

Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions

Reasons paper

Date of publication: 19 August 2021



Associated documents

Publication date	Reference	Title
15 Sep 2020	ISBN 978-1-869458-38-6	Fibre information disclosure and price-quality regulation – Proposed process and approach for the first regulatory period
13 Oct 2020	ISBN 978-1-869458-43-0	Fibre Input Methodologies - Main final decisions reasons paper
13 Oct 2020	ISSN 1178-2560	Fibre Input Methodologies Determination 2020 [NZCC 21]
3 Nov 2020	ISBN 978-1-869458-45-4	Fibre Input Methodologies - Financial loss asset final decision – reasons paper
3 Nov 2020	ISSN 1178-2560	Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 [NZCC 24]
29 April 2021	ISBN 978-1-869458-87-4	Notice of Intention for potential amendments to IMs for Fibre in August 2021
30 April 2021	ISBN 978-1-869458-90-4	Notice of Intention for potential amendments to IMs for Fibre in November 2021
30 April 2021	ISBN 978-1-869458-85-0	Determining Chorus' first fibre price-quality path: Process update
30 April 2021	ISBN 978-1-869458-86-7	Chorus' initial price-quality regulatory asset base as at 1 January 2022 – Consultation on Chorus' initial price quality RAB proposal
27 May 2021	ISBN 978-1-869459-00-0	Fibre Information Disclosures – Draft decisions – Reasons paper
27 May 2021	ISBN 978-1-869458-91-1	[Draft] Fibre Information Disclosure Determination 2021 [2021] NZCC[XX]
27 May 2021	ISBN 978-1-869458-96-6	Proposed Amendments to Fibre Input Methodologies: draft decisions, Reasons paper
27 May 2021	ISBN 978-1-869458-97-3	[Draft] Fibre Input Methodologies Amendment Determination 2021 [2021] NZCC[XX]
27 May 2021	ISBN 978-1-869458-99-7	Chorus' price-quality path from 1 January 2022 – Draft decisions, Reasons paper.
27 May 2021	ISBN 978-1-869458-94-2	[Draft] Fibre Price-Quality Path Determination 2021 [2021] NZCC[XX]
29 June 2021	-	Determining Chorus' PQ RAB – Process update
12 July 2021	ISBN 978-1-869459-12-3	Fibre Input Methodologies Determination 2020 (consolidated July 2021)
19 August 2021	-	Amended Notice of Intention (Amending the Notice of Intention dated 29 April 2021 - Proposed Amendments to the Input Methodologies for Fibre - potential August 2021 amendments)

Commerce Commission
Wellington, New Zealand

Contents

Glossary	4
Executive summary	5
Chapter 1 Introduction.....	14
Chapter 2 Regulatory framework	24
Chapter 3 Overall approach to the initial RAB and the FLA	57
Chapter 4 Unallocated RAB and direct attribution	71
Chapter 5 Cost allocation	96
Chapter 6 Other inputs to the financial loss asset	167
Attachment A Scope of FFLAS	190
Attachment B Application of regulation 6	198
Attachment C Debt premium estimates applied in the vanilla WACC.....	206
Attachment D Overview of Chorus' initial PQ RAB (IAV) model	212

Glossary

Abbreviation	Definition
ABAA	Accounting-based allocation approach
BBM	Building blocks model
CBD	Central business district
CIP	Crown Infrastructure Partners
CNO	Customer and Network Operations
CRT	Chorus Regional Transport
CTO	Chief Technology Officer
DFAS	Direct Fibre Access Service
DPS	Decision packet settlement
DSL	Digital subscriber line
ESA	Exchange service areas
FAR	Fixed asset register
FCM	Financial capital maintenance
FFLAS	Fibre fixed line access services
FTE	Full time equivalent
GAAP	Generally accepted accounting practice
GIS	Geographic information system
GPON	Gigabit passive optical network
HSNS	High Speed Network Service
IAV	Initial asset value
ICABS	Intra-Candidate Areas Backhaul Service
ID	Information disclosure
IM	Input methodologies
ISAM	Intelligent services access manager
LFC	Local fibre company
MBIE	Ministry for Business, Innovation, and Employment
NBV	Net book value
NGA	Next generation access
NPC	Net Personnel Costs
NSS	Nelson-Siegel-Svensson
ONT	Optical network terminal
POI	Point of interconnection
PON	Passive optical network
PONFAS	PON fibre access services
PQ	Price-quality
PSTN	Public switched telephone network
PUP	Process Update Paper
RAB	Regulatory asset bases
RBI	Rural Broadband Initiative
RFI	Requests for information
RONZ	Rest of New Zealand
RSP	Retail service providers
SFA	Specified Fibre Areas
TAMRP	Tax-adjusted market risk premium
UCLL	Unbundled copper local loop
UFB	Ultra-fast broadband
UL	Unrecovered Loss
UNI	Universal Network Interface

Executive summary

Purpose of this paper

- X1 This paper sets out and explains our draft decisions on matters relating to Chorus Limited's (**Chorus**) initial price-quality regulatory asset base (**initial PQ RAB**) and seeks stakeholders' views in response.
- X2 This includes our draft decisions on:
- X2.1 the unallocated initial RAB value of Chorus' core fibre assets at the 1 January 2022 (**implementation date**);
 - X2.2 the unallocated values of Chorus' Ultra-fast broadband (**UFB**) assets during the financial loss period (1 December 2011 to 31 December 2021) used to determine the "initial RAB value" of the financial loss asset (**FLA**);
 - X2.3 the cost and asset allocators we have applied in determining:
 - X2.3.1 the initial RAB values of Chorus' core fibre assets employed in the provision of PQ fibre fixed line access services (**FFLAS**) as at 1 January 2022;
 - X2.3.2 the "initial RAB value" of the FLA at 1 January 2022; and
 - X2.3.3 the rolled forward forecast values of the PQ RAB over the PQP1 period;
 - X2.3.4 Chorus' PQP1 capital expenditure (**capex**) and operational expenditure (**opex**) allowances; and
 - X2.4 the treatment of other inputs to the FLA, including proposed approval of alternative approaches where Chorus is unable to apply the IMs.

We are interested in your feedback

- X3 Submissions on our draft decisions are due by 5pm on Thursday 16 September 2021. Cross-submissions are due by 5pm on Thursday 30 September.
- X4 Submissions can be made through the submission portal available on our website at: <https://comcom.govt.nz/file-upload-form-folder/file-upload-form>.

Process from here

- X5 Following submissions on these draft decisions, we will set a “transitional” initial PQ RAB in December this year – in time to be part our final decision package for the first price-quality path (**PQP1**), to take effect from 1 January 2022.
- X6 We will then make a final decision on the (non-transitional) initial PQ RAB in 2022, once all the available data to 31 December 2021 is available.

Our draft decisions

- X7 The initial PQ RAB represents the value of Chorus' investments in its fibre network over the course of the UFB initiative. This includes pre-existing assets that have been repurposed for use in providing FFLAS, assets shared with non-FFLAS services, and the FLA – which represents the value of financial losses Chorus has incurred providing FFLAS under the UFB initiative for the financial loss period.¹
- X8 Our draft decision on the transitional value of the initial PQ RAB (including the FLA) is \$5.427 billion. This is \$80 million less than the \$5.507 billion estimate provided by Chorus.
- X9 As part of making this draft decision, we must make decisions on cost and asset allocation – how shared costs and assets are allocated between Chorus' FFLAS and non-FFLAS services. These decisions apply both to the financial loss period and will apply in future as part of the price-quality (**PQ**) and information disclosure (**ID**) regimes. The key results of our draft decisions are set out in Table X1 below.²

¹ Telecommunications Act 2001, s 177. Unless stated otherwise all references to statutory provisions are references to provisions of the Telecommunications Act 2001.

² If all other aspects of our draft PQ decision remained unchanged, our indicative estimate of the combined impact of these decisions would lead to a 2%-2.5% reduction in allowable revenue over the PQP1 period. This figure also includes the impact of updated WACC values applied in the pre-implementation period.

Table X1 Proposed values for our draft decision

Value	Unallocated values			Allocated values		
	<i>Draft decision</i>	<i>Chorus' estimate</i>	<i>Difference</i>	<i>Draft decision</i>	<i>Chorus' estimate</i>	<i>Difference</i>
Initial RAB (total)	6,551	6,566	-15	5,427	5,507	-80
Core Fibre Assets	5,104	5,104	0	3,980	4,045	-65
FLA	n/a	n/a	n/a	1,446	1,462	-15
Tax losses	n/a	n/a	n/a	-282	-225	-57
Total PQP1 opex³	n/a	n/a	n/a	408	448	-40
Total PQP1 capex³	n/a	n/a	n/a	897	897	0

Regulatory framework

- X10 In making these decisions, we must follow the requirements of the Telecommunications Act 2001 (the **Act**) and the fibre input methodologies (**IMs**).
- X11 We discuss the regulatory framework in Chapter 2.
- X12 Applying this framework, our task in making this decision involves three core things:
- X12.1 a factual assessment of how Chorus has calculated the relevant RAB and cost allocation values – ensuring these accurately reflect the investment and expenditure that was undertaken;
 - X12.2 a compliance assessment – ensuring Chorus has properly complied with the provisions of the Act and IMs; and
 - X12.3 an exercise of judgement – where the IMs provide for us to exercise discretion, we must consider what decision best gives, or is likely to best give effect to the purpose of Part 6 and, where relevant, the promotion of workable competition.⁴

³ Note that we have not updated our draft decisions on the unallocated forecasts of opex and capex for the PQP1 period (published 27 May 2021). We are currently considering submissions received in response to this draft decision.

⁴ Section 166(2).

- X13 Largely, the decisions we have made here are an exercise in ensuring Chorus has applied the IMs correctly. Where we consider Chorus' approach to be inconsistent with the IMs we have either:
- X13.1 proposed compliant alternatives; or
 - X13.2 accepted the approach proposed using the 'alternative methodology with substantially equivalent effect' (**AMWSEE**) IM provision that we propose to introduce.
- X14 The main areas where we have had to apply judgement are in the assessment of:
- X14.1 whether to approve cost allocators beyond the default allocators in the IMs; and
 - X14.2 whether cost allocators are “objectively justifiable and demonstrably reasonable”.⁵

High-level decisions

- X15 Our draft decision involves some fundamental choices that affect all aspects of the initial RAB, cost allocation, and related decisions. These issues are discussed in Chapter 3.

Starting point for our analysis

- X16 We consider that the appropriate starting point for our draft decisions is the \$5.5 billion estimate of the total value of the initial PQ RAB provided by Chorus, along with the material that supports it.⁶ With specific exceptions outlined below, we consider Chorus has complied with the IMs in the preparation of this estimate.
- X17 In reaching our draft decisions, we prioritised our assessment on the areas of Chorus' estimate that we considered likely to be the most material issues for the purposes of determining the initial PQ RAB. Our draft decisions have been informed by feedback we received on a consultation we ran in April 2021 on our approach to assessing Chorus' estimate.⁷

⁵ [Fibre Input Methodologies Determination 2020](#) [2020] NZCC 21, as amended by the [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24, consolidated for convenience July 2021 [Fibre Input Methodologies Determination 2020](#), clause B1.1.1(2) of Schedule B, definition of "proxy allocator".

⁶ As we note later, Chorus uses the term Initial Asset Value (IAV), whereas we use the term initial RAB value.

⁷ Commerce Commission [“Chorus’ initial price-quality regulatory asset base as at 1 January 2022 – Consultation on Chorus’ initial price quality RAB proposal”](#) (30 April 2021).

Chorus' alternative estimate

X18 Alongside this estimate, Chorus also provided an “alternative” estimate, with a total initial PQ RAB value of up to \$6 billion. We do not consider the allocation approach that led to this value is IM compliant, and in any case, it was not supported with sufficient information to enable us to make a detailed assessment.

Unallocated RAB

X19 A key decision we need to make is the value of the “unallocated RAB”. This is the combined value of assets “directly attributable” to FFLAS and assets that are shared between FFLAS and non-FFLAS services. We have proposed a value of \$6.5 billion. Issues related to the unallocated RAB are discussed in Chapter 4.

X20 In general, we consider Chorus' estimate of the unallocated RAB complies with the IMs, with two exceptions. These are:

X20.1 the direct attribution of pre-2011 ducts; and

X20.2 the direct attribution of post-2011 ducts.

Pre-2011 ducts

X21 We have capped the attribution of pre-2011 duct assets at 30% in any given time period and geography. This decision results in a reduction of \$69 million to the allocated initial PQ RAB.

X22 Consistent with the IM definition of “direct attributable”, assets that are attributed to FFLAS must be “employed” in the provision of FFLAS.⁸ This means they must be “available for use”. Based on the evidence we have, Chorus have not applied an appropriate usability filter to these assets, so they cannot all be attributed to FFLAS.

Post-2011 ducts

X23 We have limited the direct attribution of ducts constructed post-2011 (as part of the UFB initiative) to FFLAS at 95% of total ducts. We have then proposed allocating the remaining 5% using a fibre revenue allocator. This results in a reduction of \$18 million to the allocated initial PQ RAB.

⁸ [Fibre Input Methodologies Determination 2020](#) [2020] NZCC 21, as amended by the [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24, consolidated for convenience July 2021 [Fibre Input Methodologies Determination 2020](#), clause B1.1.4(2) of Schedule B - definition of "directly attributable" and "employed".

X24 Chorus had directly attributed these to FFLAS, without evidence that they are “wholly and solely” employed in the provision of FFLAS. Based on expert advice from consultants Network Strategies, we consider at a minimum 5% of these ducts would be capable of sharing and have reduced the directly attributable portion accordingly.

Cost allocation

X25 A significant portion of Chorus' assets and expenses are shared between FFLAS and non-FFLAS services. Additionally, costs and assets may be shared between FFLAS that are subject to PQ regulation and FFLAS that are only subject to ID regulation.⁹

X26 The fibre IMs set out the rules for how these costs are allocated between PQ FFLAS, ID-only FFLAS, and non-FFLAS services.

X27 Our draft decisions for cost allocation apply to:

X27.1 the value of the core fibre assets in the initial PQ RAB;

X27.2 the calculation of the initial RAB value of the FLA;

X27.3 the roll-forward of the PQ RAB over the PQP1 period; and

X27.4 forecast opex and capex allowances during the PQP1 period.

X28 These decisions involve assessing:

X28.1 how Chorus has implemented its approach to cost allocation via its models;

X28.2 whether to approve 'alternative' cost allocator types not already provided for under the IMs;

X28.3 whether proxy allocators used are “objectively justifiable and demonstrably reasonable”; and

X28.4 whether the total asset values or operating costs allocated to UFB FFLAS (and, post-implementation, PQ FFLAS) exceeded the asset values or operating costs that would be incurred if only UFB (or PQ) FFLAS were to be provided.

⁹ Under regulations made under s 226.

Chorus' approach to cost allocation

- X29 We agree (subject to the exceptions discussed below) with Chorus' overall approach to the allocation of aggregated costs between PQ FFLAS and ID-only FFLAS and using a 2-step allocation approach as described by Chorus in its initial RAB and PQP1 expenditure proposals.

Approval of alternative proxy allocators

- X30 The IMs provide for a list of 'default' allocators that may be used to allocate costs and assets. However, the IMs also provide for the use of 'alternative' allocators with approval from the Commission.¹⁰
- X31 We have proposed approving the following allocators used by Chorus:
- X31.1 net book value (**NBV**);
 - X31.2 recipient business function;
 - X31.3 share intelligent services access manager (**ISAM**);
 - X31.4 shared with copper, fibre cable; and
 - X31.5 a set of allocators that closely resemble existing default allocators.
- X32 We have approved with modifications (from a twelve-year time horizon to an eight-year time horizon) the use of the future benefits allocator. This draft decision has the effect of reducing the value of the allocated initial PQ RAB by \$27 million
- X33 We have in general approved the use of a totex allocator. However, we have not approved its use for the entirety of the Chief Technology Officer (**CTO**) Common Costs expense category.

“Objectively justifiable and demonstrably reasonable” test

- X34 The IMs require that all asset and cost allocators must have a causal or proxy relationship with the asset value or cost to be allocated. The definition of “causal relationship” requires that the circumstance in which a factor influences the employment of the asset or cost is “objectively justifiable and demonstrably reasonable”.

¹⁰ We are proposing an IM amendment to clarify that these 'alternative' allocators may be proposed by a regulated provider then approved by the Commission, or determined by the Commission.

- X35 Where a cost or asset is not directly attributable to FFLAS, and where a causal relationship cannot be established, a proxy allocator must be applied. The definition of “proxy asset allocator” requires that the ratios are “objectively justifiable and demonstrably reasonable.”
- X36 We must assess whether the alternative allocators Chorus has proposed meet this test.
- X37 With two significant exceptions, we consider Chorus' proposed allocator types are compliant with the IM requirements. The two areas where we have not accepted Chorus' allocator types are:
- X37.1 as noted above, the use of future benefits allocator with a twelve-year time horizon; and
- X37.2 the use of the totex allocator for a portion of “CTO Common Costs”.
- X38 We do not consider the use of totex as an allocator for a portion (39%) of “CTO Common Costs” is reasonable. This is because the costs which make up this category do not all share the future-focussed characteristics where totex would be reasonable. In these cases, we have proposed using the existing 'recipient business function' allocator instead.
- X39 We have also identified some concerns with Chorus' approach to floor space allocation on an ongoing (future basis) but consider it is reasonable to apply during the financial loss period.

Other inputs to the FLA

- X40 In addition to expenses, asset values, and allocation, there are a number of additional inputs used in determining the initial RAB value of the FLA about which we must make draft decisions. These include the treatment of taxation and the WACC estimates for each financial loss year of the loss period.
- X41 These decisions generally involve applying the IMs. However, there are instances where we consider the IMs are either impossible or unreasonable to apply in practice. As such, we have proposed introducing an “alternative methodology with substantively equivalent effect” provision in the IMs, that we propose applying to:
- X41.1 Capital contributions are not matched to individual assets;
- X41.2 Use of NBV adjustments;
- X41.3 VCA not recorded as a separate asset; and

X41.4 Present value benefit of Crown financing drawdown formula.

X42 We will publish a draft IM amendment determination and supporting reasons paper shortly following the publication of this paper.¹¹

¹¹ We have issued a notice of intention to amend the IMs alongside this paper.

Chapter 1 Introduction

Purpose of this paper

- 1.1 This paper sets out and explains our draft decisions on matters relating to Chorus Limited's (**Chorus**) initial price-quality regulatory asset base (**initial PQ RAB**) and seeks stakeholders' views in response.
- 1.2 This paper includes our draft decisions on:
 - 1.2.1 the "unallocated initial RAB values" of Chorus' core fibre assets at the implementation date (**1 January 2022**);
 - 1.2.2 the unallocated values of Chorus' UFB assets employed during the financial loss period (1 December 2011 until 31 December 2021), which are used to determine the "initial RAB value" of the FLA;
 - 1.2.3 the cost and asset allocators we have applied in determining:
 - 1.2.1 the "initial RAB values" of Chorus' core fibre assets employed in the provision of PQ FFLAS as at 1 January 2022;
 - 1.2.2 the "initial RAB value" of the FLA at 1 January 2022; and
 - 1.2.3 the rolled forward forecast values of the PQ RAB over the PQP1 period;
 - 1.2.4 Chorus' PQP1 capital expenditure (**capex**) and operating expenditure (**opex**) allowances; and
 - 1.2.4 the treatment of other inputs to the FLA, including proposed approval of "substantially equivalent" alternative approaches where it is impossible or manifestly unreasonable to apply the IMs.
- 1.3 We also set out our approach to the interpretation of the definition of FFLAS and the implementation of the Telecommunications (Regulated Fibre Service Providers) Regulations 2019 (**Regulations**) to determine which of Chorus' FFLAS are exempt from PQ regulation. We set out our draft decision on how Chorus has applied them in preparing its initial RAB estimate.

- 1.4 The draft decisions in this paper apply a combination of:
- 1.4.1 the input methodologies (**IMs**) as they currently exist;¹²
 - 1.4.2 the IMs as we proposed to amend them in May 2021 (May 2021 IM amendments);¹³ and
 - 1.4.3 the IMs that we will propose to amend shortly after this paper.
- 1.5 Whether or not we make the proposed IM amendments will depend on the outcome of that consultation process taking account of submitters' views.
- 1.6 In our proposed process and approach paper, we noted that insufficient time to scrutinise and assure the initial PQ RAB before the final determination could be addressed by using an "initial PQ RAB estimate" that is scrutinised and assured after the final determination, with any differences between revenue consistent with the "initial PQ RAB estimate" and revenue consistent with the initial PQ RAB washed-up.
- 1.7 Where we discuss the IMs as they currently exist, we have used the term IMs and have provided cross-references to the specific provisions for brevity.¹⁴
- 1.8 Where we discuss the IMs as we proposed to amend them in May 2021 in this paper, we have explicitly referenced the relevant provisions in the draft amendment determination published in May 2021 that we consider necessary.
- 1.9 In this paper, where we discuss the IMs as we will propose to amend them shortly, we have explicitly noted this in the text. Alongside this paper we published a notice of intention on these matters and outlined our process and indicative decision time frames.¹⁵

¹² [Fibre Input Methodologies Determination 2020](#) [2020] NZCC 21, as amended by the [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24, - consolidated for convenience July 2021 [Fibre Input Methodologies Determination 2020](#).

¹³ Commerce Commission "[\[Draft\] Fibre Input Methodologies Amendment Determination 2021](#)" (27 May 2021).

¹⁴ For the remainder of this document, we will explicitly reference the specific provisions "of the IMs".

¹⁵ Commerce Commission "[Proposed Amendments to fibre input Methodologies draft decisions – Reasons paper](#)" (27 May 2021). Where we refer to applying IMs in the remainder of this document, we are referring to both the IM in Commerce Commission "[\[Draft\] Fibre Input Methodologies Amendment Determination 2021](#)" (27 May 2021) and [Fibre Input Methodologies Determination 2020](#) [2020] NZCC 21, as amended by the [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24 - consolidated for convenience July 2021 [Fibre Input Methodologies Determination 2020](#), the original IM, and the proposed IM amendment.

Chorus' estimate of the total initial PQ RAB value

- 1.10 On 26 March 2021, Chorus submitted to the Commission its initial PQ RAB model to the Commission, setting out its \$5.5 billion estimate of the total initial PQ RAB value.¹⁶
- 1.11 Chorus stated that “[t]his model is compliant with the Commission’s Input Methodologies requirements and supports a solid, but conservative, starting RAB of \$5.5 billion for Chorus’ fixed line fibre access services at 1 January 2022.”¹⁷ We have used this as our starting point for our draft decisions that ultimately result in Chorus' total initial PQ RAB value, being the sum of the “initial RAB values” of core fibre assets employed in the provision of PQ FFLAS at the 1 January 2022 and the “initial RAB value” of the FLA at 1 January 2022, that meets the requirements of the IMs.

