

Fixed line telecommunications regulation overview

Context of the regulatory framework

The Commission: Dr Stephen Gale
 Dr Jill Walker
 Elisabeth Welson
 John Crawford

Date of publication: 2 April 2020



Table of abbreviations

Acronym	Title
CIP	Crown Infrastructure Partners, formerly called Crown Fibre Holdings (CFH). Crown-owned company, listed under Schedule 4A of the Public Finance Act 1989.
CWC	The Commission's copper withdrawal code.
DFAS	Direct Fibre Access Service, as defined in s 164 of the Act. Fibre fixed line access service declared in regulations made under s 228 to be a direct fibre service.
EOI	Equivalence of inputs.
FFLAS	Fibre fixed line access services, as defined in s 5 of the Act. This means a telecommunications service that enables access to, and interconnection with, a regulated fibre service provider's fibre network.
FFP	Fibre flexibility point.
HFC	Hybrid fibre-coaxial cable.
ID	Information disclosure regulation under Part 6 of the Act.
L1	Layer 1, means layer 1 of the Open Systems Interconnection (OSI) model.
L2	Layer 2, means layer 2 of the Open Systems Interconnection (OSI) model.
LFC	Local fibre company, as defined in s 156AB of the Act. LFCs are the government's partners in the Ultra-Fast Broadband initiative to deliver wholesale fibre services in certain areas. The LFCs comprise Chorus Limited, Enable Networks Limited, Northpower Fibre Limited, Northpower LFC2 Limited and Ultrafast Fibre Limited.
MBIE	Ministry of Business, Innovation and Employment.
OSI	Open systems interconnection.
POI	Point of interconnection.
PON	Passive optical network.
PONFAS	PON Fibre Access Service. Defined in the Fibre Deeds as a point-to-multipoint L1 fibre service. The Fibre Deeds require the LFCs to offer PONFAS on an equivalent basis from 1 January 2020.
PQ	Price-quality regulation under Part 6 of the Act.
RSP	Retail service provider.
SFA	Specified fibre area.
STD	Standard terms determination. The Commerce Commission's primary mechanism for regulating non-fibre telecommunications services under s 30 of the Act, by determining the terms on which a designated access service or specified service must be supplied.
UBA	Unbundled Bitstream Access, as described in Schedule 1 of the Act. Digital subscriber line enabled service that enables access to, and interconnection with, part of Chorus' fixed Public Data Network.
UCLF	Unbundled Copper Low Frequency, as described in Schedule 1 of the Act. It allows access seekers to lease the low frequency portion of Chorus' local loop network to provide fixed line voice services to consumers.

UCLL	Unbundled Copper Local Loop, as described in Schedule 1 of the Act as at 31 December 2019. L1 unbundled copper local loop service. It enables access to, and interconnection with, Chorus' copper local loop network.
UFB	Ultra-fast broadband.
VOIP	Voice over internet protocol.

Glossary

Term	Definition
Act	Telecommunications Act 2001
anchor service	As defined in s 164 of the Act. Fibre fixed line access service declared in regulations made under s 227 of the Act to be an anchor service.
backhaul	In a telecommunications network, backhaul is the capacity between the core backbone network and the local edge networks.
Bitstream	A stream of data in binary form. In telecommunications this term is often used to describe the string of digital bits that a layer 2 service provides.
Central Office and POI Co-location Service	As included in the definition of Input Services in clause 1.1 of the Fibre Deeds.
Commission	The Commerce Commission, established under s 8 of the Commerce Act.
Copper Deed	Undertakings, given by Chorus under s 69X of the Act, relating to the supply of wholesale services using its copper network on an equivalence and non-discrimination basis.
deed	An undertaking given under Part 2A or Part 4AA of the Act.
designated access service	Means a service described in subpart 1 of Part 2 of Schedule 1 of the Act. Designated access services must be offered by their providers following the access principles set out in clause 5 of Schedule 1 of the Act.
EOI Input Services	As defined and listed in clause 1.1 of the Copper Deed. List of services for which we have determined price and non-price terms under STDs, and which must be provided on an equivalent basis under the Copper Deed.
equivalence	As defined in ss 69XA and 156AB of the Act. Includes EOI and EOP.
Fibre Deeds	Undertakings, given by LFCs under s 156D of the Act, relating to the supply of wholesale services using their fibre networks on an equivalence and non-discrimination basis.
Implementation date	Has the same meaning as in s 5 of the Act.
Input Services	As described in clause 1 of the Fibre deeds. The Input Services must be offered by the LFCs on an equivalent basis on and from 1 January 2020.
layer 1	Means layer 1 of the Open Systems Interconnection (OSI) model.
layer 2	Means layer 2 of the Open Systems Interconnection (OSI) model.
Minister	Has the same meaning as in s 5 of the Act.
naked broadband	Means a broadband service provided over a fixed line or fixed wireless access technology, without a voice service provided over the public switched telephone network.
non-discrimination	As defined in ss 69XA and 156AB of the Act.

Reference Offer	Standard form terms and conditions for any services the LFCs are required to provide. Reference Offers must contain sufficient terms to allow the provision of the service they apply to, without the need for access seekers to enter another agreement with the LFC, and must include wholesale services agreement.
specified service (Schedule 1 of the Act)	Means a service described in Part 3 of Schedule 1 of the Act. Specified services must be offered by providers following the access principles set out in clause 5 of Schedule 1 of the Act.
specified service (UFB contract)	Layer 2 fibre services approved by CIP under the UFB contracts.
subsequent services	Fibre services approved by CIP under the UFB contracts for provision after 1 January 2020.
sub-loop backhaul	Sub-loop backhaul is backhaul provided over the fibre connection between the exchange and the distribution cabinet. Referred to as “Unbundled copper local loop network backhaul (distribution cabinet to telephone exchange) in Schedule 1 of the Act.
sub-loop UCLL	A service supplied by Chorus that provides access to the copper line between Chorus’ distribution cabinets and customers’ premises.
UFB contract	Has the same meaning as in clause 7 of Schedule 1AA of the Act. Contract between CIP and a successful tenderer in the UFB initiative.
unbundled fibre service	As defined in s 164 of the Act. Point-to-multipoint layer 1 service declared in regulations made under s 229 of the Act to be an unbundled fibre service.

