relation to the review of the UCLL, UBA and Sub-loop Services standard terms determinations (STDs) for the purpose of implementing clause 4A of the Telecommunications Amendment Act 2011*, 24 November 2011.

11 Commerce Commission, *Discussion document on the re-benchmarking of prices for Chorus's unbundled copper local loop service*, 17 February 2012.

Determination framework

Purpose

46. This section describes the statutory powers that the Commission is required to apply for the purpose of the UCLL benchmarking review.

Sections 18 and 19

47. In making this determination, the Commission must consider the purpose set out in section 18. Section 18 describes the purposes 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.
>
> (2A) To avoid doubt, in determining whether or not, or the extent to which, competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand is promoted, consideration must be given to the incentives to innovate that exist for, and the risks faced by, investors in new telecommunications services that involve significant capital investment and that offer capabilities not available from established services.
>
> (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.

48. Section 19 of the Act directs the Commission to consider, when making a determination, to satisfy itself that the determination best gives, or is likely to best give, effect to the purpose set out in section 18. Section 19 states:

> **19 Commission and Minister must consider purpose set out in section 18 and additional matters**
>
> If the Commission or the Minister (as the case may be) is required under this Part or any of [Schedules 1, 3, and 3A] to make a recommendation, determination, or a decision, the Commission or the Minister must—
>
> (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.

49. The purpose statement in section 18 was amended by the Amendment Act with the inclusion of a new subsection 2A. Under subsection 2A, the Commission is required to consider the incentives to innovate that exist for, and the risks faced by, investors in 'new telecommunication services'. These matters must be considered when determining whether or not, or the extent to which, competition in telecommunications markets for the long-term benefit of end-users of telecommunication services within New Zealand is promoted.

50. The reference in sub-section 2A to new telecommunications services that involve significant capital investment and that offer capabilities not available from established services includes investments in UFB. Therefore, the Commission will consider investments in UFB when considering the requirements of subsection 2A.

The service description

51. This determination concerns the designated access service of Chorus's unbundled copper local loop network" as set out in subpart 1 of Part 2 of Schedule 1 of the Act. The service is defined as follows:

Chorus's unbundled copper local loop network

Description of service:	A service (and its associated functions, including the associated functions of operational support systems) that enables access to, and interconnection with, Chorus's copper local loop network (including any relevant line in Chorus's local telephone exchange or distribution cabinet)
Conditions:	Nil
Access provider:	Chorus
Access seeker:	A service provider who seeks access to the service, except, until 3 years after separation day, Telecom
Access principles:	The standard access principles set out in clause 5
Limits on access principles:	The limits set out in clause 6
Initial pricing principle:	Benchmarking against prices for similar services in comparable countries that use a

	forward-looking cost-based pricing method
Final pricing principle:	TSLRIC
Requirement referred to in section 45 *or final pricing principle:*	Nil
Additional matters that must be considered regarding application of section 18:	The Commission must consider relativity between this service and Chorus's unbundled bitstream access service (to the extent that the terms and conditions have been determined for that service)

Statutory requirements for this determination

52. The Commission makes this determination under section 30R of the Act. Section 30R provides as follows:

> **30R Review of standard terms determination**
>
> (1) The Commission may, on its own initiative, commence a review, at any time, of all or any of the terms specified in a standard terms determination.
>
> (2) The Commission may replace a standard terms determination or vary, add, or delete any of its terms, if it considers it necessary to do so after conducting a review.
>
> (3) In exercising the power conferred by subsection (2), the Commission may specify how and when a replacement standard terms determination, or a variation, addition, or deletion of terms specified in the determination, takes effect in relation to—
>
> (a) the initial standard terms determination:
>
> (b) any relevant residual terms determination.
>
> (4)The Commission may conduct a review in the manner, and within the time, that it thinks fit.
>
> (5)The Commission must—
>
> (a) consult all parties to the determination on the review; and
>
> (b) give public notice of the commencement of the review; and
>
> (c) include in the public notice under paragraph (b) the closing date for submissions; and
>
> (d) give public notice of the result of the review.

Telecom cannot be an Access Seeker for UCLL

53. The description of the UCLL Service explicitly provides that Telecom cannot be an Access Seeker of the UCLL Service until three years after separation day. This access prohibition does not apply to any other Access Seeker.

Relativity

54. The service description for the UCLL service requires that the Commission must consider relativity between the UCLL Service and the UBA Service (to the extent that terms and conditions have been determined for these services).

55. At the time the UCLL STD took effect, no terms and conditions were determined for the UBA STD and the Commission was not required to consider relativity. At that stage, the Commission made an interim comparison between the services using the draft UBA STD and the final UCLL STD. For example, the Commission had regard to the need for consistency between equivalent provisions in the UCLL General Terms and the UBA General Terms. Relativity was, however, considered in the final UBA STD.

56. Now that the UBA STD is in effect, the Commission is required to consider relativity between the UBA and UCLL Services for the purposes of this determination.

57. Relativity considerations are discussed in this draft decision at paragraphs 253 to 266.

Availability of the final pricing principle

58. A key question that has arisen is whether a party may apply for a pricing review of the UCLL price that is determined under a review under section 30R of the Act. This issue arises because of the requirements of section 42 of the Act which provides that a pricing review is specifically made available in respect of "a determination made under section 27 or section 30M regarding the price payable...".[12] Section 42 appears to not cover a determination that is amended under section 30R of the Act.

59. During the process for the clause 4A UCLL averaging review, the Commission received a number of submissions on the availability of the final pricing principle (FPP).

60. TelstraClear requested that the Commission undertakes its benchmarking review as a reconsideration under section 59 of the Act if the Commission is concerned that the FPP is not available for a review under section 30R.[13] TelstraClear submitted that under a reconsideration the Commission would re-apply section 30M and so trigger the right to a pricing review under section 42 of the Act.

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[12] Section 42(1) states that "if a determination is made under section 27 or section 30M regarding the price payable for a designated access service, a party to the determination may apply for a review of that part of the determination that relates to the price to be paid for the service".

[13] TelstraClear, *Submission on the revised draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL and sub-loop service standard terms determinations and consequential changes to the UBA up-lift*, 11 November 2011, page 6.

61. TelstraClear also argued that the right to an FPP reactivates following a fresh benchmarking exercise by virtue of an implied power. Specifically, it considered that public notice of the new UCLL price under section 30R(5)(d) has the same effect as public notice of the STD under section 30M(c).[14]

62. Chorus submitted that the application of the FPP should be available if necessary, but maintained that the only way to achieve this within the wording of the Act is to re-issue the UCLL STD under section 30M, which requires the STD process to be followed.[15] Chorus noted that it did not agree with TelstraClear's reading of section 59(3) of the Act, that reconsideration under section 59 could trigger the ability to apply for pricing review.

63. Vodafone submitted that a party could apply for a pricing review of a price that is changed by a review under section 30R.[16] Vodafone submitted that where a section 30R review changes a fundamental term, such as a core price, the STD is replaced, giving rise to a new section 30M determination that is capable of a pricing review.[17]

64. The Commission considers that a party may apply for a final pricing review of the UCLL price under section 42 at the conclusion of the UCLL benchmarking review. This is because a section 30M determination that is amended or replaced under section 30R still qualifies as a 'section 30M determination' that is capable of review under section 42.

65. Further support for this view is found in the fact that any changes introduced to the section 30M determination through section 30R must follow the statutory framework for standard terms determinations.[18] For example, the Commission could not review its UCLL determination and make changes that ignored the requirements of sections 30O and 30P, or which added a time limit contrary to section 30Q. Therefore, a determination that is amended or replaced under section 30R is capable of founding a pricing review under section 42.

66. The Commission will give public notice of its determination section 30R(5)(d) which will also qualify as public notice under section 30M(c). In addition, the Commission will also adopt parts of the standard terms determination process during the UCLL benchmarking review given that section 30R(4) allows the Commission to conduct a review in the manner, and within the time, that it thinks fit.

67. As a section 59 reconsideration can only be undertaken if requested by a party, the Commission cannot undertake a reconsideration on its own volition.

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14 TelstraClear's opening statement at the conference, dated 27 October 2011 at page 2.

15 Chorus's cross-submission on Commission UCLL Revised Draft UCLL Pricing Review Decision, dated 16 November 2011, at page 4.

16 UCLL and UBA Averaging and Section 30R Reviews Conference held on 27 October 2011, conference transcript at page 60, lines 13 to 33.

17 Ibid.

18 Sections 30C to 30M of the Act.

Approach to benchmarking UCLL monthly rental and connection charges

Purpose

69. This section describes the approach to updating benchmarked prices for the UCLL service. It sets out the Commission's draft view regarding whether an indexing or re-benchmarking approach is appropriate for updating UCLL prices.

The indexing and re-benchmarking approaches to updating UCLL prices

70. The Commission is required to update monthly rental and connection charges for the UCLL Service by benchmarking against prices for local loop unbundling in other jurisdictions.[19]

71. Two main approaches to updating UCLL prices have been considered by the Commission during the process of this review:

    71.1 The re-benchmarking approach, which involves benchmarking directly against prices that currently apply for similar services in comparable countries that use a forward-looking cost-based pricing methodology.

    71.2 Where the re-benchmarking approach does not produce sufficient observations, an indexing (or price trends) approach. This approach involves benchmarking price trends for those jurisdictions that consistently applied a forward-looking cost-based pricing method at the time of the UCLL STD (in 2007) and at the present day, and was adopted by the Commission in the original draft decision.

Benchmarking approach in the draft UCLL averaging decision

72. In the draft UCLL averaging decision the Commission tried to update the UCLL prices by benchmarking against prices for similar services in comparable countries that using a forward-looking cost-based pricing method.

73. The benchmarking data set, applying the 2007 comparability criteria, produced two observations.[20] Although forward-looking cost-based UCLL prices were available for 12 countries, only two met the comparability criteria that were applied in the UCLL STD.[21]

74. The Commission considered that a benchmarking data set comprising prices for only two jurisdictions was not sufficiently robust to set updated UCLL prices.

75. Due to the lack of data points available under the re-benchmarking approach, the Commission's view was that the indexing approach should be used to update UCLL monthly rental and connection charges.

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19 The initial pricing principle is quoted in full in paragraph 93 below.

20 The two countries were Finland and Sweden.

21 Commerce Commission, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA up-lift*, 9 September 2011, page 6.

76. The indexing approach produced a wider set of benchmarked observations. The Commission had regard to price changes in countries that met the forward-looking cost-based benchmarking criteria both at the time of the UCLL STD and the present day, even though some of those countries did not meet the comparability criteria used in the UCLL STD. The Commission considered that "…trends in cost-based prices are unlikely to be sensitive to the comparability criteria".[22]

77. The Commission's preliminary view was that "…it is appropriate to benchmark percentage changes in prices (as opposed to conducting a new benchmarking exercise) in order to ensure predictability and maintain consistency with the prices that currently apply under the UCLL STD".[23] The Commission noted that this methodology would ensure that any updated prices in New Zealand reflect changes in prices since the date of the STD.

78. The indexing approach generated a sample of seven jurisdictions where price trends were available for UCLL monthly rental prices, and six jurisdictions where price trends were available for UCLL connection charges. The Commission proposed using the median price point for each sample. This led to a:

    78.1 price decrease of 2.18% for the UCLL monthly rental service

    78.2 price decrease of 28.41% for the UCLL transfer connection charge.

Consultation on the benchmarking approach used in the draft UCLL averaging decision

79. In response to the draft decision, interested parties submitted that:

    79.1 The Commission's approach to benchmarking price trends was appropriate (Chorus submission).[24]

    79.2 The benchmarking approach adopted by the Commission was not in accordance with the initial pricing principle (IPP) and the Commission was required to undertake a new benchmarking exercise (TelstraClear, Vodafone and CallPlus and Kordia submissions).[25]

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22 Commerce Commission, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA up-lift*, 9 September 2011, page 23, paragraph 80.

23 Commerce Commission, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA up-lift*, 9 September 2011, page 18, paragraph 52.

24 See for example Chorus, *Submission on Commission draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL STD and consequential changes to the UBA uplift*, 3 October 2011, page 2, paragraph 3.

25 See for example, TelstraClear, Submission *on the Reviews of the Application of the Initial Pricing Principle of, and updated benchmarking for, the UCLL Standard Terms Determinations and consequential changes to the UBA Up-lift*, 2 October 2011, page 2, paragraph 2; Vodafone, *Review of the Initial Pricing Principle and updating of the Unconditioned Local Loop service (UCLL)*, 3 October 2011, page 2; CallPlus and Kordia, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA uplift*, 3 October 2011, page 2, paragraph 3.

80. Chorus submitted that updating UCLL prices by reference to changes in underlying costs is consistent with the application of good economic policy because it:[26]

    80.1 Ensures that changes in regulated prices reflect changes in access providers' costs to provide the regulated services

    80.2 Avoids unanticipated and material changes in regulatory pricing. Access providers and access seekers are aware of, and can track, changes in input costs over time

    80.3 Ensures a consistent and predictable approach to regulatory pricing over time which provides regulatory and investment certainty. This minimises the risk of price change due solely to changes in pricing methodology

    80.4 Is consistent with the widespread regulatory practice to update prices over time based on movements in costs as reflected in indices such as the CPI and the efficiency of similar businesses. Further, the indexing approach has the advantage of using the information on forward-looking costs contained in the 2007 benchmarks.

81. TelstraClear, Vodafone, CallPlus and Kordia, on the other hand, argued that the re-benchmarking approach is appropriate. For example, Vodafone submitted that:[27]

> …the Commission has erred by proposing the use of an index approach rather than benchmarking as outlined in legislation. The use of an index appears to be in response to the perceived lack of data points. Having reviewed international data, we consider that the Commission is imposing unnecessary restrictions on the selection of comparable jurisdictions, in excess of what is contemplated in the legislation. The result is revised UCLL draft pricing above efficient cost.

82. TelstraClear argued that the indexing approach is "significantly flawed". They submitted that "…problems with the data, the methodology and the departure from legislation, necessitate that the Commission reconsiders how it updates UCLL prices".[28]

83. On 27 October the Commission held a conference for interested parties. At the conference, parties supported the positions from their submissions, with the following additional points being made:

    83.1 TelstraClear acknowledged that both the percentage change approach and re-benchmarking are open to the Commission. However, they considered

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[26] Chorus, *Submission on Commission draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL STD and consequential changes to the UBA uplift*, 3 October 2011, pages 3-4, paragraph 8.

[27] Vodafone, *Review of the Initial Pricing Principle and updating of the Unconditioned Local Loop service (UCLL)*, 3 October 2011, page 3.

[28] TelstraClear, Submission *on the Reviews of the Application of the Initial Pricing Principle of, and updated benchmarking for, the UCLL Standard Terms Determinations and consequential changes to the UBA Up-lift*, 2 October 2011, page 2, paragraph 2.

that section 19 considerations lead to a view that fresh benchmarking is the most appropriate approach.[29]

83.2 Telecom/Chorus stated that adopting the re-benchmarking approach would be a material change in the Commission's views, and if this approach was adopted Telecom/Chorus would expect the Commission to conduct a longer review process with further consultation and a revised draft decision.[30]

Commission's revised view on the benchmarking approach

84. The initial pricing principle (IPP) requires the Commission to benchmark against prices for similar services, in comparable countries, that use a forward-looking cost-based pricing method. The re-benchmarking approach involves directly benchmarking against current UCLL prices for countries that meet the requirements of the IPP.

85. The indexing approach, on the other hand, involves benchmarking price trends for those jurisdictions that consistently applied a forward-looking cost-based pricing method at the time of the UCLL STD (in 2007) and at the present day.

86. The reason the Commission used an indexing approach in the draft UCLL averaging decision was the limited number of countries that met the benchmarking criteria under the re-benchmarking approach.[31] This was because very few countries met the population density comparability criterion from the UCLL STD.

87. At the UCLL averaging conference, it was argued that relaxing the population density and teledensity comparability criteria was an option available to the Commission.[32,33]

88. The Commission has received advice from WIK-Consult that population density alone, when measured at the national level, is of little relevance when assessing UCLL cost differences between countries.[34] This advice is described in more detail in paragraphs 144 to 146 below.

89. If population density is relaxed as a comparability criterion, a dataset of nine countries is available for benchmarking UCLL monthly rental prices. Therefore, the Commission considers that benchmarking is the appropriate approach to this review.[35]

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29 Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final transcript*, 27 October 2011, page 49.

30 Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final transcript*, 27 October 2011, pages 11, 126 and 165-166.

31 Commerce Commission, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA up-lift*, 9 September 2011, page 6.

32 Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final transcript*, 27 October 2011, page 14, lines 19-25.

33 Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final transcript*, 27 October 2011, page 57, lines 20-29.

34 The approach to comparability is described in paragraphs 129 to 180 below.

35 Benchmarking data under the indexing approach is included in Attachment A.

90. Therefore, the Commission's draft view is that the re-benchmarking approach should be used to update UCLL prices.

Applying the IPP for the UCLL service

Purpose

91. This section describes the approach to applying the IPP for the UCLL service. It explains how the Commission has applied each of the key components of the IPP: benchmarking against prices for similar services, comparable countries and a forward-looking cost-based pricing method.

The initial pricing principle

92. A two-part tariff structure applies to the UCLL service. There is a one-off connection charge (reflecting the costs of setting up the service) and a recurring monthly rental charge.

93. The Commission is required to set the monthly rental and connection charges for the UCLL service by benchmarking against prices for local loop unbundling in other jurisdictions. The IPP for the UCLL service is:

> Benchmarking against prices for similar services in comparable countries that use a forward-looking cost-based pricing method

94. The three key components of the IPP are benchmarking against prices for similar services, in comparable countries, that use a forward-looking cost-based pricing method. The high-level approach adopted by the Commission when applying the IPP is:

    94.1 **Similar services:** identify countries in which regulated access to local loop unbundling is available

    94.2 **Forward-looking cost-based pricing method:** eliminate those countries that do not use a forward-looking cost-based pricing method

    94.3 **Comparable countries:** apply comparability criteria to eliminate countries that are likely to have UCLL costs that differ significantly from New Zealand.

95. Each of the key components of the IPP is described below.

Similar services

96. The first step in establishing the benchmark set is to identify countries in which similar services are available.

97. The UCLL service enables access seekers to rent the copper local loop between the external termination point at the end-users premises and the main distribution frame in the local telephone exchange.

98. Local loop unbundling is a relatively standardised service and service descriptions do not vary significantly across countries. Accordingly, those countries where regulated access to local loop unbundling is available have been identified as the starting point in establishing the benchmarking data set.

Forward-looking cost-based pricing method

99. Having identified countries where similar services are available, those countries that do not use a forward-looking cost-based pricing method have been eliminated.