Process and timing

- 1.12 We published a consultation document on Chorus’ initial PQ RAB on 30 April 2021 (April consultation).¹⁸ Alongside that document, we published a Process Update Paper (**PUP**), in which we provided an update on the process and timing we intended to follow in determining Chorus’ initial PQ RAB.¹⁹
- 1.13 We published a further PUP on 29 June 2021. In response to submissions on our consultation on Chorus’ estimate of its initial PQ RAB, we made changes to the process set out in the April consultation, and confirmed our intention to:
- 1.13.1 have regard to stakeholders' views on our August initial PQ RAB draft decision, in setting the transitional initial PQ RAB at the end of 2021; and

¹⁶ As we note later, Chorus uses the term Initial Asset Value (IAV), whereas we use the term initial RAB value.

¹⁷ See [Chorus stock exchange announcement \(26 March 2021\)](#).

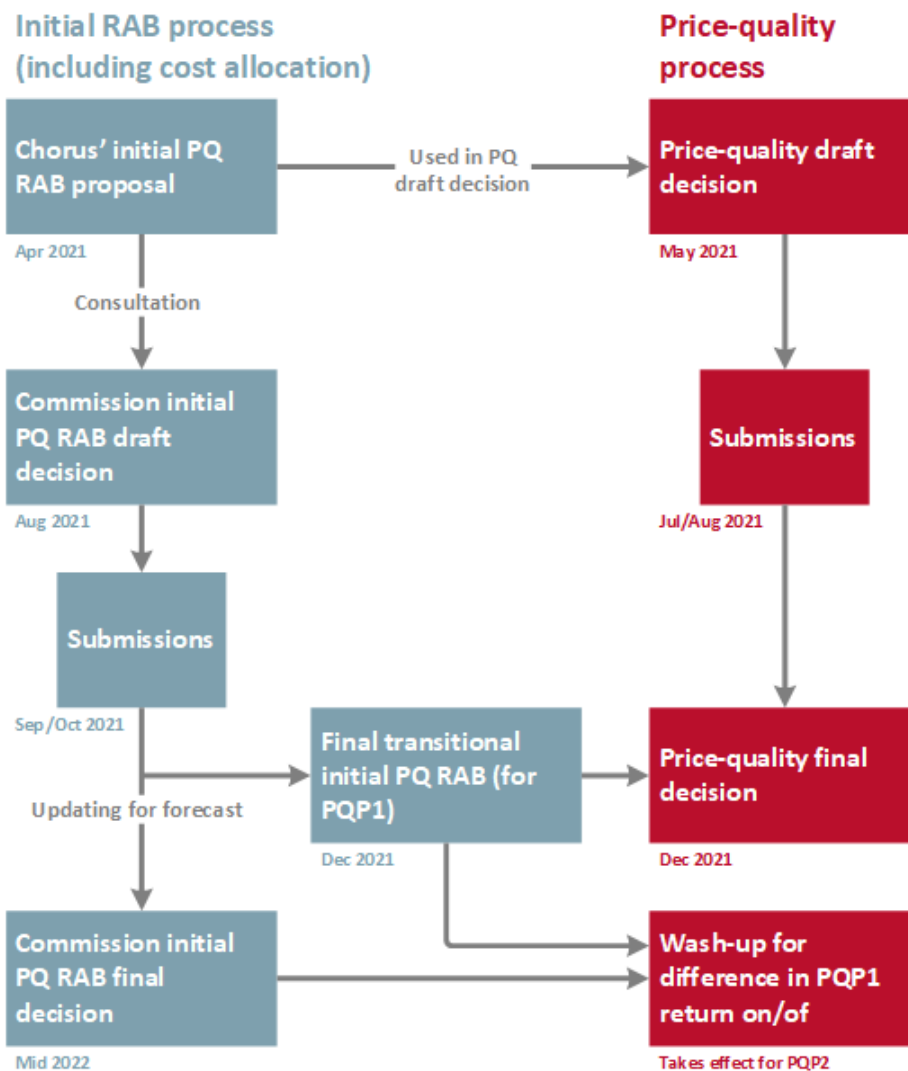
¹⁸ Commerce Commission [“Chorus’ initial price-quality regulatory asset base as at 1 January 2022 – Consultation on Chorus’ initial price quality RAB proposal”](#) (30 April 2021).

¹⁹ Commerce Commission [“Determining Chorus’ first fibre price-quality path – Process update paper”](#) (30 April 2021).

1.13.2 narrow, to as great an extent possible, any differences between the transitional initial PQ RAB and the final initial PQ RAB (that we will determine in 2022) that would be subject to the proposed wash-up.^{20,21}

1.14 Our initial PQ RAB process and how it fits into the wider PQ process is outlined in Figure 1.1 below.

Figure 1.1 Links between the initial PQ RAB and PQ processes



²⁰ Commerce Commission “[Determining Chorus’ first fibre price-quality path – Process update](#)” (29 June 2021).

²¹ We have proposed this wash-up as part of a set of amendments to the Fibre Input Methodologies. This approach is still subject to consultation and may change in response to submissions on our draft amendments. References to our proposed process in this paper apply the IMs as we have proposed to amend them. Should we change these proposed amendments, we may also need to reconsider the process.

- 1.15 We have proposed the draft decisions set out in this paper after considering feedback on our proposed process and approach for the first regulatory period; high-level analysis we carried out on Chorus' estimate of the total initial PQ RAB value; consultation on Chorus' estimate of the total initial PQ RAB value; and further analysis following submissions and further information we requested from Chorus.
- 1.16 We invite submissions in response to this paper by 5pm on 16 September 2021, and cross-submissions by 30 September 2021. You can find details on how to submit at the end of this chapter.

Structure of this paper

- 1.17 This paper is structured as follows:
- 1.17.1 Chapter 1 provides relevant background information on the initial PQ RAB; Chorus' total initial PQ RAB value estimate; and our process and key phases and milestones for our draft decisions that ultimately reveal Chorus' total initial PQ RAB value;
 - 1.17.2 Chapter 2 sets out the regulatory framework we have applied in making these draft decisions (including explaining the task before us, the key concepts involved, and the legal requirements in the Act and IMs);
 - 1.17.3 Chapter 3 addresses overarching issues that impact the whole of the initial PQ RAB setting process (such as the role of Chorus' estimate of the initial PQ RAB, and the appropriate starting point for our analysis);
 - 1.17.4 Chapter 4 deals with direct attribution of assets to FFLAS and the value of the unallocated RAB;
 - 1.17.5 Chapter 5 deals with the application of cost and asset allocation (for the UFB assets commissioned and opex incurred during the financial loss period that are used to calculate the FLA, the core fibre assets that will be employed in the provision of PQ FFLAS at the implementation date, and for forecast opex and capex proposed for PQP1);
 - 1.17.6 Chapter 6 deals with our draft decisions on other inputs necessary to calculate the FLA.
- 1.18 We have also included four supporting attachments:
- 1.18.1 Attachment A provides detail on our interpretation of the scope of FFLAS and our assessment of how Chorus has applied it in preparing its initial RAB estimate;

- 1.18.2 Attachment B provides detail on our interpretation of the Regulations and our draft decision on how Chorus has applied them in preparing its initial RAB estimate;
- 1.18.3 Attachment C provides detail on the debt premium estimates applied in the vanilla WACC; and
- 1.18.4 Attachment D summarises Chorus' initial PQ RAB model.

Materials we have published alongside this paper

- 1.19 Alongside this paper we have published:
 - 1.19.1 public versions of documents provided by Chorus with additional information unredacted;
 - 1.19.2 a working paper from consultants Network Strategies we have used in coming to our draft decisions; and
 - 1.19.3 an updated version of our FLA discounted cash flow model (updated to reflect our draft decisions, proposed changes to the fibre IMs and input information provided by Chorus).

Process we are following

Key Milestones

- 1.20 Table 1.1 below shows the key phases and milestones of the PQ and ID projects, including the process to finalise the transitional initial PQ RAB (and the eventual process to fully finalise the initial RABs).

Finalising elements of Chorus' initial PQ RAB this year

- 1.21 We agreed with submitters that we should “lock in” as many of the matters relating to Chorus' initial PQ RAB as possible this year. We identify in Table 1.2 below which of the elements relating to Chorus' initial PQ RAB we intend to finalise this year. Our aim is to resolve all possible matters prior to the final PQP1 decision.²²
- 1.22 This helps achieve the aim we set out in our September 2020 Process and Approach paper to provide certainty to Chorus and other stakeholders on the initial PQ RAB as soon as practically feasible.²³

²² The exception to this is actual values that will not be available until after 1 January 2022.

²³ Commerce Commission “[Fibre Information disclosure and price-quality regulation – proposed process and approach for the first regulatory period](#)” (15 September 2020), paragraph 5.121..

Table 1.1 Indicative dates for the PQ and ID projects

Phase	Timing	Scope
Initiation	Q4 2020 to Q1 2021	Process and approach paper
Complete		Consultation on Chorus PQP1 expenditure proposal Stakeholder workshop on quality of service
Process update and initial PQ RAB proposal	April 2021	Publication of Chorus' initial PQ RAB proposal
Complete		
Draft PQ and ID decisions	27 May 2021	ID draft decisions PQP1 draft decisions
Complete		Potential August 2021 and November 2021 IM amendment draft decisions
PQP1 WACC determination	1 July 2021	Publication of final PQP1 WACC determination
Complete		
Draft initial PQ RAB decisions	19 August 2021	Initial PQ RAB draft and related decisions
Now		Submissions on draft initial PQ RAB (four weeks, 16 September 2021) Cross-submissions on draft initial PQ RAB (two weeks, 30 September 2021) Notice of intention for potential initial PQ RAB-related IM amendments
Potential initial PQ RAB-related IM amendments draft decision	end August 2021	Initial PQ RAB-related IM amendments draft decision Submissions on draft IM amendments (16 September 2021) Cross-submissions on draft IM amendments (two weeks, 30 September 2021)
Final fast-track IM amendment decisions	September 2021	Final decisions on "fast-track" IM amendments (capex IM timelines)
Final PQ and ID decisions	November and December 2021	Final decisions on potential November 2021 IM amendments Final decisions on Chorus expenditure Final PQP1 decisions (including cost allocation) Final ID decisions
Final Initial RAB decisions	2022	Draft decisions on other local fibre company (LFC) initial ID RABs and the ID RAB and ID-only RAB for Chorus Final decisions on all FLAs and determination of all initial RABs Disclosure on all initial RABs

- 1.23 However, this approach is dependent on the responses we receive in submissions on these decisions. Where matters are raised that cannot reasonably be resolved in the limited time available prior to the final decision, we will defer final resolution of these, and give effect to the final decision via the proposed wash-up mechanism.
- 1.24 We also note that providing earlier certainty in this way cannot be at the expense of ensuring our decisions appropriately meet the purposes of Part 6.²⁴

Table 1.2 Timing of finalising initial PQ RAB and related cost allocation decisions

Matters that we are working to finalise by our final PQ decision (Dec 2021)	Matters that depend on future information from Chorus that will be finalised in 2022	Residual substantive issues that we will resolve in 2022
Actual capex, opex, allocator, and other values up to 2021	Actual 2021 values for unallocated capex for the initial RAB and FLA	None proposed.
Direct attribution of assets, capex and opex to PQ FFLAS	Actual 2021 values for unallocated opex for the FLA	
Allocation of opex to PQ FFLAS	Actual 2021 revenues for the financial loss asset	
Allocation of assets to PQ FFLAS	Actual 2021 allocator values	
Approach to capital contributions		
Approach to tax losses		
Allocation of pre-Dec 2011 assets		
Forecast cost and asset allocation for PQP1		

Evaluating Chorus' approach to cost allocation of forecast expenditure in PQP1

- 1.25 To determine the expenditure allowances for PQP1, we need to ensure that Chorus' proposed expenditure complies with the cost allocation IM. This means that the forecast expenditure we determine needs to represent expenditure that has been allocated to PQ FFLAS only.

²⁴ Commerce Commission "[Determining Chorus' first fibre price-quality path – Process update](#)" (29 June 2021), paragraph 3.

- 1.26 In our PQ draft decision document, we indicated we would update our PQP1 expenditure allowance draft decisions as part of our August 2021 initial PQ RAB and associated cost and asset allocation draft decisions (this paper). The reason for this was that Chorus combined its approach to allocating costs for its expenditure proposal with its cost allocation modelling for the FLA and initial PQ RAB valuations.
- 1.27 We have since assessed Chorus' approach to cost allocation for its initial PQ RAB (including the FLA) alongside its proposed approach to cost allocation for its forecast expenditure allowances in PQP1. Chapter 5 outlines our draft decisions on cost allocation, including where these decisions affect Chorus' expenditure allowances for PQP1.
- 1.28 We will update expenditure allowances after considering stakeholder's views on this consultation document to reflect our final decisions on allocator types, actual allocator values up to 31 December 2020, and forecasts of allocator values beyond that point. These decisions will be made in our final PQP1 decisions in December 2021.

How you can provide your views

Scope of submissions

- 1.29 We are interested in your views on our draft decisions on:
- 1.29.1 matters relating to Chorus' initial PQ RAB; and
 - 1.29.2 the cost and asset allocations we have applied in determining Chorus' PQP1 capex and opex allowances.
- 1.30 We are also interested in your views on:
- 1.30.1 1.30.1 our approach to the interpretation of the definition of FFLAS; and
 - 1.30.2 1.30.2 the implementation of the Regulations to determine which of Chorus' FFLAS are exempt from PQ regulation.

Process and timeline for making submissions

- 1.31 Submissions can be made through the submission portal available on our website at: <https://comcom.govt.nz/file-upload-form-folder/file-upload-form>.
- 1.32 The project page will direct you to a form with instructions on how to upload your submission. Your submission should be provided as an electronic file in an accessible form.

- 1.33 We invite submissions by 5pm on 16 September 2021. We invite cross-submissions by 5pm on 30 September 2021.

Confidentiality

- 1.34 We take the protection of confidential information seriously.
- 1.35 To protect confidential submissions, we will require you to upload your submission via the form on the project page. The process requires you to provide (if necessary) both a confidential and non-confidential/public version of your submission and to clearly identify the confidential and non-confidential/public versions.
- 1.36 When including commercially sensitive or confidential information in your submission, we offer the following guidance:
- 1.36.1 Please provide a clearly labelled confidential version and public version. We intend to publish all public versions on our website.
 - 1.36.2 The responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission.
- 1.37 Please note that all submissions we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we do not publish unless good reason existed under the Official Information Act 1982 to withhold it. We would normally consult with the party that provided the information before any disclosure is made.

Chapter 2 Regulatory framework

Purpose of this chapter

- 2.1 This chapter sets out the regulatory framework we have applied in making our draft decisions on matters relating to Chorus' initial PQ RAB. This chapter sets out:
- 2.1.1 the task before us, as defined in the Act and the IMs; and
 - 2.1.2 how we have gone about this task, in terms of meeting the requirements in the Act and IMs and (where relevant) exercising our judgement in accordance with s 166 of the Act.

Structure of this chapter

- 2.2 The structure of this chapter is as follows:
- 2.2.1 an overview of the matters relating to our initial PQ RAB decisions, and the five important elements of ID and PQ regulation that our draft decisions inform;
 - 2.2.2 the legal framework, including:
 - 2.2.1 mandatory considerations under the Act: ss 162 and 166;
 - 2.2.2 section 177: determining the initial value of fibre assets, including the FLA; and
 - 2.2.3 the IMs relevant to these draft decisions: asset valuation, cost allocation and tax;
 - 2.2.3 a substantive discussion of each of the five important elements of ID and PQ regulation that our draft decisions inform, with reference to the relevant IMs and how they fit within the process of our regulatory decisions made under Part 6 overall and with reference to the legal framework (ie, mandatory considerations under ss 162 and 166);
 - 2.2.4 the economic framework that helps us reach regulatory decisions that promote the relevant purposes set out in Part 6 of the Act.

The initial PQ RAB

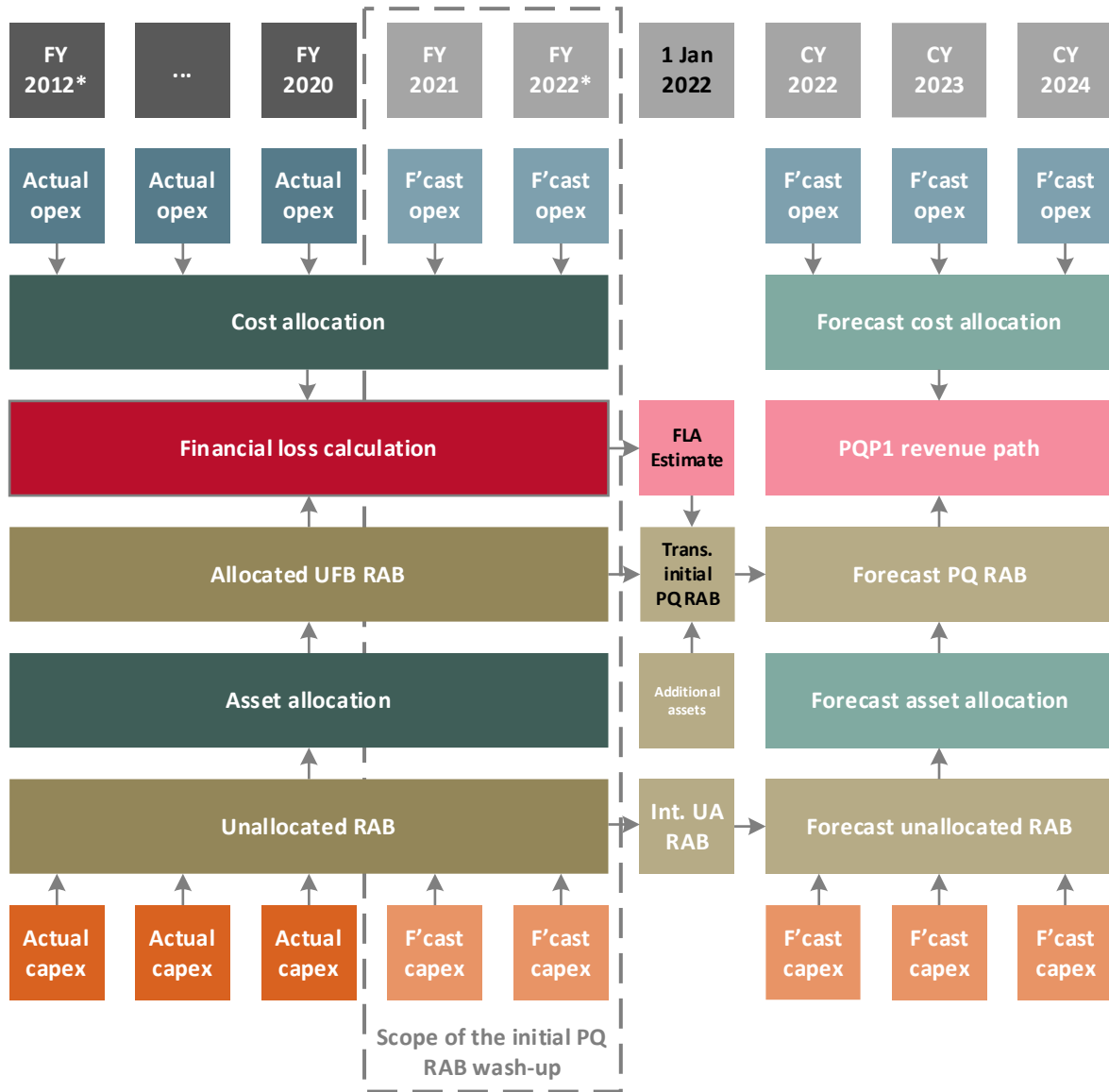
- 2.3 The Act requires us to establish the first PQ path for Chorus by 1 January 2022 (**implementation date**). We must estimate the value of Chorus' fibre assets employed in the provision of PQ FFLAS as at the implementation date (initial PQ RAB) as an input into the calculation of forecast building blocks revenue for the PQ path for PQP1, but also, once rolled forward for future years after being finally determined during 2022, an input for future PQ periods.²⁵
- 2.4 The disclosure of information about fibre assets in the PQ RAB also has significance for the information disclosure (**ID**) aspect of our regulatory regime under Part 6. The value of fibre assets in the PQ RAB has an enduring impact as part of ID as it contributes to ensuring that sufficient information is disclosed under ID to allow interested persons to assess whether the purpose of Part 6 is being met.
- 2.5 The initial PQ RAB is made up of two components:
- 2.5.1 Core fibre assets: fibre assets that are employed by a regulated fibre service provider (**regulated provider**) in the provision of FFLAS (whether or not the asset is also employed in the provision of other services);²⁶ and
 - 2.5.2 The FLA: each regulated provider is treated as owning a FLA that captures unrecovered returns that have accumulated in the financial loss period (the period starting on 1 December 2011 and ending on 31 December 2021).²⁷
- 2.6 Core fibre assets and the FLA are discussed under the legal framework section at paragraphs 2.42-2.51 below.

²⁵ Section 172(1)(a).

²⁶ Section 177(6); and [Fibre Input Methodologies Determination 2020](#) [2020] NZCC 21, as amended by the [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24, - consolidated for convenience July 2021 [Fibre Input Methodologies Determination 2020](#), clause 1.1.4(2). There are some exclusions to the definition of core fibre assets, namely (a) the financial loss asset; (b) intangible assets, unless they are- (i) finance leases; or (ii) identifiable non-monetary assets whose costs do not include (wholly or partly) pass-through costs; and (c) works under construction.

²⁷ Section 177(2) and (3).

Figure 2.1 Initial RAB components and scope



*FY 2012 is a seven-month period from 1 December 2011, and FY 2022 is a six-month period ending 31 December 2021

Transitional approach to determining certain matters relating to Chorus' initial PQ RAB

- 2.7 We are adopting a transitional approach to determining matters related to Chorus' initial PQ RAB.
- 2.8 We need to determine certain RAB inputs to determine Chorus' "forecast building blocks revenue" for each regulatory year of PQP1 by mid-December to feed into our final PQP1 decision.