Chapter 1 Introduction

Purpose and structure of this paper

- 1.1 The purpose of this paper is to provide an overview of fixed line telecommunications regulation in New Zealand, including a timeline of relevant regulatory instruments and events.
- 1.2 We have provided this overview to address some points raised by stakeholders on the expert economic report provided by Ingo Vogelsang¹ on the concepts of equivalence and non-discrimination. It is also provided to assist stakeholders in understanding the powers the Commerce Commission (**Commission**) has and does not have in regulating fixed line telecommunications markets.
- 1.3 Our guidance on equivalence and non-discrimination in telecommunications regulation (**guidance**)² provides a more detailed and fully referenced discussion on the topics discussed in paragraph 1.2 above. As with our guidance, the information in this document should not be used as a substitute for, or relied on as, legal advice on any matter.
- 1.4 Further, more detailed information on each of the topics we discuss below, can be found on our website at: <https://comcom.govt.nz/> and links to particular project pages can be found in Appendix A of this document.
- 1.5 This paper has the following chapters:
 - 1.5.1 chapter 1 is the introduction;
 - 1.5.2 chapter 2 provides an overview of the fixed line telecommunications regulatory framework in New Zealand; and
 - 1.5.3 chapter 3 compares layer 1 and layer 2 copper and fibre services.
- 1.6 All statutory references in this document are to the Act unless otherwise specified.

¹ Available on the Commission's website at: <https://comcom.govt.nz/regulated-industries/telecommunications/projects/unbundled-layer-1-fibre-service>

² Our guidance is available on the project page (see footnote 1).

Chapter 2 **Fixed line telecommunications regulatory framework in New Zealand**

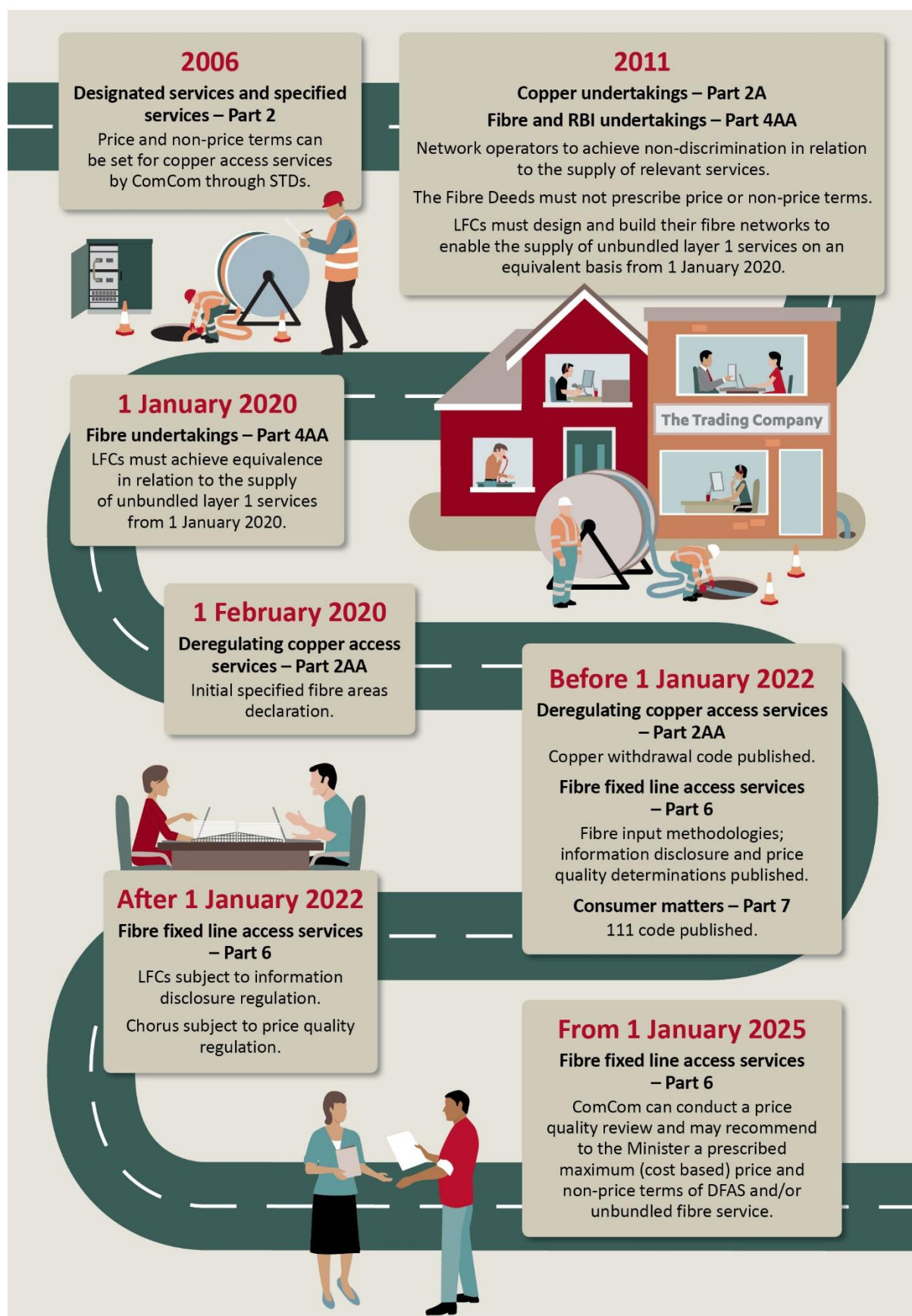
- 2.1 The purpose of this chapter is to provide an overview of the fixed line telecommunications regulatory framework in New Zealand.³
- 2.2 This overview is provided to assist stakeholders in understanding the roles the Commission and various other government agencies have in regulating fixed line telecommunications markets.
- 2.3 This chapter is structured as follows:
 - 2.3.1 certain fixed line telecommunications regulatory milestones under the Act (Figure 2.1);
 - 2.3.2 fibre services regulation;
 - 2.3.3 copper services regulation;
 - 2.3.4 deregulation of certain copper services; and
 - 2.3.5 consumer matters.