100. The following criteria have been used to identify UCLL prices for countries that apply a forward-looking cost-based pricing methodology:

100.1 A forward-looking LRIC modelling approach is used

100.2 Updated and recent information on UCLL rates is available

100.3 Unbundling is operational and loops have been unbundled.

101. These are the same forward-looking cost-based benchmarking criteria that were applied in the UCLL STD.[36]

A forward-looking LRIC modelling approach is used

102. The price set under the IPP should reflect the final pricing principle (FPP), as the IPP is designed to be a cost-effective and timely proxy for the price for the service that would result under the FPP. The FPP for the UCLL Service is total service long run incremental cost (TSLRIC).

103. TSLRIC is defined in the Act as:

> **TSLRIC**, in relation to a telecommunications service,—
>
> (a) means the forward-looking costs over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, the service, taking into account the service provider's provision of other telecommunications services; and
>
> (b) includes a reasonable allocation of forward-looking common costs

104. The Commission has benchmarked only against countries where prices for local loop unbundling are set using a TSLRIC (or equivalent) pricing methodology. Consistent with the *forward-looking* requirement of the IPP, the benchmarked prices are required to be based on current costs.[37]

Updated information on UCLL rates is available and unbundling is operational

105. The following screening criteria have also been applied when identifying countries that use a forward-looking cost-based pricing method:[38]

105.1 **Updated and recent information on UCLL rates is available.** Forward-looking costs evolve over time and regulated rates may become outdated.

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[36] See paragraphs 61-66 of the Draft UCLL STD. The same criteria were applied in the Final UCLL STD.

[37] Forward-looking costs are described in paragraph 115 below.

[38] This is consistent with the approach in the UCLL STD. See Commerce Commission, *Draft Standard Terms Determination for the designated service Telecom's unbundled copper local loop network*, 31 July 2007, page 20-21, paragraphs 61-62. These criteria were also applied in the final UCLL STD.

105.2 **Unbundling is operational and loops have been unbundled.** In countries where unbundling is not operational, the recurring rates for the UCLL service may not necessarily be meaningful.

Exclusion of US states from the benchmarking data set

106. Prices for US states were included in the benchmarking data set in the original UCLL standard terms determination (STD). The UCLL STD was released in November 2007.[39]

107. However, in the draft UCLL averaging decision, the Commission's preliminary view was that US states did not meet the forward-looking cost-based benchmarking criteria. The Commission stated:[40]

> As a result of the limited information about updates to UNE prices in the last five years and the significant decline in unbundling activity since June 2005, the Commission's preliminary view is that US prices are not a relevant indicator of changes in UCLL costs over time.

108. In response, Chorus submitted a report from Sapere Research Group (Sapere) on unbundled network element – loop (UNE-L)[41] prices in the US. Sapere argued that US UNE-L rates meet the forward-looking cost-based benchmarking criteria because:[42]

108.1 UNE-L prices are still important cost drivers to the US incumbent local exchange carriers (ILECs) and competitive local exchange carriers (CLECs)

108.2 new interconnection contracts are negotiated frequently between these parties in the relevant five states on which we have information

108.3 both parties have the ability and incentive to challenge the UCLL prices, but either have not tried, or have not succeeded in changing those prices

108.4 the UCLL prices have not moved in nominal terms (except in New Mexico), but have decreased in real terms as the consumers price increase has risen over the same period by 23%

108.5 over the same period the prices for two major inputs to the UCLL service have risen; copper prices have risen 148% and the relevant labour index has risen 21%.

109. Sapere concluded that it is "…reasonable to infer from this evidence that these UCLL prices continue to be a reasonable indication of forward-looking costs of this service

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39 Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007.

40 Commerce Commission, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA up-lift*, 9 September 2011, page 38, paragraph 10.

41 Local loop unbundling in the US is referred to as UNE-L.

42 Sapere Research Group, *Findings in relation to whether US UCLL prices continue to meet benchmarking criteria*, 10 November 2011.

and that these UCLL prices can be considered 'updated and recent information on UCLL rates'".[43]

110. However, other parties have generally argued that US prices should be excluded from the benchmarking:

110.1 Covec submitted that US prices for the UNE-L are not based on up to date information so therefore cannot accurately represent a forward-looking cost-based price [44]

110.2 Telecom acknowledged that the age of the US data causes problems, and is at odds with the regulatory framework for the benchmarking review. However, Telecom submitted that the Commission will need to source better information about the US situation before it can decide on its reliability and relevance[45]

110.3 TelstraClear submitted that the age of the US data makes it simply irrelevant and misleading, rather than a credible basis for any form of benchmarking[46]

110.4 Network Strategies submitted that data on US UCLL prices should not be included within the Commission's benchmarks, as the data does not reflect forward-looking cost-based rates. They argued that in the absence of any recent updating of US cost models, most of the old parameters and assumptions will be inappropriate, which means that the results will not reflect the current efficient cost of replicating network functionality[47]

110.5 Vodafone submitted that the absence of any continued monitoring or regulatory safeguards in US jurisdictions, significant declines in the use of the service and failure to review regulation, mean that it is appropriate to omit US states from updated benchmarking[48]

111. Network Strategies also noted that average loop lengths in the US were the longest in a sample of 13 countries reported on by the Information Technology and Innovation Foundation (ITIF). They argued that if US data was to be used it would be essential to allow for the differences between New Zealand and US loop lengths.[49]

112. The Commission engaged US-based economists from The Brattle Group (Brattle) to advise on the state of unbundling in the US.[50] Brattle has advised that, in their view, UNE-L prices for US states do not meet the forward-looking cost-based benchmarking criteria.

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43 Sapere Research Group, *Findings in relation to whether US UCLL prices continue to meet benchmarking criteria*, 10 November 2011, page 3.

44 Covec, *Re-benchmarking Chorus's UCLL service prices*, 9 March 2012, page 9.

45 Telecom, *Submission: UCLL re-benchmarking discussion paper*, 7 March 2012, pages 4-5.

46 TelstraClear, *Submission to the Commerce Commission on the re-benchmarking of prices for Chorus' unbundled copper local loop service discussion document*, 9 March 2012, page 4, paragraph 15.

47 Network Strategies, *Re-benchmarking UCLL prices*, 9 March 2012, page 16.

48 Vodafone, *Re-benchmarking the unbundled copper local loop service*, 9 March 2012, page 2, paragraph 9.

49 Network Strategies, *Re-benchmarking UCLL prices*, 9 March 2012, page 11.

50 The Brattle Group, *Status of UNE-L in the United States*, 12 April 2012.

113. Brattle has reported on the "prevalence and importance" of unbundled loops in the US, including 26 states of interest identified by the Commission. Emphasis has been placed on the 26 US states which may meet the revised comparability criteria described in paragraphs 129 to 181 below.

114. Brattle reviewed UNE-L prices in a sample of 15 US states where take-up is most significant.[51] Of these states, only New Mexico has updated its price since 2006. The last UNE-L price update for New Mexico was in December 2007.[52]

115. The Commission is required to benchmark against *forward-looking* cost-based prices. The Australian Competition and Consumer Commission (ACCC) has previously noted that forward-looking costs are:[53]

> …the ongoing costs of providing the service in the future using the most efficient means possible and commercially available. In practice this often means basing costs on the best-in-use technology and production practices and valuing inputs using current prices.

116. UNE-L prices in US states were originally set using a forward-looking total element long run incremental cost (TELRIC) methodology. However, we have been unable to identify any US states that have updated their TELRIC UNE-L prices since December 2007.

117. The lack of updates to US prices strongly suggests that these prices are not up-to-date and no longer reflect *forward-looking* costs. A price that is set in 2007 will not value inputs using current prices. For example, Brattle noted that since the UNE-L prices for US states were originally set, several inputs are known to have changed including labour costs and copper prices.[54]

118. Accordingly, the Commission considers that US states do not meet the forward-looking cost-based benchmarking criteria. This is because, based on current evidence, UNE-L prices do not meet the "forward-looking LRIC" and "updated and recent" requirements of the benchmarking criteria.

Exclusion of Australia from the benchmarking data set

119. Australia was not included in the dataset for the draft UCLL averaging decision because a forward-looking LRIC approach is no longer used to set UCLL prices. The Commission noted Australia has recently moved from a TSLRIC pricing methodology

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51 Arizona, Colorado, Idaho, Iowa, Kansas, Minnesota, Montana, Nebraska, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming.

52 The Brattle Group, *Status of UNE-L in the United States*, 12 April 2012, page 1.

53 ACCC, *Access pricing in telecommunications – A guide*, July 1997, page 29.

54 Network Strategies also noted that "…to minimise the forward-looking cost of the infrastructure TSLRIC models are typically updated by regulators on a regular basis. The MEA standard requires regular review as do other key parameters – for example the WACC – in models of this type. The WACC does not stay constant over long periods of time, and usually has a significant impact on the model results". See Network Strategies, *Re-benchmarking UCLL prices*, 9 March 2012, page 22.

to a building blocks approach, which is inconsistent with the pricing principle for the UCLL Service in New Zealand.[55]

120. At the UCLL conference, CEG highlighted that although the Australia had moved away from a TSLRIC pricing methodology for the local loop, TSLRIC prices for 2011 are available. CEG stated: [56]

> I know the ACCC put out indicative prices in 2009 which had TSLRIC prices for 2009, 2010, 2011.

121. In August 2009, the ACCC published a draft report containing proposed TSLRIC prices for 2011-12 of $23.60 for Zone A and $62.70 for Zone B.[57]

122. However, in its final decision the ACCC rolled over the 2008-09 prices due to uncertainty around future changes in the pricing approach. The ACCC stated:[58]

> The ACCC considers the roll over of 2008-09 pricing principles and indicative prices for fixed services: responds to industry calls for more certainty as to access pricing in a period of significant change; to be an interim measure to provide some certainty to industry whilst the parliament considers the proposed telecommunications reform bill; enables the ACCC to assess the implications of any legislative changes; will enable the ACCC to consult with industry on its review of access pricing principles for fixed line services; would minimize the level of any pricing disruption caused during a shift to an alternative pricing methodology (such as a RAB approach); and will enable the ACCC to undertake more refinement of the Analysys cost model's valuation of fixed line services.

123. Therefore, the Australian TSLRIC prices for 2011-12 were only ever published in draft form, and were not subject to a full consultation process.

124. Submitters had mixed views on whether the TSLRIC prices for Australia should be included in the benchmarking data set. CEG and Covec argued that the Australian prices should be included, while Telecom, TelstraClear, Network Strategies and Vodafone argued that the prices should not be included.

125. Covec submitted that Australia's TSLRIC prices are determined in a manner that is consistent with the UCLL pricing principles, even if they are not the regulated rates.[59] CEG submitted that the TSLRIC prices were heavily scrutinised by operators and suggested modifications to the cost model were incorporated by Analysys Mason.[60]

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55 Commerce Commission, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA uplift*, 9 September 2011, Page 21, paragraph 71.

56 Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final transcript*, 27 October 2011, page 111, lines 11-13.

57 ACCC, *Draft pricing principles and indicative prices for LCS, WLR, PSTN OTA, ULLS, LSS*, August 2009, page 40.

58 ACCC, *Pricing principles and indicative prices for LCS, WLR, PSTN OTA, ULLS, LSS 1 August 2009 to 31 December 2010*, December 2009, pages 1-2.

59 Covec, *Re-benchmarking Chorus's UCLL service prices*, 9 March 2012, page 10.

60 CEG, *Inclusion of Australian cost modelled UCLL price*, 28 February 2012, page 4.

126. Telecom, TelstraClear, Network Strategies and Vodafone, on the other hand, were of the view that the Australian prices should be excluded. This is primarily because the proposed TSLRIC prices for Australia were published as part of an inconclusive regulatory process.[61] The proposed prices were determined prior to public consultation, scrutiny and comment.[62]

127. The Commission agrees that the 2011-12 draft TSLRIC prices for Australia should be excluded from the benchmarking data set as the 2011-12 prices never took effect. The Commission considers that it would be inappropriate to use draft prices as an input to a benchmarking data set for setting regulated access prices.

Countries meeting the forward-looking cost-based benchmarking criteria

128. 11 countries have been identified that currently set UCLL prices using a forward-looking cost-based pricing methodology. These countries are Belgium, Cyprus, Czech Republic, Denmark, Germany, Greece, Italy, Romania, Slovenia, Sweden and Switzerland. Application of the forward-looking cost-based benchmarking criteria is summarised in Attachment B.

Comparable countries

129. The IPP requires the Commission to identify those countries within the benchmarking data set that are comparable to New Zealand. The comparability requirement has been applied by identifying factors which are relevant indicators of cost differentials across countries. Those countries which are likely to differ significantly from New Zealand are excluded from the benchmarking data set.

Comparability criteria used in the UCLL STD

130. A number of possible cost-drivers for the UCLL Service have been examined previously. In the UCLL STD the Commission considered the degree of urbanisation, population density, population, main lines, teledensity, labour cost and GDP per capita.[63]

131. Econometric analysis was used to identify the key cost-drivers for the UCLL service. The degree of urbanisation, population density and teledensity were found to be the most significant cost drivers.[64]

132. The comparability criteria applied in the UCLL STD were:

    132.1 urbanisation of greater 60%

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61 TelstraClear, *Submission to the Commerce Commission on the re-benchmarking of prices for Chorus' unbundled copper local loop service discussion document*, 9 March 2012, page 4, paragraph 16; Vodafone, *Re-benchmarking the unbundled copper local loop service*, 9 March 2012, page 13, paragraphs 67-68.
Telecom, *Submission: UCLL re-benchmarking discussion paper*, 7 March 2012, page 5.

62 Network Strategies, *Re-benchmarking UCLL prices*, 9 March 2012, page 18.

63 Commerce Commission, *Draft UCLL STD*, 31 July 2007, page 24, paragraph 81.

64 Fixed-line telecommunications networks exhibit strong economies of scale and density. Intuitively, the cost of providing UCLL in sparsely populated countries is expected to be higher than that for densely populated countries.

132.2 population density of less than 30 people per square kilometre

132.3 teledensity between 20% and 60%.[65]

133. At the time of the UCLL STD, the Commission had data on prices for 66 jurisdictions that set prices using a forward-looking LRIC methodology. This included 13 European countries, Australia, Canada and 51 US States.

134. 10 jurisdictions remained after applying the comparability criteria. Prices for these 10 jurisdictions are shown in Table 1 below.

Table 1: Benchmarking data set from the UCLL STD (November 2007)[66]

Country	Urban population	Teledensity	Population density	UCLL rate (NZ$)
Idaho	77%	54%	19	$32.36
Kansas	83%	52%	29	$21.66
Nebraska	88%	41%	22	$28.04
New Mexico	83%	54%	20	$34.62
North Dakota	83%	43%	19	$26.76
South Dakota	77%	46%	13	$30.17
Australia	88%	50%	3	$21.82
Finland	61%	40%	14	$20.33
Norway	77%	46%	14	$18.93
Sweden	84%	58%	20	$16.30
New Zealand	86%	43%	15	
Range used in draft STD	X>60%	20%<X<60%	X<30	

135. The Commission used the median of the data set in Table 1 to generate a benchmarked forward-looking cost-based UCLL price of $24.29. The Commission's view was that a median price would best promote competition, static and dynamic efficiency, and the long term benefit of end users.[67]

Comparability data for countries in updated benchmark set

136. As described in paragraph 128, we have collected updated data on 11 countries that currently set UCLL prices using a forward-looking cost-based pricing methodology.

137. Data on urbanisation, population density and teledensity for the 11 countries currently meeting the forward-looking cost-based benchmarking criteria is included in Table 2 below.

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65 Commerce Commission, *Draft UCLL STD*, 31 July 2007, page 25, Table 3. The Commission applied the same comparability criteria in the Final UCLL STD.

66 Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, page 47, table 4.

67 Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, pages 51-59, paragraphs 193-235.

Table 2: Summary of comparability data

Country	Population Density (2010)	Urbanisation (2009)	Teledensity
Belgium	350.9*	97.4%	43.3%
Denmark	128.8*	86.7%	47.4%
Sweden	20.8	84.6%	52.5%
Romania	90.1*	56.9%*	20.9%
Greece	86.1*	61.2%	45.8%
Slovenia	100.2*	49.6%*	44.9%
Italy	201.0*	68.2%	35.5%
Switzerland	185.6*	73.5%	57.1%
Germany	230.5*	73.7%	55.5%
Cyprus	119.3*	70.1%	37.4%
Czech	133.0*	73.5%	22.9%
New Zealand	16.1	86.2%	42.8%

* Indicates countries that do not meet the comparability criteria used in the UCLL STD.

138. Sweden is the now only country that meets the comparability criteria used in the UCLL STD[68].

139. A benchmarking data set comprising only one country is unlikely to be sufficiently robust to set an updated UCLL price for New Zealand. For this reason the Commission adopted an indexing approach in its draft decision.

140. Having regard to submissions on the draft and at the conference, the Commission has considered amending the comparability criteria applied in the UCLL STD.

Possible amendments to the comparability criteria

141. In order to develop meaningful comparability criteria, it is necessary to understand the key cost drivers for the UCLL service. The Commission engaged WIK-Consult (WIK) to advise on the key cost drivers for UCLL. WIK are experts in local loop network cost modelling.

142. The two main cost drivers for fixed access networks that WIK identified are trench length and deployment cost per metre:

142.1 **Trench length per subscriber:** The trench length per subscriber is the length of the trench between the customer and the main distribution frame (MDF). It depends on the spatial distribution of customers across the country.

[68] Finland was considered to meet the forward-looking cost-based benchmarking criteria in the draft UCLL averaging decision. However, Vodafone submitted that "the NRA does not specify cost method to be used" and "under Finnish law, each operator is free to adopt its own costing method". The European Commission (EC) has also noted that the Finnish regulator (FICORA) "…has discovered overpricing in the local loop charges of several network operators". As such, Finland has been removed. See Attachment B: Application of forward-looking cost-based benchmarking criteria for further details.

Generally, the greater the concentration of customers, the lower the individual (and overall) trench length and vice versa.[69]

142.2 **Deployment cost per metre:** The cost per trench metre depends on a number of factors, including deployment form, labour cost, soil type, sharing with other infrastructure, copper prices and meteorological factors. WIK noted that the most important factor is the deployment form (ie, ducted deployment, direct buried cables or overhead deployment).[70]

143. Having identified the main cost drivers for the service, WIK were then asked to comment on whether the comparability criteria used in the UCLL STD remain appropriate. They concluded that urbanisation and teledensity are valid comparability criteria to identify countries that have similar UCLL costs to New Zealand.