- 2.9 We will make final decisions on matters that ultimately reveal Chorus' total initial PQ RAB value in 2022, being the sum of the “initial RAB values” of core fibre assets employed in the provision of PQ FFLAS at the implementation date and the “initial RAB value” of the FLA at the implementation date. This time period is necessary because some parameters are currently forecasts and actual values will not be known until 2022. In addition, the total initial PQ RAB value may be different to the transitional initial PQ RAB where there is insufficient time to scrutinise and assure the total initial PQ RAB value before our final PQP1 decision. We discuss our determination of fibre asset “initial RAB values” in further detail in paragraphs 2.93-2.102.
- 2.10 In order to determine certain RAB inputs to determine Chorus' “forecast building blocks revenue” for each regulatory year of PQP1, we will determine Chorus' transitional initial PQ RAB value based on estimates of asset values and an application of provisional cost and asset allocators. We discuss this in further detail in paragraphs 2.15-2.16 and 2.85-2.92.
- 2.11 Because of this timing issue, we intend to wash-up for the impact of the difference between Chorus' transitional initial PQ RAB value and Chorus' total initial PQ RAB value on allowable revenue as part of the PQP2 reset.²⁸

Key concepts and terminology used in this paper

Initial RAB (generally)

- 2.12 We have adopted a building blocks model (**BBM**) approach to developing our input methodologies relating to FFLAS under Part 6.²⁹ Under the BBM, we calculate the value of the collection of fibre assets that are employed by a regulated provider in the provision of regulated FFLAS at certain times.

²⁸ In our proposed process and approach paper, we noted that insufficient time to scrutinise and assure the initial PQ RAB before the final determination could be addressed by using an “initial PQ RAB estimate” that is scrutinised and assured after the final determination, with any differences between revenue consistent with the “initial PQ RAB estimate” and revenue consistent with the *[final]* initial PQ RAB washed-up. See Commerce Commission “[Fibre Information disclosure and price-quality regulation – proposed process and approach for the first regulatory period](#)” (15 September 2020), paragraph 5.124.

²⁹ [Fibre Input Methodologies Determination 2020](#) [2020] NZCC 21, as amended by the [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24, - consolidated for convenience July 2021 [Fibre Input Methodologies Determination 2020](#).

- 2.13 Under our IM decisions, we adopted the construct of multiple separate regulatory asset bases (**RAB**). These will apply to Chorus as follows:
- 2.13.1 the collection of fibre assets that are employed by Chorus in the provision of ID FFLAS as at the implementation date is referred to in this paper as Chorus' initial ID RAB;³⁰
 - 2.13.2 the collection of fibre assets that are employed by Chorus in the provision of ID-only FFLAS as at the implementation date is referred to in this paper as Chorus' initial ID-only RAB;³¹
 - 2.13.3 the collection of fibre assets that are employed by Chorus in the provision of PQ FFLAS as at the implementation date is referred to in this paper as Chorus' initial PQ RAB;³²
 - 2.13.4 any collection of fibre assets that are employed in the provision of a FFLAS class as we may from time to time specify for the purposes of Part 6 at a date specified by us is referred to in this paper as Chorus' initial additional RABs.³³
- 2.14 The relevant RAB for the purposes of this paper is Chorus' initial PQ RAB, which is expected to be finalised in mid-2022. This paper provides our draft views on:
- 2.14.1 the unallocated initial RAB value of each core fibre asset in the initial PQ RAB;

³⁰ Clause 2.2.2(1)(a) of the IMs. "ID FFLAS" is defined as "means, in respect of a regulated provider, all FFLAS provided by that regulated provider that is subject to information disclosure regulation in regulations made under s 226 of the Act. See Fibre Input Methodologies Determination 2020, [2020] NZCC 21, as amended by the Fibre Input Methodologies (initial value of the financial loss asset) Amendment Determination 2020, [2020] NZCC 24, cl 1.1.4(2), definition of "ID FFLAS".

³¹ Clause 2.2.2(1)(c) of the IMs. "ID-only FFLAS" is defined as "means, in respect of a regulated provider, all FFLAS provided by that regulated provider that: (a) is subject to information disclosure regulation in regulations made under s 226 of the Act; and (b) is not subject to price-quality regulation in regulations made under s 226 of the Act;". See Fibre Input Methodologies Determination 2020, [2020] NZCC 21, as amended by the Fibre Input Methodologies (initial value of the financial loss asset) Amendment Determination 2020, [2020] NZCC 24, cl 1.1.4(2), definition of "ID-only FFLAS".

³² Clause 2.2.2(1)(b) of the IMs. "PQ FFLAS" is defined as "means, in respect of a regulated provider, all FFLAS provided by that regulated provider that is subject to price-quality regulation in regulations made under s 226 of the Act. See Fibre Input Methodologies Determination 2020, [2020] NZCC 21, as amended by the Fibre Input Methodologies (initial value of the financial loss asset) Amendment Determination 2020, [2020] NZCC 24, cl 1.1.4(2), definition of "PQ FFLAS".

³³ Clause 2.2.2(1)(d) of the IMs. "Additional RAB" is defined as "any collection of fibre assets that are employed in the provision of a FFLAS class as the Commission may from time to time specify for the purposes of Part 6 of the Act, where that collection of fibre assets is a subset of and does not encompass all fibre assets in the (a) ID RAB; (b) PQ RAB; or (c) ID-only RAB.

- 2.14.2 the (allocated) initial RAB value of each core fibre asset in the initial PQ RAB; and
- 2.14.3 the initial RAB value of the FLA in the initial PQ RAB.
- 2.15 In order to determine certain inputs for Chorus' "forecast building blocks revenue" for each regulatory year of PQP1, our IMs also require us to calculate allocated "opening RAB values" of Chorus' fibre assets for the PQ RAB as of the implementation date, followed by a forecast of those values for each regulatory year of PQP1 (PQP1 inputs). This paper provides our draft views on the value of the PQP1 inputs.
- 2.16 We use the PQP1 inputs, along with the regulated provider's other costs (such as operating costs: eg, labour expenses, network operating costs, and pass-through costs)—together, the building blocks—as the basis for calculating Chorus' forecast allowable revenue for PQP1. The way these building blocks interact is illustrated in Figure 2.2 below.
- 2.17 We discuss how each of the decisions impact ID and PQ regulation at paragraphs 2.81-2.102 below.

Key concepts related to the determination of the initial RAB value of the FLA

- 2.18 The initial RAB value of the FLA at implementation date is equal to the accumulated unrecovered returns made by a regulated provider under the UFB initiative during the pre-implementation period.³⁴
- 2.19 Unrecovered returns are calculated as the present value, at implementation date, of the revenue inflows less expenditure outflows occurring during the pre-implementation period adjusted for the depreciated value of UFB assets at implementation date. Expenditure shared between UFB FFLAS and services that are not UFB FFLAS during the pre-implementation period is subject to cost allocation rules.³⁵
- 2.20 The UFB assets used to determine the initial RAB value of the FLA are assets that are:
- 2.20.1 constructed or acquired by a regulated provider; and

³⁴ Clause 2.2.4(1) of the IMs and Schedule B of the IMs.

³⁵ For a more detailed discussion, see Commerce Commission "[Fibre input methodologies – Financial loss asset – reasons paper](#)" (3 November 2020), Chapter 2.

- 2.20.2 employed in the provision of UFB FFLAS (whether or not the asset is also employed in the provision of other services).³⁶
- 2.21 The collection of UFB assets that are employed by a regulated provider in the provision of UFB FFLAS is referred to as the “UFB asset base”.³⁷
- 2.22 “UFB FFLAS” means any FFLAS provided by a regulated provider under the UFB initiative during the financial loss period.³⁸
- 2.23 In this paper, we use the phrase “initial RAB value of the FLA” to refer to the value of the FLA at implementation date, once determined, as defined in clause 2.2.4(1) of the IMs. We also use the phrase “initial RAB value of the FLA” when referring to the various unrecovered returns throughout the pre-implementation period that are used to determine the value of the FLA at implementation date under clause 2.2.4(1) of the IMs

Allocated and unallocated RAB values

- 2.24 When a core fibre asset is first employed in the provision of regulated FFLAS as at the implementation date, it has an “unallocated initial RAB value” which is its “value of commissioned asset”.³⁹ The sum of all unallocated initial RAB values as at the implementation date is referred to as the total unallocated initial RAB value and reflects the total value of assets that are wholly or partly employed in the provision of regulated FFLAS.
- 2.25 The cost allocation IM is then applied to each core fibre asset’s unallocated initial RAB value to determine an attributable (ie, “allocated”) portion of the asset value for regulated FFLAS (for example, to calculate depreciation and revaluations). The allocated portion of a core fibre asset attributable to PQ FFLAS at the implementation date is referred to as its initial PQ RAB value.⁴⁰ The sum of all initial PQ RAB values for all core fibre assets at the implementation date is referred to as the total allocated initial PQ RAB value.

³⁶ Subject to certain exceptions. See the definition of “UFB asset” in clause B1.1.1(2) of the IMs.

³⁷ See the definition of “UFB asset base” in clause B1.1.1(2) of the IMs.

³⁸ See the definition of “UFB FFLAS” in clause B1.1.1(2) of the IMs.

³⁹ Clause 2.2.3(1) of the IMs.

⁴⁰ Clause 2.2.3(2) of the IMs.

- 2.26 The FLA is treated as being directly attributable to PQ FFLAS and its value in the initial PQ RAB is determined by us in accordance with s 177(2) and clause B1.1.2 of Schedule B of the IMs.⁴¹ We discuss the process for determining the initial value of the FLA at paragraphs 2.98-2.99.
- 2.27 In this paper, unless specifically stated otherwise, we are referring to the allocated RAB (ie, in any instance where we are referring to the 'unallocated RAB' we will state this).

RAB roll-forward

- 2.28 The unallocated initial RAB value of each core fibre asset is "rolled forward" each disclosure year with the unallocated value of a core fibre asset at the end of a disclosure year having an "unallocated closing RAB value".⁴²
- 2.29 The cost allocation IM is then applied to each core fibre asset's unallocated closing RAB value to determine an attributable (ie, "allocated") portion of the asset value for regulated FFLAS. The allocated portion of a core fibre asset attributable to PQ FFLAS at the end of a disclosure year is referred to as its closing PQ RAB value.⁴³ The closing PQ RAB value then becomes the opening PQ RAB value for the following disclosure year.⁴⁴
- 2.30 The total value of the PQ RAB (including the value of the FLA) will change over time to reflect changes in Chorus' fibre assets over time.⁴⁵ Examples of changes include the addition of newly commissioned assets; the disposal of assets; revaluation of assets (ie, indexation by the Consumer Price Index (**CPI**)); changes in allocations; and the return of capital via depreciation over time.

⁴¹ Clause 2.2.4(1) of the IMs.

⁴² Clause 2.2.5(1)-(2) of the IMs. "Disclosure year" in this context means "a 12-month period ending on the date specified in an ID determination" - see clause 1.1.4(2).

⁴³ Clause 2.2.5(4) of the IMs. We note that the IMs refer to this as the "closing RAB value".

⁴⁴ Clause 2.2.5(3)(b) of the IMs. We note that the IMs refer to this as the "opening RAB value".

⁴⁵ Clause 2.2.5-2.2.6 of the IMs.

Analysys Mason model terminology

- 2.31 In certain instances, we have adopted the terminology used by Chorus/Analysys Mason in its models and associated documentation (which in some cases departs from the terms we used in our IMs). These are:
- 2.31.1 ‘Contracted FFLAS’: Analysys Mason define Contracted FFLAS as FFLAS provided under the UFB contract.⁴⁶ The relevant term in our IMs is UFB FFLAS;
 - 2.31.2 Initial asset value (**IAV**): Analysys Mason define the IAV as the starting value of the RAB at implementation date.⁴⁷ The relevant term in our IMs is the initial RAB value of core fibre assets and the initial RAB value of the FLA;
 - 2.31.3 ‘non-FFLAS’: the relevant terms in our IMs are “services that are not regulated FFLAS”⁴⁸ and “services that are not UFB FFLAS”;⁴⁹
 - 2.31.4 ‘UFB A-D’’: Analysys Mason define 'UFB A-D' as those assets that were built and used for Contracted FFLAS (where Chorus won the UFB contract).⁵⁰ There is no corresponding term in our IMs. However, these assets are relevant to the determination of the initial RAB value of Chorus’ core fibre assets and the FLA;
 - 2.31.5 ‘UFB E’’: Analysys Mason define UFB E as those assets that were built and used for Voluntary FFLAS.⁵¹ There is no corresponding term in our IMs. These assets are excluded from the determination of the initial RAB value of Chorus’ core fibre assets and the FLA, but will form part of the initial PQ RAB where these assets are employed in the provision of PQ-regulated FFLAS;

⁴⁶ Analysys Mason report for Chorus “[Building Block model IAV model documentation IAV model v314 120c](#)” (24 March 2021), Figure 6.

⁴⁷ Ibid, Figure 6.

⁴⁸ Clause 1.1.4(2) of the IMs.

⁴⁹ Cause B1.1.1(2) of Schedule B of the IMs.

⁵⁰ Analysys Mason report for Chorus “[Building Block model IAV model documentation IAV model v314 120c](#)” (24 March 2021), Figure 6.

⁵¹ Ibid, Figure 6.

- 2.31.6 **Unrecovered Loss (UL):** Analysys Mason define UL as the sum of the annual shortfall in UFB revenues (relative to that which would have provided capital maintenance for the UFB business) in the pre-implementation period (from 1 December 2011 to 31 December 2021), taking the cost of funding that loss into account.⁵² The relevant term in our IMs is “financial loss asset”;
- 2.31.7 **‘Voluntary FFLAS’:** Analysys Mason define ‘Voluntary FFLAS’ as FFLAS not provided under the UFB contract.⁵³ There is no corresponding term in our IMs. However, from the implementation date, Voluntary FFLAS is included in the PQ FFLAS and ID FFLAS terms in the IMs.
- 2.32 In this paper, our approach is to use the term that best applies in the particular context. For example, when referring to Chorus’ models, we use the terms that Analysys Mason or Chorus have used, for ease of navigating their models/explanatory documents. Where relevant, we include references to explain how these terms interact with our IM terminology.

Implementation of the Regulations

- 2.33 From 1 January 2022, providers of regulated FFLAS will be subject to new forms of regulation under Part 6 of the Act. IMs —the upfront regulatory rules, requirements and processes that relate to how we regulate FFLAS— underpin two forms of regulatory control that must be in place by the implementation date. These two forms of regulation are PQ and ID regulation. They are set out in the Telecommunications (Regulated Fibre Service Providers) Regulations 2019 (**Regulations**):
- 2.33.1 **PQ regulation:** Initially, we are required to determine the maximum revenue a regulated provider is allowed to earn from its regulated FFLAS, as well as the quality at which regulated FFLAS must be provided. This regulation is implemented through “PQ paths”. Reg 6 provides that only Chorus will be subject to PQ regulation.⁵⁴

⁵² Ibid, Figure 6.

⁵³ Ibid, Figure 6.

⁵⁴ Telecommunications (Regulated Fibre Service Providers) Regulations 2019. Regulation 6 provides that Chorus will be subject to PQ regulation in respect of all FFLAS, except to the extent that a service is provided in a geographical area where a regulated fibre service provider other than Chorus has installed a fibre network as part of UFB initiative.

- 2.33.2 ID regulation: Each regulated provider will be required to disclose information on its performance delivering regulated FFLAS. Reg 5 provides that ID regulation will apply to Chorus and other regulated providers, being the Local Fibre Companies (**LFCs**): Enable Networks (**Enable**); Northpower Fibre and Northpower LFC2 (together, **Northpower**); and Ultrafast Fibre (**UltraFast**).⁵⁵

Our approach to giving effect to the Regulations: FFLAS classes and multiple RABs

- 2.34 In order to recognise the different forms of regulation under reg 5 and 6 and to implement these regulations, in our main IMs final reasons paper, we categorised regulated FFLAS into “FFLAS classes” as follows:⁵⁶
- 2.34.1 “ID FFLAS” means, in respect of a regulated provider, all FFLAS provided by that regulated provider that is subject to information disclosure regulation in regulations made under s 226 of the Act;
- 2.34.2 “PQ FFLAS” means, in respect of a regulated provider, all FFLAS provided by that regulated provider that is subject to price-quality regulation in regulations made under s 226 of the Act;
- 2.34.3 “ID-only FFLAS” means, in respect of a regulated provider that is subject to price-quality regulation in regulations made under s 226 of the Act, all FFLAS provided by that regulated provider that: (a) are subject to ID regulation in regulations made under s 226; and (b) are not subject to PQ regulation in regulations made under s 226; and
- 2.34.4 “Additional FFLAS class” means any class of FFLAS provided by a regulated provider as the Commission may from time to time specify for the purposes of Part 6 of the Act, where that class of FFLAS is a subset of and does not encompass all: (a) ID FFLAS; (b) PQ FFLAS; or (c) ID-only FFLAS.
- 2.35 Chorus’ collection of fibre assets employed in the provision of regulated FFLAS will be in the ID RAB, ie, the collection of assets employed in the provision of ID FFLAS. The asset valuation IM also includes rules for subsets of the ID RAB relevant for other regulatory purposes, such as the PQ RAB. Chorus’ PQ RAB is comprised of fibre assets employed by it in the provision of PQ FFLAS. This is discussed further in Attachment A below.

⁵⁵ A “[Public Notice of Amalgamation Proposal](#)”, notice number 2021-ot1164 was published at gazette.govt.nz (29 March 2021). This proposes the amalgamation of Northpower Fibre Limited and Northpower LFC2 Limited into Northpower Fibre Limited.

⁵⁶ Commerce Commission “[Fibre input methodologies: Main final decisions – reasons paper](#)” (13 October 2020), paragraph 2.76 and Figure 2.3.

Legal framework

Mandatory considerations that apply for our decisions

Matters to be considered by Commission and Minister: s 166

2.36 When making the decisions in this paper, we must consider certain matters specified in s 166(2) of the Act:⁵⁷

- (2) The Commission or Minister must make the recommendation, determination, or decision that the Commission or Minister considers best gives, or is likely to best give, effect—
 - (a) to the purpose in section 162; and
 - (b) to the extent that the Commission or Minister considers it relevant, to the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services.

Purpose of Part 6: s 162

2.37 The purpose of Part 6 of the Act, set out in s 162, is:⁵⁸

The purpose of this Part is to promote the long-term benefit of end-users in markets for fibre fixed line access services by promoting outcomes that are consistent with outcomes produced in workably competitive markets so that regulated fibre service providers-

- (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
- (b) have incentives to improve efficiency and supply fibre fixed line access services of a quality that reflects end-user demands; and
- (c) allow end-users to share the benefits of efficiency gains in the supply of fibre fixed line access services, including through lower prices; and
- (d) are limited in their ability to extract excessive profits.

How we apply ss 166 and 162

2.38 We must exercise our judgement on a case-by-case basis and make the following observations about the relationship between the two objectives in s 166(2) of the Act.

2.38.1 Section 166(2)(a) directs us to make decisions that best give effect to the purpose in s 162. This is a mandatory consideration.

⁵⁷ Commerce Commission “[Fibre input methodologies: Main final decisions – reasons paper](#)” (13 October 2020), paragraphs 2.206-2.271.

⁵⁸ Section 162.

- 2.38.2 We are also required to make decisions that best give effect to the outcome in s 166(2)(b). This is also a mandatory consideration, but only in cases where we consider that it is ‘relevant’. In assessing whether the promotion of workable competition is relevant, we will consider whether a decision has the potential to affect the level of competition in one or more telecommunications markets.
- 2.38.3 Where we consider that the promotion of competition is relevant, we must strive to make the decision that best gives, or is likely to best give effect, to both the promotion of outcomes consistent with workable competition for the benefit of end-users of FFLAS, and to the promotion of competition in telecommunications markets for the benefit of end-users in those markets.
- 2.38.4 Where our draft decisions require us to exercise judgement, we have explained why those decisions best give, or are likely to best give, effect to the s 166(2) purposes.
- 2.39 As with all decisions under Part 6, all of our decisions relating to the initial PQ RAB must best give, or be likely to best give, effect to the s 166(2) purposes.
- 2.40 However, in many cases, rather than requiring us to exercise judgement, our decisions may only require:
- 2.40.1 the application of IMs (for instance, the estimation of the cost of capital for the financial loss period)⁵⁹ where most parameters were determined because they best give, or are likely to best give, effect to the s 166(2) purposes; and
- 2.40.2 the application of mandatory requirements in the Act (for instance, the “meaning of “fibre asset” in s177(6) of the Act).
- 2.41 Where certain draft decisions do not require us to exercise judgement, we have not specifically explained those decisions by reference to the s 166(2) purposes. Rather, we have explained those decisions by referring to our specific obligations under the IMs or the Act.

Section 177: Determining the initial value of fibre assets

- 2.42 Section 177 provides the Commission with specific direction on the calculation of the initial value of fibre assets that enter the PQ RAB on the implementation date.

⁵⁹ Subpart 5 of Part 3 of Attachment B of the IMs.

- 2.43 The definition of “fibre asset” includes an asset that is constructed or acquired by Chorus and employed in the provision of FFLAS, whether or not it is also employed in the provision of other services: s 177(6).
- 2.44 Section 177(2) and (3) direct that the Commission is responsible for determining the value of the financial losses. This means it is for the Commission to determine the initial value of fibre assets in Chorus’ initial PQ RAB (as well as the initial value of fibre assets in the ID RABs for Chorus and the other LFCs).

Core fibre assets

- 2.45 Section 177(1) sets the value of assets employed in the provision of FFLAS (core fibre assets). The initial value of a fibre asset is calculated by taking the cost Chorus incurred in constructing or acquiring the asset net of capital contributions, adjusted for depreciation and impairment losses (if any): s 177(1).
- 2.46 Assets which were owned by Chorus before 1 December 2011 and therefore pre-date the UFB initiative — which have been employed in the provision of FFLAS are valued at their cost derived from Chorus’ general-purpose financial statements as of 1 December 2011, adjusted for accumulated depreciation and impairment losses (if any). We refer to these assets in this paper as “pre-2011 assets”.

Financial loss asset

- 2.47 Financial losses over the pre-implementation period (from 1 December 2011 to 31 December 2021) must be capitalised and treated as an additional asset (referred to as the “financial loss asset”) which will be part of Chorus’ initial PQ RAB, but separately identified.
- 2.48 The FLA calculation must take into account the “accumulated unrecovered returns on investments made by [Chorus] under the UFB initiative”: s 177(3)(a).
- 2.49 The background to the FLA is that it was expected that Chorus and the other LFCs that deployed fibre access networks under the Government’s UFB initiative would incur financial losses during their initial period of operation.⁶⁰ That is, despite the provision of partial funding via concessionary Crown financing, it was expected that the initial uptake of UFB services would generate insufficient revenue to cover the costs that the LFCs incurred during that period.

⁶⁰ Commerce Commission “[Fibre input methodologies: Main final decisions – reasons paper](#)” (13 October 2020).