Fixed line telecommunications regulatory milestones

- 2.4 Chorus owns and operates the copper network, and provides certain wholesale copper services over that network to wholesale customers. The local fibre companies (**LFCs**), including Chorus, own and operate fibre networks, and provide certain wholesale fibre services over those networks to wholesale customers.
- 2.5 The LFCs are currently subject to certain “line of business” restrictions which prohibit them from participation in the supply of certain services above layer 2 and from supplying services to end-users. Accordingly, this overview focusses on copper services and fibre services at layers 1 and 2 of the fixed line telecommunications network.
- 2.6 Figure 2.1 provides a roadmap of certain fixed line telecommunications regulatory milestones. It shows when legislation came into effect for copper regulation under Part 2, and the undertakings regimes under Part 2A and Part 4AA. The remainder of the figure outlines relevant statutory milestones under the Act including where the Commission, LFCs and/or Chorus are required to, or can, perform functions under the Act.

³ This is not a comprehensive summary and it is intended to be a high-level overview only.

Figure 2.1 Fixed line telecommunications regulatory milestones



Fibre services regulation

- 2.7 The LFCs entered into UFB contracts with the Crown (administered by Crown Infrastructure Partners (**CIP**)) under which the LFCs build fixed line fibre networks, and provide certain fibre services to retail service providers (**RSPs**).
- 2.8 The LFCs gave undertakings in the form of Fibre Deeds that require the provision of certain fibre services on an equivalent and/or non-discriminatory basis, pursuant to Part 4AA.
- 2.9 The Act, the Fibre Deeds, and the UFB contracts, require the LFCs to design and build their fibre networks to enable the supply of unbundled layer 1 services on an equivalent basis from 1 January 2020.
- 2.10 The LFCs and the fibre services they provide will be subject to regulation under Part 6 from 1 January 2022.
- 2.11 Figure 2.2 below outlines how the Fibre Deeds, the UFB contracts, and the regulatory regime for fibre services under Part 6 interact.
- 2.12 Figure 2.3 outlines the obligations and timeframes for the provision of regulated layer 1 fibre services in respect of the Fibre Deeds, the UFB contracts, and Part 6.
- 2.13 Figure 2.4 outlines the obligations and timeframes for the provision of regulated layer 2 fibre services (with a particular focus on the initial anchor service under Part 6) in respect of the UFB contracts, the Fibre Deeds, and Part 6.

2.14 We provide the key points in relation to these fibre services in table 1 below.

Table 1: Fibre services – key points

Prior to 1 January 2022, certain fibre services are regulated by UFB contracts, between CIP and the LFCs; and the Fibre Deeds under Part 4AA.

The Fibre Deeds do not expire, therefore the obligations, including the equivalence and non-discrimination obligations are enduring, unless modified or terminated pursuant to the Act. The Fibre Deeds must not set price or non-price terms.

Under the UFB contracts, the LFCs are required to provide certain fibre services by way of Reference Offers (including wholesale services agreements). CIP approves the Reference Offers, including the price and non-price terms for those fibre services.

From 1 January 2022 those fibre services will no longer be regulated by the UFB contracts. Fibre services will be regulated by the fibre regulatory regime under Part 6 and continue to be regulated by the Fibre Deeds under Part 4AA.

The Governor General declared regulations under s 226 that prescribed all LFCs including Chorus to be subject to information disclosure (ID) regulation; and Chorus to be subject to price quality (PQ) regulation from 1 January 2022.⁴

From 1 January 2022 and for the first regulatory period, a PQ regulated entity (initially Chorus) will be subject to a revenue cap with a wash-up mechanism. This means that revenue earned from providing PQ regulated fibre services cannot exceed the maximum allowable revenue and quality of service cannot drop below defined standards. Geographically consistent pricing obligations also apply.

The Governor-General may, on recommendation of the Minister, declare certain fibre services in regulation (being a direct fibre access service (DFAS), unbundled fibre service, and an anchor service), including price and non-price terms for those services. Initially, the first regulations for a DFAS and an anchor service must not be materially different from those services under the UFB contracts.⁵ Chorus must provide the services, on these terms, if declared in regulation.⁶

⁴ Chorus is subject to PQ regulation in respect of all fibre fixed line access services, except to the extent that a service is provided in a geographical area where another regulated provider has installed a fibre network as part of the UFB initiative. The form of the PQ and ID regulation has not yet been decided by the Commission.

⁵ The initial DFAS and anchor service regulations can be made prior to or after implementation date.

⁶ An unbundled fibre service must not be declared for UFB2 until 1 January 2026.