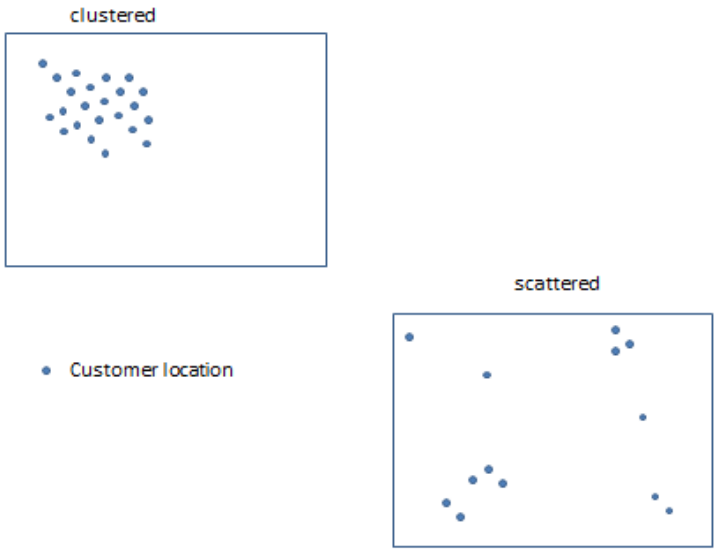
144. However, WIK has considerable concerns with population density. They have recommended that national population density be removed as a comparability criterion, because population density fails to accurately reflect customer concentration. WIK stated (emphasis added):[71]

> Population density measured at a national level ignores the spatial distribution of the population, i.e. the degree to which the population is scattered or clustered. This is particularly important when determining the access cost of a country because population dispersion is directly related to the main cost driver trench length. In addition, the traditional population density calculation ignores that networks are not deployed in all parts of the country. This problem is very tangible in the New Zealand case where there are large unpopulated areas which will significantly reduce population density measured at a national level. **All in all, as comparability criteria WIK is of the view that population density as measured as an aggregate national statistic to be wholly inappropriate and should be disregarded by the Commission.**

145. The issues with using population density as a comparability criterion are illustrated in the following diagram. While the two areas shown below have the same subscriber density (average number of customers per square kilometre), they have a completely different subscriber distribution and hence rather different costs.

69 WIK-Consult, *UCLL cost drivers and comparability criteria*, 27 April 2012, page 6.
70 WIK-Consult, *UCLL cost drivers and comparability criteria*, 27 April 2012, pages 8-11.
71 WIK-Consult, *UCLL cost drivers and comparability criteria*, 27 April 2012, page 31.

Figure 2: Impact of customer concentration on UCLL costs



Source: WIK-Consult

146. As noted by WIK, population density measured at a national level ignores the degree to which the population is scattered or clustered. This is particularly important when determining the access cost of a country because population dispersion is directly related to the main cost driver trench length. Countries with dense clustered populations will, by and large, be less costly to serve than those where the population is spread evenly.[72]

147. WIK's advice regarding the limitations of population density is supported by previous statements from the Australian Productivity Commission and Oxera.

148. In an international benchmarking report for telecommunications services, the Australian Productivity Commission noted the limitations of using average population density to estimate costs. They stated:[73]

> Average population densities (total population divided by land mass) vary substantially between countries and this might suggest that costs vary in a similar manner. However, this need not be the case. Although broad aggregates would provide a guide to cost impacts if the population in each country was uniformly distributed, they are misleading where a large proportion of a population is urbanised or living in a relatively small part of a large country.

149. Rather than using national population densities, the Australian Productivity Commission investigated the possibility of using more disaggregated data to more accurately reflect the distribution of customers.[74] In particular, line density

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[72] WIK-Consult, *UCLL cost drivers and comparability criteria*, 27 April 2012, page 20.

[73] Australian Productivity Commission, *International benchmarking of Australian telecommunications services*, March 1999, page 231.

[74] See Australian Productivity Commission, *Population distribution and telecommunications costs*, August 2000.

distributions were calculated for various countries. However, this data is difficult to obtain and is not currently available for countries in the UCLL benchmarking data set.

150. As part of the original local loop unbundling investigation in New Zealand, Oxera provided a report to the Commission which compared the relative efficiency of Telecom NZ to US local exchange carriers. Oxera noted (emphasis added):[75]

> One factor that tends to affect the costs of all network companies is customer density and dispersion, or customer sparsity. **One of the most common measures used to approximate customer dispersion is average population density across the geographical area serviced by the network company. However, due to the averaging process involved and the large size of the geographical areas that network companies tend to service, this measure is inappropriate since it does not accurately capture population distribution**; a figure of 100 people/km^2 might apply to a company that services a very sparse area and a large customer concentration in an urban conurbation, or equally to a company that services a suburban area. The optimal network structure to adopt in each case is very different.

151. Network Strategies has also noted population density averaged over an entire country may not always adequately represent a proxy for costs. They submitted that population density must be considered to be, at best, a weak cost driver for the UCLL service.[76]

152. Comparability is an important consideration when price benchmarking. Applying valid comparability criteria, which have a material impact on cost differentials between countries, will improve the accuracy of the benchmarking exercise.

153. However, there is a trade off between comparability criteria and the size of the benchmarking data set. As noted by Telecom:[77]

> …seeking to apply too many detailed comparability criteria risks reducing the sample size to a degree that the benchmarked estimate is compromised.

154. Applying the population density criterion excludes 10 out of the 11 countries for which forward-looking cost-based prices have been identified. Therefore, applying the population density criterion is likely to have the effect of reducing, rather than improving, the reliability of the benchmarking data set, given the limitations of this measure highlighted above.

155. Accordingly, the Commission accepts WIK's recommendation that population density should be relaxed as a comparability criterion.

156. Nevertheless, the Commission has some concerns regarding removing the population density criterion. WIK (and the Australian Productivity) have not stated that population density is not a cost-driver for the UCLL service. Rather, they have noted that national average population density can mask the degree of scattering or

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75 Oxera, *Estimating the relative efficiency of Telecom New Zealand*, December 2003, page 48.

76 Network Strategies, *UCLL cross submission*, 14 October 2011, pages 7-8.

77 Telecom, *Submission: UCLL re-benchmarking discussion paper*, 7 March 2012, page 3.

clustering of customers. The true population distribution will be better reflected by using more disaggregated measures of population density.

157. The econometric analysis contained in the 2007 UCLL STD considered how UCLL monthly rental prices varied in response to differences in population density, urbanisation and teledensity. All three of these explanatory variables were found to be statistically significant.[78]

158. To the extent that a low population density masked customer clustering in urban areas, the multiple regression used in the UCLL STD would capture this effect through the combined impact of population density, urbanisation and teledensity. Intuitively, it is reasonable to expect that countries with identical urbanisation and teledensity rates, but vastly different population densities, would on average exhibit different UCLL costs.

159. Population density is likely to be particularly relevant in respect of extreme values. Belgium, for example, has a population density of 350.9 people per square kilometre, which is significantly higher than any other country in the benchmark set. Belgium also has the highest urbanisation rate of the benchmarked countries.[79]

160. The Commission expects that there is likely to be some remaining downwards bias in the benchmark set resulting from removing the population density comparability criterion. As noted earlier, New Zealand's population density is lower than all of the countries in the benchmark set. With the exception of Sweden, all remaining countries have a population density over five times higher than New Zealand, while remaining comparable across urbanisation.

161. The expected downwards bias due to removing the population density criterion is addressed as part of the price point selection for the UCLL monthly rental service.[80]

Possible alternative benchmarking approach

162. The Commission considered benchmarking the urban UCLL monthly rental price for New Zealand against national prices for countries in the benchmarking data set (the urban benchmarking approach) as an alternative way of addressing any downwards bias that is likely to result from removing the population density comparability criterion. The population density for urban exchange service areas (ESAs) in New Zealand (216 people per square kilometre) is generally more comparable to population densities for the benchmarked countries than New Zealand's national population density.

163. However, the Commission considers that the urban benchmarking approach involves a significant departure from the approach taken in the UCLL STD. The urban benchmarking approach requires developing new comparability bounds to reflect

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78 Commerce Commission, Decision No. 609*: Standard Terms Determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, page 44-45, paragraphs 157-164.

79 In terms of population density, urbanisation and teledensity, Belgium is more comparable to New Zealand urban ESAs than New Zealand national averages.

80 See paragraphs 195 to 204 below.

the much higher population density and urbanisation rates that apply to New Zealand urban ESAs of 216[81] and 98.2% respectively.

164. The urbanisation rate of 98.2% for New Zealand urban ESAs is higher than any of the countries in the benchmarking data set. Therefore, there is a risk that the urban benchmarking approach may in fact introduce an upward bias in the benchmarked UCLL monthly rental prices.

165. Urbanisation was considered to be a more reliable comparability criterion than population density in the independent advice we have received. WIK stated that "…urbanisation is probably the best of all the existing comparability criteria because it most adequately describes where the lines are located".[82]

166. Accordingly, the Commission's preliminary view is that the urban benchmarking approach should not be used. The urban benchmarking approach is described in more detail in Attachment C.

Loop length as a comparability criterion

167. At the UCLL averaging conference, it was generally agreed that loop length is a key cost-driver for the UCLL service. CEG stated:[83]

> …line density, local loop {length}, are really important drivers. They sort of define the network architecture in each of the countries and that's really what we're trying to capture in choosing countries that are comparable to New Zealand.

168. Similarly, Network Strategies stated that loop length is a cost-driver for the UCLL service, and would be a suitable comparability criterion:[84]

> Both density and the length of the line will affect the cost. The loop length would be ideal as a criterion, in my view, for the benchmarking but I do know that from a pragmatic point of view, it's very difficult to get the data to support using that as a criterion but it is, in my view, an ideal criterion.

169. As a replacement for population density, WIK has recommended using average line length, where certain bounds are put on the highest and lowest length around the New Zealand average.[85]

170. However, data on average loop lengths is not available for all of the countries included in the benchmarking data set.[86]

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81 Population density is expressed as the number of people per square kilometre.

82 WIK-Consult, *UCLL cost drivers and comparability criteria*, 27 April 2012, page 21.

83 Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final transcript*, 27 October 2011, page 81, lines 8-13.

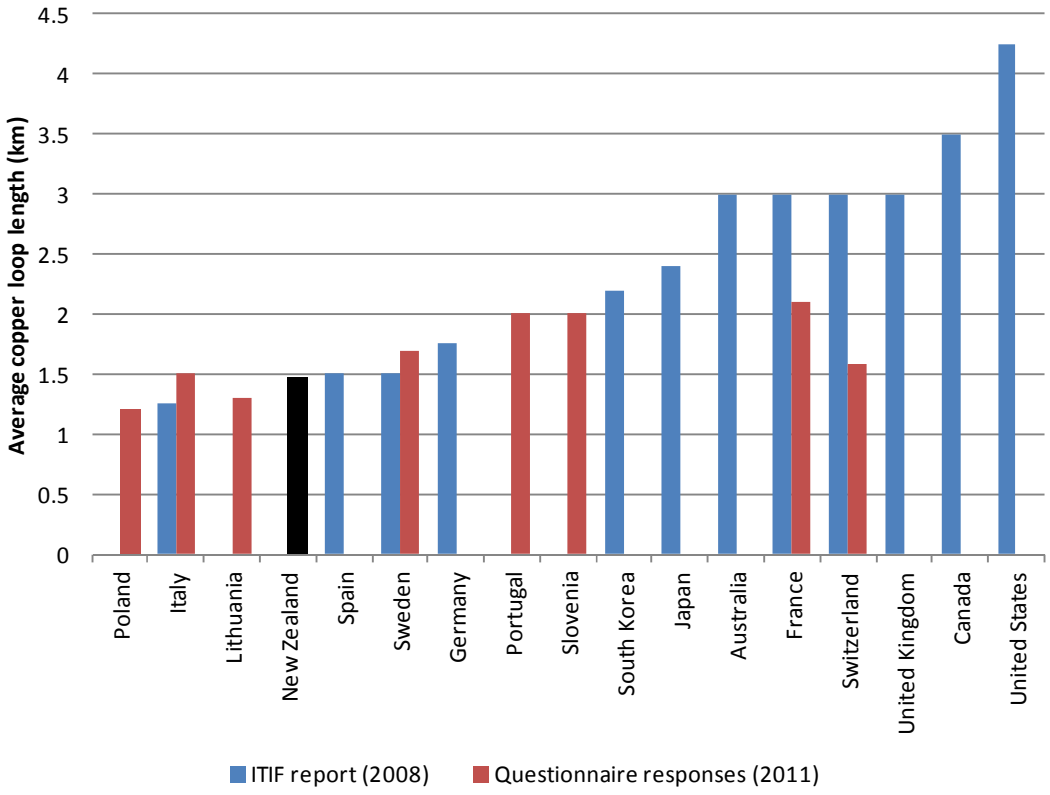
84 Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final transcript*, 27 October 2011, page 88, lines 13-19.

85 WIK-Consult, *UCLL cost drivers and comparability criteria: Final report*, 27 April 2012, page 30.

86 Parties have noted the difficulty in obtaining robust data on loop lengths for other countries. See for example, Network Strategies, *Re-benchmarking of UCLL prices*, 9 March 2012, page 4.

171. Data on average loop lengths is currently available from two sources: a report published by the Information Technology and Innovation Foundation in 2008 (the ITIF report)[87] and responses from overseas telecommunications regulatory authorities to the benchmarking questionnaire the Commission sent out in 2011. This data is summarised in Figure 3 below.

Figure 3: Average loop lengths



172. The data on loop lengths in the ITIF report was commonly cited in the submissions received on 9 March 2012. However, as shown above, in at least two cases this data is inconsistent with loop length data supplied directly to the Commission by overseas regulators in 2011.[88]

173. The Commission has placed more weight on the loop length data supplied in 2011 by overseas regulators. This data is more up-to-date, and therefore, is likely to be more reliable than loop length data contained in the ITIF report.

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87 ITIF, *Explaining international broadband leadership*, May 2008, page 11. See http://www.itif.org/files/ExplainingBBLeadership.pdf.

88 Network Strategies also noted in its submission that the ITIF data should be treated with caution, as it may be out-of-date. Network Strategies referred to a 2011 presentation by BT Openreach which showed an average loop length for the UK of 2.3km, compared to the ITIF estimate of 3km. See Network Strategies, *Re-benchmarking of UCLL prices*, 9 March 2012, page 5.

174. Of the countries in Figure 3, only four are currently considered to meet the benchmarking criteria.[89] These countries are Italy, Sweden, Germany and Switzerland.[90] New Zealand's average copper loop length is not materially different to these countries.

175. Network Strategies highlighted the data issues with using average loop length as a comparability criterion. They recommended considering the impact of loop length as part of the price point selection as a practical way forward.[91]

176. Similarly, Telecom submitted that if comparability data based on loop length cannot be sourced, then the Commission can still make use of the available information through the selection of the point within the benchmark range:[92]

> Under this approach, the Commission could use its expert judgement to select a point within the benchmark range to reflect the effect of cabinetisation and shorter average loop lengths. The Commission took a similar approach to benchmarking mobile termination rates.

177. Due to the difficulty in obtaining the necessary data, the Commission's preliminary view is that it is not possible to use average loop length as a comparability criterion. Therefore, the Commission has considered loop length as part of the overall decision.

Decision on comparability criteria used in this revised draft decision

178. For the reasons set out above, the following criteria have been used to identify countries where UCLL costs are likely to be similar to New Zealand:

178.1 urbanisation of greater than 60%

178.2 teledensity between 20% and 60%.

179. Two of the 11 countries which have forward-looking cost-based UCLL prices do not meet these comparability criteria. These two countries are Romania and Slovenia, both of which fail on the urbanisation criterion.[93]

180. In addition, the Commission considers that Belgium is not comparable to New Zealand, and should be excluded as an outlier. Belgium has the highest population density (350.9) and urbanisation rate (97.4%) of all the countries in the benchmark set.

181. The remaining eight comparable countries that have forward-looking cost-based prices for similar services are Cyprus, Czech Republic, Denmark, Germany, Greece, Italy, Sweden and Switzerland.

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89 Including the comparability criteria described in paragraph 178 below.

90 See Table 7 below for benchmarking data, including average copper loop length, for these five countries.

91 Network Strategies, *Re-benchmarking UCLL prices*, 9 March 2012, pages 7-9.

92 Telecom, *Submission: UCLL re-benchmarking discussion paper*, 7 March 2012, page 3.

93 Romania has an urbanisation rate of 56.9% and Slovenia has an urbanisation rate of 49.6%. See Table 2 above.

UCLL monthly rental prices

Purpose

182. This section summarises benchmarked UCLL monthly rental prices for countries that meet the similar services, comparable countries and forward-looking cost-based benchmarking criteria. This benchmarking data is used to calculate revised draft UCLL monthly rental prices for New Zealand.

Currency conversion

183. The Commission has used a 50/50 blend of purchasing power parity (PPP) and 10 year average market exchange rates to convert benchmarked UCLL monthly rental prices from local currency into New Zealand dollars.[94] This is consistent with the approach used in the UCLL STD (and all subsequent STDs).

184. The blended approach to currency conversion reflects the components of the UCLL monthly rental service. Approximately 50% of local network costs relate to non-tradeable components (such as labour), and the other 50% relate to tradeable capital inputs.[95] Accordingly the Commission considers that a blended approach best accounts for the elements that make up the costs of providing the UCLL service.

Benchmarked UCLL monthly rental prices

185. UCLL monthly rental prices for the eight countries meeting the benchmarking criteria are included in Table 3 below.

[94] The UCLL monthly rental benchmark set has been converted to NZ dollars using a blended exchange rate made up of the ten year average market exchange rate to 31 December 2011 (sourced from oanda.com), and 2010 World Bank PPP rates for GDP.

[95] While the use of exchange rates is appropriate for tradable goods and services, PPPs are better for converting the price of non-tradable goods and services because they reflect differences in cost of living.

Table 3: UCLL monthly rental benchmark set

Country	Currency	Monthly rental (local currency)	Blended FX rates	Monthly rental ($NZ)
Denmark	DKK	68.33	4.5842	14.91
Sweden	SEK	88.33	5.4458	16.22
Greece	EURO	8.36	0.5005	16.70
Italy	EURO	9.02	0.5302	17.01
Switzerland	CHF	15.50	0.8921	17.37
Germany	EURO	10.08	0.5308	18.99
Cyprus	EURO	9.91	0.4927	20.11
Czech	CZK	242.00	11.9321	20.28

Mean	17.70
Median	17.19
25th percentile	16.58
75th percentile	19.27

186. All of the countries within the above benchmark set have a single nationwide UCLL monthly rental price.

Price point selection

187. The Commission is required to determine a forward-looking cost-based UCLL monthly rental price that lies within the range of benchmarked results. There are a number of options available when selecting a price point. For example, when setting regulated access prices the Commission has used either:

187.1 a measure of central tendency, such as the mean or median

187.2 a price point above the median, such as the 75th percentile

187.3 a price point below the median, such as the 25th percentile.

188. The mean and median are two possible measures of central tendency. The median is generally considered to be the best representation of the central location of the data where there is a skewed distribution. This is because the median is less subject to the influence of extreme values (or outliers).

189. In this case the Commission has already excluded outliers when considering the comparability requirement. Belgium was excluded as an outlier because it had the highest population density and urbanisation rate in the benchmark set.

190. Therefore, the Commission considers that the mean is likely to be the best measure of central tendency for the UCLL monthly rental service.

191. When selecting a price point, the Commission has started at the mean and considered whether there are grounds to deviate from that point.

192. There are a number of factors that may influence the decision to select a price above or below the mean. For example, there may be evidence to suggest that the forward-looking cost-based price for New Zealand lies at either the high or low end of the benchmarked countries.