- 2.50 In order to provide an opportunity for each regulated provider to recover these losses within the new regulatory regime, the Act provides for these accumulated financial losses to be capitalised and included as an asset in each LFC's RAB as at the implementation date.
- 2.51 We discuss this in greater detail at 2.98 below in the context of the FLA.

IMs relevant to initial PQ RAB decisions

- 2.52 Section 176 requires the Commission to publish IMs covering (among other matters) the valuation of assets and the allocation of common costs (for example, between activities, businesses, access seekers, regulated services, or geographic areas), and treatment of revaluations".⁶¹
- 2.53 In determining the value of fibre assets in the initial PQ RAB, the key IMs are the asset valuation, cost allocation and tax IMs:⁶²
- 2.53.1 The asset valuation IM sets out the rules regarding the determination of the "initial RAB value" of each regulated provider's fibre assets, which includes both the core fibre assets and the FLA.
- 2.53.2 The cost allocation IM sets the rules for how the values of each regulated provider's shared assets and costs at implementation date are to be allocated to the appropriate FFLAS classes and to services that are not regulated FFLAS.
- 2.53.3 The tax IM sets out the rules for determining the value of tax costs.

Proposed IM amendments

- 2.54 Alongside our ID and PQP1 draft decisions, we have also proposed several IM amendments that:⁶³
- 2.54.1 implement draft decisions that we have made for our PQP1 and ID determinations;

⁶¹ Section 176(1)(a)(ii) and (iii).

⁶² Under s 175(b)(ii), we must apply the IMs in determining how regulation should apply to FFLAS and the prices applying to FFLAS.

⁶³ Commerce Commission "[\[Draft\] Fibre Input Methodologies Amendment Determination 2021](#)" (27 May 2021).

- 2.54.2 implement our proposed approach to determining Chorus' initial PQ RAB;⁶⁴
 - 2.54.3 enhance certainty about the rules, requirements and processes that apply to PQ paths; and
 - 2.54.4 correct technical errors.
- 2.55 Our draft initial PQ RAB decisions apply a combination of:
- 2.55.1 the IMs as they currently exist;
 - 2.55.2 the IMs as we proposed to amend them in May 2021; and
 - 2.55.3 the IMs as we will propose to amend them shortly after this paper.

Asset valuation IM

- 2.56 Under the asset valuation IMs, the core fibre assets that are employed by Chorus in the provision of PQ FFLAS at the implementation date will be included in the initial PQ RAB.⁶⁵ The regulatory values of these core fibre assets will be based on the depreciated historic cost of investments and adjustments for impairment losses (if any), as required by s 177(1) of the Act. In addition to the core fibre assets, the PQ RAB will include a FLA. The FLA captures the unrecovered returns on and of the allocated PQ RAB for the UFB assets that has accumulated up to the implementation date (s 177(2) and (3)).
- 2.57 The asset valuation IM includes the rules relating to the valuation of assets in the initial PQ RAB. These cover the following areas:
- 2.57.1 the scope of the PQ RAB and its valuation;
 - 2.57.2 core valuation rules for initial PQ RAB assets;
 - 2.57.3 limits on allocation of shared assets to regulated FFLAS;
 - 2.57.4 capital contributions; and
 - 2.57.5 the benefits of Crown financing.

⁶⁴ Commerce Commission "[Fibre Information disclosure and price-quality regulation – proposed process and approach for the first regulatory period](#)" (15 September 2020)

⁶⁵ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 3.6.

Cost allocation IM

- 2.58 The cost allocation IM includes the rules relating to the attribution and allocation of assets and costs in determining the initial PQ RAB. These cover the following areas:
- 2.58.1 the methodologies used to determine the (allocated) initial RAB values of core fibre assets at the implementation date;
 - 2.58.2 the methodologies used to determine allocated RAB inputs for PQP1, being based on an allocation to PQ FFLAS of estimates of historic values and forecast values at the implementation date:
 - 2.58.3 the treatment of assets that pre-date the UFB initiative that are employed during the pre-implementation period to provide UFB FFLAS (pre-2011 assets) for purposes of calculating the FLA; and
 - 2.58.4 the treatment of new costs incurred during the pre-implementation period to deliver UFB FFLAS for purposes of calculating the FLA.

Cost allocation methodology for determining the value of core fibre assets

- 2.59 In determining the initial value of core fibre assets under s 177 of the Act, the cost allocation IM rules ensure that only the value of those assets that are employed in the provision of regulated FFLAS are included in the determination.⁶⁶ This includes:
- assets that are directly attributable to the provision of regulated FFLAS (in that they are wholly and solely employed in the provision of regulated FFLAS); and
 - an allocation of the value of any assets that are shared between regulated FFLAS and other services.
- 2.60 For asset values that are not directly attributable to regulated FFLAS, the accounting-based allocation approach (**ABAA**) must be used to allocate asset values, using asset allocators. An asset allocator is defined as “a ratio used to allocate asset values whose quantum is (a) based on a causal relationship; or (b) equal to a proxy asset allocator.”⁶⁷

⁶⁶ The cost allocation IM rules relating to the determination of the initial RAB value of core fibre assets are set out in clause 2.1.1 and clause 2.1.2 of the IMs. The initial RAB values of core fibre assets as at the implementation date must be determined as per clause 2.2.3(2) of the IMs, as a result of applying clause 2.1.1 (in respect of regulated fibre service providers subject to both ID and PQ regulation) or clause 2.1.2 (in respect of regulated fibre service providers subject to ID regulation only) to the unallocated initial RAB value of the core fibre assets.

⁶⁷ Clause 1.1.4(2) of the IMs.

- 2.61 Asset allocators must have in the first instance a causal relationship with the asset value, or where a causal allocator is not available or proxy. They also must be consistently applied within and between disclosure years. The definition of “causal relationship” requires that the circumstance in which a factor influences the employment of the asset is “objectively justifiable and demonstrably reasonable”.⁶⁸ Similarly, the definition of “proxy asset allocator” requires that the ratios are “objectively justifiable and demonstrably reasonable”.⁶⁹
- 2.62 To support our analysis of whether the “objectively justifiable and demonstrably reasonable” requirement has been met for a given proposed cost or asset allocator, we have considered factors such as:
- 2.62.1 whether the proposed allocation promotes the purpose of Part 6 and, where relevant, workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services;
 - 2.62.2 whether the allocator type meets the definition of a proxy cost allocator or proxy asset allocator;⁷⁰
 - 2.62.3 whether the allocation is being undertaken at a reasonable level of aggregation – whether costs or assets that have been grouped together have sufficiently similar characteristics to be treated in common;
 - 2.62.4 whether the underlying data used is robust; and
 - 2.62.5 whether there is a readily available alternative allocator which better meets these criteria above, such that it would be unreasonable to prefer the proposed allocator.

Cost allocation methodology for determining financial losses

- 2.63 The methodology for determining the FLA involves a similar approach to that for determining the initial RAB value of the core fibre assets.
- 2.64 In determining the value of any financial losses under s 177(2) of the Act, the cost allocation IM rules ensure that only those costs associated with the provision of UFB FFLAS are included in the determination.⁷¹ This includes:

⁶⁸ Ibid.

⁶⁹ Ibid.

⁷⁰ Clause 1.1.4(2) of the IMs.

⁷¹ [Fibre Input Methodologies Determination 2020](#) [2020] NZCC 21, as amended by the [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24, consolidated for convenience July 2021 [Fibre Input Methodologies Determination 2020](#),

- 2.64.1 costs that are directly attributable to the provision of UFB FFLAS; and
- 2.64.2 an allocation of any costs that are shared between UFB FFLAS and other services (ie, not directly attributable to UFB FFLAS).
- 2.65 The cost allocation IM rules are applied to UFB assets and to opex associated with UFB assets, when determining the initial RAB value of the FLA.⁷²
- 2.66 The cost allocation IM requires that any operating costs or asset values that are directly attributable to the provision of UFB FFLAS must be allocated to UFB FFLAS.⁷³ The IM defines “directly attributable” as where an operating cost is wholly and solely incurred, or an asset is wholly and solely employed, in the provision of a particular service.⁷⁴
- 2.67 For operating costs or asset values that are not directly attributable to the provision of UFB FFLAS, the cost allocation IM requires these to be allocated to UFB FFLAS by applying ABAA.⁷⁵
- 2.68 Under ABAA, each service would bear the directly attributable cost of supplying that service, plus a contribution to the costs of the shared asset or activity. The contribution would be based on identifiable causal-based allocators or proxy allocators (where causal allocators are not available).⁷⁶
- 2.69 A “cost allocator” is a ratio used to allocate operating costs whose quantum is “(a) based on a causal relationship; or (b) equal to a proxy cost allocator”. An “asset allocator” is a ratio used to allocate asset values whose quantum is “(a) based on a causal relationship; or (b) equal to a proxy asset allocator.”⁷⁷

⁷² The cost allocation IM relating to the determination of the initial RAB value of the FLA is set out in Section 3 of Schedule B of the IMs.

⁷³ Clause B1.1.6(1)(a) and clause B1.1.6(2)(b) of Schedule B of the IMs.

⁷⁴ Clause 1.1.4(2) of the IMs.

⁷⁵ Clause B1.1.6(1)(b) and clause B1.1.6(2)(c) of Schedule B of the IMs.

⁷⁶ Commerce Commission “[Fibre input methodologies: Main final decisions – reasons paper](#)” (13 October 2020), paragraph 4.42.1.

⁷⁷ Clause 1.1.4(2) of the IMs.

- 2.70 Asset allocators must have in the first instance a causal relationship with the asset value, or where a causal allocator is not available or proxy. They also must be consistently applied within and between disclosure years. The definition of “causal relationship” requires that the circumstance in which the cost driver leads to the operating cost being incurred (or the factor influencing employment of the asset) is “objectively justifiable and demonstrably reasonable”. Similarly, the definitions of “proxy asset allocator” and “proxy cost allocator” require that the ratios are “objectively justifiable and demonstrably reasonable”.⁷⁸
- 2.71 In making this assessment of whether the ratios are “objectively justifiable and demonstrably reasonable”, we have applied the same assessment factors set out in paragraph 2.62 above.

Allocator types for use in determining the FLA

- 2.72 When determining the value of the FLA, the IMs define the “default” allocator types that can be used for the allocation of operating costs that are not directly attributable to UFB FFLAS.⁷⁹
- 2.73 The list of default allocator types includes those that reflect demand drivers (such as end-users, traffic, and revenues); asset size (such as the number of ports, central office space, and used length of linear assets); and other drivers related to operating expenses (such as power usage and number of events). The full list is as follows:
- 2.73.1 number of customers, end-users, or premises (intact, connected or passed);
 - 2.73.2 number of ports;
 - 2.73.3 revenue;
 - 2.73.4 central office space;
 - 2.73.5 peak traffic;
 - 2.73.6 average traffic;
 - 2.73.7 used length of linear assets;

⁷⁸ Clause B1.1.1(2) of Schedule B of the IMs.

⁷⁹ The list of default allocator types is set out in clauses B1.1.6(1)(c)(i)-(ix) (in respect of the allocation of operating costs) and B1.1.6(2)(d)(i)-(ix) (in respect of the allocation of asset values) of Schedule B in the IMs.

2.73.8 power usage;

2.73.9 number of events; and

2.73.10 any other allocator type as approved by the Commission.

2.74 The allocator values must be reviewed and updated for each financial loss year of the financial loss period.⁸⁰ In addition, the total asset values or operating costs allocated to UFB FFLAS should not exceed the asset values or operating costs that would continue to be incurred if only UFB FFLAS were to be provided.⁸¹

Commission may approve alternative allocator types

2.75 Clause B1.1.6(1)(c)(x) and clause B1.1.6(2)(d)(x) of Schedule B of the IMs provide that the any other allocator type (ie, other than the list of default allocator types in paragraph 2.73 above) can be used as determined by the Commission.

2.76 An alternative allocator type may be proposed by Chorus. Equally, the Commission can substitute an alternative allocator type of its own where it considers it appropriate to do so, provided:

2.76.1 there is a circumstance or ratio that is, among other things, “objectively justifiable and demonstrably reasonable”;⁸² and

2.76.2 the decision to do so is consistent with s 166(2).

Treatment of taxation

2.77 The tax IM determines the way in which the regulated provider discloses information about their tax costs, which in turn affects their disclosed profitability. For regulated providers subject to PQ regulation, the treatment of taxation will affect the size of the regulatory allowance for tax costs included in the PQ path, and thus the overall return and/or timing of the revenues it is likely to realise.

2.78 The tax IM includes rules that cover the following areas:

2.78.1 the determination of the regulatory tax allowance;

2.78.2 the valuation and roll-forward of regulatory tax assets; and

2.78.3 the recognition and roll-forward of tax losses.

⁸⁰ Clause B1.1.6(3) of Schedule B of the IMs.

⁸¹ Clause B1.1.6(4) of Schedule B of the IMs.

⁸² Refer to the definitions in the IM of “causal relationship” and “proxy asset allocator” and “proxy cost allocator”, which set out the requirement of “objectively justifiable and demonstrably reasonable”.

Overview of important elements of our draft decisions on matters relating to Chorus' initial PQ RAB

2.79 The draft decisions in this paper inform five important elements that will impact on PQ regulation and ID regulation for Chorus in different ways. These are summarised in Table 2.1 below.

Table 2.1 Important elements of our draft decisions on matters relating to Chorus' initial PQ RAB

Element	Description	Relevant IM(s)/legislation	Timeframe
1. PQP1 RAB inputs	Inputs used to determine Chorus' "forecast building blocks revenue" for each regulatory year of PQP1.	May 2021 IM amendments – cl 3.1.1(1)-(2); August 2021 IM amendments – cl 3.3.1(7), (8)	December 2021. ⁸³
	Expenditure allocators (ie, dealt with under our capex/opex decisions) are further inputs into "forecast building blocks revenue".	May 2021 IM amendments – cl 3.1.1(1)-(2)	
2. Chorus' unallocated initial RAB values for core fibre assets	Our determination of the "unallocated initial RAB values" of Chorus' core fibre assets employed in the provision of regulated FFLAS at the implementation date (pre-cost allocation)	Clauses 2.2.3(1);	Mid-2022 ⁸⁴
3. Chorus' (allocated) initial PQ RAB values for core fibre assets	Our determination of the "initial RAB value" of Chorus' core fibre assets employed in the provision of PQ FFLAS at the implementation date. These values have undergone cost allocation.	Clauses 2.2.3(2);	Mid-2022
4. Initial RAB value of Chorus' financial loss asset (FLA)	Our determination of the financial losses for Chorus in respect of the financial loss period under s 177(2) and clause B1.1.2(2) of Schedule B of the IMs. This is referred to under clause 2.2.4(1) of the IMs as the "initial RAB value" of the FLA.	Section 177(2); clause B1.1.2(2) of Schedule B; clause 2.2.4(1).	Mid-2022
5. Total initial PQ RAB value for fibre assets	Sum of all the "initial RAB values" of Chorus' core fibre assets employed in the provision of PQ FFLAS at the implementation date and the "initial RAB value" of the financial loss asset (ie, the sum of items #3 and #4 above).		Mid-2022

2.80 We discuss each element in greater detail below at 2.81-2.102, following a discussion of the legal framework.

⁸³ Commerce Commission "[Determining Chorus' first fibre price-quality path – Process update](#)" (29 June 2021).

⁸⁴ Following the publication of Chorus' audited accounts for the year ended 30 June 2022.

PQP1 inputs

PQP1 RAB inputs

2.81 Our draft decisions will inform certain inputs used to determine Chorus' "forecast building blocks revenue" for each regulatory year of PQP1. We refer to these inputs in this paper as PQP1 RAB inputs. We will make our final decisions on these inputs alongside our other PQP1 final decisions in December 2021.

Forecast allowable revenue

2.82 Section 195(1)(a) of the Act requires us to specify in the PQ paths for each regulatory period that starts before the reset date the maximum revenues that may be recovered by a regulated provider.

2.83 As proposed in clause 3.1.1(1) of our May 2021 proposed IM amendments the maximum revenues that a regulated provider may recover for a regulatory year in a given regulatory period will be specified in a PQ determination as a "revenue cap".

2.84 Under the revenue cap, the forecast total FFLAS revenue derived by a regulated provider in a given regulatory year must not exceed forecast allowable revenue specified in the PQ determination for that regulatory year.

2.85 As proposed in our IM amendments, under clause 3.1.1(2) "forecast allowable revenue" means the sum of the following for a regulatory year:

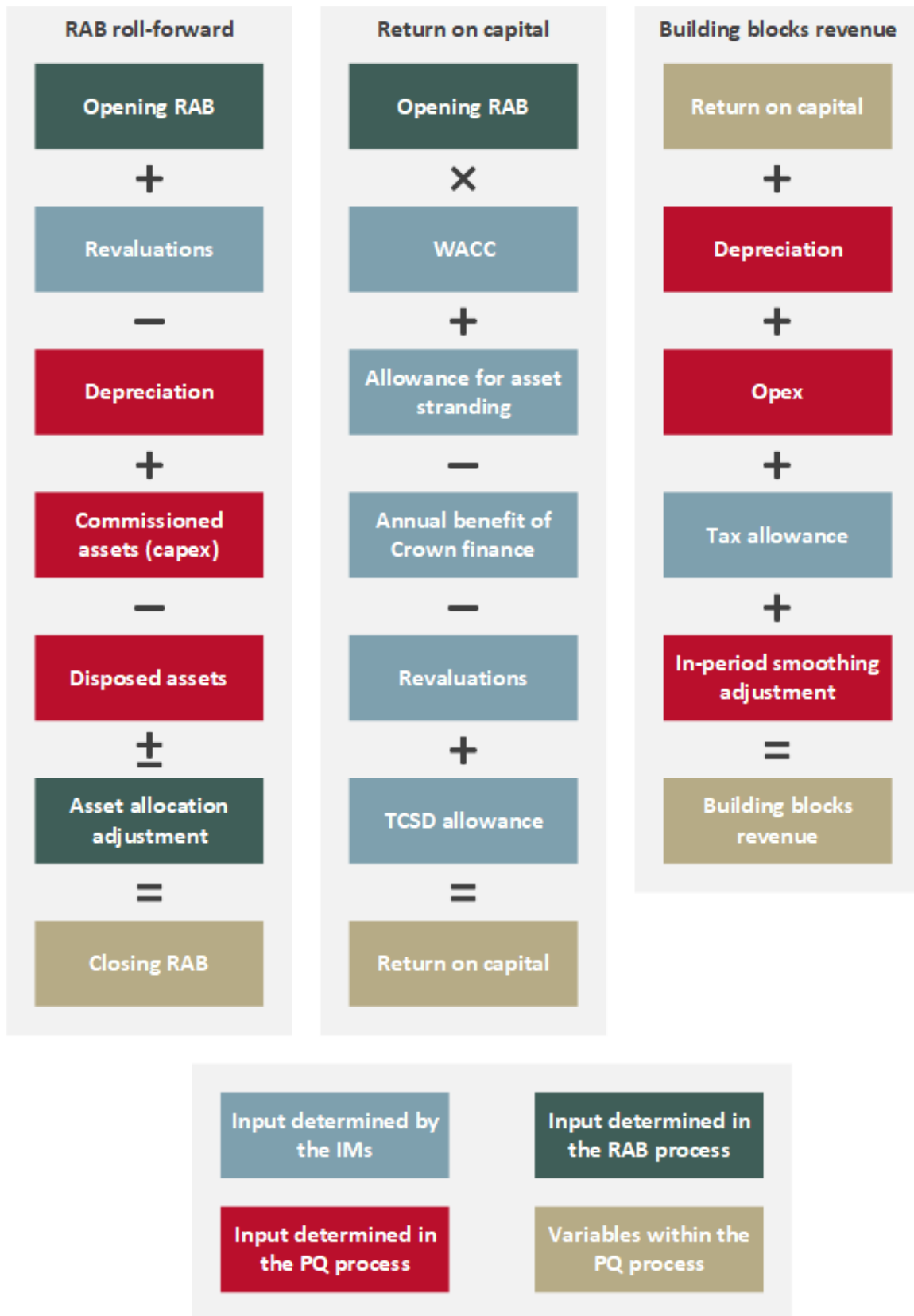
2.85.1 forecast building blocks revenue;

2.85.2 forecast pass-through costs;

2.85.3 the wash-up amount.

2.86 In our draft PQP1 decision, we have specified "forecast building blocks revenue" using a model that is based on the illustrative building blocks formula shown in Figure 2.2 below.

Figure 2.2 Illustrative building blocks formula for PQQ1⁸⁵



⁸⁵ Commerce Commission “Chorus’ Price-quality path from 1 January 2022 – Draft decision” (27 May 2021 – Updated 16 May 2021).

- 2.87 In our draft PQP1 decisions, we did not provide our view on the PQP1 RAB inputs needed to determine “forecast building blocks revenue” for regulatory year 2022. Instead, we adopted (by way of illustration only) the outputs of Chorus’ BBM IAV model developed by Analysys Mason, as submitted Chorus’ initial PQ RAB.
- 2.88 Clause 3.3.1(7) of the August 2021 proposed IM amendments specifies the methodology for determining the PQP1 RAB inputs. In summary, this includes:
- 2.88.1 an adoption of the “opening RAB value” of Chorus’ fibre assets for the PQ RAB as of the implementation date under clause 3.3.1(8) of the IMs, including:
- 2.88.1 an adoption of any relevant estimates of historic values in accordance with clause 3.3.1(8)(a) and (d);
- 2.88.2 where historic values are not available, an application of forecast values in accordance with clause 3.3.1(8)(b) and (e); and
- 2.88.3 an allocation under clause 3.2.1 of those estimates of historic values and forecast values to “PQ FFLAS” as of the implementation date in accordance with clause 3.3.1(8)(f); and
- 2.88.2 applying forecasts of those allocated values for each regulatory year in PQP1 in accordance with clause 3.3.1(7)((b)(i).
- 2.89 The term we use to refer to the sum of the adopted estimates of historic values and application of forecast values of all fibre assets for the PQ RAB as at the implementation date under paragraphs 2.88.1-2.88.2 above is Chorus’ unallocated transitional initial PQ RAB value.
- 2.90 We refer to the sum of the adopted “opening RAB values” of all fibre assets for the PQ RAB as of the implementation date under paragraph 2.88.3 in this paper as Chorus’ transitional initial PQ RAB value.
- 2.91 We refer to the forecasting of allocated values for each regulatory year in PQP1 under 2.88.2 above in this paper as PQP1 RAB forecasting.
- 2.92 We have explained in each chapter of this paper which of decisions relating to our determinations of Chorus’ unallocated transitional initial PQ RAB value; Chorus’ transitional initial PQ RAB value; and PQP1 RAB forecasting require us to exercise judgement in accordance with ss 162 and s 166 of the Act, and which do not.