Figure 2.2 Fibre services regulation

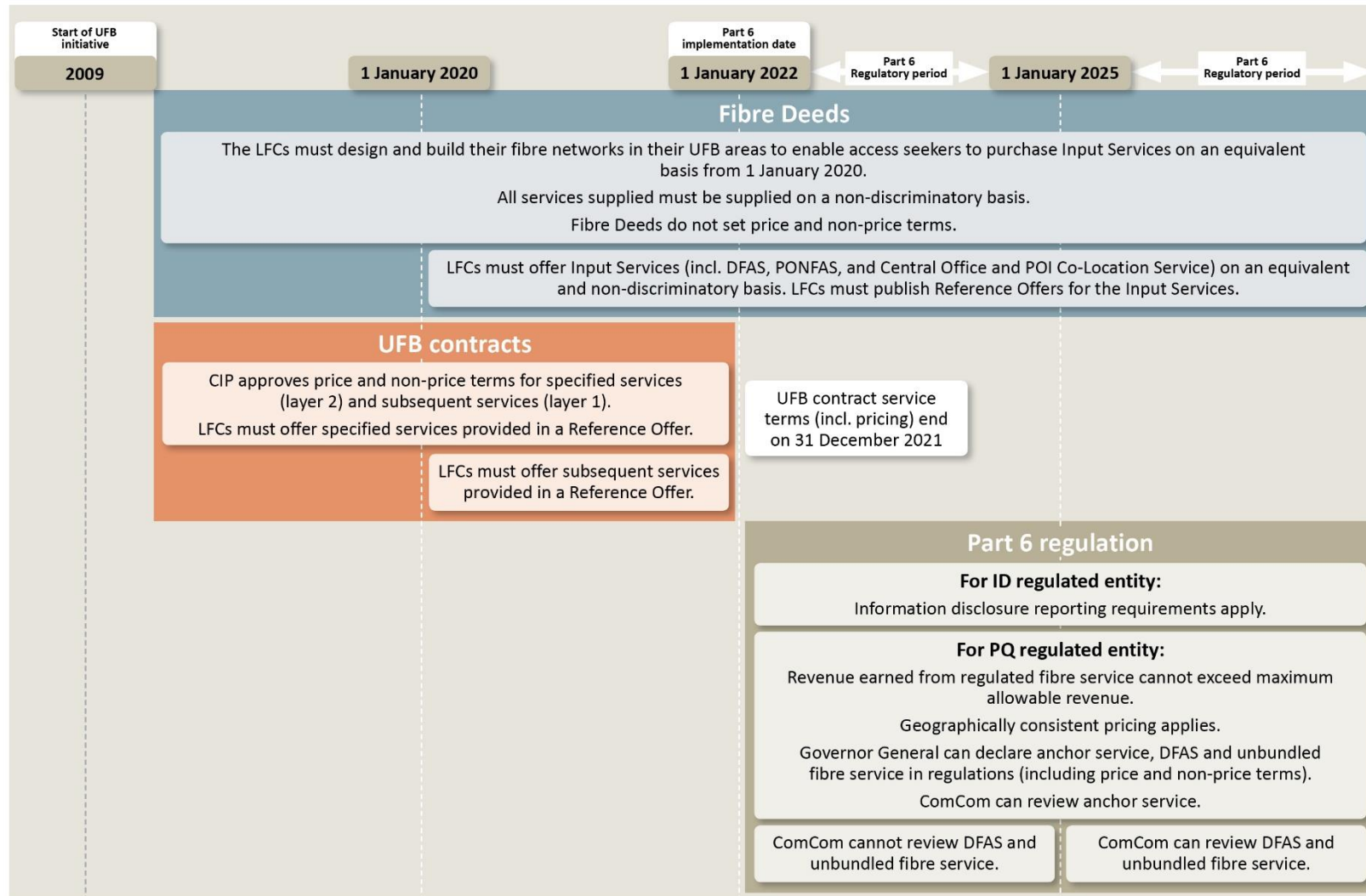


Figure 2.3 Regulated layer 1 fibre services

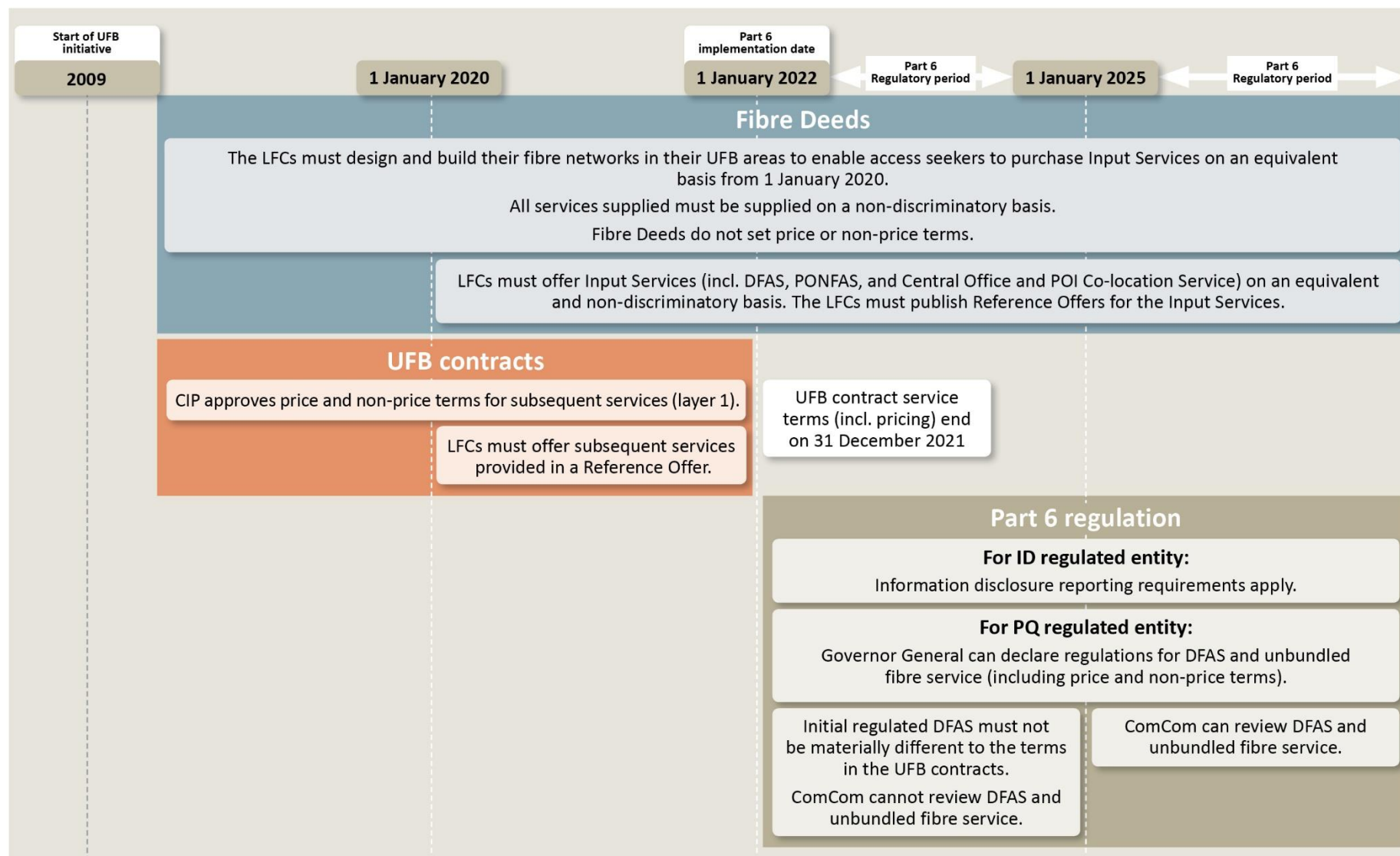
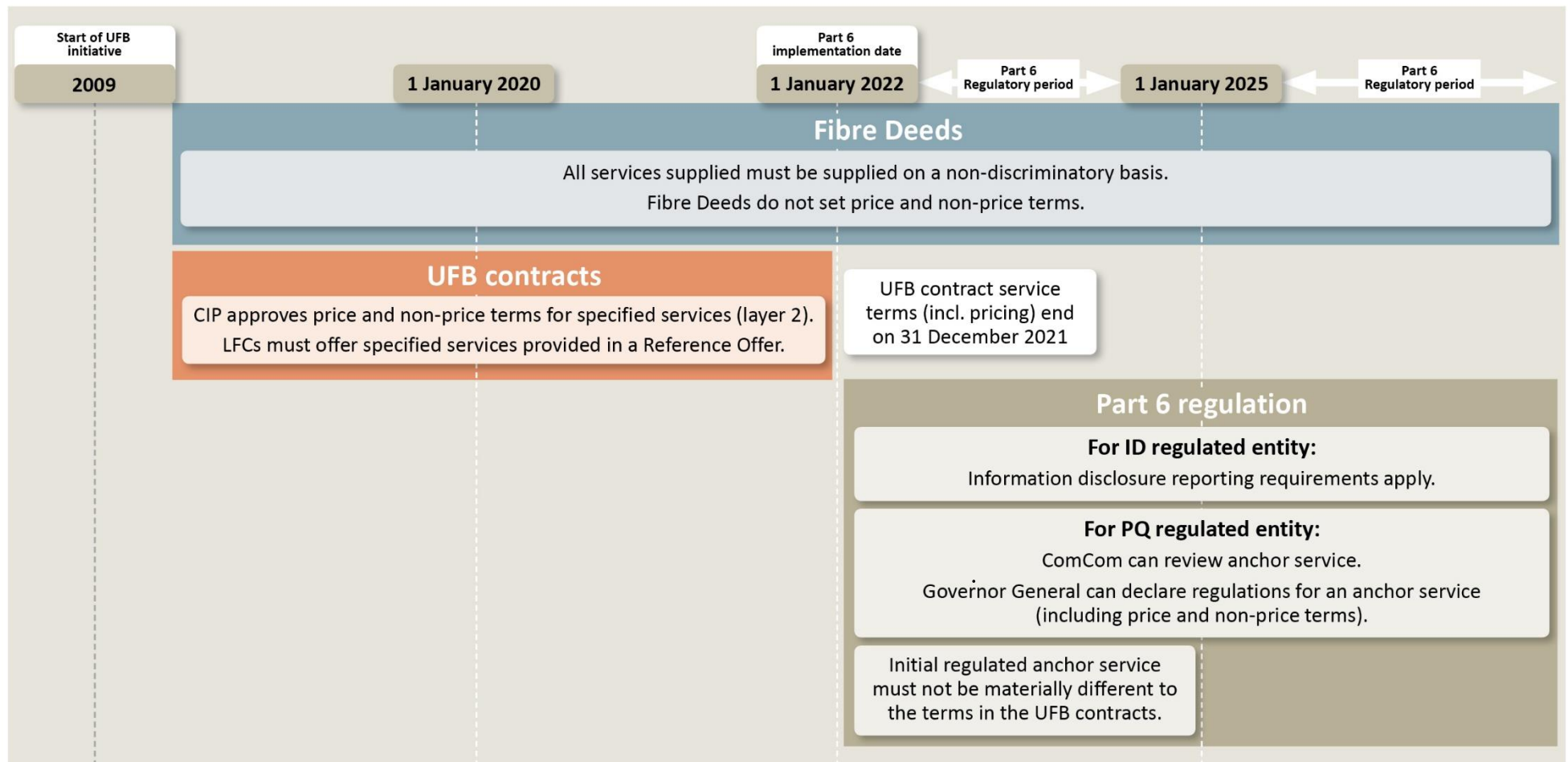


Figure 2.4 Regulated layer 2 fibre services



Copper services regulation

- 2.15 Copper services are regulated by Part 2. Under Part 2, copper services may be designated access services or specified services for which we can prescribe standard terms determinations (**STDs**). This means the Commission can determine the price and/or non-price terms for these services.
- 2.16 Chorus gave undertakings in the form of the Copper Deed that require the provision of certain copper services on an equivalent and/or non-discriminatory basis, pursuant to Part 2A.