193. Alternatively, there may be section 18 considerations which support setting a price either above or below the mean to best promote competition in telecommunications markets for the long-term benefit of end-users.

194. The following factors have been considered in selecting the price point for the UCLL monthly rental service:

    194.1 Expected downwards bias in the benchmark set resulting from removing the population density comparability criterion

    194.2 The impact of loop length on a forward-looking cost-based price for the UCLL service

    194.3 The potential impact on take-up of fibre services

    194.4 Relativity between the UCLL and UBA services.

Expected downwards bias in the benchmark set

195. As described in paragraph 160, the Commission considers that there is likely to be a downwards bias in the UCLL monthly rental benchmarking data set due to removing the population density comparability criterion.

196. Two approaches have been considered to address this expected downwards bias:

    196.1 **Econometric adjustment:** The econometric approach involves using the results of the econometric analysis of UCLL cost-drivers contained in the UCLL STD to correct for any bias in the benchmark set.

    196.2 **Percentile adjustment:** The percentile approach involves selecting a price point above the median of the benchmark set to correct for the downwards bias.

197. Under the econometric adjustment approach, the regression model from the 2007 UCLL STD has been used to normalise the benchmarked prices.

198. The regression model can predict how much UCLL monthly rental prices would change in response to a change in population density, teledensity or urbanisation. Therefore, the regression can provide a guide to the potential impact of changes in population density.

199. The regression model was estimated based on 2007 data on forward-looking cost-based UCLL monthly rental prices. Forward-looking costs evolve over time. Applying

the 2007 model as part of this benchmarking review relies on the estimated relationships between UCLL prices and population density, teledensity and urbanisation remaining unchanged.

200. Each of the countries in the benchmark set has a different population density, teledensity and urbanisation rate to New Zealand. Normalising the benchmarks removes the predicted effect of differences in population density, teledensity and urbanisation on the benchmarked prices.

201. The econometric approach can be used to correct for bias in the benchmarking data set that may result from amending the comparability criteria. Normalised prices for each of the countries in the benchmark set are shown in Table 4 below.

Table 4: Normalised prices for countries in the benchmark set

Country	Benchmarked UCLL monthly rental price ($NZ)	Normalised price ($NZ)
Sweden	16.22	17.36
Czech	20.28	19.44
Cyprus	20.11	21.39
Germany	18.99	23.99
Switzerland	17.37	21.70
Italy	17.01	18.46
Greece	16.70	17.46
Denmark	14.91	18.16

Mean	19.75
Median	18.95
25th Percentile	17.99
75th Percentile	21.47

202. The mean of the normalised benchmarking data set is $19.75. This represents a 12% increase from the mean of the raw benchmarking data set of $17.70 (see Table 3 above). The econometric adjustment approach is described in further detail in Attachment D.

203. An alternative approach to correct for the downwards bias resulting from removing the population density comparability criterion is to select a price point above the mean of the benchmark set. This would be a relatively subjective and qualitative adjustment.

204. The 75th percentile of the benchmarking data set is $19.27, which is 9% higher than the mean of the benchmarking data set of $17.70. The 75th percentile results in a similar outcome to the mean of the normalised benchmarking data set ($19.75).

205. The Commission considers that the econometric adjustment provides a more robust way of addressing the expected downwards bias in the benchmarking data set. The econometric approach makes use of the best available data on the expected relationship between UCLL monthly rental prices and population density, teledensity and urbanisation.

Impact of loop length on price point selection

206. Since the UCLL standard terms determination was released in November 2007, Chorus has deployed a fibre-to-the-node (FTTN) network through a process referred to as cabinetisation. The aim of cabinetisation was to shorten the length of copper in its network in order to improve broadband speeds.

207. If New Zealand's average loop length is materially shorter than average loop lengths for benchmarked countries, then it may be appropriate to choose a price point below the mean.

208. Submissions have generally supported the view that the impact of cabinetisation on loop length is an important consideration when updating UCLL prices. The impact of cabinetisation on loop length is described in further detail in Attachment G.

209. Telecom submitted that, all other things being equal, shorter UCLL copper loops should result in lower overall costs. They stated that this is unlikely to be a controversial view because:[96]

> …in cost-based models such as TSLRIC, loop length is reflected in factors such as the capital cost of the copper used for the loop, and labour costs of digging trenches and laying the cable. Up to 80% of TSLRIC costs relate to such civil engineering and labour related costs.

210. Similarly, Covec submitted that a decrease in the average loop length, holding all other things equal, will result in a lower cost estimate from a forward-looking cost-model.[97]

211. Network Strategies submitted that UCLL costs are dependent on loop length because:[98]

    211.1 The longer the distance from the access point to the customer's premises, the more copper cable (or fibre) is needed to provide the loop. Cost of copper and fibre is normally expressed as a cost per unit distance

    211.2 In the case of trenching, the cost of digging the trench is greater as the trench length increases, due to the additional time and resources required

[96] Telecom, *Submission: UCLL re-benchmarking discussion paper*, 7 March 2012, page 2.
[97] Covec*, Re-benchmarking Chorus's UCLL service prices*, 9 March 2012, page 2.
[98] Network Strategies, *Re-benchmarking UCLL prices*, 9 March 2012, page 3.

211.3 In the case of aerial delivery, additional poles and associated infrastructure may be required for longer loops, increasing the time and resources required for deployment.

212. Submissions from Telecom, Vodafone and Network Strategies supported the view that if loop length is unable to be used as a comparability criterion, the Commission should consider loop length as part of price point selection.[99] As described in paragraphs 167 to 177, there was insufficient data to use average loop length as a comparability criterion.

213. Data supplied by Chorus shows that the average copper loop length has decreased from 2,066 metres in 2008 to 1,470 metres in 2012, a reduction of approximately 29%. However, Chorus argued that following cabinetisation, UCLL lines are more likely to be in less dense non-urban areas.[100]

214. Information provided by Chorus on the proportion of urban and non-urban UCLL lines is shown in Table 5 below.

Table 5: Proportion of UCLL lines in urban and non-urban areas

	2008	2012
Urban	77.5%	70.6%
Non-urban	22.5%	29.4%

Source: Chorus

215. Chorus submitted that all other things being equal, a decrease in average line lengths decreases average line costs. However, they also argued that a decrease in the average density of UCLL lines increases average line cost and it is difficult to determine which cost driver is more powerful.[101]

216. In reality, the actual number of copper lines in Chorus' network has not changed. The UCLL service is available over a sub-set of the total number of lines only and Chorus is able to derive revenue from multiple services provided over its network.

217. For example, within a given ESA:

217.1 some lines are served directly from the exchange and are available under the UCLL service

217.2 cabinetised lines are able to be unbundled under the regulated sub-loop services

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99 Telecom, *Submission: UCLL re-benchmarking discussion paper*, 7 March 2012, page 3; Vodafone, *Re-benchmarking the unbundled copper local loop service*, 9 March 2012, page 8;Network Strategies, *Re-benchmarking UCLL prices*, 9 March 2012, pages 7-9.

100 Chorus, *Supplementary submission in response to discussion document on the re-benchmarking of prices for Chorus' unbundled copper local loop service*, 23 March 2012, page 3, paragraph 6.

101 Chorus, *Supplementary submission in response to discussion document on the re-benchmarking of prices for Chorus' unbundled copper local loop service*, 23 March 2012, page 3, paragraph 7.

217.3 the copper feeder has generally remained in place for cabinetised lines, and access seekers are able to rent these lines are part of the regulated UCLFS service.

218. Since the copper feeder is largely still in place, and fibre has been connected to active cabinets, trenches are able to be shared between the UCLL, UCLFS and sub-loop services.

219. As described by WIK, trenching is the main driver of UCLL costs. Where trench sharing takes place, the trench is a shared cost that is able to be allocated over the various services which utilise the trench.

220. Therefore, there has been a reduction in the average loop length for UCLL lines without, generally speaking, any major change in the number of lines over which the trenching costs will be recovered.

221. The Commission asked WIK for advice on the likely impact that the cabinetisation deployment has had on the forward-looking cost-based UCLL price in New Zealand.

222. WIK are of the view that the cabinetisation deployment should lead to a lower forward-looking cost-based UCLL price, but that it is difficult to quantify the likely magnitude of the reduction. They stated:[102]

> The migration to FTTN should overall lead to a reduction of the loop cost of the remaining all-copper lines served by MDFs. There should be a noticeable reduction in the total cost relevant for the new UCLL market from elimination of those trench segments (and their cost) that are only dedicated to cabinetised lines. Cost sharing in the trenches that previously carried only copper and now carry copper from MDF-lines and fibre from cabinetised lines should roughly compensate reduction of relevant lines.

223. In their submission, Covec used an econometric model to estimate the impact of loop length. The econometric model relies on information from the 2007 UCLL STD benchmarking dataset.

224. Covec restricted their analysis to the eight countries for which they were able to locate average loop lengths. The results are presented below.[103]

Table 6: Covec cost driver regression results

Variable	Coefficient	P-value
Average loop length	0.23	0.000
Population density	-0.10	0.000
Urbanisation	-2.37	0.000
Constant	2.62	0.000
Adjusted R-squared		0.9850

[102] WIK-Consult, *UCLL cost drivers and comparability criteria: Final report*, 27 April 2012, page 17.
[103] Covec*, Re-benchmarking Chorus's UCLL service prices*, 9 March 2012, page 7.

225. This is a log-log regression model, so the coefficient on the average loop length variable means that a 1% decrease in loop length would be expected to lead to a 0.24% decrease in the cost-based UCLL price.[104]

226. The p-values are all zero (to three decimal places), indicating that the explanatory variables are all statistically significant at the 1% level.[105]

227. However, Covec noted a number of limitations with this regression analysis:

227.1 The model is based on a limited number of observations, so "degrees of freedom are moderately low"[106]

227.2 The dataset used in the regression is not up-to-date due to Covec being unable to locate more recent data on average loop length.[107]

228. The Commission notes that Covec's regression analysis is based on only eight observations, which is a very small data set upon which to conduct a formal regression analysis. This suggests that the resulting estimates should be treated with significant caution.

229. Figure 3 on page 38 above shows data on average copper loop length for other countries. As described earlier, only four countries for which loop length data is available are currently considered to meet the benchmarking criteria.

230. Data on urbanisation, teledensity and average copper loop length for these four countries is included in Table 7 below.

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104 Based on Covec's regression model, a 30% reduction in loop length would result in a 7.2% decrease in the UCLL price.

105 A p-value is the smallest significance level at which the null hypothesis would be rejected. In this case, the null hypothesis for each explanatory variable is that it has no effect on the UCLL monthly rental price. The smaller the p-value, the more evidence there is against the null hypothesis.

106 Covec*, Re-benchmarking Chorus's UCLL service prices*, 9 March 2012, pages 7-8.

107 Covec*, Re-benchmarking Chorus's UCLL service prices*, 9 March 2012, page 8.

Table 7: Comparability data including average copper loop length

Country	Population Density (2010)	Urbanisation (2009)	Tele density	Average copper loop length (km)	Monthly rental ($NZ)	Normalised price ($NZ)
Sweden	20.8	84.6%	52.5%	1.70	16.22	17.36
Italy	201.0	68.2%	35.5%	1.50	17.01	18.46
Switzerland	185.6	73.5%	57.1%	1.59	17.37	21.70
Germany	230.5	73.7%	55.5%	1.75	18.99	23.99
New Zealand	16.1	86.2%	42.8%	1.47		

Mean	17.40	20.38
Median	17.19	20.08
25th percentile	16.82	18.18
75th percentile	17.78	22.28

231. US states have been excluded from the current benchmarking exercise because prices are no longer forward-looking.[108] The Commission considers that this may also have the effect of excluding UCLL prices which are based on high average loop lengths.

232. In the UCLL STD the Commission noted that US UCLL prices were generally higher than non-US prices, for reasons that were not explained.[109]

233. Evidence is now available which suggests that the high prices observed in US states may be due to relatively long copper loop lengths. A report from the ITIF shows that the average copper loop length across the entire US is in excess of 4 km.[110] This loop length is significantly higher than any of the European countries currently contained in the benchmarking data set.

234. In addition, Figure 4 below shows that the US has a relatively high proportion of long copper loops.[111]

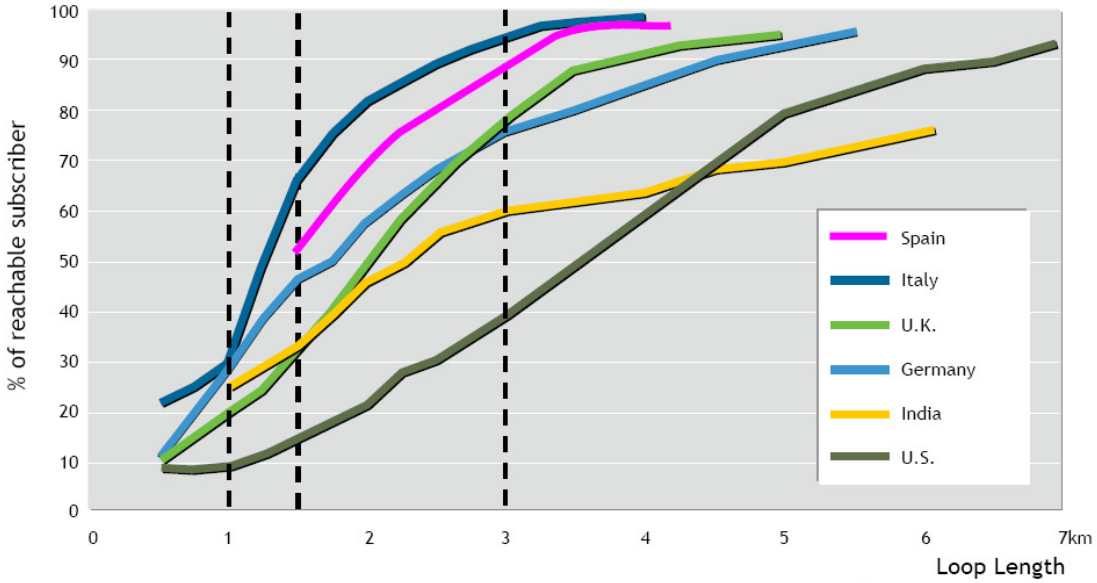
[108] See paragraphs 106 to 118 above.

[109] The Commission stated: "…US appear to be consistently higher than the non-US observations. These differences do not appear to be explained by the costs drivers used in the model." See final UCLL STD, page 45, paragraph 160.

[110] ITIF, *Explaining international broadband leadership*, May 2008, page 11. http://www.itif.org/files/ExplainingBBLeadership.pdf

[111] Alcatel-Lucent, *Access requirements and access options in a VDSL environment: An engineering perspective*, March 2007. http://www.wik.org/fileadmin/Konferenzbeitraege/2007/VDSL-Conference/wulf.pdf

Figure 4: Distribution of subscriber loop lengths



235. Therefore, removing US states may have acted as a proxy for the reduction in loop length in New Zealand, at least to some extent. The average copper loop length for the UCLL service in New Zealand is now similar to that of the European countries in the benchmarking data set.

236. The average copper loop length for New Zealand of 1.47 km is lower than the average loop length for each of the benchmarked countries in Table 7 above. However, based on the available data, New Zealand's average loop length does not appear to be materially different to the average loop lengths observed in the benchmarked countries.

237. Therefore, the Commission's preliminary view is that no further adjustment is required to account for loop length as part of the price point selection.

Possible impact on take-up of fibre services

238. The purpose of the Act is to promote competition for the long-term benefit of end-users. Section 19 of the Act requires the Commission to give effect to this purpose when updating the UCLL price.

239. A new sub-clause was added to the purpose statement following the amendments to the Act last year. This sub-clause states:[112]

> To avoid doubt, in determining whether or not, or the extent to which, competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand is promoted, consideration must be given to the incentives to innovate that exist for, and the risks faced by, investors in new telecommunications services that involve significant capital investment and that offer capabilities not available from established services.

[112] See section 18(2A) of the Act.

240. The ultra fast broadband (UFB) initiative is a new fibre to the home, open access, telecommunications network that involves significant capital investment and that has the potential to offer capabilities not available from established services. Therefore, the incentives to innovate for, and risks faced by, local fibre companies (LFCs) are potentially relevant when setting a revised UCLL price. Changes to the UCLL price could impact on take-up of UFB services.

241. There are two main arguments regarding the possible impact of the UCLL price on fibre take-up. Changes to the UCLL price could impact on take-up of UFB services in two ways:

    241.1 From the supply-side perspective, a low copper price (and hence lower profits from the copper network) could incentivise Chorus (which has secured ~70% of the UFB contracts) to roll-out fibre, and encourage customers to migrate to the UFB network more quickly

    241.2 From the demand-side perspective, a low copper price could reduce the incentive for end-users to migrate to fibre, because services provided over the copper network would be relatively cheap compared to a similar fibre-based service.[113]

242. In their submission on the draft UCLL averaging decision, Vodafone stated that "recent European research from WIK-Consult, Professor Vogelsang and Frontier Economics, identifies that lower UCLL rates promote efficient switching to fibre".[114] Vodafone also submitted:[115]

> In [the] New Zealand, the terms of the UFB set out specific requirements, including dividend and debt requirements for Chorus should a 20% fibre up take threshold not be passed by 2020. Similarly, Local Fibre Companies (LFCs) have specific targets set within their contracts with Crown Fibre Holdings (CFH) with financial penalties applying for not meeting those targets. However, as identified by WIK-Consult and Professor Vogelsang, higher UCLL prices would result in a very strong economic driver to limit fibre roll out, to the minimum switch-over necessary to meet contractual commitments.

243. The papers referenced by Vodafone are focussed on the European context, where the debate is around how to generate commercial incentives to invest in fibre.

244. Plum Consulting, on behalf of Chorus, responded to Vodafone's submission. They argued that the regulatory debate in Europe about the regulation of copper and fibre has little relevance to New Zealand.[116]

245. In New Zealand, the commitment to deploy fibre has already been made, and there are financial penalties if take-up rates are not achieved. Chorus and the other LFCs

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113 However, services provided over the copper network are likely to be lower quality than those provided over fibre. For example, broadband speeds are likely to be significantly higher on the UFB network.

114 Vodafone, *Review of the initial pricing principle and updating of the unconditioned local loop service (UCLL)*, 3 October 2011, page 2.

115 Vodafone, *Review of the initial pricing principle and updating of the unconditioned local loop service (UCLL)*, 3 October 2011, page 6.

116 Plum Consulting, *Is the European costing debate relevant to New Zealand?*, 18 October 2011, page 2.

are contractually obliged to deploy the UFB fibre-to-the-home network. Therefore, supply-side considerations have largely been addressed in the New Zealand context, and it is the demand side impacts that are likely to be more important in assessing s18(2A).

246. Plum Consulting argued that the key element for New Zealand is how regulation affects incentives for consumers to switch from copper to fibre. They submitted:[117]

> In New Zealand, the price of copper will be a key influence on the behaviour of consumers switching from copper to fibre. In Europe, the price of copper will influence the decision over whether or not to invest in fibre networks. Cheap copper prices would undermine demand for fibre and the business case for new fibre investment.