Chorus' unallocated initial PQ RAB values

2.93 Our draft decisions will inform our determination of the “unallocated initial RAB value” of Chorus’ core fibre assets employed in the provision of PQ FFLAS at the implementation date. This will be determined in mid-2022 following the publication of Chorus' audited accounts for the year ended 30 June 2022. We refer to these determinations in this paper as Chorus’ unallocated initial PQ RAB value. Chorus’ unallocated initial PQ RAB values is:

2.93.1 determined under clause 2.2.3(1) of the IMs;

2.93.2 “rolled forward” for future disclosure years under clause 2.2.5(1)-(2) of the IMs; and

2.93.3 adopted and applied as forecasts to inform certain inputs used to determine Chorus’ “forecast building blocks revenue” for future price-quality paths (beginning with PQP2) under clause 3.3.1(2) of the IMs.

2.94 As explained in our draft ID reasons paper, our draft decision would require Chorus to publicly disclose information about the values referred to in paragraphs 2.93.2 - 2.93.3.^{86,87}

2.95 We will determine Chorus’ unallocated initial RAB values by applying clause 2.2.3(1) of the IMs. We do not consider that a separate exercise of judgement in accordance with ss 162 and 166 is required when applying the IMs.

Chorus' (allocated) initial PQ RAB values

2.96 Our draft decisions will inform our determination of the “initial RAB value” of Chorus’ unallocated initial RAB values employed in the provision of regulated FFLAS at the implementation date. These will be determined in . We refer to these determinations in this paper as Chorus’ initial PQ RAB values. Chorus’ initial PQ RAB values are:

2.96.1 determined under clause 2.2.3(2) of the IMs, which includes an application of the cost allocation IM under clause 2.1.1;

2.96.2 “rolled forward” for future disclosure years under clause 2.2.5(3)-(4) of the IMs, which includes (for actual values) an application of the cost allocation IM under clause 2.1.1; and

⁸⁶ Commerce Commission “[Fibre information disclosures – draft decisions – reasons paper](#)” (27 May 2021), paragraphs 4.106 - 4.124.

⁸⁷ Schedules 4 - 4E of the IMs.

2.96.3 adopted and applied as forecasts to inform certain inputs used to determine Chorus' "forecast building blocks revenue" for future price-quality paths (starting with PQP2) under clause 3.3.1(2) of the IMs.

2.97 As required by clause 2.3.1 of our draft ID determination, our draft decision required Chorus to publicly disclose information about the values specified in paragraphs 2.96.1-2.96.2.

Table 2.2 Cost allocation decisions

IM requirement	IM clause	Judgement involved in draft decision
Operating costs during the financial loss period that are directly attributable to the provision of UFB FFLAS and UFB asset values that are directly attributable to the provision of UFB FFLAS . Directly attributable is defined as being where an operating cost is wholly and solely incurred, or asset is wholly and solely employed, in the provision of UFB FFLAS.	Clause B1.1.6(1)(a) and Clause B1.1.6(2)(b) of Schedule B.	Judgement is involved in determining the extent to which UFB assets are directly attributable to UFB FFLAS. This judgement relates to the draft decision that post-2012 UFB asset classes other than ducts and manholes are likely to be directly attributable to UFB FFLAS; and that for post-2012 UFB ducts and manholes, 95% of assets are likely to be directly attributable to UFB FFLAS.
For operating costs that are not directly attributable to the provision of UFB FFLAS, ABAA must be applied using cost allocators.	Clause B1.1.6(1)(b) of Schedule B.	No judgement is involved. ABAA must be used to allocate operating costs that are not directly attributable to UFB FFLAS.
In applying ABAA to allocate operating costs not directly attributable to the provision of UFB FFLAS, allocator types must be used from a default list in the IMs.	Clause B1.1.6(1)(c) of Schedule B.	Judgement is involved in determining which cost allocator to apply.
For asset values that are not directly attributable to the provision of UFB FFLAS, ABAA must be applied using asset allocators.	Clause B1.1.6(2)(c) of Schedule B.	No judgement is involved. ABAA must be used to allocate asset values that are not directly attributable to UFB FFLAS.
In applying ABAA to allocate asset values not directly attributable to the provision of UFB FFLAS, allocator types must be used from a default list in the IMs.	Clause B1.1.6(2)(d) of Schedule B.	Judgement is involved in determining which asset allocator to apply.
Cost and asset allocators must meet the definitions in the IMs. In both cases, cost and asset allocators are defined as ratios used to allocate costs or asset values whose quantum is based on a causal relationship or a proxy allocator.	The definitions are set out in Clause 1.1.4(2).	Judgement is involved in determining whether a causal relationship or a proxy allocator is available.

IM requirement	IM clause	Judgement involved in draft decision
Causal or proxy cost or asset allocators must be consistent over time and be “objectively justifiable and demonstrably reasonable”.	The definitions of causal relationship, proxy asset allocator, and proxy cost allocators are set out in Clause 1.1.4(2) and Clause B1.1.1(2) of Schedule B.	Judgement is involved in determining whether a cost or asset allocator is “objectively justifiable and demonstrably reasonable”.
Cost and asset allocator values must be reviewed and updated in respect of each financial loss year	Clause B1.1.6(3) of Schedule B.	No judgement is involved.
Determination of another allocator type. The Commission may determine a cost or asset allocator that is not specified in the default list in the IMs.	Clause B1.1.6(1)(c)(x) and Clause B1.1.6(2)(d)(x) of Schedule B.	Judgement is involved in determining whether an alternative cost or asset allocator is “objectively justifiable and demonstrably reasonable”. Chorus has proposed a number of alternative cost allocators (including totex, NBV, future benefits, and recipient business function).
When allocating an asset value or operating cost, the total asset values or operating costs allocated to UFB FFLAS must not exceed the total asset values or total operating costs that the regulated provider could not have avoided if it ceased supplying services that are not UFB FFLAS. This is subject to the condition that allocations would have a material effect on total asset values or operating costs allocated to UFB FFLAS.	Clause B1.1.6(4) and Clause B1.1.6(5) of Schedule B.	The Commission must be satisfied that this is met. Judgement is involved in determining whether the total asset values or total operating costs that would continue to be incurred by a standalone supplier of UFB FFLAS constrain the allocated costs. This cap is likely to apply where costs or asset values that are unrelated to the supply of UFB FFLAS are allocated to UFB FFLAS.

Financial loss asset (FLA)

- 2.98 Our draft decisions will inform our determination in mid 2022 of the financial losses for Chorus in respect of the financial loss period (the period from 1 December 2011 until 31 December 2021) under s 177(2) and clause B1.1.2(2) of Schedule B of the IMs. The value of Chorus’ financial losses is referred to under the IMs as the “initial RAB value” of Chorus’ financial loss asset under clause 2.2.4(1).
- 2.99 In determining the financial losses for Chorus under s 177(2) and clause B1.1.2(2) of Schedule B of the IMs, certain decisions require us to exercise judgement (in accordance with ss 162 and 166). Others involve a simple application of the IMs and do not require us to exercise judgement.

Total initial PQ RAB value

2.100 Our decisions under paragraphs 2.96 and 2.98 above will reveal the sum of the “initial RAB values” of Chorus’ fibre assets employed in the provision of PQ FFLAS at the implementation date. This value is equal to the sum of:

2.100.1 the “initial RAB values” of Chorus’ core fibre assets; and

2.100.2 the “initial RAB value” of its FLA at the implementation date.

2.101 The sum of the “initial RAB values” of Chorus’ fibre assets employed in the provision of PQ FFLAS at the implementation date is referred to in this paper as Chorus’ total initial PQ RAB value.

2.102 The collection of Chorus’ fibre assets that are employed by Chorus in the provision of PQ FFLAS at the implementation date is referred to in this paper as Chorus’ initial PQ RAB.

Economic framework

2.103 We have developed an economic framework to help guide the decisions we have been making in developing and implementing the new regulatory regime for Part 6. The framework helps us make individual decisions that are consistent with each other, and with the requirement to best give effect to the purposes specified in s 166(2) of the Act.⁸⁸

2.104 Determining the initial RAB value for core fibre assets and the FLA is an important decision in implementing the new Part 6 regime. This is because it will be one of the main drivers of both the prices faced by end-users of FFLAS and the value of Chorus’ regulated fibre business. There may also be wider economic ramifications in terms of signals to investors. This is particularly so in the current context, where the change in regime affects a privately-owned company, and our decisions may affect investor expectations about future regulatory decisions. This matters for future investment.

⁸⁸ Commerce Commission “[Fibre input methodologies: Main final decisions – reasons paper](#)” (13 October 2020) at 2.272-2.309.

- 2.105 The approach that legislators (in drafting Part 6 of the Act) and we (in implementing Part 6) have taken reflects the importance of providing certainty to investors about how we approach and make decisions. In this regard, the Act provides specific direction in areas such as how assets should be valued, the recovery of past losses, and the requirement to develop IMs. In implementing the regime, we developed IMs on matters such as asset valuation and cost allocation. We did so in a way that we considered best gave (or likely best gave) effect to the purpose of Part 6 as required by s 166(2)(a), and the promotion of workable competition where relevant, as required by s 166(2)(b). The purpose of the IMs is to promote certainty. One economic principle that underpinned our development of the IMs was that of financial capital maintenance (**FCM**), which we discuss below.
- 2.106 Our task now is to apply the rules, requirements and processes—the IMs as required under s 175.
- 2.107 The economic framework includes three components:
- 2.107.1 economic principles, including real FCM, allocation of risk, and asymmetric consequences of under/over-investment;
 - 2.107.2 an incentive framework to help us evaluate how the regime may interact with the incentives faced by regulated providers and assist us in identifying risks to end-users; and
 - 2.107.3 competition screening considerations to help us assess whether our decisions might be relevant to competitive outcomes in telecommunications markets.
- 2.108 At its core, our incentive regulation introduces incentives for regulated providers to behave in ways consistent with the purposes described in s 162 of the Act.
- 2.109 We have previously set out our views on the application of various components of the economic framework to our decisions relating to the pre-implementation period.

- 2.110 For example, in our FLA final reasons paper,⁸⁹ we noted that FCM is a forward-looking concept in that it provides, at the beginning of each regulatory period, an ex-ante opportunity for efficient regulated providers to earn a normal return on their investments.⁹⁰ Allowing a regulated provider the ex-ante opportunity to earn a normal return over the lifetime of an investment is an outcome comparable to investors' expectations in workably competitive markets. The forward-looking application of FCM is thus conducive to promoting investment, consistently with the Part 6 purpose at s 162(a). Likewise, the general concept of FCM is relevant to the pre-implementation period (ie, the period starting on 1 December 2011 and ending the day prior to the implementation date of the regime, 1 January 2022) as the concept goes to what a reasonable investor would expect to recover over the lifetime of investments.
- 2.111 In practice, however, the application of FCM ex-ante is unlikely to result in a strict NPV=0 outcome and importantly, FCM does not guarantee a normal return ex-post.⁹¹ This applies equally in the context of ID regulation, where ex-post returns are evaluated against the estimated regulatory WACC which is set ex-ante.
- 2.112 Consequently, we noted that while the FCM principle can assist us in promoting the s 162 purpose and outcomes going forward, there are limitations to its use as a tool for the calculation of the FLA in the pre-implementation period, for the following reasons.
- 2.112.1 The pre-implementation period is not a regulatory period, and it is unlikely that in 2011 investors' expectations were framed in terms of what a BBM with a 10-year horizon might have delivered. Part 6 regulation did not apply at the time and was not discussed in detail until several years after the commencement of the UFB initiative. Investments were made based on commercial terms achieved through the competitive UFB tendering process.

⁸⁹ Commerce Commission "[Fibre input methodologies – Financial loss asset – reasons paper](#)" (3 November 2020), from paragraph 2.29.

⁹⁰ A normal rate of return is the risk-adjusted cost of capital that a typically efficient firm would expect ex ante to earn in a workably competitive market. See Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 2.26.

⁹¹ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraphs 2.291-2.294.

- 2.112.2 We will determine the value of the FLA in accordance with the requirements in s 177 and in a way that we consider best gives effect to the purposes in s 162, including by considering the potential effect of our decisions on incentives of regulated providers to invest going forward. However, a strict application of FCM may not be possible in every FLA IM decision given the statutory requirements, the limited information about investor expectations for the pre-implementation period, and the ex-post nature of the calculation of the FLA.⁹² The Act acknowledges at s 177(4) that “It is not the intention [...] that regulated fibre service providers should be protected from all risk of not fully recovering those financial losses through prices over time”.
- 2.113 In our main IMs final reasons paper, we also noted that the principle of asymmetric consequences of under- or over-investment is relevant mainly to our final decision on whether an adjustment might be required when calculating the regulatory WACC to protect end-users from the risk of under-investment.⁹³ We also said that this principle may be relevant to future decisions on the quality standards we set under PQ regulation or the performance measures to be reported under ID.
- 2.114 In terms of incentives, the backward-looking and one-off nature of the calculation of the initial RAB value of core fibre assets and the FLA indicate that there will be different implications for incentives facing regulated providers from those when we are assessing forward-looking expenditure proposals. For example, we typically want to incentivise regulated providers to minimise costs over time, and to share cost savings with end-users. As we noted in our main IMs reasons paper, the design of the regulatory regime and our periodic resetting of the price paths ensure that regulated providers have incentives to improve efficiency over time and to allow end-users to share in the benefits of any such efficiency gains.⁹⁴

⁹² For a discussion of the status of the key economic principles see Commerce Commission “[Fibre input methodologies: Main final decisions – reasons paper](#)” (13 October 2020), paragraphs 2.282-2.288.

⁹³ Commerce Commission “[Fibre input methodologies: Main final decisions – reasons paper](#)” (13 October 2020), paragraph 2.309.

⁹⁴ Ibid, paragraphs 2.320-2.321.

- 2.115 However, our decisions on the initial RAB value of core fibre assets and the FLA relate to the historic valuation of assets and losses. The incentives that did operate on regulated providers during the pre-implementation period are more likely to have been influenced by other factors, such as the competitive tendering process of the UFB contracts. As we noted in our FLA final reasons paper, the competitive tendering of the UFB contracts was one of the reasons given by the Ministry for Business, Innovation, and Employment (**MBIE**) for not requiring a backward-looking efficiency test to be applied when determining the initial RAB value.⁹⁵
- 2.116 This does not mean that the determination of the initial RAB value does not have potential implications for incentives going forward. However, we consider that such risks are mitigated by the IMs, the purpose of which is to promote certainty under s 174. We note that the IMs were finalised in October 2020 (in the case of the main IMs) and November 2020 (in the case of the FLA), and that we are now implementing the IMs through our fibre PQ, ID, and initial RAB draft decisions.
- 2.117 Another difference between our assessment of expenditure proposals and our determination of the initial RAB value as of the implementation date is that the former are periodically repeated, whereas the latter is a one-off exercise. The repeated nature of regulation and the scrutiny of expenditure forecasts allows us to observe expenditure outturns over time, lessening the incentive, and therefore risk, of regulated providers gaming the expenditure forecasts.⁹⁶ However, determining the initial RAB value as of the implementation date is a one-off exercise, and so any information asymmetries involved in that determination are likely to have more entrenched effects.
- 2.118 Finally, in terms of the competition screening considerations, we noted in our FLA final reasons paper that we had not identified any reasons why the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services has implications for our final decisions for the FLA IM that would require us to take a different approach from our chosen decisions which promote s 162(a)-(d).⁹⁷
- 2.119 However, promoting workable competition does have a bearing on cost allocation decisions between regulated and unregulated services, as discussed in this draft decision (for example at paragraphs 3.38, 4.8, and 4.9).

⁹⁵ Commerce Commission "[Fibre input methodologies – Financial loss asset – reasons paper](#)" (3 November 2020), paragraph 2.119.

⁹⁶ Ibid, paragraph 2.332.1.

⁹⁷ Ibid, paragraph 2.92.

Chapter 3 Overall approach to the initial RAB and the FLA

Purpose of this chapter

- 3.1 This chapter summarises our draft decisions and addresses overarching issues that impact the whole of the initial PQ RAB setting process.

Structure of this chapter

- 3.2 The structure of this chapter is as follows:
- 3.2.1 summary of our draft decisions;
 - 3.2.2 Chorus' \$5.5 billion estimate of initial RAB as our starting point;
 - 3.2.3 Chorus' alternative \$6 billion RAB;
 - 3.2.4 applying the TERA cross-check; and
 - 3.2.5 how the Commission will go about identifying assets employed in the provision of regulated FFLAS.

Summary of draft decisions

- 3.3 As stated in paragraph 1.10 above and further discussed below, our draft decision is to use the model that Chorus submitted to us on 26 March 2021 as the starting point for our draft decisions on the determination of Chorus' initial PQ RAB.
- 3.4 Subject to any exceptions discussed in Chapter 4 to Chapter 5, our draft decision is that we accept the cost and asset allocators Chorus has proposed in its model of 26 March 2021. Similarly, subject to any exceptions discussed in Chapter 6, our draft decision is that we accept the Chorus' model is IM compliant.
- 3.5 Our draft decision is that Chorus' alternative cost allocation approach does not comply with the IMs or s 177 of the Act, nor does it best give effect to the purpose of Part 6. In addition, the alternative allocators that have been proposed by Chorus in its alternative model submitted on 28 May 2021 and which result in an initial RAB value of approximately \$6 billion are not objectively justifiable or demonstrably reasonable.
- 3.6 The combined results of applying these decisions (including the ones discussed in later chapters) are set out in Table 3.1 below, compared with the values proposed by Chorus.

Table 3.1 Proposed values for our draft decision (\$m)⁹⁸

Value	Unallocated values			Allocated values		
	<i>Draft decision</i>	<i>Chorus estimate</i>	<i>Difference</i>	<i>Draft decision</i>	<i>Chorus estimate</i>	<i>Difference</i>
Initial RAB (total)	6,551	6,566	-15	5,427	5,507	-80
Core Fibre Assets	5,104	5,104	0	3,980	4,045	-65
FLA	n/a	n/a	n/a	1,446	1,462	-15
Tax losses	n/a	n/a	n/a	-282	-225	-57
Total PQP1 opex (PV)⁹⁹	n/a	n/a	n/a	408	448	-40
Total PQP1 capex (PV)²	n/a	n/a	n/a	897	897	0

3.7 Our draft decision is that we do not consider applying the TERA cross-check proposed by Spark is practical. We see a number of practical difficulties with this approach and do not consider the cost of applying it would match the benefits it would deliver.

Chorus' estimate of the initial PQ RAB

3.8 On 26 March 2021, Chorus submitted its estimate of the initial PQ RAB of \$5.5 billion to us, stating that “[t]his model is compliant with the Commission’s Input Methodologies requirements...”.¹⁰⁰

⁹⁸ If all other aspects of our draft PQ decision remained unchanged, our indicative estimate of the combined impact of these decisions would lead to a 2%-2.5% reduction in allowable revenue over the PQP1 period. This figure also includes the impact of updated WACC values applied in the pre-implementation period.

⁹⁹ Note that we have not updated our draft decisions on the unallocated forecasts of opex and capex for the PQP1 period as outlined in Commerce Commission Commerce Commission “[Chorus’ Price-quality path from 1 January 2022 – Draft decision](#)” (27 May 2021 – Updated 16 June 2021). We are currently considering submissions received in response to this draft decision.

¹⁰⁰ See [Chorus stock exchange announcement \(26 March 2021\)](#).

- 3.9 This took the form of two Excel models:
- 3.9.1 Initial Asset Value model that calculates the initial asset valuation at the implementation date (**BBM IAV model**);^{101,102} and
 - 3.9.2 Opex model that allocates operating costs as described in clause 2.1.1 of the IM Amendment Determination (**Opex model**).^{103,104}
- 3.10 Together, the models undertake the various calculations required to produce Chorus' initial PQ RAB estimate, which is comprised of:
- 3.10.1 Chorus' estimate of the opening initial PQ RAB values of core fibre assets employed in providing PQ FFLAS at 1 January 2022; and
 - 3.10.2 Chorus' estimate of the FLA, reflecting the value of accumulated unrecovered returns in providing UFB FFLAS over the financial loss period (ie, the period from 1 December 2011 to 31 December 2021).¹⁰⁵
- 3.11 We have included an overview of Chorus' initial PQ RAB model in Attachment D of this draft decision.
- 3.12 We released a public version of Chorus' BBM IAV model, along with its model documentation, at the time of our consultation on Chorus' initial PQ RAB on 30 April 2021. We subsequently engaged further with Chorus over the level of redactions and revised public versions of Chorus' BBM IAV model and model documentation have now been published along with this draft decision.¹⁰⁶

¹⁰¹ Chorus' BBM IAV model is described in Analysys Mason report for Chorus "[Building Block model IAV model documentation IAV model v314 120c](#)" (24 March 2021).

¹⁰² Chorus uses the term Initial Asset Value (IAV) in its model and model documentation. This term is defined by Analysys Mason as "[t]he starting value of the RAB at implementation date" (Analysys Mason report for Chorus "[Building Block model IAV model documentation IAV model v314 120c](#)" (24 March 2021), page A-12), and is equivalent to the term initial RAB. We use the terms IAV and initial RAB interchangeably in this draft decision and in the IMs. Similarly, we will also use the terms Chorus' initial RAB model and BBM IAV model interchangeably.

¹⁰³ Chorus' opex model is described in Analysys Mason report for Chorus "[Documentation of opex allocation for the BBM Opex workstream \(including responses to notice to supply information\) – Model version 3.31](#)" (26 March 2021).

¹⁰⁴ Clause 2.1.1 of the IMs.

¹⁰⁵ "UFB FFLAS" is defined in the Schedule B of the IMs as "any FFLAS provided by a regulated provider under the UFB initiative during the financial loss period".

¹⁰⁶ See <https://comcom.govt.nz/regulated-industries/telecommunications/projects/fibre-price-quality-path-and-information-disclosure>

Evaluating Chorus' initial PQ RAB proposal

- 3.13 We will determine the value of the initial PQ RAB, including the FLA, as at 1 January 2022.
- 3.14 In order to have a meaningful consultation on PQP1, using the best available input for the initial PQ RAB at the time, our draft decisions on these values have been informed by Chorus' estimate of its initial PQ RAB.¹⁰⁷
- 3.15 As set out in our proposed process and approach paper, our approach relies on Chorus modelling that has been complemented by a comprehensive package of assurance.¹⁰⁸
- 3.16 We have had regular engagement with Chorus about its estimate of the initial PQ RAB, to understand the process it has undertaken to develop the calculation. This engagement has included workshops with Analysys Mason, the consultancy that assisted Chorus to develop the models that calculate Chorus' estimate of its initial PQ RAB.
- 3.17 We have gathered further information from Chorus through a number of voluntary requests for information (**RFIs**) as well as S221 notices.
- 3.18 We have run scenarios through our own high-level discounted cashflow (**DCF**) model and compared our results to those from Chorus, as well as sought further assistance from independent experts.
- 3.19 We have checked whether Chorus' methodology and estimate of its initial PQ RAB aligns with the requirements set out in the IMs.
- 3.20 We analysed materiality and sensitivity of the model results to key inputs which allowed us to identify possible risk areas and prioritise our efforts on potential issues with Chorus' estimate of its initial PQ RAB.
- 3.21 Our April consultation allowed stakeholders an early view of and input into Chorus' estimate of its initial PQ RAB. Our high-level analysis informed the focus of this consultation on what we considered likely to be the most material issues for the purposes of determining the initial RAB, being Chorus' proposed:
- 3.21.1 direct attribution of costs/assets; and

¹⁰⁷ Chorus provided us with draft versions of its models on 5 March 2021.