Deregulation of certain copper services

- 2.17 Part 2AA contains provisions for the deregulation of certain copper services.
- 2.18 Under Part 2AA, the Commission is required to carry out an assessment to determine the geographic areas in which specified fibre services are available to end-users. These geographic areas are known as specified fibre areas (**SFAs**).
- 2.19 In SFAs, Chorus may stop supplying certain copper services if either it complies with the consumer protection requirements set out in a copper withdrawal code (**CWC**) or the end-user chooses to have the service disconnected (other than a temporary disconnection). It is a requirement of the CWC that a Commission 111 contact code (**111 Code**) is in force. We explain this further in the Consumer matters section below.
- 2.20 Under Part 2AA, the Commission is required to complete a review of certain copper services by no later than 31 December 2025.

2.21 We provide the key points in relation to these copper services in table 2 below.

Table 2: Copper services – key points

Copper services are regulated by Part 2; and the Copper Deed under Part 2A.

The Copper Deed does not expire, therefore the obligations, including the equivalence and non-discrimination obligations are enduring, unless modified or terminated pursuant to the Act.

Designated access services and specified services are set out in Schedule 1. Schedule 1 sets out the description of the services and the general conditions of access, and can form the basis for access seekers and access providers to negotiate agreement.

Regulated terms of access can be given for designated access services and specified services through an STD made by the Commission, being the price and/or non-price terms for the copper service.

If the Commission has made an STD for a designated access service or specified service, an access seeker may request the access provider supply the service on the terms specified in that STD and the access provider must comply with the request.

Part 2AA contains provisions for the deregulation of certain copper services.

The Commission has made an initial SFA declaration. In these areas, Chorus is permitted to withdraw copper services if either it complies with the consumer protection requirements set out in the CWC or the end-user chooses to have the service disconnected (other than a temporary disconnection).

Consumer matters

2.22 Consumer matters are set out in Part 7. This includes the requirement for the Commission to make the 111 code. The purpose of the 111 Code is to ensure that vulnerable consumers, or persons on their behalf, have reasonable access to an appropriate means to contact the 111 emergency service in the event of a power failure.

2.23 This provision was introduced as New Zealand is transitioning away from traditional voice services, especially with the significant growth of fibre networks in the recent decade. While traditional voice services generally work during a power failure at a consumer's premises, certain newer voice services do not. Without backup measures, consumers of these services will not be able to call 111 in a power failure.

- 2.24 Part 7 also includes provisions relating to retail service quality where the Commission can:
- 2.24.1 issue guidelines on any matters relating to retail service quality codes;
 - 2.24.2 review industry retail service quality codes; and
 - 2.24.3 make a retail service quality code.
- 2.25 Commission retail service quality codes may impose binding obligations on retail telecommunications service providers and are enforceable under the Act.
- 2.26 The Commission also has monitoring powers in relation to consumer matters. Section 9A requires the Commission (amongst other requirements) to:
- 2.26.1 monitor compliance with the Commission 111 contact code;
 - 2.26.2 monitor retail service quality in relation to telecommunication services; and
 - 2.26.3 make available reports, summaries, and information about retail service quality in a way that informs consumer choice.

These powers are used by the Commission to protect consumers; to monitor retail service quality; and to inform consumer choice.

Chapter 3 Comparison of regulated copper and fibre services

- 3.1 The purpose of this chapter is to provide a comparison of layer 1 and layer 2 copper and fibre services regulation. The reason for this comparison is to ensure stakeholders understand the Commission's role in the regulation of these services.
- 3.2 This chapter is structured as follows:
- 3.2.1 layer 1 copper and fibre services; and
 - 3.2.2 layer 2 copper and fibre services.

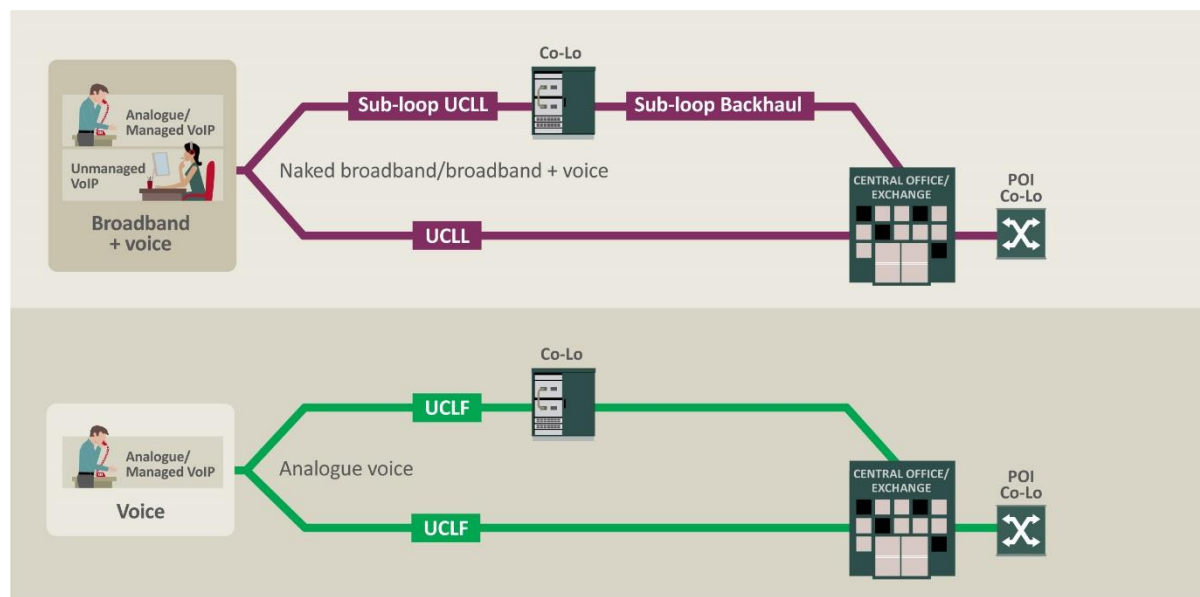
Layer 1 copper services vs layer 1 fibre services regulation

- 3.3 The purpose of this section is to compare layer 1 copper services and layer 1 fibre services regulation.