247. A lower UCLL price may encourage end-users to remain on the copper network (assuming any price reduction is passed through to end-users), in preference to the UFB network.

248. In contrast, as noted by Vodafone, a higher UCLL price may incentivise Chorus to slow fibre roll-out to the minimum level necessary to meet their contractual commitments.

249. The Commission considers that raising the UCLL price above cost could, to some extent, reduce the risk associated with fibre investment by reducing the demand risk faced by Chorus and the other LFCs. However, the introduction of UFB does not necessarily mean that an adjustment needs to be made to the benchmarked UCLL price to incentivise fibre take-up. The purpose of the Act is to promote competition in telecommunications markets, not to promote take-up of a particular technology over another.

250. A lower UCLL price could be expected to promote competition by:

250.1 incentivising further unbundling by access seekers

250.2 providing greater incentives for fibre services to innovate, to exploit their advantages over copper.

251. The Commission notes that the mean of the normalised benchmarking data set ($19.75) is higher than the 75th percentile of the raw benchmarking data set contained in Table 3 on page 41 ($19.27). Therefore, the benchmarked price is likely to also reflect, to some extent, the risks faced by UFB providers.

252. At this stage the Commission has no evidence to conclude that any further adjustment to the benchmarked UCLL price is required to enhance the incentives to innovate that exist for, and the risks faced by, investors in UFB. The Commission invites submissions on this issue.

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[117] Plum Consulting, *Is the European costing debate relevant to New Zealand?*, 18 October 2011, page 3.

Relativity between the UCLL and UBA services

253. The Commission is required to consider the relativity between the UCLL service and the UBA service (to the extent that terms and conditions have been determined for that service).[118] UCLL and UBA are alternative regulated services which enable access seekers to deliver telecommunications services to end-users.

254. UBA is a wholesale digital subscriber line (DSL) service. The UBA service supplied by Chorus includes the network components used to supply a bitstream service, including electronic equipment located at the exchange such as digital subscriber line access multiplexers (DSLAMs).

255. The UCLL service, on the other hand, enables the access seeker to rent the raw copper local loop and deliver services using its own infrastructure in the local telephone exchange. UCLL requires further investment from the access seeker but offers greater scope for innovation.

256. Consideration of relativity is necessary to ensure that the prices for UCLL and UBA are set at a level that encourages economically efficient infrastructure investment. Access seekers should face price signals that incentivise efficient build/buy decisions.

257. A number of factors are relevant to an access seeker's decision regarding whether to use the UCLL service or the UBA service:[119]

257.1 **The number of customers served by the access seeker from each exchange:** An access seeker will be more willing to use the UCLL service and incur the upfront costs of investment in equipment at an exchange where it has a larger customer base over which to spread those costs

257.2 **The payback period of the investment at the exchange:** All other things being equal, the shorter the payback period, the more likely the access seeker will use the UCLL service (and vice versa)

257.3 **The ability to offer new services:** When using the UCLL service, access seekers may be able to offer new services that they could not offer using the UBA service. Such new services may generate additional profits that may influence the access seeker's choice of access product.[120]

258. The Commission noted in the UBA STD that the pricing principles for the UBA and UCLL services support the relativity requirement:[121]

> …the UBA price is set according to a retail-minus pricing principle, whereas the UCLL price is cost-based. UBA prices will therefore equal or more likely exceed the costs of

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118 See Schedule 1 of the Act.

119 Commerce Commission, Decision No. 611: *Standard Terms Determination for the designated service Telecom's unbundled bitstream access*, 12 December 2007, page 81, paragraphs 436-439.

120 For example, the peak TCP download speed on UCLL lines is 22% greater than on bitstream lines (Source Commerce Commission, *Annual Monitoring Report 2011*, page 41, figure 36).

121 Commerce Commission, Decision No. 611: *Standard Terms Determination for the designated service Telecom's unbundled bitstream access*, 12 December 2007, page 81, paragraph 440.

providing a UBA service. One consequence of this is that Access Seekers will face an incentive to invest in their own infrastructure to the extent that such investment minimises their cost of providing retail services.

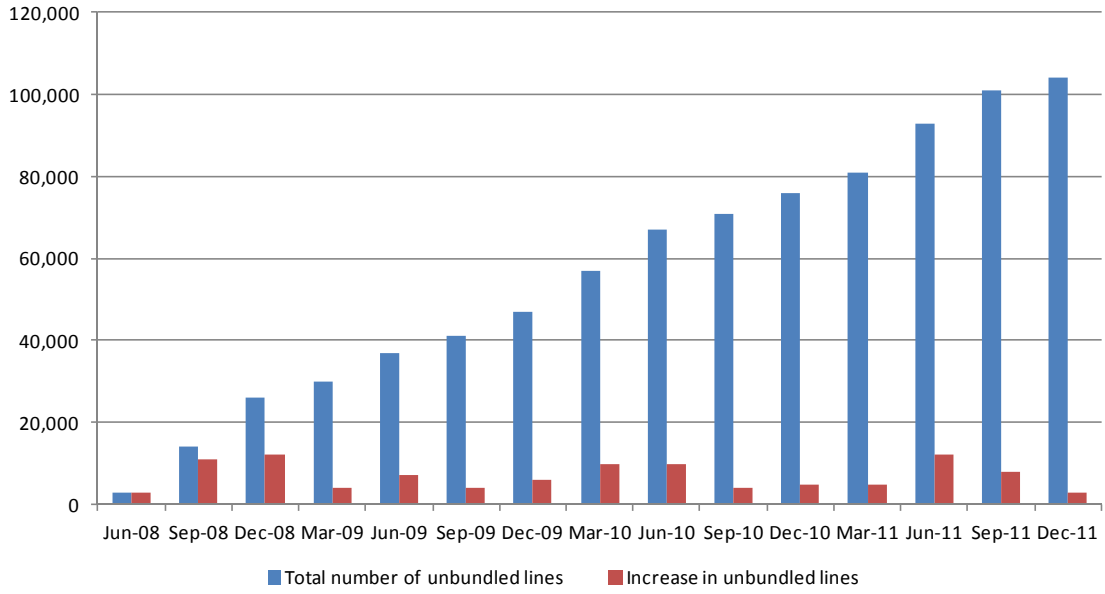
259. The Basic UBA with POTS price is currently $21.46. The UBA price is set under a retail-minus pricing principle, and was frozen for three years on separation day.

260. The current UCLL monthly rental prices are $19.84 in urban areas and $36.63 in non-urban areas.

261. Over the period from December 2007 to December 2011, the Basic UBA with POTS price decreased from $27.44 to $21.46, a reduction of 21.8%. The urban and non-urban UCLL monthly rental prices remained static over this period.

262. Despite the reduction in the retail-minus UBA price, there was a significant increase in the number of unbundled lines and exchanges. The number of unbundled lines from June 2008 to December 2011 is shown in Figure 5 below.

Figure 5: Number of UCLL lines from June 2008 to December 2011



263. The number of unbundled exchanges increased from four in December 2007 to 148 in September 2011.

264. If the reduction in the UBA price had incentivised access seekers to purchase UBA in preference to UCLL, such that the relativity requirement was no longer met, it is likely that there would have been a decline in unbundling activity.

265. The updated geographically averaged UCLL monthly rental price in this revised draft decision of $19.75 represents a 19% reduction from the current price of $24.46. As noted in paragraph 261, the UBA price fell by 21.8% over the period from December 2007 to December 2011.

266. The Commission's preliminary view is that the updated urban and non-urban UCLL monthly rental prices set out in this draft decision are consistent with the relativity requirement. A reduction in the UCLL monthly rental price of 19% restores the relativity between the UCLL and UBA prices to approximately the same level as when the Commission assessed relativity in the UBA STD.

Conclusion on price point selection

267. The Commission's preliminary view is that the mean of the normalised benchmarking data set is likely to best promote competition for the long-term benefit of end-users. This leads to a geographically averaged UCLL monthly rental price of $19.75.

268. In selecting the mean of the normalised benchmarking data set, the Commission notes that:

    268.1 The normalised benchmark set corrects for the expected downwards bias that is likely to result from removing the population density comparability criterion

    268.2 Based on the available data, New Zealand's average loop length does not appear to be materially different to the average loop lengths observed in the benchmarked countries

    268.3 At this stage, the Commission has no evidence to conclude that a further adjustment to the benchmarked UCLL price is required to reflect the incentives to innovate that exist for, and the risks faced by, investors in UFB

    268.4 A reduction in the UCLL monthly rental price of 19% restores the relativity between the UCLL and UBA prices to approximately the same level as when the Commission assessed relativity in the UBA STD.

Calculating urban and non-urban UCLL monthly rental prices

269. Geographically de-averaged urban and non-urban UCLL monthly rental prices were set in the UCLL STD. The Commission noted that the cost of the UCLL service is likely to vary from one region to another, and that de-averaged prices would better reflect the underlying cost of the service, leading to more efficient outcomes.[122]

270. There was discussion at the UCLL averaging conference regarding how prices should be geographically de-averaged, given the limited availability of updated benchmarks with geographically de-averaged prices. As noted in paragraph 186 above, none of the countries in the updated benchmark set apply geographically de-averaged prices.

271. It was generally agreed that there has not been a material change in urban costs relative to non-urban costs since the UCLL STD was released. For example, Chorus

[122] Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, pages 61-62, paragraphs 247-253.

stated "…we are comfortable there hasn't been a material change. We've had confidence in the approach that was taken last time".[123]

272. Similarly, Vodafone stated:[124]

> From Vodafone's perspective, that is we're not convinced there's material change. We've had quite a lot of extra work required to do that.
>
> Given that the parties seem fairly nonplussed, I guess, about the issue, it seems why would you not adopt the existing approach to this split between urban and rural? There's bigger issues to be dealing with, in my view, than this particular issue.

The de-averaging methodology from the UCLL STD

273. The de-averaging approach in the UCLL STD relies on benchmarked urban and non-urban cost ratios of 87% and 160.5%. These ratios were determined by benchmarking against urban and non-urban UCLL monthly rental prices in Australia and US states. These countries are not included in the Commission's updated benchmark set.

274. Applying the de-averaging methodology in the UCLL STD results in urban and non-urban prices of $15.82 and $29.19 respectively. This de-averaging methodology is summarised in Table 8 below.[125]

Table 8: Methodology for calculating updated urban and non-urban UCLL monthly rental prices

	Price	**% lines**
Initial benchmark	**19.75**	
Urban rate (@ 87%)	17.18	70.60%
Non-urban rate (@ 160.5%)	31.70	29.40%
Weighted average	21.45	
Scaling factor	0.9207	
Urban price	$15.82	
Non-urban price	$29.19	

275. Urban and non-urban cost ratios of 87% and 160.5% are applied to the initial benchmarked price of $19.75. This produces an urban rate of $17.18 and a non-urban rate of $31.70.

276. Based on data supplied by Chorus, 70.6% of UCLL lines in New Zealand are located in urban areas and 29.4% of lines are located in non-urban areas.[126] Applying these

[123] Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final Transcript*, 27 October 2011, page 112.

[124] Commerce Commission, *UCLL and UBA Averaging and Section 30R Reviews Conference: Final Transcript*, 27 October 2011, page 112.

[125] See paragraphs 254 to 264 of the Final UCLL STD for further discussion of the de-averaging methodology.

weights to the urban and non-urban rates produces a weighted average of $21.45, which exceeds the initial benchmark of $19.75. As a result, the de-averaged rates have been scaled down (using a scaling factor of 0.9207), so that the weighted average is equivalent to the initial benchmark.

Alternative de-averaging approach

277. The de-averaging approach from the UCLL STD involves a two-step process. A two-step process is required because it is necessary to scale the weighted average price back to the geographically averaged initial benchmark.

278. Urban and non-urban prices are also able to be calculated using a more straightforward alternative methodology, which involves a single-step. This single-step methodology, which is outlined below, results in the same price as the two-step methodology.

279. The relationship between urban and non-urban costs can be expressed as an urban to non-urban ratio of 0.542 (87%/160.5%). Therefore, the urban price is 54% of the non-urban price.[127]

280. Using this urban to non-urban cost ratio, the geographically averaged UCLL price, *A*, can be expressed as:

Equation 1

$$\boldsymbol{A = u \times (0.542 \times NU) + (1 - u) \times NU}$$

Where: *A* = the geographically averaged benchmarked price
u = the proportion of urban lines
0.542 = the urban to non-urban cost ratio (87%/160.5%)
NU = the non-urban price

281. Rearranging Equation 1 to make the non-urban price, *NU,* the subject gives:

Equation 2

$$\boldsymbol{NU = \frac{A}{(1 - u) + u \times 0.542}}$$

282. Similarly, the urban price, *U*, can be expressed as:

Equation 3

$$U = \frac{A}{u + (1 - u) \times 1.845}$$

Where: *U* = the urban price
A = the geographically averaged benchmarked price

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126 Chorus*, Supplementary submission in response to discussion document on the rebenchmarking of prices for Chorus' unbundled copper local loop service*, 23 March 2012, page 3, paragraph 6.

127 Alternatively, this could be expressed as a non-urban to urban cost ratio of 1.84 (160.5%/87%). Therefore, the non-urban price is 84% higher than the urban price.

u = the proportion of urban lines
1.845 = the non-urban to urban cost ratio (160.5%/87%)

283. The geographically averaged benchmarked price is $19.75 and the proportion of urban lines is 70.6%. Inserting these values into Equation 2 and Equation 3 results in urban and non-urban UCLL monthly rental prices of $15.82 and $29.19 respectively. These are the same as the urban and non-urban prices that result from applying the de-averaging methodology contained in the UCLL STD.

Glide path for UCLL monthly rental prices

Purpose

284. This section considers whether a glide path should be used to transition from the current UCLL prices, to the proposed geographically averaged UCLL price that applies from 1 December 2014. A glide-path sets one or more interim price reductions.

Rationale for implementing a glide path

285. Glide paths can be implemented by regulators to smooth the transition from to new regulated prices. A glide path allows time for the access provider and access seekers to adjust to the new prices. The Commission previously used a glide path in the mobile termination access services (MTAS) STD.[128]

UCLL monthly rental prices without a glide path

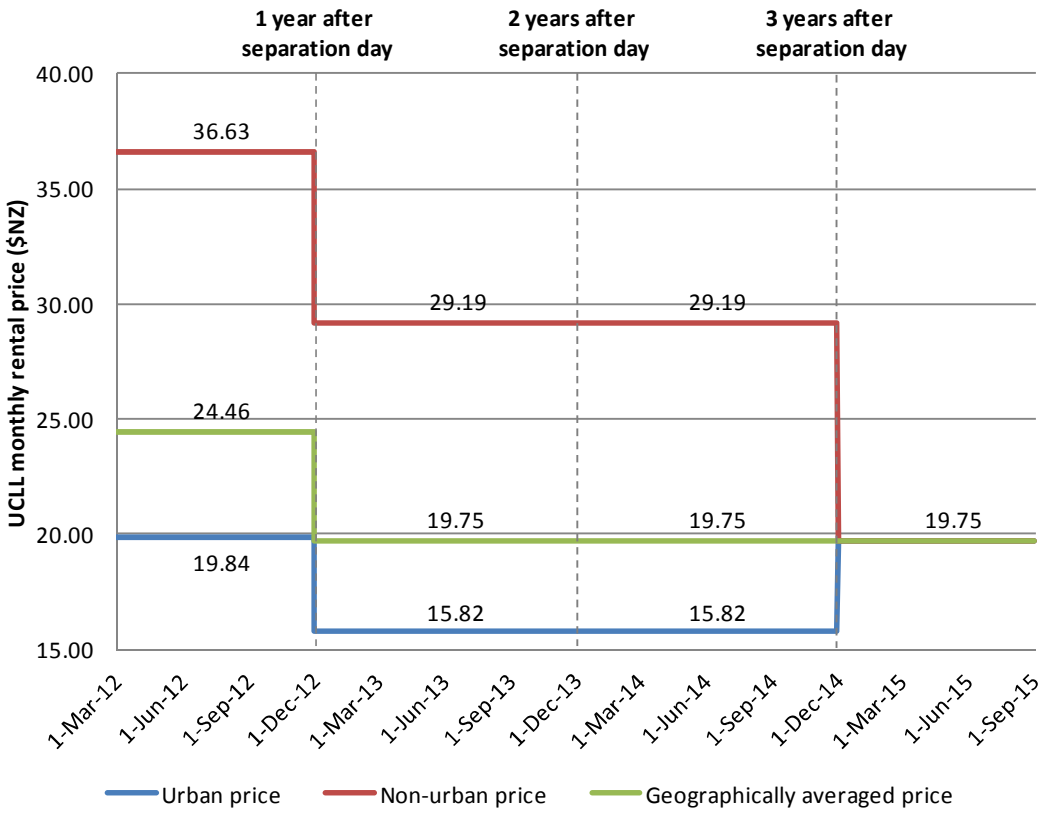
286. Currently, separate urban and non-urban prices of $19.84 and $36.63 apply to the UCLL monthly rental service. A geographically averaged price is required to take effect three years after separation day.

287. The proposed UCLL monthly rental prices in this decision represent a significant drop from current levels. The geographically averaged monthly rental price of $19.75 is a reduction of approximately 19% compared to the current price of $24.46.

288. UCLL monthly rental price changes, in the absence of a glide path, are shown in Figure 6 below.

[128] Commerce Commission, Decision No. 724*: Standard Terms Determination for the designated services of the mobile termination access services (MTAS) fixed-to-mobile voice (FTM), mobile-to-mobile voice (MTM) and short messaging services (SMS))*, 5 May 2011, page 125-131.

Figure 6: UCLL monthly rental price changes without a glide path[129]



289. Without a glide path, the urban UCLL monthly rental price would initially decrease from $19.84 to $15.82, a reduction of 20%. The urban price would then increase by 25% (to $19.75) two years later, when the geographically averaged price takes effect. Such price fluctuations are unlikely to be in the long-term benefit of end-users.