¹⁰⁸ Commerce Commission "[Fibre Information disclosure and price-quality regulation – proposed process and approach for the first regulatory period](#)" (15 September 2020), paragraphs 5.135- 5.136.

3.21.2 cost or asset allocators.

- 3.22 In reaching our draft decisions, we have taken into account submissions on our April consultation and undertaken deeper analysis using further information requested from Chorus.
- 3.23 Subject to any exceptions discussed in Chapter 4 to Chapter 5, our draft decision is to accept the cost and asset allocators Chorus has proposed in its model. Similarly, subject to any exceptions discussed in Chapter 6, our draft decision is to accept that Chorus' model is IM compliant.

Chorus' alternative \$6 billion RAB

Summary of issue

- 3.24 In addition to its estimated initial RAB value of \$5.5 billion, Chorus has put forward an alternative estimate of up to \$6 billion. The basis on which Chorus has calculated this \$6 billion estimate is an alternative cost allocation approach which departs from the requirements of the Act and the IMs.
- 3.25 Chorus argues that where costs are not “directly attributable” to the provision of regulated services in accordance with the IMs, but the costs were incurred as a direct result of Chorus' participation in the UFB initiative, then a causal or proxy allocator should be used that allocates 100% of the costs to regulated FFLAS.¹⁰⁹
- 3.26 The specific allocators Chorus proposes to use when allocating certain categories of operating costs under this alternative estimate are:
- 3.26.1 Fibre 60 and Totex 40;¹¹⁰
 - 3.26.2 Fibre;
 - 3.26.3 Pass-through costs (excluding Rates) Fibre; and
 - 3.26.4 Pass-through costs (excluding Rates) Revenue.
- 3.27 This results in allocating a greater proportion of certain operating costs to UFB FFLAS and as such, results in a higher FLA. These allocators are discussed further below.

¹⁰⁹ See [Chorus submission on initial RAB consultation](#), page 3.

¹¹⁰ As discussed below, Chorus' "Fibre 60 and Totex 40" allocator is a weighted average of Fibre (which has a 100% allocation to UFB FFLAS) and Totex (which has an allocation based on total expenditure on UFB FFLAS as a proportion of overall total expenditure). A 60% weight is applied to the Fibre allocator and a 40% weight is applied to the Totex allocator.

- 3.28 In this section, we set out the following:
- 3.28.1 the background to the issue;
 - 3.28.2 our analysis of Chorus' alternative approach, having regard to the requirements of the IMs and the Act; and
 - 3.28.3 our draft decision on whether Chorus' alternative cost allocation approach would comply with the IMs and s 177 of the Act and give best effect to the purpose of Part 6.
- 3.29 Our draft decision is that Chorus' alternative cost allocation approach does not comply with the IMs or s 177 of the Act, nor does it best give effect to the purpose of Part 6. Consistent with the IMs, we consider that under s 177, costs directly related to the UFB initiative but used to support the provision of other services should be subject to cost allocation in the ordinary way. We have therefore focussed our scrutiny on Chorus' estimate for the initial PQ RAB value of \$5.5 billion and the associated cost allocations to determine whether they are compliant with the IMs and best give effect to the purpose of the Act.

Background

- 3.30 When Chorus first announced it had submitted its IAV model to the Commission on 26 March 2021,¹¹¹ it stated that the model was compliant with the IMs and supported an initial RAB of \$5.5 billion for Chorus' FFLAS as of 1 January 2022.¹¹²
- 3.31 Chorus also noted that it had provided an alternative cost allocation approach that supported potential RAB estimates of up to \$6 billion, reflecting the standalone requirements of participating in the UFB initiative.
- 3.32 As we pointed out in our initial RAB consultation paper in April 2021, Chorus stated that the main impact of its alternative cost allocation approach was in the treatment of opex and the consequential impact on the FLA.¹¹³ We noted that during its investor briefing on its IAV model, Chorus acknowledged that this standalone cost approach was technically not compliant with the IMs.¹¹⁴

¹¹¹ As we note earlier, Chorus use the term Initial Asset Value (IAV) whereas we use the term initial RAB value.

¹¹² See [Chorus stock exchange announcement \(26 March 2021\)](#).

¹¹³ See [initial RAB consultation paper](#), paragraphs 3.28-3.29.

¹¹⁴ See [Chorus IAV Model investor presentation - 26 March 2021](#).

- 3.33 In its submission on the initial RAB consultation paper, Chorus claimed that its position had been mischaracterised, and that the Commission had “dismissed, without any consideration” Chorus’ view that a valuation in the range of \$6 billion would better reflect the requirements of s 177 and the unique circumstances in which Chorus was established.¹¹⁵

Our analysis of Chorus’ alternative approach

- 3.34 Under the IMs, costs are “directly attributed” to the regulated service where they are “wholly and solely” incurred or employed in the provision of that service.¹¹⁶ Where a cost meets that definition, no cost allocation will be required, and it will enter the initial PQ RAB at its full value.¹¹⁷ Where an operating cost or asset value is not directly attributable to FFLAS, but is incurred or employed in the provision of FFLAS, then it must be determined (ie, included in the allocated RAB) by applying cost allocators or asset allocators (as applicable) that meet the requirements of the cost allocation IM.¹¹⁸
- 3.35 By definition, cost or asset allocators are applied where the opex is incurred or the asset is employed in the provision of regulated FFLAS as well as services that are not regulated FFLAS (or in the case of the FLA, UFB FFLAS and services that are not UFB FFLAS). Chorus appears to be advancing a policy argument that where costs were only incurred due to Chorus’ participation in the UFB initiative (ie, Chorus would not have incurred them “but for” its decision to participate in the UFB initiative) then they should be included without deduction in the allocated RAB and recovered through FFLAS prices, regardless of whether those costs also supported the provision of other services.
- 3.36 Chorus appears to accept that cost allocation rules must be applied to assets that were partly (but not wholly) incurred in the provision of regulated services under the UFB initiative. Its specific argument is that for certain categories of assets, the Commission should adopt a cost allocator that allocates 100% of the costs to the regulated service, regardless of whether those costs supported the provision of other services.

¹¹⁵ See [Chorus submission on initial RAB consultation](#), paragraph 2.

¹¹⁶ Clause 1.1.4 of the IMs – definition of “directly attributable”.

¹¹⁷ Clause 3.2.1(1) of the IMs. Likewise a cost that is directly attributable to a non-regulated service must be excluded under clause 3.2.1(2).

¹¹⁸ Clause 3.2.1(3)-(4) of the IMs.

- 3.37 In our chapter on “direct attribution”, we explain why s 177 does not require the allocation of 100% of shared costs to regulated services (see paragraphs 4.37 to 4.44 below). Under the IMs, if the Commission is satisfied that the costs are not directly attributable to regulated services, then the IMs require it to select an appropriate cost allocator, and that exercise is a matter for the Commission’s judgement.

Application of the s 162 purpose of Part 6 of the Act and s 166(2)

- 3.38 We consider that s 162(c) is relevant to the issue of cost allocation. According to s 162(c), one of the outcomes of Part 6 of the Act is that regulated fibre service providers allow end-users to share the benefits of efficiency gains in the supply of FFLAS, including through lower prices. A cost allocator that reflects the sharing of operating costs allows FFLAS end-users to share in the benefits of the efficiency gains in the supply of FFLAS (in the form of economies of scope, where FFLAS is supplied along with other services). Allowing for such sharing therefore promotes s 162(c).
- 3.39 As discussed further below, Chorus’ proposed alternative approach to cost allocators results in a relatively high allocation of operating expenses to regulated FFLAS. In doing so, Chorus’ approach would limit the extent to which FFLAS end-users are able to share in the benefits of efficiency gains where operating expenses were incurred in respect of both regulated FFLAS and services that are not regulated FFLAS.
- 3.40 The promotion of workable competition under s 166(2)(b) of the Act is also relevant to the issue of how to allocate operating expenses, including Chorus’ proposed alternative approach. If such operating expenses are incurred in respect of both regulated FFLAS and services that are not regulated FFLAS (such as copper-based services), a disproportionate allocation of these expenses to regulated FFLAS may distort competition, including in the supply of other services.

Our analysis of the specific allocators proposed by Chorus under its \$6B RAB valuation

- 3.41 When Chorus first submitted its IAV model in March 2021, it put forward its proposed cost allocators to be applied to operating costs. A description of the cost allocators, the rationale for choosing the preferred allocator, and the various alternative allocators that Chorus considered, is provided in the opex model documentation.¹¹⁹ In each case Chorus considered and rejected various alternative cost allocators, including one referred to as ‘Fibre 60 and Totex 40’.

¹¹⁹ See [Analysys Mason Documentation of opex allocation for the BBM opex workstream \(including responses to notice to supply information\) \(Model version v3.31\)](#) (22 March 2021), Chapter 4.

- 3.42 In its submission on our initial RAB consultation paper, Chorus provided “a model ... that sets out an approach that better reflects the Act, with an indicative value of approximately \$6 billion.”¹²⁰ Chorus claimed that “this valuation better reflects the requirements of s 177 and is consistent with the requirements of the IMs.”¹²¹
- 3.43 In its \$6 billion RAB model, Chorus has applied the ‘Fibre 60 and Totex 40’ allocator which it previously rejected, to a number of opex categories, without providing any justification for these changed allocators. We note that Chorus has not explained why it proposed to use the allocators it had earlier rejected in its \$5.5 billion model.
- 3.44 We make the following observations on Chorus' recent proposal to replace the proxy allocators it used in its 26 March 2021 calculation with alternative proxy allocators.
- 3.45 Chorus has proposed four new proxy allocators to replace a number of existing proxy allocators (see paragraph 3.26 above).
- 3.46 Two of the new proposed allocators, which have the same annual allocation factors as the allocators they replace, are as follows:
- 3.46.1 a “pass through costs (excluding rates) revenue” allocator, which replaces a “revenue” allocator;
- 3.46.2 a “pass through costs (excluding rates) fibre” allocator, which replaces a “fibre” allocator.
- 3.47 Chorus proposed a third allocator, a “fibre” allocator (which was already in use and directly attributes costs to UFB) to replace the existing “totex” allocator for some opex categories. This increases the allocation of these costs to UFB FFLAS to 100% across the pre-implementation period, from the totex allocator which grows from approximately 34% to 74% over the pre-implementation period.
- 3.48 The fourth proxy allocator is the new “Fibre 60 and Totex 40” allocator. This calculates the allocation by applying a 60% weight to a UFB FFLAS 100% allocation and a 40% weight to the existing totex (which as noted above grows from approximately 34% to 74% over the pre-implementation period). There are a number of existing allocators that would be replaced by this proxy allocator, as set out in Table 3.2.

¹²⁰ See [Chorus submission on initial RAB consultation](#), page 2.

¹²¹ Ibid.

Table 3.2 Opex categories where Chorus has proposed alternative Fibre 60 and Totex 40 allocator

Expense category ¹²²	Original allocator proposed by Chorus (26 March 2021)	Alternative allocator proposed by Chorus (28 May 2021)
CNO – NPC – Network	Service company overhead	Fibre 60 and Totex 40
CNO - NPC - property - accommodation	Accommodation relationship driver	Fibre 60 and Totex 40
CNO - NPC - property - power	Power relationship driver	Fibre 60 and Totex 40
CNO - NPC - property - overhead	Corporate personnel	Fibre 60 and Totex 40
CNO - NPC - billing agency	Other services	Fibre 60 and Totex 40
CNO - NPC - Assure	Maintenance overhead	Fibre 60 and Totex 40
CNO - NPC - copper operations	Copper	Fibre 60 and Totex 40
CNO - NPC - fibre operations	Fibre	Fibre 60 and Totex 40
CNO - NPC - Provisioning	Provisioning overhead	Fibre 60 and Totex 40
CNO - NPC - CC Provisioning	CC Provisioning	Fibre 60 and Totex 40
CNO - NPC - Customer Supply & Billing	Customer Supply & Billing	Fibre 60 and Totex 40
CNO - NPC - overall serco management	Service company overhead	Fibre 60 and Totex 40
CNO - NPC - Operations & Optimisation	Service company overhead	Fibre 60 and Totex 40
CNO - NPC overhead costs	Service company overhead	Fibre 60 and Totex 40
CTO - NPC	CTO Overhead	Fibre 60 and Totex 40
Marketing & Sales - NPC	Future benefits	Fibre 60 and Totex 40

3.49 Chorus asserted that these new proxy allocators better meet the requirements of the Act.¹²³ For example, Chorus submitted that there are a number of costs attributable to the UFB initiative for which it had been unable to identify a suitable causal allocator. According to Chorus, “[i]n those cases, in order to best give effect to s 177, the Commission should use a proxy allocator that allocates 100% of those shared costs that were incurred as a direct result of participating in the UFB initiative.”¹²⁴ Chorus gave examples of certain shared IT assets, and corporate overhead costs.

¹²² The expense categories relate to Net Personnel Costs (NPC) of Chorus' Customer and Networks Operations (CNO) and Chief Technology Office (CTO) functions, and Marketing & Sales NPC.

¹²³ [Chorus submission on initial RAB consultation](#), paragraphs 4, 6 and 28.

¹²⁴ *Ibid*, paragraph 28.

- 3.50 Chorus has not provided any information or explanation that supports its claim that the four new allocators that it proposes (and which are listed at paragraph 3.26 above) meet the test of being “objectively justifiable and demonstrably reasonable”. As noted above, as part of its initial RAB model provided in March, Chorus did provide some rationale for its choice of the original cost allocators. Chorus noted that it had considered and rejected alternative allocators at that time, including the ‘Fibre 60 and Totex 40’ allocator that it has subsequently put forward to support its \$6 billion RAB estimate.
- 3.51 Examples of changes proposed by Chorus to existing allocators that have not, in the Commission's view, been demonstrated to be “objectively justifiable and demonstrably reasonable”, are the proposed substitution of the new proxy ‘Fibre 60 and Totex 40’ allocator for the following existing proxy allocators:
- 3.51.1 a copper allocator - directly attributable to non-FFLAS services;
 - 3.51.2 a fibre allocator - directly attributable to FFLAS; or
 - 3.51.3 a CTO Overhead allocator, originally justified on the basis that it allocates the cost of CTO staff based on the weighted average of the other CTO allocation drivers, given CTO staff are managing overall CTO spend.
- 3.52 For example, in its 26 March 2021 initial RAB model, Chorus stated that the opex category ‘CNO – NPC – copper operations’ should be:¹²⁵
- Directly attributable to non-FFLAS services. Entirely allocated to copper services and not to be included in the fibre BBM calculations.
- 3.53 Under its alternative model submitted on 28 May 2021, Chorus proposed to allocate a significant share of these costs to UFB FFLAS, using the ‘Fibre 60 and Totex 40’ allocator.
- 3.54 The change in allocator values proposed by Chorus has a material value impact, as illustrated in the following figures. In each case, the 20 opex categories for which Chorus has proposed to change the cost allocators (to one of the four allocators listed in paragraph 3.26 above) are shown. Figure 3.1 shows the allocator values for 2012 as proposed by Chorus in its 26 March 2021 initial RAB model, compared to its alternative allocator values in its 28 May 2021 initial RAB model. Figure 3.2 shows the comparison in allocator values for 2022.

¹²⁵ See [Analysys Mason Documentation of opex allocation for the BBM opex workstream \(including responses to notice to supply information\) \(Model version v3.31\)](#) (22 March 2021), Chapter 4, page 18.

Draft decision

3.56 Our draft decision is that the alternative allocators that have been proposed by Chorus in its alternative model submitted on 28 May 2021 and which result in an initial RAB value of approximately \$6 billion have not been demonstrated by Chorus to be objectively justifiable or demonstrably reasonable. For that reason, in our view, Chorus' valuation of the initial RAB of approximately \$6 billion is not compliant with the IMs. Further, as discussed at paragraphs 3.34 to 3.40 above, we do not consider that Chorus' alternative allocators are consistent with s 177 and would not best give effect to s 166(2) since they would effectively allow Chorus to recover costs entirely through FFLAS prices where those costs are also recoverable from unregulated services.

3.57 We have therefore proceeded to scrutinise Chorus' 26 March model and the allocators proposed by Chorus as part of that model.

Comparison with TERA analysis

3.58 Submissions on our initial PQ RAB consultation paper proposed applying the "TERA cross-check". This cross-check was originally proposed by Spark during the IM consultation process.¹²⁶

3.59 Spark submitted that:

The consultation also indicates that the proposed allocators may not result in a proportionate allocation of cost as expected, and this may be inconsistent with the outcomes expected for a multi-service firm transitioning from copper to fibre, and mitigation of double recovery concerns.¹²⁷

3.60 Spark proposed that applying the TERA cross-check would help to mitigate any concern that shared costs are misaligned (eg, due to over-recovery of costs).

3.61 We do not consider applying the TERA cross-check is practical. We see a number of practical difficulties with such a highly prescriptive approach, and it would come at a cost, which we consider does not match the benefits it would deliver.¹²⁸

¹²⁶ Commerce Commission "[Fibre input methodologies – Draft decision – reasons paper](#)" (19 November 2019), paragraphs 3.288-3.289.

¹²⁷ Spark NZ "[Chorus' initial price-quality regulatory asset base](#)" (28 May 2021), paragraph 52.

¹²⁸ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 3.417.

- 3.62 These practical difficulties were outlined in our main final IM decision paper, and include:¹²⁹
- 3.62.1 the dynamic and complex nature of FFLAS and the telecommunications markets make it very difficult to determine a reasonably comprehensive set of information requirements;
 - 3.62.2 the need to keep information current would mean setting requirements based on the information currently available which would likely lead to a need for constant amendment;
 - 3.62.3 the need to keep compliance costs reasonable and thus not requiring regulated providers to modify their internal systems to produce high levels of detail without a clear view of the benefits to end-users in doing so; and
 - 3.62.4 the Commission does not have the in-depth knowledge of the regulated providers' networks to be able to undertake this task, meaning that the production of comprehensive requirements would be impractical.

How the Commission will go about identifying assets employed in the provision of regulated FFLAS

- 3.63 In its submission on our initial PQ RAB consultation paper, Spark expressed a concern that Chorus' approach to identifying employed assets 'does not apply the IMs as intended by failing to use all the relevant information – i.e. data in geographic information system (**GIS**) and FAR – to reduce the pool of shared network costs...'.¹³⁰
- 3.64 We acknowledge Spark's concern. However, in many cases Chorus does not hold the data required for the 'bottom up' approach Spark suggests. In other cases, usage of assets changes frequently and rapidly, and the best that could be expected would be a 'snapshot' of use. In such cases, we consider that a more 'top down' approach, tailored according to the specific circumstances is acceptable.

¹²⁹ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 3.406.

¹³⁰ Spark NZ "[Chorus' initial price-quality regulatory asset base](#)" (28 May 2021), paragraph 29.

Chapter 4 Unallocated RAB and direct attribution

Purpose of this chapter

- 4.1 This chapter sets out our draft decisions on the unallocated value of Chorus' RAB through the financial loss period and at implementation date, and the treatment by Chorus of directly attributable assets.

Direct attribution of UFB Assets

Our draft decision

- 4.2 Our draft decisions on the inclusion of UFB assets in the determination of the initial RAB values of Chorus' core fibre assets and the FLA is as follows:
- 4.2.1 that all UFB asset classes (other than UFB duct and manhole assets) should be directly attributable to UFB FFLAS. These assets are allocated 100% to UFB FFLAS;
 - 4.2.2 that UFB duct and manhole assets are likely to be shared between UFB FFLAS and services that are not UFB FFLAS, and that Chorus' proposed 100% allocation factor should be reduced to recognise such sharing;
 - 4.2.3 that UFB ducts and manholes be shared between UFB FFLAS and services that are not UFB FFLAS on the following basis:
 - 4.2.1 95% of UFB ducts and manholes be fully allocated to UFB FFLAS;
 - 4.2.2 5% of UFB ducts and manholes be shared between UFB FFLAS and services that are not UFB FFLAS using a revenue-based allocator type.
 - 4.2.4 that the revenue-based allocator values set out in Table 4.1 below are applied to the 5% of UFB ducts and manholes that are to be shared between UFB FFLAS and services that are not UFB FFLAS.
- 4.3 The impact of these decisions on the initial PQ RAB is a reduction of -\$17.5 million.

Table 4.1 Shared UFB Ducts and Manholes: Proposed UFB FFLAS Allocation Factors (%) for draft decision

	2012	2013	2014	2015	2016	2017	2018	2019	2020		
UFB FFLAS revenue as % of total fibre revenue	44.0%	41.0%	42.4%	54.9%	64.7%	75.3%	80.5%	85.8%	88.6%		

Relevant considerations

Relevance and application of s 166(2) to our decisions

- 4.4 This section sets out how our draft decisions best give effect to the outcomes of s 162 and, where relevant, s 166(2)(b) (ie, give effect to the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services).

The promotion of the Part 6 purpose: s 162

- 4.5 Section 162(c) is relevant to the issue of direct attribution and cost allocation. According to s 162(c), one of the outcomes of Part 6 of the Act is that regulated fibre service providers allow end-users to share the benefits of efficiency gains in the supply of FFLAS, including through lower prices. An asset allocator that reflects the shared usage of an asset allows FFLAS end-users to share in the benefits of the efficiency gains in the supply of FFLAS (in the form of economies of scope, where FFLAS is supplied along with other services). Allowing for such sharing therefore promotes s 162(c). As we said in our main IMs final reasons paper:¹³¹

The cost allocation IM helps ensure that the efficiencies realised by regulated providers through common costs are appropriately shared with end-users of regulated FFLAS. For example, in the absence of such rules, a regulated provider may allocate a high proportion of shared costs to regulated FFLAS, with the result that end-users of regulated FFLAS are excluded from the benefits of economies of scope. In this way, the cost allocation IM promotes s 162(c) of the Act.