Layer 1 copper services regulation

- 3.4 Layer 1 copper services are illustrated in Figure 3.1.

Figure 3.1 Layer 1 copper services

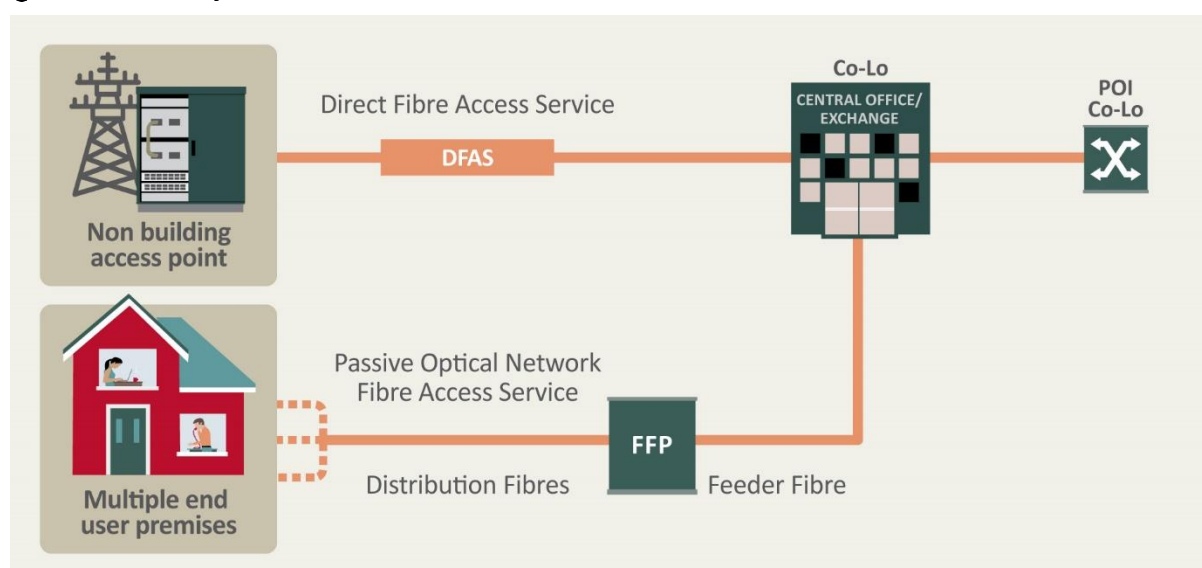


- 3.5 Under the Copper Deed, the layer 1 copper services include unbundled copper local and sub-loop services as well as sub-loop backhaul and co-location services.⁷ The Copper Deed requires Chorus to offer these services on an equivalent and non-discriminatory basis.
- 3.6 These layer 1 copper services are point-to-point services. There are no layer 1 point-to-multipoint copper services under the Copper Deed.
- 3.7 Chorus supplies layer 1 copper services either from the premises to the central office/exchange or to the cabinet, after which a separate sub-loop backhaul service is available. This is shown in Figure 3.1 above.

Layer 1 fibre services regulation

- 3.8 Layer 1 fibre services are illustrated in Figure 3.2.

Figure 3.2 Layer 1 fibre services



- 3.9 Under the Fibre Deeds, the layer 1 fibre services provided by the LFCs are either point-to-point (**DFAS**), point to multi-point (**PONFAS**) or co-location services (**Central Office and POI Co-location Service**). The Fibre Deeds require the LFCs to offer these fibre services on an equivalent and non-discriminatory basis.
- 3.10 LFCs supply layer 1 fibre services from the premises to the central office/exchange. This is shown in figure 3.2 above.

⁷ On 1 January 2020 UCLL and UCLL backhaul (distribution cabinet to telephone exchange) were removed from Schedule 1. Chorus will be permitted to stop supplying these copper services if either it complies with the consumer protection requirements set out in the CWC or the end-user chooses to have the service disconnected (other than a temporary disconnection).

- 3.11 A summary of layer 1 copper and fibre services regulation is provided in table 3 below.

Table 3: Summary of layer 1 copper and fibre services regulation

Layer 1 copper services	Layer 1 fibre services
Regulatory instruments	Regulatory instruments
EOI Input Services are layer 1 copper services under the Copper Deed, pursuant to Part 2A, and are subject to equivalence and non-discrimination obligations.	Subsequent services are layer 1 fibre services approved by CIP under UFB contracts.
Layer 1 copper services can be designated access services or specified services under Part 2.	Input Services are layer 1 fibre services under the Fibre Deeds, pursuant to Part 4AA and are subject to equivalence and non-discrimination obligations.
The Commission can make STDs for designated access services and specified services under Part 2.	An unbundled fibre service and a DFAS are layer 1 fibre services and can be declared in regulations by the Governor-General under Part 6.
Part 2AA provides a process for Chorus to stop supplying certain layer 1 copper services after 1 January 2020.	
Price and non-price terms	Price and non-price terms
The Commission can set price and non-price terms for designated access services using STDs.	Prior to 1 January 2022, CIP approves price and non-price terms for layer 1 fibre services under UFB contracts.
The Commission can set non-price terms for specified services using STDs.	The Governor-General can declare price and non-price terms for an unbundled fibre service and DFAS.
	The Commission can review and recommend price and non-price terms for an unbundled fibre service and DFAS after 1 January 2025.
	The Fibre Deeds must not set price or non-price terms.