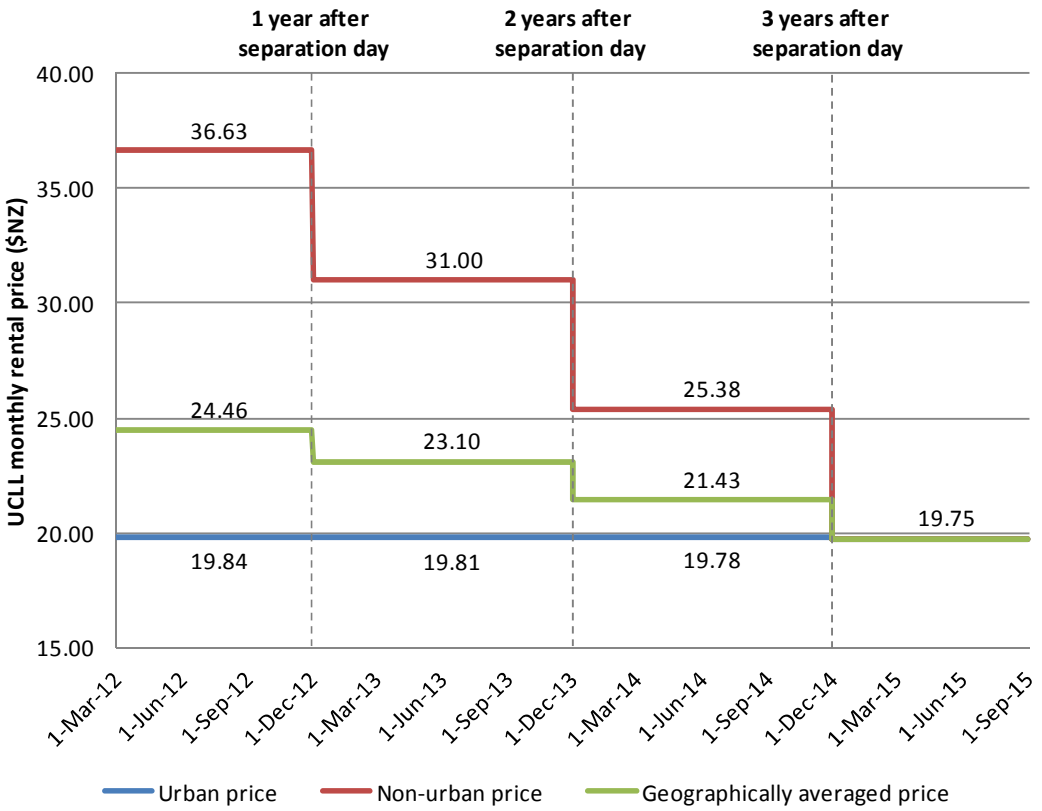
Proposed glide path

290. The benchmarked geographically averaged UCLL monthly rental price in this draft decision is $19.75. A glide path can be used to gradually reduce the current urban and non-urban prices down to the geographically averaged price that applies from 1 December 2014. Therefore, a glide path can avoids the price fluctuation referred to in paragraph 289 above.

291. A possible glide path for the UCLL monthly rental service is depicted in Figure 7 below.

[129] Note: This figure contains a non-zero vertical axis.

Figure 7: Glide path for the UCLL monthly rental service[130]



292. The glide path shown above involves three equal price reductions in the urban and non-urban prices respectively. The geographically averaged prices are calculated as the weighted average of the urban and non-urban prices.

293. The first reduction takes effect on 1 December 2012 (one year after separation day), with the remaining two reductions applying on 1 December 2013 and 1 December 2014.

Advantages of a glide path

294. A glide path has the benefit of smoothing the transition to the geographically averaged UCLL price, which is required to take effect three years after separation day.

295. In the absence of a glide path there is the potential for multiple substantive changes to UCLL monthly rental prices. Moving directly to the benchmarked monthly rental prices contained in this draft decision would involve a significant downwards adjustment. A further revision would then be required to implement the geographically averaged UCLL monthly rental price.

296. Implementing changes to UCLL prices via a glide path would also mitigate any potential adverse effects of a significant reduction in the UCLL price. Chorus has

[130] Note: This figure contains a non-zero vertical axis.

previously submitted that UCLL re-benchmarking could lead to unanticipated and material changes in regulatory pricing, which fail to provide regulatory and investment certainty.[131]

297. A glide path can create greater stability and predictability in regulated prices. This may help facilitate investment for both access providers and access seekers. In this case, the main beneficiary of a glide path would be Chorus, because the introduction of lower UCLL prices would be delayed.[132]

Disadvantages of a glide path

298. Implementing a glide path would delay the reduced UCLL monthly rental prices being passed on to access seekers. This would also delay the benefits to consumers, to the extent that UCLL price reductions are expected to be been passed on to end-users.

299. Under the proposed glide path, the benchmarked price for urban ESAs of $15.82 would never take effect. Rather, the urban UCLL price would gradually decrease from $19.84 to the geographically averaged price of $19.75. Therefore, access seekers would not receive the benchmarked urban monthly rental price contained in this revised draft decision.

300. A reduction in the UCLL monthly rental price is generally expected to create incentives for further unbundling of exchanges, thereby promoting increased competition. This is likely to benefit consumers in the form of lower prices and better quality services that are able to be provided by unbundlers.

301. Without a glide path, the urban UCLL monthly rental price of $15.82 would apply for two years. This is likely to be a sufficient timeframe for access seekers to receive payback on their investment at the exchange.

302. However, there are also reasons to believe the benefits of the reduced urban monthly rental may be limited in this case:

    302.1 The price reduction for urban ESAs would be temporary, because the higher geographically averaged price would take effect after two years.

    302.2 Due to the temporary nature of the UCLL price reduction, the incentives for access seekers to pass cost savings on to end-users may be reduced.

    302.3 The prospects of further unbundling may be limited, because the majority of urban ESAs have already been unbundled.

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131 Chorus, *Submission on Commission draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL STD and consequential changes to the UBA uplift*, 3 October 2011, page 4, paragraph 8.

132 If the benchmarked UCLL monthly rental prices had risen, then access seekers would have received the main benefits of a glide path.

Commission's view on whether a glide path is appropriate

303. While there are arguments for and against using a glide path, the Commission's preliminary view is that a glide path is appropriate. A glide path avoids fluctuations in the UCLL monthly rental price in the transition to the geographically averaged price. The Commission considers that the more stable price path resulting from using a glide path is likely to best promote competition for the long-term benefit of end-users.

304. The impact of price stability on future investment decisions might not normally be given such weight. However, in this context price stability may have important implications for regulatory expectations in other areas of telecommunications, including the fibre investment currently being undertaken by LFCs (which are potentially subject to regulation).

305. The price fluctuation due to geographic averaging (which would take place in the absence of a glide path) is a situation created by the recent amendments to the Act. The Commission is required implement the geographically averaged price in a way that is likely to best promote competition for the long-term benefit of end-users. The Commission's preliminary view is that a glide path meets this requirement.

306. The glide path prices are summarised in Table 9 below.

Table 9: Glide path prices for UCLL monthly rental service

	Current prices	1 year after separation day (1 December 2012)	2 years after separation day (1 December 2013)	3 years after separation day (1 December 2014)
Urban price	19.84	19.81	19.78	19.75
Non-urban price	36.63	31.00	25.38	19.75
Geographically averaged price	24.46	23.10	21.43	19.75

Sub-loop UCLL and UBA without POTS prices

Purpose

307. This section considers whether any changes are required to the sub-loop services STD or the UBA STD to reflect the proposed UCLL prices contained in this revised draft decision.

Scope of the UCLL benchmarking review

308. The UCLL benchmarking review was commenced on 25 August 2011. The Commission noted that the purpose of the review was to:[133]

    308.1 Update the benchmark data set used in the UCLL STD to determine the monthly UCLL prices and UCLL connection charges

    308.2 Update prices under the UCLL, UBA and Sub-loop Services STDs that are affected by the UCLL benchmark data update – for the UBA STD this involves updating the uplift that applies to the price for the UBA service variants without POTS.

309. The updated UCLL benchmarking data set and revised UCLL monthly rental and connection charges have been described earlier in this revised draft decision. Sub-loop and UBA prices are discussed below.

Sub-loop UCLL monthly rental prices

310. The urban, non-urban and geographically averaged sub-loop UCLL monthly rental prices contained in the sub-loop STD are $11.99, $22.14 and $14.77 respectively.[134] These prices are set as 60.4% of the corresponding full UCLL monthly rental prices.

311. 60.4% is the benchmarked proportion of sub-loop to full loop prices in jurisdictions where forward-looking cost-based access prices are available. The Commission concluded in the sub-loop services STD that benchmarking sub-loop UCLL prices as a proportion of full loop prices would best meet the requirements of section 18 of the Act.[135]

312. The Commission considers that it would be inappropriate to calculate updated sub-loop UCLL monthly rental prices by applying the 60.4% ratio to the new UCLL prices contained in this revised draft decision.

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133 Commerce Commission, *UCLL benchmarking review – notice of additional review and separate decision for Sub-loop Services STD*, 25 August 2011.

134 Commerce Commission, *Standard terms determination for Chorus' sub-loop unbundled copper local loop network services: Service appendix 1, Schedule 2 sub-loop UCLL price list*, 18 June 2009 (updated to incorporate Commerce Commission decisions, amendments and clarifications through 30 November 2011), page 11.

135 Commerce Commission, Decision No. 672: *Standard Terms Determination for the designated services of Telecom's unbundled copper local loop network service (Sub-loop UCLL), Telecom's unbundled copper local loop network collocation service (Sub-loop Co-location) and Telecom's unbundled copper local loop network backhaul service (Sub-loop Backhaul)*, 18 June 2009, page 35, paragraphs 144-145.

313. The sub-loop UCLL service has not been subject to the reduction in loop length that has occurred to the full UCLL service. Therefore, the Commission considers that applying the 60.4% proportion to the proposed UCLL monthly rental prices may lead to below-cost prices for the sub-loop UCLL service.

314. Accordingly, the Commission's preliminary view is that the sub-loop UCLL prices should be updated in a subsequent review. The Commission invites submissions on how to update sub-loop UCLL monthly rental prices.

Naked UBA uplift

315. In the final UCLL averaging decision, the Commission determined that the UBA without POTS (naked UBA) uplift is to be set by reference to the geographically averaged UCLL price contained in the UCLL STD.[136]

316. Changes to the geographically averaged UCLL price now automatically flow through to the naked UBA service. Therefore, no further amendments are required to the UBA STD to reflect the updated UCLL price.

[136] Commerce Commission, Decision No. 739: *Final decision in relation to the review of the UCLL, UBA and Sub-loop Services standard terms determinations (STDs) for the purpose of implementing clause 4A of the Telecommunications Amendment Act 2011*, 24 November 2011.

Link between UCLL and UCLFS prices

Purpose

317. This section considers the link between UCLL and UCLFS prices. It describes the Commission's preliminary view that there are reasonable grounds to commence a Schedule 3 investigation.

Linkage between the UCLL and UCLFS price

318. The UCLFS service allows for the use of the low frequency band of the copper line, whereas the UCLL service has no restriction on the frequency band.

319. The price for UCLFS is required to be set with reference to the UCLL price. The IPP for the UCLF service is:

> Either—
>
> (a) the geographically averaged price for **Chorus's full unbundled copper local loop network**; or
>
> (b) if a person is also purchasing Chorus's unbundled bitstream access service in relation to the relevant subscriber line, the cost of any additional elements of Chorus's local loop network that are not recovered in the price for Chorus's unbundled bitstream access service

320. In the UCLFS STD, the Commission determined the following prices for the UCLFS monthly rental service:

320.1 where the access seeker is purchasing the UCLF Service alone, the monthly charge for the UCLF Service is the geographically averaged UCLL monthly rental price

320.2 where the access seeker is purchasing the UBA Service with the UCLF Service, the monthly charge for the UCLF Service is zero.

321. As this draft determination highlights, the average copper loop length for the UCLL service is approximately 29% shorter than it was in 2007, which is likely to be reflected in the updated UCLL price.

322. The UCLF Service is available on all lines, whereas the UCLL Service is only available on non-cabinetised lines. Under option (a) of the IPP (as shown in paragraph 318 above), if the re-benchmarked UCLL price reflects shorter loop lengths, then this would also reduce the price for the UCLF service.

323. Given this, there is a risk that Chorus will under-recover forward-looking costs for the UCLF Service if the UCLF price is based on the "geographically averaged price for Chorus's UCLL Service".

UCLFS Schedule 3 investigation

324. The Commission's preliminary view is that there are reasonable grounds to investigate this matter under clause 1(1) of Schedule 3. This investigation could:

    324.1 assess both sub-paragraph (a) and sub-paragraph (b) of the initial and final pricing principles

    324.2 seek to address whether or not these pricing principles should be disconnected from the requirement that the UCLF price must equate to the "geographically averaged price for Chorus's UCLL Service" (subparagraph (a) of both pricing principles).

325. The inquiry under Schedule 3 could investigate the differences between the UCLL and UCLF services and address the problem that the application of the current UCLF initial pricing principle may under value the price of the UCLF Service.

326. The Commission expects any Schedule 3 investigation would be completed before the updated UCLL prices come into effect on 1 December 2012, in accordance with the proposed glide path.

327. As part of this Draft determination, the Commission seeks submissions from parties on whether they agree with the Commission's view that there are reasonable grounds to investigate the UCLF pricing principles.

UCLL connection charges

Purpose

328. This section summarises UCLL connection charges for countries that meet the benchmarking criteria. This benchmarking data is used to calculate revised draft transfer, bulk transfer and new connection prices for New Zealand.

Transfer of an existing MPF connection

Single transfer

329. The MPF transfer charge is incurred where the metallic path facility (MPF) serving an existing retail customer is transferred from one UCLL-based access seeker to another. This involves disconnecting the existing jumper wire that connects the MPF to the existing access seeker's equipment, and reconnecting it to the new access seeker's equipment.

330. The charge for this service therefore relates to the cost of sending a person to the exchange to physically move the jumper. In addition, there may be some back-office functions associated with the transfer, for example, the updating of Chorus' records for the purposes of billing the new access seeker.

331. The MPF Transfer charge in the UCLL STD is $74.83 per transfer. This was based on the median of cost-based transfer charges in 12 European and 44 US jurisdictions.[137]

332. Updated information on transfer charges has been identified for the 11 countries that meet the forward-looking cost-based benchmarking criteria.

333. Connection charges have been converted to New Zealand dollars using PPP rates. This is because connection charges primarily involve labour costs.[138]

334. For the purposes of setting a benchmarked transfer charge, the Commission considers that all countries that use a forward-looking cost-based pricing methodology are comparable to New Zealand. This is because the cost of providing this service is primarily driven by labour costs, as opposed to demographic factors such as urbanisation and population density. Differences in labour costs are accounted for through the use of PPP rates.[139]

335. The benchmark set for UCLL transfer connection charges is included in Table 10 below.

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137 Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, pages 66-68, paragraphs 266-274.

138 This approach is consistent with the UCLL STD. See Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, pages 67-68, paragraph 272.

139 This is consistent with the approach in the UCLL STD. See Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, page 66, paragraph 268.

Table 10: UCLL transfer connection charge benchmark set

Country	Currency	Connection charge (local currency)	PPP rates	Connection charge ($NZ)
Switzerland	CHF	44.40	1.0028	44.28
Greece	EURO	26.50	0.4795	55.26
Belgium	EURO	36.35	0.5752	63.20
Denmark	DKK	338.00	5.2848	63.96
Germany	EURO	34.59	0.5402	64.04
Italy	EURO	34.90	0.5388	64.78
Sweden	SEK	440.00	5.9998	73.34
Czech	CZK	794.00	9.1499	86.78
Cyprus	EURO	45.07	0.4640	97.14
Romania	RON	126.11	1.1132	113.29
Slovenia	EURO	51.01	0.4232	120.52

Mean	76.96
Median	64.78
25th percentile	63.58
75th percentile	91.96

336. The Commission's preliminary view is that an MPF transfer charge of $64.78 is appropriate. This is the median of the benchmark set in Table 10 above.

337. Unlike the UCLL monthly rental service, outliers have not been removed from the UCLL transfer connection charge benchmarking data set. Therefore, the Commission considers it appropriate to use the median rather than the mean.

Bulk transfer

338. The bulk transfer connection charge applies where multiple transfers are requested as part of the same order. This charge applies where there are 20 or more connections at the same exchange and no customer site visit is required.

339. The per-connection charge for bulk transfers is lower than the charge for a single connection. This reflects the lower unit cost of transferring multiple connections.

340. The bulk transfer charge in the UCLL STD is $56.12 per transfer. This is based on the single transfer price of $74.83 less a 25% discount (benchmarked against a bulk transfer discount set by the ACCC).[140]

341. Of the countries in Table 10 above, the Commission has been able to identify an updated bulk transfer charge for Belgium only. In Belgium, the single transfer charge

[140] Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, pages 68-71, paragraphs 275-293.

is €36.35 and the bulk transfer charge is €27.19 per connection.[141] This equates to a bulk transfer discount of 25%.

342. The bulk transfer discount observed in Belgium is consistent with the benchmarked discount used in the UCLL STD. Therefore, the Commission's preliminary view is that a bulk transfer discount of 25% remains appropriate. Applying a 25% discount to the updated MPF transfer charge of $64.78 leads to a bulk transfer charge of $48.59 per connection.

MPF new connection

343. The MPF new connection charge relates to the establishment of a new service instance of the MPF service. The service is established from spares or intact circuits with an existing service lead into the building. That is, it uses an existing MPF that is not currently used for the provision of telecommunications services.

344. The MPF new connection charge applies where a site visit to the customer premises is required in order to establish and test the connection. Therefore, this charge is higher than the MPF transfer charge.

345. The MPF new connection charge in the UCLL STD is $225 per connection. This is based on the new connection charge in the UK and France being approximately three times the connection charge for transferring an existing service.[142]

346. Updated information on new connection charges has been identified for Belgium, Denmark, Germany, Greece, Italy and Sweden. This information in summarised in Table 11 below.

[141] The "physical migration" and "mass migration" charges for Belgium are available on page 21 of the following document: http://www.bipt.be/GetDocument.aspx?forObjectID=2490&lang=fr.

[142] Commerce Commission, Decision No. 609: *Standard terms determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, page 72, paragraphs 294-295.

Table 11: Summary of data on new connection charges

Country	Currency	Transfer charge (local currency)	New connection charge (local currency)	Ratio of new connection to transfer charge
Italy	EURO	34.90	57.40	164%
Germany	EURO	34.59	60.72	176%
Belgium	EURO	36.35	73.79	203%
Denmark	DKK	338.00	759.00	225%
Greece	EURO	26.50	62.50	236%
Sweden	SEK	440.00	1230.00	280%

Mean	214%
Median	214%
25th percentile	182%
75th percentile	233%

347. A summary of the relevant connection charges for each country is included below:

347.1 **Belgium:** the "physical migration" charge is €36.35 and the charge for "activation with customer visit" is €73.79.[143] The ratio is 203%

347.2 **Denmark:** the connection charge without a technician visit is DKK 338 and the connection charge with a technician visit is DKK 759.[144] The ratio is 225%

347.3 **Germany:** the price for a transfer with work at the exchange is €34.59 and the price for a connection with work at the exchange and the customer's premises is €60.72. The ratio is 176%

347.4 **Greece:** the one-off connection fee for an active local loop is €26.50 and the one-off connection fee for an inactive local loop is €62.50.[145] The ratio is 236%

347.5 **Italy:** the connection charge is €34.90 for an active line and €57.40 for an inactive line. The ratio is 164%

347.6 **Sweden:** the connection charge is Kr440 for a "simple installation" (when only work at the MDF is needed) and Kr1230 for a "medium installation" (when

143 See page 21 of the following document: http://www.bipt.be/GetDocument.aspx?forObjectID=2490&lang=fr.

144 See Table 14 on page 12 of the following document: http://www.itst.dk/tele-og-internetregulering/smp-regulering/engrospriser/filarkiv-engrospriser/lraic/lraic-priser/2011/Endelig%20LRAIC-afgorelse%20for%202011.pdf

145 See page 3 of the following document: http://www.otewholesale.gr/portals/0/llu_col_pricelist_eng2107.pdf.

work is required at both the exchange and the customer's premises).[146] The ratio is 280%.