- 4.6 Chorus' proposed approach is to directly attribute all UFB expenditure to UFB FFLAS on the basis that the expenditure was incurred as a direct result of its participation in the UFB initiative.¹³² As we will discuss further below, Chorus' proposed approach is not in line with the IM definition of "directly attributable", which is where an operating cost is wholly and solely incurred, or an asset is wholly and solely employed, in the provision of a particular service. Chorus' approach would deny FFLAS end-users the ability to share in the benefits of efficiency gains where UFB assets are used to supply both UFB FFLAS and services that are not UFB FFLAS.

¹³¹ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 4.12.

¹³² Chorus "[Submission on Commission's consultation on Chorus' initial PQ RAB](#)" (28 May 2021), paragraph 23.

- 4.7 In addition, we consider that Chorus' proposed approach raises a risk that Chorus would over-recover the costs of UFB assets that are used to supply both UFB FFLAS and services that are not UFB FFLAS. Such an outcome would not promote the s 162(d) purpose of limiting the ability of regulated fibre service providers to extract excessive profits.

The promotion of workable competition in telecommunications markets: s 166(2)(b)

- 4.8 The promotion of workable competition under s 166(2)(b) of the Act is also relevant to the issue of direct attribution. If UFB assets are employed in the provision of both UFB FFLAS and services that are not UFB FFLAS (such as copper-based services), the allocation of the full cost of these assets to UFB FFLAS may distort competition. For example, as we noted in our main IMs final reasons paper:¹³³

If Chorus is able to allocate the majority of the costs shared between regulated FFLAS and its copper network to regulated FFLAS this could have an impact on the prices they could charge for copper services in the future.

- 4.9 By fully allocating any shared costs to UFB FFLAS, Chorus may be able to lower prices for copper services towards incremental cost. In our main IMs final reasons paper, we noted the potential implications of this for competition when discussing the relevance of s 166(2)(b) for cost allocation:¹³⁴

The way in which shared costs are allocated between regulated FFLAS and other services can affect the ability of regulated providers to compete. For example, if a regulated provider's total economic common costs were all to be allocated to regulated FFLAS:

other services supplied using the common assets would only need to recover their incremental cost. This would allow the regulated provider to set prices for those other services at a level that could frustrate competition in the long run; and

the competitive position of regulated FFLAS would be worsened, as regulated FFLAS would bear the entire stand-alone cost, with the result that end-users of regulated FFLAS would pay higher prices.

Determining the initial value of fibre assets: s 177

- 4.10 Section 177 provides specific direction to the Commission regarding the calculation of the initial value of fibre assets that enter the PQ RAB on the implementation date.¹³⁵

¹³³ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 2.387.2.1.

¹³⁴ Ibid, paragraph 4.29.

¹³⁵ Section 177 is included in full in Chapter 2.

- 4.11 The definition of “fibre asset” includes an asset that is constructed or acquired by Chorus and employed in the provision of FFLAS, whether or not it is also employed in the provision of other services: s 177(6). We discuss the application of s 177 in more detail at paragraphs 2.42 to 2.51 of the regulatory framework chapter.

Input methodologies

- 4.12 The relevant IMs are the asset valuation and cost allocation IMs. We discuss the asset valuation and cost allocation IMs and their application in our determination of asset values and opex contributing to Chorus' total initial PQ RAB value at paragraphs 2.56 to 2.76 of the regulatory framework chapter.

Chorus’ proposed direct attribution of UFB assets to UFB FFLAS

- 4.13 In this section, we consider Chorus’ proposal to directly attribute all UFB assets to UFB FFLAS as part of our determination of the “initial RAB value” of the core fibre assets and the FLA. Specifically, we summarise:
- 4.13.1 Chorus’ view that its expenditure on an asset as a result of participating in the UFB initiative should be fully allocated to UFB FFLAS, even if the asset is not “directly attributable” to UFB FFLAS in accordance with the IM definition; and
- 4.13.2 Chorus’ argument that “a proper application of s 177 requires [this approach]”.¹³⁶

Overview of Chorus’ proposed approach to UFB investments

- 4.14 In the model documentation Chorus provided in response to our s 221 notice, Analysys Mason describes how assets that were built for and used by UFB FFLAS (which Analysys Mason refers to as “Contracted FFLAS”) are included as directly attributable to UFB FFLAS:¹³⁷

Assets that are analysed in the FAR processing to be dedicated to UFB are recorded as being either “UFB A-D” (which means they were built for and used by Contracted FFLAS) or “UFB E” which means they are used only by voluntary FFLAS. As a result, “UFB E” dedicated assets are out of scope pre-implementation. “UFB A-D” assets are included as directly attributable to UFB FFLAS.

¹³⁶ Chorus “[Submission on Commission’s consultation on Chorus’ initial PQ RAB](#)” (28 May 2021), paragraph 2

¹³⁷ Analysys Mason report for Chorus “[Building Block model IAV model documentation IAV model v314_120c](#)” (24 March 2021), section 3.6.8. We note that Analysys Mason uses the term “Contracted FFLAS” to refer to FFLAS provided under the UFB initiative; and “Voluntary FFLAS” to refer to FFLAS provided outside of the UFB initiative.

- 4.15 In Chorus' BBM IAV model, the direct attribution of UFB assets to UFB FFLAS is implemented through an allocation factor of 100% applied to UFB assets in those areas where Chorus was awarded the UFB contracts (referred to by Chorus as "UFB A-D" areas). Chorus applies the 100% factor in each financial loss year of the pre-implementation period for the calculation of the FLA (referred to as 'Unrecovered Losses' in the Chorus model), and in 2022 for the calculation of the allocated core fibre asset base. The asset classes include layer 1 assets (such as ducts, manholes, fibre cables, fibre service lead-ins, cabinets, and splitters) as well as layer 2 equipment.¹³⁸

Chorus' argument that s 177 requires inclusion of all upfront costs incurred as a direct result of carrying out the UFB initiative

- 4.16 Chorus submits that FFLAS prices must allow for the recovery of all pre-implementation investments and operating costs undertaken to deliver the UFB initiative. Chorus submitted that "...a proper application of s 177 requires that certain upfront costs as a direct result of the UFB initiative are included in the RAB and recovered through FFLAS prices...".¹³⁹
- 4.17 Chorus' argument is that the definition of "fibre assets", and its express reference to investments made under the UFB initiative, indicate that Parliament's expectation was that investments that related to the UFB initiative would be recovered through FFLAS prices:¹⁴⁰

An approach that excludes a material proportion of UFB-related costs from the initial RAB implicitly allocates those costs to consumers of non-FFLAS services, which would be inconsistent with the statutory intent.

By expressly acknowledging Chorus' unrecovered returns, Parliament also recognised the fact that the UFB arrangement stipulated areas of priority build and communal infrastructure was rolled out well ahead of demand.

- 4.18 Chorus makes the argument that even where assets do not meet the IM definition of "directly attributable", s 177 requires that they should nevertheless be fully allocated to FFLAS:¹⁴¹

The Commission's task is therefore to apply the IMs in a manner that gives effect to the words of s 177. Any divergence from s 177 in the decision-making process would be inconsistent with Parliament's intent and the ability for Chorus to earn a normal return.

¹³⁸ Analysys Mason report for Chorus "Building Block model IAV model documentation: IAV model v314_120c", Figure 13 on page A-36

¹³⁹ Chorus "[Submission on Commission's consultation on Chorus' initial PQ RAB](#)" (28 May 2021), paragraph 2

¹⁴⁰ Ibid, paragraphs 12-13.

¹⁴¹ Ibid, paragraph 14.

4.19 According to Chorus:¹⁴²

Where those investments or costs do not meet the Commission’s application of “directly attributable”, but where those costs were nonetheless incurred as a direct result of our participation in the UFB initiative, we believe a proxy allocator should be applied that allocates 100% of those costs to FFLAS. This approach is required to deliver the Commission’s obligations in respect of s 177 and is permitted within the existing IMs framework.

If this approach is not adopted, then this risks a perverse outcome in which Chorus is not permitted to recover through FFLAS prices the investments required to implement the UFB initiative. Not only does this conflict with Parliament’s intent as demonstrated in the legislative background and set out in s 177, but it would result in non-fibre consumers implicitly bearing the costs of the fibre network.

Further information supplied by Chorus under s 221 notice

4.20 On 30 June 2021, Chorus provided some further explanation of why it had identified UFB assets as directly attributable to UFB FFLAS. This was in response to a s 221 notice in which we had required Chorus to:¹⁴³

Provide a detailed explanation of how Chorus has ensured that the UFB assets it has identified as directly attributable to the provision of UFB FFLAS, for example building leases, cabinets, manholes, fibre cable, and ducts have not been shared at all with services that are not UFB FFLAS.

4.21 In its response, Chorus made a number of points:¹⁴⁴

4.21.1 during the pre-implementation period, the directly attributable UFB assets are those identified as UFB A-D in the UFB Won area;

4.21.2 where an asset class (such as splitters) is used to provide both UFB FFLAS and services that are not UFB FFLAS, these assets are shared and not treated as directly attributable to UFB FFLAS;

4.21.3 many UFB assets are fibre-specific and optimised by vendors, and copper cables could not be used in these ducts. Chorus provided a number of examples:

4.21.1 fibre assets such as micronet and ribbonet are not designed for copper use or hybrid use;

¹⁴² Chorus “[Submission on Commission’s consultation on Chorus’ initial PQ RAB](#)” (28 May 2021), paragraphs 23, 24.

¹⁴³ Notice to supply information to the Commerce Commission under section 221 of the Telecommunications Act 2001 - Requirements for initial PQ regulatory asset base (initial PQ RAB), 28 May 2021, submitted to Chorus. Refer to clause A12. Chorus “[Submission on Commission’s consultation on Chorus’ initial PQ RAB](#)” (28 May 2021)

¹⁴⁴ Chorus “A12 – UFB assets identified as directly attributable to UFB FFLAS” (30 June 2021).

- 4.21.2 UFB assets such as manholes, pits and handholes will provide access to only micronet/ribbonet tubes/ducts and so only provide UFB FFLAS services;
- 4.21.3 the “building leases” which are treated as directly attributable to UFB FFLAS are new railway crossing leases where Chorus has installed UFB assets that cross the railway corridor or for lead-ins to buildings on railways land;
- 4.21.4 on potential sharing with services that are not UFB FFLAS (including copper-based services) there is no need to augment or expand capacity for those services that are not UFB FFLAS, given that such services have been in significant decline in UFB areas;
- 4.21.5 Chorus is not actively promoting copper in its UFB areas, and rules are in place that prevent the provisioning of new copper services in UFB areas.

Summary of views in submissions on our initial PQ RAB consultation paper

What we said in our initial PQ RAB consultation paper

- 4.22 In our initial PQ RAB consultation paper, we noted that a significant proportion of Chorus’ valuation of the initial PQ RAB relates to assets that Chorus considers are ‘directly attributable’ to UFB FFLAS.¹⁴⁵ These are assets that Chorus says were either constructed or acquired for the UFB initiative, or constructed or acquired to provide UFB FFLAS, and have not been shared to support services that are not UFB FFLAS.
- 4.23 We noted that the IMs define ‘directly attributable’ as being where an operating cost is wholly and solely incurred, or where an asset is wholly and solely employed, in the provision of a particular service. Direct attribution of assets or operating costs therefore indicates that there is never any sharing of these assets or functions.

¹⁴⁵ Commerce Commission “[Chorus’ initial price-quality regulatory asset base as at 1 January 2022 – Consultation on Chorus’ initial price quality RAB proposal](#)” (30 April 2021).

- 4.24 We invited views on the extent of Chorus' direct attribution of costs in its initial RAB model. We noted that where Chorus had treated assets as directly attributable to UFB FFLAS, those assets were fully allocated to UFB FFLAS, and remained so over time. We said we were considering whether this was reasonable, given that Chorus had previously stated that it has "a single network providing both regulated and unregulated services with dynamic asset utilisation."¹⁴⁶

Submissions on our initial PQ RAB consultation paper

- 4.25 In its submission, Chorus did not respond directly to the specific consultation questions relating to direct attribution, other than referring to its earlier response to the s 221 notice. Chorus also provided some specific comments on the allocation of power assets and network electronics which had to be installed ahead of demand.¹⁴⁷
- 4.26 However, Chorus did make a number of comments on the recovery of pre-implementation investments and operating costs earlier in its submission. For example, Chorus submitted that:¹⁴⁸

... the Commission must ensure FFLAS prices allow the recovery of all pre-implementation investment and operating costs undertaken to deliver the UFB initiative. Where those investments or costs do not meet the Commission's application of "directly attributable", but where those costs were nonetheless incurred as a direct result of our participation in the UFB initiative, we believe a proxy allocator should be applied that allocates 100% of those costs to FFLAS. This approach is required to deliver the Commission's obligations in respect of s 177 and is permitted within the existing IMs framework.

If this approach is not adopted, then this risks a perverse outcome in which Chorus is not permitted to recover through FFLAS prices the investments required to implement the UFB initiative. Not only does this conflict with Parliament's intent as demonstrated in the legislative background and set out in s 177, but it would result in non-fibre consumers implicitly bearing the costs of the fibre network.

¹⁴⁶ Chorus "[Submission on Fibre input methodologies – Draft decision](#)" (30 January 2020) and Commerce Commission "[\[Draft\] Fibre input methodologies determination 2020](#)" (11 December 2019), paragraph 60.1.

¹⁴⁷ Chorus "[Submission on Commission's consultation on Chorus' initial PQ RAB](#)" (28 May 2021), pages 19-20.

¹⁴⁸ *Ibid*, paragraphs 23-24.

4.27 Chorus provided a number of examples where it has been unable to identify a suitable causal allocator, including shared IT assets that were incurred as a result of participating in the UFB initiative, and certain corporate overhead costs that arose from establishing Chorus as a standalone company. According to Chorus, these costs should be allocated 100% to UFB FFLAS in order to best give effect to s 177 of the Act.¹⁴⁹

This recognises that the driver of the investment was the need to implement the UFB initiative and therefore achieve Parliament's intent of ensuring UFB investment are recovered through FFLAS prices. This approach is permitted by the IMs requirements regarding proxy allocators.

4.28 Spark noted that an operating cost or an asset is directly attributable to a particular service where it is wholly and solely incurred or employed in the provision of that service.¹⁵⁰ Spark said the IMs process recognised that in the case of a multi-product firm, there is likely to be a material proportion of costs shared between regulated and non-regulated services, and that the allocation of such costs would change over time as the use of an asset by services changes.¹⁵¹

4.29 Spark submitted that Chorus' proposal to directly attribute a significant portion of RAB assets to UFB FFLAS - which would indicate that there is no sharing of such assets or functions with other services - is implausible for a multi-service firm. Spark noted that Chorus operates in a number of markets and provides multiple services that are expected to draw on fibre and power infrastructure. Spark submitted that it is unlikely that over the ten-year period there has been no growth in other services.¹⁵²

¹⁴⁹ Chorus "[Submission on Commission's consultation on Chorus' initial PQ RAB](#)" (28 May 2021), page 3. We note that s 177 must be simply *applied* rather than, "best give[n] effect to" differently to s 162, which requires the Commission to make decisions that best give effect to /or are likely to best give effect to.

¹⁵⁰ Spark NZ "[Chorus' initial price-quality regulatory asset base](#)" (28 May 2021), paragraph 65.

¹⁵¹ *Ibid*, paragraph 66.

¹⁵² *Ibid*, paragraph 68.

- 4.30 Spark submitted that Chorus’ proposal appears to be inconsistent with, and potentially undermines, key elements of the Commission’s IMs framework. For example, Spark noted the Commission’s view expressed in the Financial Loss Asset reasons paper, that all services should make a contribution to costs and that as a result, an incremental cost approach to valuing the FLA was not appropriate. According to Spark, Chorus’ proposal applies an incremental approach to fibre in some circumstances and an allocated approach in other circumstances in order to maximise FFLAS costs.¹⁵³ Spark suggested that if Chorus’ proposed approach were to be applied to new investment in shared assets, it should also be applied to the use of existing assets.¹⁵⁴
- 4.31 Spark argued that a consistent approach should be applied to both existing and new investment, and that for the purposes of setting the actual RAB, the Commission should “apply the IMs and reasons paper expectation that there be a proportionate allocation of investment in shared platforms prior to implementation between copper and fibre services.”¹⁵⁵ Spark also noted that a proportionate allocation of platform costs was a key mitigation in the IMs to the risk of double recovery during the transition to fibre.¹⁵⁶
- 4.32 Vodafone submitted that there is no reason to directly attribute shared assets and recommended that the ABAA approach set out in the IMs be applied.¹⁵⁷
- 4.33 Similarly, 2degrees expressed concerns over Chorus’ proposal to fully allocate shared costs to FFLAS, rather than using ABAA.¹⁵⁸ 2degrees submitted that this is one of a number of examples of how Chorus appears to have inflated its RAB estimate.

Our analysis of Chorus’ proposal

- 4.34 Having reviewed Chorus’ proposed approach to direct attribution of UFB assets, we have a number of concerns over Chorus’ proposal to fully allocate these assets to UFB FFLAS. We set out our concerns in the following sections.

¹⁵³ Spark NZ “[Chorus’ initial price-quality regulatory asset base](#)” (28 May 2021), paragraph 72.

¹⁵⁴ Ibid, paragraph 73.

¹⁵⁵ Ibid, paragraph 74.

¹⁵⁶ Ibid, paragraph 72.

¹⁵⁷ Vodafone “[Vodafone Aotearoa: Submission on Chorus’ initial price-quality regulatory asset base proposal](#)” (28 May 2021), page 7.

¹⁵⁸ 2Degrees “[Commerce Commission Fibre Price-Quality Regulation, Consultation on Chorus’ initial price quality RAB proposal](#)” (28 May 2021), page 10.

- 4.35 In summary:
- 4.35.1 we disagree with Chorus' view that s 177 requires all upfront costs incurred as a direct result of the UFB initiative to be included in the determination of the initial RAB value of Chorus' core fibre assets and the FLA;
 - 4.35.2 Chorus has not provided compelling evidence for its view that post-2011 UFB assets are directly attributable to UFB FFLAS;
 - 4.35.3 Chorus' proposed treatment of post-2011 UFB assets appears to be inconsistent with its approach to pre-2011 assets;
 - 4.35.4 Chorus' proposed direct attribution of UFB assets also appears to be inconsistent with its views on the application of the cost cap;
 - 4.35.5 we have previously included an explicit recognition of infrastructure sharing.
- 4.36 We then set out our draft decision that there is likely to be some sharing of certain classes of pre-implementation UFB assets between UFB FFLAS and services that are not UFB FFLAS, and that it is appropriate to allow for such sharing when determining the initial RAB value of the core fibre assets and the initial RAB value of the FLA.

Cost allocation rules must be applied to determine the proportion of costs to be included in the initial RAB value of the core fibre assets and the initial RAB value of the FLA within the PQ RAB

- 4.37 We disagree with Chorus' view that s 177 requires all upfront costs incurred as a direct result of the UFB to be included in the initial value of the PQ RAB.
- 4.38 The Commission's position is that s 177 requires that costs incurred as a result of carrying out the UFB initiative are taken into account in determining the initial RAB value of core fibre assets and the initial RAB value of the FLA. Expenditure on assets employed in the provision of UFB FFLAS is to be taken into account in determining the initial RAB value of core fibre assets and the initial RAB value of the FLA. Opex incurred to implement the UFB initiative is taken into account in determining the initial RAB value of the FLA. Contrary to Chorus' argument, cost allocation rules must be applied to determine the proportion of costs to be included in the determination of the initial RAB value of the FLA and the initial RAB value of the core fibre assets, and recoverable through regulated FFLAS.

4.39 In our view, Parliament contemplated that costs that are directly related to the UFB initiative, but used to support the provision of other services, should be subject to cost allocation in the ordinary way. This is evident in the following provisions of the Act:

4.39.1 Section 176(1)(a)(iii), which specifically states that one of the matters that must be covered by the IMs is the allocation of common costs (for example, between activities, businesses, access seekers, regulated services, or geographic areas). We note, in particular, the reference to ‘regulated services’, which contemplates allocation between regulated and unregulated services and is necessary to give effect to Parliament’s direction that the FLA should only provide for Chorus to recover accumulated unrecovered costs through the price of FFLAS.

4.39.2 Section 176(3) provides that any methodologies referred to in s 176(1)(a)(ii) – the valuation of assets – must be determined in accordance with s 177.

4.39.3 Section 177(6) expressly contemplates common costs in the provision of FFLAS:

“fibre asset” means an asset that is constructed or acquired by a regulated fibre service provider; and employed in the provision of FFLAS (**whether or not the asset is also employed in the provision of other services**) (our emphasis added).

4.40 For the reasons outlined above, s 177 does not require that all upfront costs incurred as a direct result of the UFB initiative where the costs were shared between regulated and unregulated services are included in the determination of the initial RAB value of the FLA.

4.41 We set this position out in our August 2020 consultation paper, which preceded our FLA final reasons paper. Chorus did not make any submission at that time expressing a different view.¹⁵⁹ We note further that Chorus did not raise this argument prior to our decision on the IMs, that is, no issue was raised with the IM definition of “directly attributable”.

¹⁵⁹ Commerce Commission “[Fibre input methodologies: further consultation draft \(initial value of financial loss asset\) – reasons paper](#)” (13 August 2020) at 2.38-2.39.

- 4.42 We note that, under Chorus' approach, where it incurs expenditure on an asset as a result of its participation in the UFB initiative, that expenditure would be 100% allocated to UFB FFLAS, even if the asset is used to provide both UFB FFLAS and services that are not UFB FFLAS (ie, is not 'directly attributable' to UFB FFLAS). An example of this might be where Chorus installs a new duct as part of its UFB deployment, and that duct supports the delivery of both UFB FFLAS and services that are not UFB FFLAS. In such a case, Chorus proposes that 100% of the cost of the duct would be allocated to UFB FFLAS.
- 4.43 In our view, this is unlikely to comply with the IMs, which we developed to give effect to Part 6 of the Act, including s 177. Such investment would not meet the definition of being "directly attributable" to UFB FFLAS, as the duct is not wholly and solely employed in the provision of UFB FFLAS. The cost of the duct should therefore be allocated between UFB FFLAS and services that are not UFB FFLAS on the basis of the ABAA cost allocation methodology, using cost or asset allocators that are based on a causal relationship, or proxy cost or asset allocators.
- 4.44 Chorus' approach would instead allocate all of the expenditure on new assets incurred under the UFB initiative to UFB FFLAS. This reflects a standalone cost approach, given that any shared costs incurred from 1 December 2011 would be fully allocated to UFB FFLAS.¹⁶⁰ As we discussed in our main IMs final reasons paper, we do not consider that a standalone cost approach is appropriate for the treatment of shared costs, either in the context of determining the initial RAB value of the core fibre assets or determining the initial RAB value of the FLA.¹⁶¹

Chorus has not provided compelling evidence for its view that post-2011 UFB assets are directly attributable to UFB FFLAS

- 4.45 Chorus provided the Commission with its initial PQ RAB model and model documentation on 26 March 2021.¹⁶² In Chorus' original model documentation, there was no information showing that these assets are directly attributable to (ie, are wholly and solely employed in) the provision of UFB FFLAS for the purpose of clause B1.1.6(2)(b) of Schedule B.