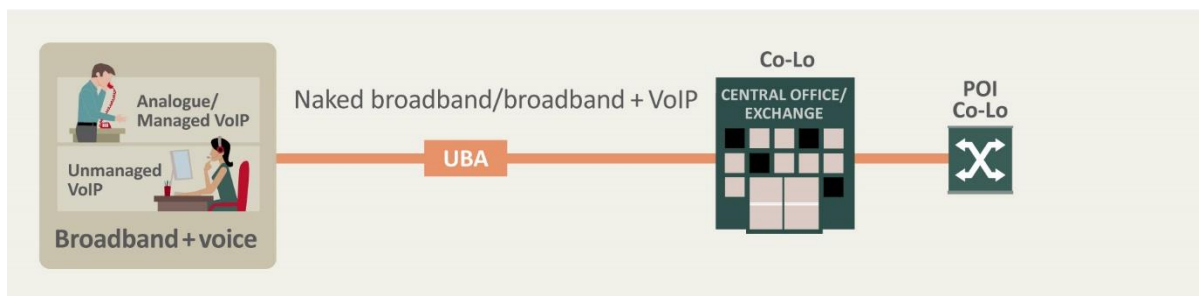
Layer 2 copper services vs layer 2 fibre services regulation

- 3.12 The purpose of this section is to compare layer 2 copper services and layer 2 fibre services regulation.

Layer 2 copper services regulation

- 3.13 Layer 2 copper services are illustrated in Figure 3.3.

Figure 3.3 Layer 2 copper services

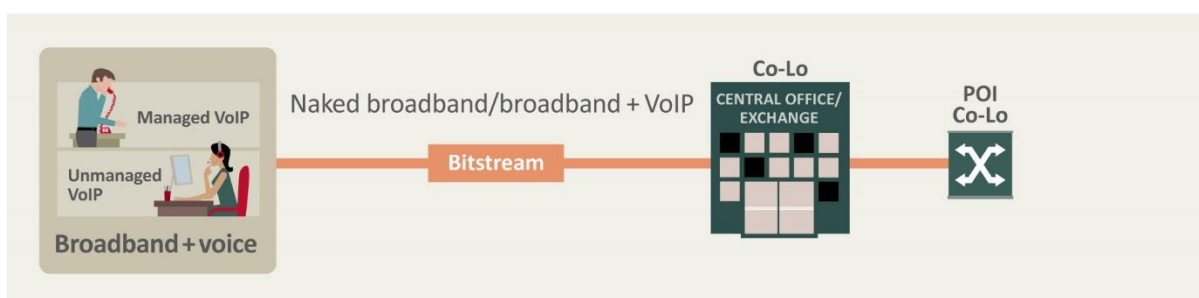


- 3.14 Under the Copper Deed, Chorus provides layer 2 copper services to RSP access seekers as inputs into retail broadband services as well as retail fixed line voice services.
- 3.15 The layer 2 copper services under the Copper Deed include unbundled bitstream access (**UBA**); and UBA backhaul. When providing these services, the Copper Deed requires Chorus to do so on a non-discriminatory basis.

Layer 2 fibre services regulation

- 3.16 Layer 2 fibre services are illustrated in Figure 3.4.

Figure 3.4 Layer 2 fibre services



- 3.17 Under the Fibre Deeds, the LFCs also provide layer 2 fibre services to RSP access seekers as inputs into the supply of broadband services as well as retail fixed line voice services. Layer 2 fibre services offered by LFCs include a range of consumer and business Bitstream services. When providing these services, the Fibre Deeds require LFCs to do so on a non-discriminatory basis.

3.18 A summary of layer 2 copper and fibre services regulation is provided in table 4.

Table 4: Summary of layer 2 copper and fibre services regulation

Layer 2 copper services	Layer 2 fibre services
Regulatory instruments	Regulatory instruments
Relevant services are layer 2 copper services under the Copper Deed, pursuant to Part 2A, and are subject to non-discrimination obligations.	Specified services (as defined by the UFB contracts) are layer 2 fibre services approved by CIP under those UFB contracts.
Layer 2 copper services can be designated access services or specified services under Part 2.	Layer 2 fibre services are relevant services under the Fibre Deeds, pursuant to Part 4AA, and are subject to non-discrimination obligations.
The Commission can make STDs for designated access services and specified services under Part 2.	An anchor service can be declared in regulations by the Governor-General under Part 6. The initial anchor service will be a layer 2 fibre service. ⁸
Part 2AA provides a process for Chorus to stop supplying certain layer 2 copper services after 1 January 2020.	The Commission can review an anchor service prior to each regulatory period (including the first regulatory period) under Part 6. ⁹
Price and non-price terms	Price and non-price terms
The Commission can set price and non-price terms for designated access services using STDs.	Prior to 1 January 2022, CIP approves price and non-price terms for layer 2 fibre services under UFB contracts.
The Commission can set non-price terms for specified services using STDs.	The Governor-General can declare price and non-price terms for an anchor service.
	The Fibre Deeds must not set price or non-price terms.

⁸ Initial regulations for an anchor service must not be materially different from the terms set out in a UFB contract.

⁹ If the Commission starts a review before the start of the first regulatory period, it must not recommend an anchor service that is, materially different from the terms set out in a UFB contract

Appendix A Associated documents

Topic	Link to the Commission's webpage
Guidance on equivalence and non-discrimination in Telecommunications Regulation	https://comcom.govt.nz/regulated-industries/telecommunications/projects/unbundled-layer-1-fibre-service
Copper services	https://comcom.govt.nz/regulated-industries/telecommunications/regulated-services/copper-services
Specified fibre areas	https://comcom.govt.nz/regulated-industries/telecommunications/projects/specified-fibre-areas
Commission 111 contact code	https://comcom.govt.nz/regulated-industries/telecommunications/projects/commission-111-contact-code
Copper withdrawal code	https://comcom.govt.nz/regulated-industries/telecommunications/projects/copper-withdrawal-code
Fibre input methodologies	https://comcom.govt.nz/regulated-industries/telecommunications/projects/fibre-input-methodologies
Telecommunications retail service quality	https://comcom.govt.nz/regulated-industries/telecommunications/projects/retail-service-quality