348. The Commission's preliminary view is that the MPF New Connection charge should be calculated as 214% of the MPF transfer charge. This is based on the median of the benchmarked ratios observed in Belgium, Denmark, Germany, Greece, Italy and Sweden.

349. Applying the ratio of 214% to the updated MPF transfer charge of $64.78 leads to an MPF new connection charge of $138.63 per connection.

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Commerce Commission

[146] See page 2 of the following document: http://www.pts.se/upload/Ovrigt/Tele/Bransch/Kalkylarbete%20fasta%20nätet/revidering%202011/10-420-kostnadsresultat-slutlig-hybridmodell-v%208_1.pdf.

Attachment A: Indexing benchmarking data

350. This attachment summarises data on percentage changes in UCLL monthly rental and connection charges under the indexing benchmarking approach.

351. Five countries consistently applied a forward-looking cost-based pricing method at the time of the UCLL STD (in 2007) and at the present day. Therefore, UCLL prices for these countries are able to be used when applying the indexing approach.

UCLL monthly rental service

352. The UCLL monthly rental benchmarking data set under the indexing approach is shown in Table 12 below.

Table 12: UCLL monthly rental benchmark set under indexing approach

Country	Currency	Monthly rental used in UCLL STD (local currency)	Current monthly rental (local currency)	% change
Sweden	SEK	81.33	88.33	8.61%
Denmark	DKK	64.17	68.33	6.48%
Greece	EURO	8.70	8.36	-3.91%
Germany	EURO	10.50	10.08	-4.00%
Czech	CZK	360.00	242.00	-32.78%

Mean	-5.12%
Median	-3.91%
25th percentile	-4.00%
75th percentile	6.48%

UCLL transfer connection charges

353. The UCLL transfer connection charge benchmarking data set under the indexing approach is shown in Table 13 below.

Table 13: UCLL transfer connection charge benchmark set under indexing approach

Country	Currency	Connection charge used in UCLL STD (local currency)	Current connection charge (local currency)	% change
Denmark	DKK	398.00	338.00	-15.08%
Germany	EURO	43.10	34.59	-19.74%
Sweden	SEK	636.00	440.00	-30.82%
Greece	EURO	44.60	26.50	-40.58%
Czech	CZK	2,323.00	794.00	-65.82%

Mean	-34.41%
Median	-30.82%
25th percentile	-40.58%
75th percentile	-19.74%

Summary of changes to the indexing data set

354. The revised indexing benchmarking datasets in Table 12 and Table 13 reflect the following changes from the draft UCLL averaging decision:

354.1 Canada and Finland have been excluded from the benchmark set

354.2 The 2011 monthly rental price for Greece has been updated from €8.51 to €8.36. The 2011 connection charge for Greece has been updated from €27.59 to €26.50

354.3 The 2007 monthly rental price for Sweden has been updated from 81.00 SEK to 81.33 SEK, in response to the submission from CEG. This price is sourced from version 4.1 of the Swedish cost model. Network Strategies noted in its submission that the price used by the Commission in the draft UCLL averaging decision (81.00 SEK) was the price set retrospectively by the Court, rather than the price that applied at the time of the UCLL STD.

355. Network Strategies and CEG also proposed a number of changes to the monthly rental and connection charges used in the UCLL STD (ie, the 2006/2007 benchmarked prices). These proposed changes have not been included in Table 12 and Table 13 above.

356. The Commission's preliminary view is that it is inappropriate to make retrospective adjustments to the benchmarked prices from the UCLL STD under the indexing approach. Under the indexing approach, the benchmarked percentage change is applied to the price that was set in the UCLL STD (which was determined based on the benchmarking data that was available at that time).

357. The Commission considers that if retrospective adjustments were made to the UCLL STD benchmarking data, the benchmarked prices from the UCLL STD would need to be amended before applying the benchmarked percentage change.

Attachment B: Application of forward-looking cost-based benchmarking criteria

The following table summarises the application of the forward-looking cost-based benchmarking criteria.

Country	Pricing approach	Cost standard	Current cost or historic cost?	Bottom up or top-down?	Recent UCLL rates available?	Unbundling is operational and loops have been unbundled?	Overall assessment based on screening criteria?
Australia	Cost based	FAC (Building blocks approach)	Hybrid	Hybrid	✓	✓	×
Austria	Retail-minus	n/a	n/a	n/a	✓	✓	×
Belgium	Cost based	LRAIC	Current cost	Bottom up	✓	✓	✓
Bulgaria	?	?	?	?	✓	×	×
Canada	Cost based	Incremental cost	?	?	✓	✓	×
Cyprus	Cost based	LRIC	Current cost	Bottom up	✓	✓	✓
Czech	Cost based	LRAIC	Hybrid	Top-down	✓	✓	✓
Denmark	Cost based	LRAIC	Current cost	Hybrid	✓	✓	✓
Finland	Cost based	?	?	?	✓	✓	×
France	Cost based	Top-down regulatory accounts	?	Top-down	✓	✓	×
Germany	Cost based	LRAIC	Current cost	Bottom-up	✓	✓	✓
Greece	Cost based	LRAIC	Current cost	?	✓	✓	✓
Hungary	?	?	?	?	?	✓	×
Ireland	Cost based	BU-LRAIC	Current cost	Bottom-up	✓	✓	✓
Italy	Cost based	BU-LRIC	Current cost	Bottom-up	✓	✓	✓
Latvia	Cost based	FAC	Current cost	Top-down	?	?	×
Lithuania	Cost based	FAC	Historic cost	Top-down	✓	?	×
Luxembourg	?	?	?	?	?	✓	×
Malta	Cost based	Incumbent's regulatory accounts	Historic cost	Top-down	✓	?	×
Netherlands	Cost based	Embedded Direct Cost (EDC)	Current cost	?	✓	✓	×
Norway	Cost based	FAC	Historic cost	Top-down	✓	✓	×
Poland	Cost based	LRAIC	Current cost	Top-down	?	✓	×

Portugal	Cost based	FAC	Historic cost	Top-down	✓	✓	×
Romania	Cost based	LRAIC	Current cost	Bottom up	✓	✓	✓
Slovenia	Cost based	LRIC+	Current cost	Bottom-up	✓	✓	✓
Spain	Cost based	FAC	Hybrid	Hybrid	✓	✓	×
Sweden	Cost based	LRAIC	Current cost	Hybrid	✓	✓	✓
Switzerland	Cost based	FL-LRIC	Current cost	Bottom-up	✓	✓	✓
Turkey	?	?	?	?	✓	✓	×
United Kingdom	Cost based	FAC	Current cost	Bottom-up	✓	✓	×
US States	Cost based	TELRIC	Current cost	Bottom-up	×	✓	×

Denotes countries considered to meet the forward-looking cost-based (FLCB) screening criteria

Notes:

- The primary source for information regarding whether "unbundling is operational and loops have been unbundled" is Table 2.8 of OECD Communications Outlook 2011.
- The reasons for excluding Australia and US states are discussed in detail in paragraphs 106 to 127 above.
- **Canada:** Canada was considered to meet the forward-looking cost-based benchmarking criteria in the draft UCLL averaging decision. However, Network Strategies and CEG submitted that Canada does not use a forward-looking LRIC methodology.[147]
- **Cyprus:** Cyprus has been added to the list of countries meeting the forward-looking cost-based benchmarking criteria in response to Vodafone's submission.[148] There were 26,852 unbundled lines as at July 2009.[149]

[147] Network Strategies, *Review of Commission's 2011 UCLL benchmarking*, 30 September 2011, page 11;
CEG, *Benchmarking UCLL costs*, October 2011, page 13, paragraph 41.

[148] Vodafone, *Review of the initial pricing principle and updating of the unconditioned local loop service (UCLL)*, 3 October 2011.

[149] European Commission 15th implementation report:
http://ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/annualreports/15threport/cy.pdf

- **Finland:** Finland was considered to meet the forward-looking cost-based benchmarking criteria in the draft UCLL averaging decision. However, Vodafone submitted that "the NRA does not specify cost method to be used" and "under Finnish law, each operator is free to adopt its own costing method".[150] The European Commission (EC) has also noted that the Finnish regulator (FICORA) "…has discovered overpricing in the local loop charges of several network operators".[151]

- **Ireland:** Ireland meets the forward-looking cost-based benchmarking criteria. However, Ireland has been excluded from the benchmarking data set because exchanges that are unlikely to be "economically and commercially feasible for unbundling" have been excluded from the LRIC model.[152]

- **Romania:** Romania has been added to the list of countries meeting the forward-looking cost-based benchmarking criteria in response to submission from Network Strategies and Vodafone.[153]

- **Switzerland:** Switzerland was previously considered to not meet the benchmarking criteria because the cost model was under review as part of an ex-post review procedure. However, the pricing review is now complete and the 2011 prices have been retrospectively adjusted by the regulator.[154]

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150 Vodafone, *Review of the initial pricing principle and updating of the unconditioned local loop service (UCLL)*, 3 October 2011, page 18.

151 See http://ec.europa.eu/information_society/digital-agenda/scoreboard/docs/regulatory/fi_reg_dev_2011.pdf.pdf

152 ComReg, *Response to Consultation Documents No. 09/39 and 09/62: Local Loop Unbundling ("LLU") and Sub Loop Unbundling ("SLU") Maximum Monthly Rental Charges*, 9 February 2010, page 4, paragraph 1.13.

153 Network Strategies, *Review of Commission's 2011 UCLL benchmarking*, 30 September 2011, pages 32-33;
Vodafone, *Review of the initial pricing principle and updating of the unconditioned local loop service (UCLL)*, 3 October 2011.

154 See http://www.comcom.admin.ch/aktuell/00429/00457/00560/index.html?lang=en&msg-id=42583

Attachment C: Urban benchmarking approach

358. This attachment considers the possibility of benchmarking the urban UCLL monthly rental price for New Zealand against national prices for benchmarked countries (the urban benchmarking approach).

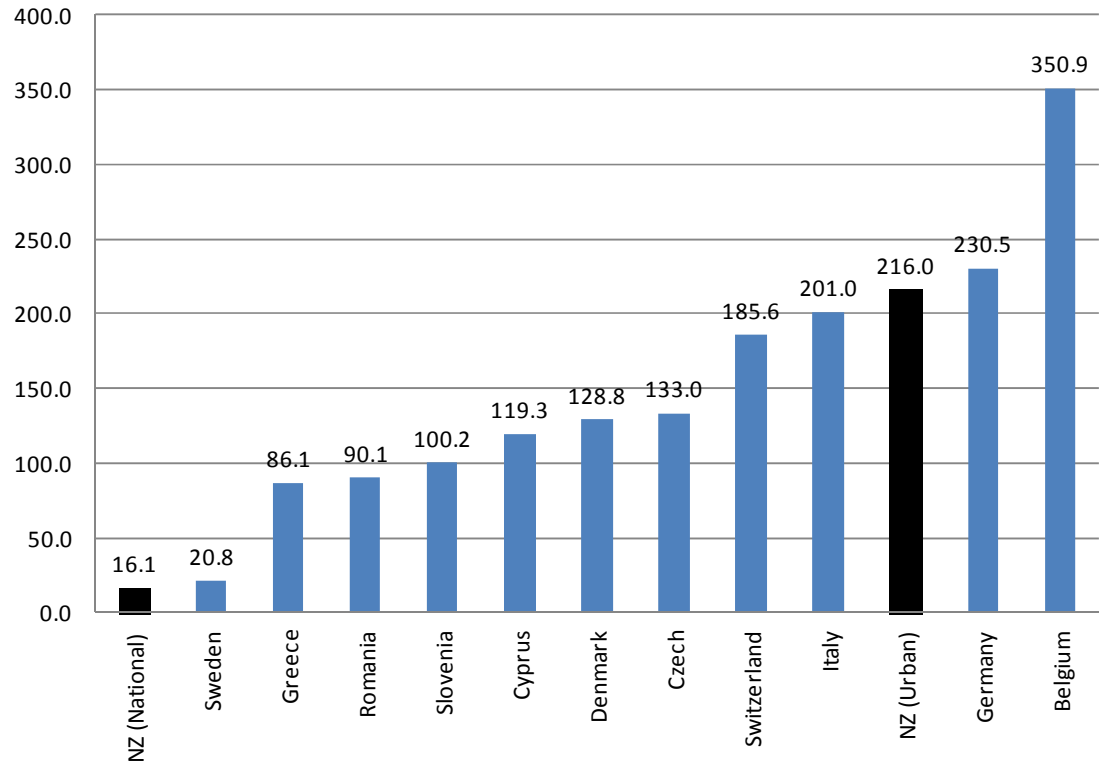
359. The urban benchmarking approach rests on the assumption that New Zealand urban areas are more comparable to the European countries contained in the benchmarking data set than New Zealand as a whole.

Population density, teledensity and urbanisation for urban ESAs

360. For urban exchange service areas (ESAs), New Zealand's population density is 216 people per square kilometre, urbanisation rate is 98.2% and teledensity is 45%.[155] This represents a significant increase in population density and urbanisation compared to New Zealand's national averages. Teledensity, on the other hand, remains relatively unchanged when comparing New Zealand urban areas to the national average.

361. The population density for New Zealand urban ESAs is generally more comparable to European population densities than New Zealand's national population density. This is show in Figure 8 below.

Figure 8: Population density

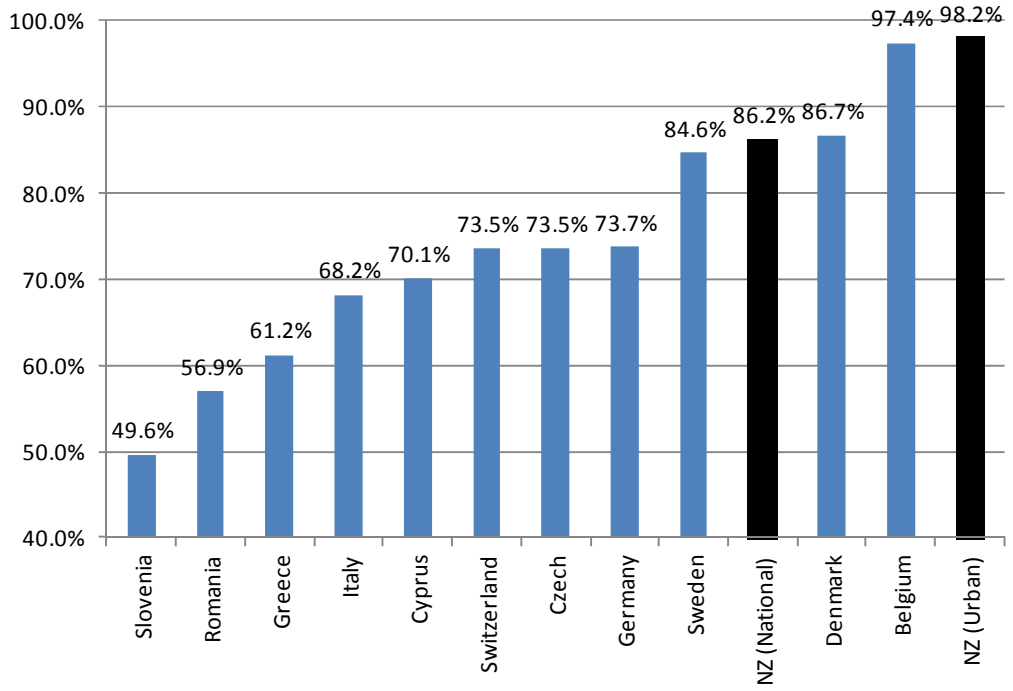


[155] The population density and urbanisation rates for urban ESAs have been estimated by mapping Statistics New Zealand data for main urban area meshblocks to Chorus' exchange boundaries.

362. The fact that the population density for NZ urban ESAs is more comparable to the benchmark countries indicates that the urban benchmarking approach may be appropriate.

363. However, the urbanisation rate for NZ urban ESAs is very high. New Zealand's urbanisation rate for urban ESAs of 98.2% is higher than any of the countries in the benchmarking data set. This is shown in Figure 9 below.

Figure 9: Urbanisation rates



364. New Zealand's national urbanisation rate is generally more comparable to the benchmarked countries than the urbanisation rate for New Zealand urban ESAs. Therefore, there is a trade-off between population density and urbanisation when determining whether the urban benchmarking approach results in a benchmark set that is most comparable to New Zealand.

Amendments to comparability bounds under the urban benchmarking approach

365. Under the urban benchmarking approach it would be necessary to amend the bounds around the comparability criteria, to reflect that the population density and urbanisation rate for New Zealand urban ESAs is significantly higher than the national average.

Bounds for population density

366. At the time of the UCLL STD, New Zealand's national population density was 15 people per square kilometre. Countries with a population density between zero and 30 were considered to be comparable to New Zealand.

367. Of the countries included in the benchmarking data set, Australia had the lowest population density at 3 people per square kilometre. Therefore, the lower bound was effectively 0.2 times New Zealand's population density. The upper bound of 30 was double New Zealand's population density.

368. Applying these ratios to New Zealand's urban population density of 216 would result in a lower bound of 43 and an upper bound of 432. With these bounds, Sweden is excluded from the benchmark set under the urban benchmarking approach. Sweden's national population density of 20 is below the lower bound of 43.

369. It is possible to increase the lower bound to 100 and decrease the upper bound to 360 without impacting on the final result of the urban benchmarking approach. Increasing the lower bound to 100 excludes Greece from the benchmark set, however Greece also fails to meet the urbanisation criterion described below so would be excluded in any event.

Bounds for urbanisation

370. In the UCLL STD, countries with an urbanisation rate greater than 60% were considered comparable with New Zealand. New Zealand's national urbanisation rate was 86%.

371. The lower bound of 60% was 0.7 times New Zealand's urbanisation rate of 86%.

372. Applying the ratio of 0.7 to the urbanisation rate for New Zealand urban ESAs of 98.2% results in a lower bound of approximately 70%. Increasing the lower bound for urbanisation from 60% to 70% excludes Greece and Italy from the benchmark set.

Benchmarking data set under the urban benchmarking approach

373. The following comparability criteria have been applied under the urban benchmarking approach:

    373.1 Population density between 100 and 360

    373.2 Urbanisation greater than 70%

    373.3 Teledensity between 20% and 60%.

374. The countries meeting these criteria are shown in Table 14 below.

Table 14: Benchmarking data set under the urban benchmarking approach

Country	Population Density (2010)	Urbanisation (2009)	Teledensity	Monthly rental ($NZ)
Belgium	350.9	97.4%	43.3%	14.19
Denmark	128.8	86.7%	47.4%	14.91
Switzerland	185.6	73.5%	57.1%	17.37
Germany	230.5	73.7%	55.5%	18.99
Cyprus	119.3	70.1%	37.4%	20.11
Czech	133.0	73.5%	22.9%	20.28

Mean	17.64
Median	18.18
25th percentile	15.52
75th percentile	19.83

375. The resulting urban, non-urban, and geographically averaged UCLL monthly rental prices, based on the 25th percentile, median and 75th percentile of the urban benchmarking data set are shown in Table 15 below.

Table 15: Urban, non-urban and geographically averaged prices under the urban benchmarking approach

Percentile	Urban price	Non-urban price	Geographically averaged price
25th percentile	$15.52	$28.63	$19.37
Median	$18.18	$33.54	$22.70
75th percentile	$19.83	$36.58	$24.76

376. The non-urban prices in Table 15 are calculated by multiplying the urban price by a non-urban to urban cost ratio of 1.85 (160.5%/87%).[156] The geographically averaged prices are a weighted averaging based on a proportion of urban lines of 70.6%.

[156] The urban and non-urban cost ratios of 87% and 160.5% are contained in the UCLL STD. These ratios were benchmarked against geographically de-averaged prices in Australia and US states.

Attachment D: Econometric adjustments to UCLL monthly rental benchmark set

377. This attachment describes the econometric adjustment approach to correcting the benchmarking data set for any downwards bias that is likely to result from removing the population density comparability criterion.

Econometric analysis in the 2007 UCLL STD

378. In the UCLL STD, the Commission undertook econometric analysis to identify cost-drivers for the UCLL service. Urbanisation, population density and teledensity were found to be the main cost-drivers.

379. A step-wise regression approach was used. This involved starting with a comprehensive model that included all the variables that were expected to be relevant, and then dropping insignificant variables in a step-wise manner.

380. The initial model specification was:

$$\log(LLURate) = \alpha + \beta_1 \log(urban\_pop) + \beta_2 \log(main\_lines) + \beta_3 \log(tele\_density) + \beta_4 \log(population\_density) + \beta_5 \log(labour\_cost) + \beta_6 \log(GDP\_Per\_Capita) + \beta_7 US\_Dummy$$

381. The results of the final model are shown in Table 16 below. This is the model that was used in the UCLL STD.[157]

Table 16: Econometric model used in the UCLL STD

	Coef.	P>t
ln(popdensity)	-0.08***	0.00
ln(teledensity)	-0.26***	0.01
ln(urbanisation)	-0.32***	0.00
US dummy	0.29***	0.00
Constant	3.00***	0.00
Adjusted R squared	0.6180	
Note: *** significant at 1%		

382. Population density, teledensity and urbanisation were all found to be statistically significant explanatory variables at the 1% level.

Predicted prices using the econometric model

383. The results of the econometric model in Table 16 can be used to predict the 2007 UCLL monthly rental price for a given country. This is achieved by multiplying the

[157] Commerce Commission, Decision No. 609: *Standard Terms Determination for the designated service Telecom's unbundled copper local loop network*, 7 November 2007, page 44-45, paragraphs 157-164.

coefficients estimated in the regression by the country's population density, teledensity and urbanisation rates.[158]

384. Equation 4 below shows the results of the econometric model in equation form.

Equation 4

$$\ln(UCLL\ price) = 3.00 - 0.08 \times \ln(population\ density) - 0.26 \times \ln(teledensity) - 0.32 \times \ln(urbanisation) + 0.29 \times \ln(US\ dummy)$$

385. The dependent variable in Equation 4, the UCLL monthly rental price, is expressed in the form of a natural log. Therefore, to get the predicted UCLL price, it is necessary to take the exponential of the right hand side of the equation. This is shown in Equation 5 below.

Equation 5

$$UCLL\ price = \exp(3.00 - 0.08 \times \ln(population\ density) - 0.26 \times \ln(teledensity) - 0.32 \times \ln(urbanisation) + 0.29 \times \ln(US\ dummy))$$

386. The Commission has used Equation 5 to calculate the predicted price for each country in the benchmark set. All of the countries are non-US observations, so the US dummy has been set to 0 in each case. The predicted prices for 2007 are shown in Table 17 below.

Table 17: Predicted UCLL monthly rental prices using 2007 regression model

Country	Population Density	Teledensity	Urbanisation	Predicted price using regression model (non-US)
Sweden	20.8	53%	85%	19.64
Czech	133.0	23%	74%	21.93
Cyprus	119.3	37%	70%	19.76
Germany	230.5	56%	74%	16.64
Switzerland	185.6	57%	74%	16.82
Italy	201.0	36%	68%	19.37
Greece	86.1	46%	61%	20.10
Denmark	128.8	47%	87%	17.26
New Zealand	16.1	43%	86%	21.02

Normalised benchmarking data set

387. The regression model contains the expected relationship between forward-looking cost-based UCLL monthly rental price and each of the explanatory variables. The

[158] A value of 0 or 1 also needs to be used for the US dummy variable. 0 is appropriate if the jurisdiction is not a US state. 1 is appropriate if the jurisdiction is a US state.

coefficients can be used to amend current benchmarked prices in respect of changes in any of the explanatory variables.

388. Therefore, assuming the relationship between UCLL monthly rental price and the explanatory variables remains unchanged from 2007, the coefficients can be used to 'normalise' the data set to New Zealand national average characteristics.

389. The Commission has compared the predicted price for each country to the predicted price for New Zealand. The percentage difference is used to normalise the current benchmarking data. The benchmarked UCLL monthly rental price for each country is scaled up or down by the percentage difference between the predicted price for that country and the predicted price for New Zealand.

390. Scaling the benchmarks in this manner has the effect of normalising the benchmarks by eliminating the predicted price differences resulting from population density, teledensity and urbanisation rates that differ from New Zealand. Therefore, any expected bias due to these three factors is removed.

391. Normalised prices for each of the countries in the benchmark set are shown in Table 18 below.

Table 18: Normalised benchmarking data set

Country	Benchmarked UCLL monthly rental Price ($NZ)	Predicted price using regression model (non-US)	Percentage difference between predicted price and NZ predicted price ($21.02)	Normalised price ($NZ)
Sweden	16.22	19.64	7%	17.36
Czech	20.28	21.93	-4%	19.44
Cyprus	20.11	19.76	6%	21.39
Germany	18.99	16.64	26%	23.99
Switzerland	17.37	16.82	25%	21.70
Italy	17.01	19.37	8%	18.46
Greece	16.70	20.10	5%	17.46
Denmark	14.91	17.26	22%	18.16
New Zealand		21.02		

Mean	19.75
Median	18.95
25th Percentile	17.99
75th Percentile	21.47

392. The mean of the normalised benchmarking data set is $19.75 and the median is $18.95.

393. The econometric adjustment approach could potentially be used to normalise the benchmarked prices for all countries that use a forward-looking cost-based pricing method, rather than only those that meet the comparability criteria.

394. However, the Commission considers that the urbanisation and teledensity comparability criteria play an important role in limiting the benchmark set to those countries that are relatively similar to New Zealand. The accuracy of the econometric adjustment is likely to deteriorate to the extent that countries which are more dissimilar to New Zealand are included in the benchmark set.

Attachment E: Changes made to the UCLL STD as a result of the section 30R review

396. This attachment lists the changes that would be made to the UCLL STD under the Commission's preliminary views set out in this revised draft decision.

UCLL STD Schedule 2 – UCLL Price List[159]	
Service component 1.1 MPF New Connection	Delete following text from column headed "Charge": "$225 (individual new connection where site visit required) $74.83 (individual new connection where no site visit required) $56.12 (bulk rate for 20 or more new connections at the same exchange where no site visit required)" and replace with following text: "$138.63 (individual new connection where site visit required) $64.78 (individual new connection where no site visit required) $48.59 (bulk rate for 20 or more new connections at the same exchange where no site visit required)".
Service components 1.2 MPF Transfer and 1.3 Other Service to MPF Transfer	Delete following text from column headed "Charge": "$74.83 (individual transfer) $56.12 (bulk rate for 20 or more transfers at the same exchange)" and replace with following text: "$64.78 (individual transfer) $48.59 (bulk rate for 20 or more transfers at the same exchange)".
Service component 2.1 MPF Service Monthly Charge	Delete following text from column headed "Charge": "Geographically De-Averaged Price – Urban Exchange: $19.84[1"] "Geographically De-Averaged Price – Non-Urban Exchange $36.63" "Geographically Averaged Price: $24.46"

[159] Changes are to the text of the UCLL STD Schedule 2 – UCLL Price List

	and replace with following text: “Geographically De-Averaged Price – Urban Exchange: $15.82” “Geographically De-Averaged Price – Non-Urban Exchange $29.19” “Geographically Averaged Price: $19.75”.

Attachment F: Process

397. On 9 September 2011 the Commission released a draft decision under section 30R of the Telecommunications Act 2001 (the Act), in combination with the applicable powers of the Telecommunications (TSO, Broadband, and Other Matters) Amendment Act 2011 (the Amendment Act), for the clause 4A review and the benchmarking review in relation to the UCLL and UBA STDs (referred to as the draft decision).

398. In the draft decision the Commission's preliminary view on the approach to the clause 4A and benchmarking reviews was that:[160]

    398.1 The Commission considered updating its original benchmark set to identify movements in prices for **similar services** in **comparable countries** that use a **forward-looking cost-based** pricing method. However, as an update of the benchmark set produced only two benchmark observations (Finland and Sweden), the Commission did not consider using the price change observed in two jurisdictions was sufficiently robust to set updated UCLL monthly rental prices and connection charges in New Zealand, as the observed prices may not reflect overall international trends in costs

    398.2 Rather, the Commission benchmarked price trends for those jurisdictions that consistently applied the same forward-looking cost-based pricing method at the time of the UCLL STD (in 2007) and at the present day. This generated a sample set of seven jurisdictions where there was a trend in prices for UCLL monthly rental prices and six jurisdictions where there was a trend in prices for UCLL connection charges.

399. In response to the draft decision, interested parties submitted that:

    399.1 The Commission's approach to benchmarking price trends was appropriate (Chorus submission)[161]

    399.2 The benchmarking approach adopted by the Commission was not in accordance with the initial pricing principle (IPP) and the Commission was required to undertake a new benchmarking exercise (TelstraClear, Vodafone and CallPlus and Kordia submissions).[162]

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160 Draft UCLL decision page 6, paragraph 2.

161 See for example Chorus, *Submission on Commission draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL STD and consequential changes to the UBA uplift*, 3 October 2011, page 2, paragraph 3.

162 See for example, TelstraClear, Submission on the Reviews of the Application of the Initial Pricing Principle of, and updated benchmarking for, the UCLL Standard Terms Determinations and consequential changes to the UBA Up-lift, 2 October 2011, page 2, paragraph 2; Vodafone, *Review of the Initial Pricing Principle and updating of the Unconditioned Local Loop service (UCLL)*, 3 October 2011, page 2; CallPlus and Kordia, *Draft reviews of the application of the initial pricing principle of, and updated benchmarking for, the UCLL standard terms determinations and consequential changes to the UBA uplift*, 3 October 2011, page 2, paragraph 3.

400. On 27 October 2011 the Commission held a conference for interested parties. At the conference, parties supported the positions from their submissions, with the following additional points being made:

400.1 TelstraClear acknowledged that both the percentage change approach and re-benchmarking are open to the Commission; however, it considered that section 19 considerations lead to a view that fresh benchmarking is the most appropriate approach[163]

400.2 Telecom / Chorus stated that adopting the re-benchmarking approach would be a material change in the Commission's views, and if the Commission adopted that approach then Telecom / Chorus would expect the Commission to conduct a longer review process with further consultation and a revised draft decision.[164]

401. On 4 November 2011, in response to the concerns raised in the submissions and at the conference, the Commission released a revised draft for consultation.[165] In that draft, the Commission's preliminary revised views were that:

401.1 The Commission was required to complete the clause 4A reviews prior to separation day; it was, however, not required to complete the benchmarking review prior to separation day

401.2 It was not necessary for the Commission to re-benchmark UCLL prices for the clause 4A review. It is open to the Commission to either re-benchmark or to undertake a simple averaging of the existing de-averaged prices

401.3 Re-benchmarking could not be completed in the timeframe for the clause 4A review. Therefore, the benchmarking review could be completed after separation day.

401.4 The two reviews should be separated, with:

- The clause 4A review to be completed before separation day, involving a simple geographical averaging of the UCLL, UCLL uplift to UBA and Sub-loop prices

- The benchmarking review to be completed after separation day.

402. On 24 November 2011, the Commission released its final decision in relation to the review of the UCLL, UBA and Sub-loop Services standard terms determinations (STDs) for the purpose of implementing clause 4A of the Telecommunications Amendment Act 2011 (Decision 739). In that decision, the Commission concluded that the two reviews should be separated, with:

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163 Ross Young, Conference transcript page 49.

164 John Wesley-Smith, Conference transcript pages 11, 126 and 165-166.

165 Revised draft decision, page 2-3, paragraph 2.

402.1 The clause 4A review to be completed before separation day, involving a simple geographical averaging of the existing UCLL, UCLL uplift to UBA and Sub-loop prices

402.2 The benchmarking review to be completed after separation day.

403. On 17 February 2012, the Commission released a discussion paper covering three topics that parties had indicated they would like further opportunity to comment on. The topics covered in the discussion paper were:

403.1 the impact of loop length on a forward-looking cost-based UCLL price

403.2 whether US states should be included in the benchmark set

403.3 whether Australia should be included in the benchmark set.

404. In response to the discussion document, interested parties submitted that:

404.1 shorter loop lengths should result in reduced cost (Chorus, Kordia, Telecom, TelstraClear, Vodafone)[166]

404.2 prices for the US states should be excluded from the benchmark set (Kordia, Telecom, TelstraClear, Vodafone)[167]

404.3 Australian prices should be excluded from the benchmark set (Telecom, TelstraClear, Vodafone)[168].

[166] Chorus, Supplementary submission in response to discussion document on the rebenchmarking of prices for Chorus' unbundled copper local loop service, 23 March 2012, page 3 paragraph 7; Covec (on behalf or Kordia), Re-Benchmarking Chorus's UCLL Service Prices, 9 March 2012, page I; Telecom, UCLL re-benchmarking discussion paper, 7 March 2012, page 2; Network Strategies (on behalf of TelstaClear), Re-benchmarking UCLL prices, 9 March 2012, page 7; Vodafone, Re-benchmarking the unbundled copper local loop service , page 2 paragraph 5.

[167] See paragraph 110

[168] See paragraph 126

Attachment G: Impact of cabinetisation on loop length

405. Since the UCLL standard terms determination was released in November 2007, Chorus has deployed a fibre-to-the-node (FTTN) network through a process referred to as cabinetisation. The aim of cabinetisation was to shorten the length of copper in its network in order to improve broadband speeds.

406. As noted by Vodafone, cabinetisation has substantially changed the structure of delivery of broadband services in New Zealand:[169]

> …between the UCLL STD in December 2007 and today the structure of delivery of broadband services in New Zealand has changed substantially. Average loop lengths in New Zealand are now likely to be a lot more comparable with loop lengths in more densely populated European countries. In light of these sort of significant changes in service delivery it is hard to see how the Commission can continue to rely on data that is so removed from explaining underlying costs.

407. Prior to cabinetisation, the UCLL service was available on all copper lines in Chorus's access network. The average copper loop length was approximately 2,066 metres.[170]

408. Cabinetisation involved installing fibre-fed roadside distribution cabinets on longer copper lines. The equipment used to provide broadband services is then located in the cabinet, rather than the local telephone exchange.

409. The impact of cabinetisation is illustrated in Figure 10 below.

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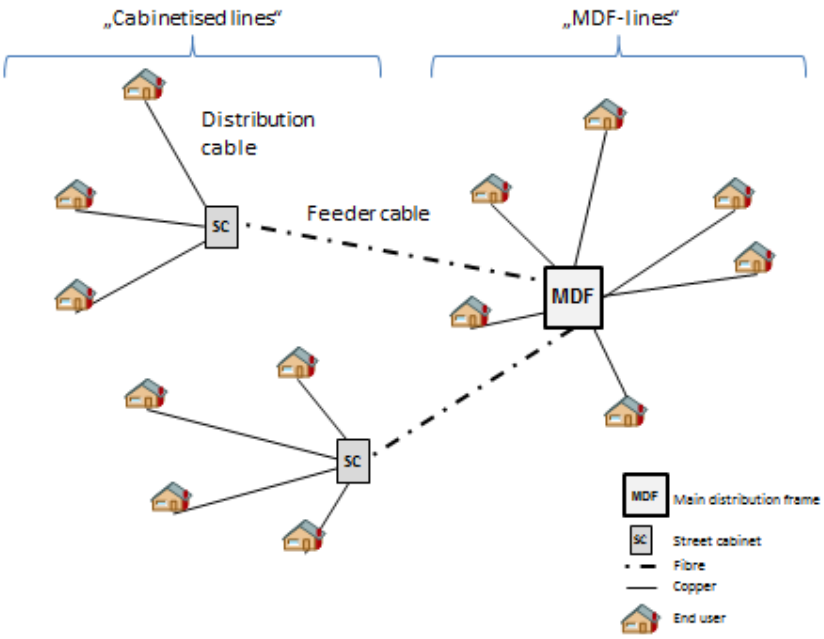
169 Vodafone, *Review of the Initial Pricing Principle and updating of the Unconditioned Local Loop service (UCLL)*, 3 October 2011, page 23.

170 Chorus, *Supplementary submission in response to discussion document on the re-benchmarking of prices for Chorus' unbundled copper local loop service*, 23 March 2012, page 2.

Figure 10: Chorus' network after cabinetisation



Source: WIK-Consult

410. The UCLL service is now only available on relatively short copper lines that are served directly from telephone exchanges (the "MDF lines" in Figure 10). These lines were already close to the exchanges and therefore did not need to be cabinetised.

411. Longer lines, on the other hand, have been cabinetised (the "Cabinetised lines" in Figure 10). Access seekers are able to unbundle cabinetised lines under a separate regulated sub-loop unbundling service.

412. Data supplied by Chorus shows that following the FTTN deployment, the average copper loop length for UCLL lines (or MDF lines) has decreased from 2,066 metres to 1,470 metres.[171] This is a reduction of approximately 29%.

413. The average copper loop length for cabinetised lines, on the other hand, is approximately 731 metres.

414. Chorus had previously stated that the average length of UCLL lines was 877 metres (rather than 1,470 metres). However, they subsequently advised that this average loop length was incorrect and excluded relevant lengths.[172] Specifically, Chorus informed the Commission that the figure of 877 metres excluded the copper feeder portion of UCLL lines that are connected through passive cross-connect cabinets.

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171 Chorus, *Supplementary submission in response to discussion document on the re-benchmarking of prices for Chorus' unbundled copper local loop service*, 23 March 2012, page 2.

172 Chorus, *Supplementary submission in response to discussion document on the re-benchmarking of prices for Chorus' unbundled copper local loop service*, 23 March 2012, page 2.