¹⁶⁰ We note that this is similar to how Chorus has characterised its 'alternative' initial RAB estimate – as better reflecting the standalone cost of standing up a fibre network.

¹⁶¹ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 4.78; Clauses 3.242, 3.243, and 3.250 of the IMs.

¹⁶² As noted earlier, Chorus refers to the model as the Initial Asset Value (IAV) model.

- 4.46 We requested further information from Chorus regarding the direct attribution of assets constructed or acquired for and employed in the provision of UFB FFLAS on several occasions.¹⁶³ In its most recent response (received on 30 June 2021), Chorus did provide more detailed reasoning, which is summarised at paragraph 4.21 above.¹⁶⁴ However, we remain of the view that there is a significant risk that Chorus' current proposed initial PQ RAB calculation overestimates the level of assets that are directly attributable to UFB FFLAS. Chorus has provided limited technical evidence that none of the assets deployed for UFB are used by other fibre-based services that are not UFB FFLAS.
- 4.47 We accept Chorus' assertion that many assets are fibre-specific, although we note this does not necessarily make them UFB specific. They are fibre assets, which are used in the UFB rollout.
- 4.48 Advice from Network Strategies points out that Chorus' discussion of ducts only refers to air blown fibre.¹⁶⁵ The implication is that all ducts identified as being attributed to UFB have been equipped with a micro ducting system making them unsuitable for any other use. Network Strategies' view is that this would typically be considered poor planning. We expect that some of these ducts are being used to carry fibre for services that are not UFB FFLAS.
- 4.49 We also accept that declining demand for copper-based services and the fact that Chorus is not promoting copper in its UFB areas means that there is unlikely to be a need to augment or expand capacity for copper-based services that are not UFB FFLAS. However, the availability of UFB fibre and duct assets means that Chorus can defer or avoid some investment, for example to replace or repair fibre feeders serving digital subscriber line (**DSL**) cabinets, allowing services that are not UFB FFLAS to benefit from sharing some of the UFB assets.

¹⁶³ These requests have been in the form of requests for information (RFIs), as well as formal Notices issued under s 221.

¹⁶⁴ Chorus "Response to A7, A8, A9, A12 and A13 of Attachment A of the Commerce Commission's 28 May 2021 section 221 notice", 30 June 2021, in particular attachment "A12 – UFB assets identified as directly attributable to UFB FFLAS".

¹⁶⁵ Network Strategies "Direct cost attribution in the RAB model" (13 August 2021), page 2.

- 4.50 We also note that Chorus provides fibre services that are not UFB FFLAS. While volumes are low, they are high value services, based on our review of Chorus' demand and revenue model. Network Strategies categorise these services as being limited to the use of interexchange duct assets which will be a small fraction of total UFB assets. Based on Network Strategies estimates, interexchange duct assets would be between 5% and 10% of the total UFB duct asset by distance.¹⁶⁶ However, as interexchange duct routes typically carry both access and interexchange cables, the level of sharing will be lower than 5% to 10% overall.
- 4.51 Network Strategies considered some potential allocators that could be used in relation to ducts:
- 4.51.1 one option would be to use the methodology proposed by Chorus to allocate pre-1 December 2011 ducts.¹⁶⁷ However, in Network Strategies' view, this would be likely to allocate too few assets to the initial PQ RAB;
- 4.51.2 a second option would be to consider a connections ratio of services that span UFB duct assets.¹⁶⁸ This ratio would also be expected to be very high initially, producing a result close to 100%. Network Strategies consider that such an approach would be difficult to implement, as it would require the mapping of individual service instances to shared network resources. Given the implementation challenges, this option is considered infeasible;
- 4.51.3 a third approach might be based on service volumes or revenues from fibre services that are not UFB FFLAS, relative to total fibre revenues. We discuss this approach further below.
- 4.52 We also note that there is the possibility that other fibre services that are not UFB FFLAS could be introduced in the future, and the approach to allocation should allow for this.

¹⁶⁶ Network Strategies "Direct cost attribution in the RAB model" (13 August 2021), page 5.

¹⁶⁷ Ibid, page 4.

¹⁶⁸ Ibid, pages 4-5.

- 4.53 It is also important to note that the analysis undertaken by Chorus when constructing its initial RAB model to identify whether capital spending was for various UFB purposes or not has produced an estimate of the directly attributable capex, not a definitive number. Chorus has recently provided further details on how this process was undertaken and characterises how it has used decision packet settlement (**DPS**) reports¹⁶⁹ to produce the figures as “an attempt to identify the Chorus capex investment that contributes to the RAB”.¹⁷⁰
- 4.54 Chorus has had to apply a considerable degree of judgement when estimating the capex that is directly attributable. Chorus has manually reviewed nearly 170,000 rows of the DPS report covering 2015 to 2019, and over 42,000 rows of the DPS report covering 2012 to 2014.¹⁷¹ Given the effort and judgement required, we would have expected that Chorus could provide a more detailed explanation of the rules it applied to categorise capex and why those rules are the best available. The development of the review process applied to the DPS files would have needed to consider the basis on which capex was to be classed as directly attributable, both at the time of the settlement of the asset, and then on an ongoing basis. We will consider any evidence that Chorus can provide from this process, but evidence of this nature has not been presented to date. We are therefore not satisfied that Chorus’ direct attribution of certain assets to UFB FFLAS over the entire pre-implementation period meets the IMs definition of “directly attributable” requiring an asset to be “wholly and solely employed...in the provision of a particular service”.¹⁷²

¹⁶⁹ The Chorus Fixed Asset Register has a classification related to funding. The classification splits assets into those purchased from Telecom at demerger, RBI assets, assets with a funding contribution from CIP (communal network) and all other tagged as BAU. The DPS files have been used to identify Chorus capex that contributes to the PQ RAB, based on asset categories and the projects the costs were settled from.

¹⁷⁰ Chorus “Response to A7, A8, A9, A12 and A13 of Attachment A of the Commerce Commission’s 28 May 2021 section 221 notice”, 30 June 2021, attachment “A7 & A8 – Decision Packet Settlement Files”.

¹⁷¹ Chorus “Response to A7, A8, A9, A12 and A13 of Attachment A of the Commerce Commission’s 28 May 2021 section 221 notice”, 30 June 2021, attachment “A7 & A8 – Decision Packet Settlement Files”

¹⁷² Clause 1.1.4(2) of the IMs.

Chorus' proposed treatment of post-1 December 2011 UFB assets appears to be inconsistent with its approach to pre-2011 assets

- 4.55 Chorus' proposal to fully allocate post-1 December 2011 UFB assets to UFB FFLAS, (even where those assets are used to supply both UFB FFLAS and services that are not UFB FFLAS), appears to be based on what motivated the investment in those assets in the first place.¹⁷³ Chorus argues that because the investment in post-2011 UFB assets was a result of its participation in the UFB initiative, those assets should be fully allocated to UFB FFLAS, with no allocation to other services.
- 4.56 This differs from Chorus' approach with respect to pre-2011 assets (including ducts), where allocators are applied to bring a share of these assets into the determination of the initial RAB value of the core fibre assets and the FLA. This is despite the original investment in those assets being undertaken to support legacy services that are not UFB FFLAS. If Chorus' proposed approach to post-2011 UFB assets (to fully allocate the assets to the services that motivated their investment) were to be applied consistently to pre-2011 assets, this would suggest that those pre-2011 assets should be fully allocated to the non-FFLAS (eg copper) services that those assets were originally installed to supply.
- 4.57 In our view, it would not be appropriate to fully allocate pre-2011 assets to non-FFLAS where those assets are also used to supply UFB FFLAS, particularly in light of s 177(1)(a)(i), which recognises that the initial value of a fibre asset may include assets owned by Chorus before 1 December 2011. However, by the same reasoning, we also consider that post-2011 UFB assets should not be fully allocated to UFB FFLAS where those assets are also used to supply other services.
- 4.58 As noted in paragraphs 2.60 and 2.67, when asset values or operating costs are shared, an ABAA approach must be applied to allocate these costs. There is no consideration of which service first required the asset – if the asset is shared, the costs of the asset are to be shared. This ensures that the outcome set out in s 162(c) of the Act, allowing end-users of FFLAS to share the benefits of efficiency gains, is promoted.
- 4.59 As discussed earlier, a number of retail service providers (**RSPs**) have also made this point. For example, Spark noted the inconsistency in Chorus' proposed treatment of existing and new assets. 2degrees also pointed to the inconsistent treatment of new UFB assets (installed after 1 December 2011, which would be fully allocated to UFB FFLAS) and pre-existing assets (which existed prior to 1 December 2011, and which would be allocated between UFB FFLAS and copper).

¹⁷³ Chorus "[Submission on Commission's consultation on Chorus' initial PQ RAB](#)" (28 May 2021), paragraph 23.

Chorus' proposed direct attribution of UFB assets also appears to be inconsistent with its views on the application of the cost cap

- 4.60 The IMs require that the total asset values or operating costs allocated to UFB FFLAS must not exceed the asset values or operating costs that would continue to be incurred if only UFB FFLAS were to be provided.¹⁷⁴
- 4.61 Chorus has submitted that the cost cap set out in the IMs is unlikely to bite, due in part to the allocators that Chorus has proposed. Chorus argues that the shared costs that are allocated within its initial PQ RAB model typically relate to older, relatively depreciated assets which exhibit economies of scale. In Chorus' view, the standalone cost of a new FFLAS-only network which did not enjoy these scale economies is unlikely to be lower than these allocated costs, for a number of reasons:¹⁷⁵

The scale economies would be lost. Given these scale economies, it is cheaper to pay for an allocation of x% of a larger network than to pay the whole costs of an x% capacity network.

The long lived assets such as existing ducts are relatively depreciated in the BBM IAV model. This reduces the costs relative to a newer network such as a hypothetical stand-alone network. The alternative to using a hypothetical new stand-alone network is reusing the existing network which would have the same costs as the existing network (i.e. the shared costs would be the costs of the existing shared assets, meaning the cap would allow 100% of the costs of the shared assets to be recovered from FFLAS).

Technical progress which often acts so as to reduce costs over time is relatively limited for the assets in question; at the same time there is inflation which raises costs over time. Duct, pole, and manhole assets (all of which are material parts of the costs of fixed access networks) are becoming rather more expensive per unit over time (i.e. they typically all have positive nominal price trends). A new fixed access network will therefore be slightly more expensive than an older one, all else equal.

- 4.62 Chorus also commented on the application of the cost cap for operating costs:¹⁷⁶

As regards the operating costs, again there are substantial economies of scale in serving both FFLAS and non-FFLAS customers. While there is some technical progress which may allow lower operating costs over time, Chorus is trying to achieve these cost savings and so they would not only be available to a stand-alone case.

- 4.63 Based on the above, Chorus concluded that the cost cap is unlikely to be exceeded.

¹⁷⁴ Clause B1.1.6(4) of Schedule B of the IMs.

¹⁷⁵ Analysys Mason report for Chorus "[BBM IAV model responses to s221 notice questions](#)" (26 March 2021), page 6.

¹⁷⁶ Analysys Mason report for Chorus "[BBM IAV model responses to s221 notice questions](#)" (26 March 2021), page 7.

- 4.64 The reasoning that Chorus presents to support the claim that the cost cap will not be breached appears to support the view that investment in communal access network infrastructure is likely to be shared with non-FFLAS services over time, if the network is being built and operated efficiently. In this regard, we make the following observations:
- 4.64.1 where multiple services are being provided, it is likely to be cheaper to pay for a portion of a larger network, than to build a smaller network dedicated to a single service;
 - 4.64.2 assets such as ducts, poles and manholes typically have positive price trends, meaning a new fixed access network will be more expensive than an older one, all else equal. This, along with the preceding point, tends to support building a higher capacity fixed access network, rather than building separate new capacity as required;
 - 4.64.3 substantial economies of scale in relation to operating costs also support the building of a single larger network, rather than assuming a dedicated investment over time in infrastructure that is dedicated to serving only UFB FFLAS.
- 4.65 Our view is that, if Chorus' claims regarding the application of the cost cap are to be accepted, this would be consistent with the view that some sharing of UFB assets is likely to occur over time.

We have previously included an explicit recognition of infrastructure sharing

- 4.66 In our final pricing review determination for Chorus' unbundled copper local loop (UCLL) service, we included an explicit allowance for some sharing of underground infrastructure with other network operators such as electricity distribution businesses.¹⁷⁷ While that allowance was in the specific context of our cost model under the final pricing principle for the regulated UCLL service, it is nevertheless illustrative of the level of sharing that might be expected to occur in the deployment of a new network.

¹⁷⁷ [Final pricing review determination for Chorus' unbundled copper local loop service](#) [2015] NZCC 37, from paragraph D195.

4.67 During the UCLL pricing review determination, a number of parties had submitted that a significant level of sharing of underground infrastructure could be expected. For example, WIK submitted that costs reductions of up to 30% should be considered. We noted that “Chorus also acknowledged that some degree of infrastructure sharing was likely to occur, but submitted that it should not take place in more than 5% of the network.”¹⁷⁸ We further referred to evidence from other LFCs on the level of sharing of underground network, which supported a modest amount of sharing.¹⁷⁹

4.68 We also noted that Analysys Mason provided evidence that supported a modest amount of sharing:¹⁸⁰

Analysys Mason provided a range of international evidence to support a 5% level of infrastructure sharing. It provided a series of data points that indicate that between less than 1% and 12% of international underground infrastructure networks are currently shared. It also noted a report from the Swedish Government that highlighted the complexities with trench sharing which may limit its use in practice.

4.69 In our UCLL final pricing review determination, we concluded that in light of the evidence provided in submissions, it would be appropriate to make an allowance for infrastructure sharing in respect of 5% of underground infrastructure costs.

Our draft decision on the sharing of assets installed under the UFB initiative

4.70 Our draft decision is that there is likely to be some sharing of assets installed as part of the UFB initiative between UFB FFLAS and non-UFB FFLAS, and that it is appropriate to allow for such sharing when determining the initial RAB value of the core fibre assets and FLA.

4.71 In the following section, we outline our draft decision approach to allow a small level of sharing to be included in our determination of the initial RAB value of the core fibre assets and the FLA, with this sharing being applied to a subset of Chorus’ post-1 December 2011 UFB assets which are likely to be amenable to sharing with non-UFB FFLAS. These assets are the UFB ducts and manholes deployed over the period from 1 December 2011 to 31 December 2021. These are the same types of assets which Chorus has been able to re-purpose and reuse in its UFB deployment.

Our proposed approach to the attribution of UFB assets

4.72 In this section, we outline our draft decisions regarding the treatment of Chorus’ UFB assets.

¹⁷⁸ Ibid, paragraph D201.

¹⁷⁹ Ibid, paragraph D208.

¹⁸⁰ Ibid, paragraph D213.

- 4.73 First, we summarise our draft decision to allow for some sharing of UFB assets in our draft decision on the initial RAB value of the core fibre assets and the FLA.
- 4.74 We then provide more detail on how we have implemented a limited allowance to recognise some sharing of UFB assets in our draft decision.

Our draft decision is to allow for some sharing of UFB assets

- 4.75 Our draft decision is that there is likely to be some sharing of assets installed as part of the UFB initiative between UFB FFLAS and services that are not UFB FFLAS.
- 4.76 As we noted in our initial PQ RAB consultation, there are clearly some assets that will not be shared between UFB FFLAS and services that are not UFB FFLAS. For example:
- 4.76.1 copper cables are directly attributable to services that are not UFB FFLAS (copper services), and should be excluded from the determination of the initial RAB value of the core fibre assets and the FLA;
- 4.76.2 fibre lead-ins may be directly attributable to UFB FFLAS (where the lead-in relates to a contracted UFB FFLAS provided by Chorus) and should be included in the determination of the initial RAB value of the core fibre assets and the FLA.
- 4.77 However, investment in other asset classes is more likely to be of a shared nature (as demonstrated by Chorus being able to reuse pre-2011 assets in its UFB deployment). In particular, this includes investment in UFB communal ducts and manholes, which can be used to supply multiple services (UFB FFLAS and services that are not UFB FFLAS). Such investments would not meet the definition of being ‘directly attributable’ in the IMs. In such cases, we do not agree with Chorus’ proposal to nevertheless allocate 100% of these costs to UFB FFLAS.
- 4.78 Chorus claims that if its proposed approach is not adopted, it may result in Chorus not being permitted to recover its UFB investment through FFLAS prices.¹⁸¹ In our view, it would not be appropriate for Chorus to recover the full costs of its UFB investment through FFLAS prices, where that investment also supports the delivery of services that are not UFB FFLAS. Such an approach is likely to fail to satisfy s 162(c) of the Part 6 purpose statement, as it would ensure that FFLAS end-users do not share in the benefits from efficiency gains – which in this case would result from economies of scope – including through lower prices for FFLAS.

¹⁸¹ Chorus “[Submission on Commission’s consultation on Chorus’ initial PQ RAB](#)” (28 May 2021), paragraph 24.

- 4.79 We also note that in allowing for an appropriate level of sharing of UFB assets between UFB FFLAS and services that are not UFB FFLAS, Chorus would be permitted to recover its UFB investment from all of the services that benefit from that investment.
- 4.80 In the following section, we outline the approach that we have taken to allow for some sharing of UFB assets for the purposes of the draft decision.

Our proposed approach to allocating UFB assets

- 4.81 In Chorus' initial RAB model, there are a number of allocation factors that are used to apportion costs:
- 4.81.1 'MAR allocation factors' are used to calculate the starting value of the RAB (the initial RAB value of core fibre assets);¹⁸²
- 4.81.2 'UL allocation factors' are used to calculate the value of Unrecovered Losses (what we refer to as the value of the FLA).¹⁸³
- 4.82 The MAR and UL allocation factors are set out in Chorus' initial RAB model and are assigned to each of the 1500 combinations of asset class, timeframe, and geography.
- 4.83 The MAR and UL allocation factors include allocation factors that are applied to assets which Chorus considers are directly attributable to UFB FFLAS. All of these assets are allocated 100% to UFB FFLAS, and include assets located in 'UFB A-D, won' areas. Analysys Mason explain that those assets that are identified, during processing of the fixed asset register (FAR), as being built for and used by contracted FFLAS (ie, UFB FFLAS) are recorded as being 'UFB A-D',¹⁸⁴ and that these assets are included as directly attributable assets in the IAV model (with a 100% allocation factor).

¹⁸² Analysys Mason report for Chorus "[Building Block model IAV model documentation IAV model v314 120c](#)" (24 March 2021), page 52.

¹⁸³ Ibid, page 53.

¹⁸⁴ Analysys Mason report for Chorus "[Building Block model IAV model documentation IAV model v314 120c](#)" (24 March 2021), page 26.

- 4.84 There is a range of assets identified as being within the 'UFB A-D, won' area, including fibre lead-ins, ducts, fibre cables, and equipment. As noted above, some of these assets – such as fibre lead-ins – are unlikely to be shared with other services, and so an allocation of 100% of these assets to UFB FFLAS will be appropriate. But other assets, in particular those that are located deeper in the UFB network, are likely to be capable of being shared, and we consider that a modest allocation of these assets to other services is reasonable.
- 4.85 To determine what level of sharing should be applied to that subset of UFB assets, we have had regard to the following:
- 4.85.1 in order to bring pre-2011 assets into the determination of the initial RAB value of the core fibre assets and the FLA in a way that reflects the use of those assets in the UFB deployment, Chorus has estimated the level of sharing of pre-2011 fibre cable assets that have been used to supply UFB FFLAS. Chorus recently estimated this proportion to have reached 11.65%.¹⁸⁵ Given that UFB FFLAS was a new service that was expected to make increasing use of pre-existing assets over the period, this might be viewed as an upper bound on the level of sharing of new UFB assets with other services that are not UFB FFLAS;
- 4.85.2 Network Strategies has advised that fibre services that are not UFB FFLAS are the most likely services to utilise UFB assets, specifically interexchange duct assets, which Network Strategies expect would represent a relatively small fraction (of between 5% and 10%) of the total UFB duct asset class.¹⁸⁶
- 4.86 Based on the above, we consider that the majority of UFB duct and manhole assets should be fully allocated to UFB FFLAS, with a small proportion of UFB ducts and manhole assets shared between UFB FFLAS and services that are not UFB FFLAS. Our draft decision is to treat 95% of UFB ducts and manholes as being directly attributable to UFB FFLAS, and that the remaining 5% be shared between UFB FFLAS and services that are not UFB FFLAS. We have shared these assets based on revenues, which is an allocator on the default list contained in the IMs.¹⁸⁷

¹⁸⁵ Ibid, page A-38.

¹⁸⁶ Network Strategies "Direct cost attribution in the RAB model" (13 August 2021), page 5.

¹⁸⁷ 'Revenue' is an available allocator. See clause B1.1.6(2)(d)(iii) of Schedule B of the IMs.

4.87 We consider that a revenue-based allocator type is reasonable for the allocation of shared UFB ducts and manholes, as a proxy for the value that such services will derive from using the shared assets. As noted earlier, fibre services that are not UFB FFLAS may also share in ducts and fibre assets, in particular transport services that are located between Chorus exchanges.

4.88 Revenues for the services that are likely to share the UFB ducts and manhole assets are also readily available from Chorus’ revenue and demand model.

4.89 Another allocator type that might be considered for the allocation of shared duct and manhole assets is the number of customers served, or the allocator types that Chorus has proposed to share pre-2011 ducts and manholes between UFB FFLAS and services that are not UFB FFLAS. However, we note the following:

4.89.1 the number of customers may be problematic to implement as an allocator type when the asset is being shared between services that supply multiple customers (for example, interexchange transport services);

4.89.2 while Chorus’ proposed sharing of pre-2011 assets may reflect the use of pre-existing assets as part of Chorus’ UFB deployment, it is not clear that this would reflect the extent to which new UFB assets built during the pre-implementation period are used by services that are not UFB FFLAS over the period.

4.90 Table 4.2 below summarises the revenue-based allocations that we propose to apply to the shared UFB ducts and fibre cable assets. These allocation factors are calculated as Chorus’ contracted FFLAS (ie, UFB FFLAS) revenues as a proportion of total revenues earned by Chorus in its UFB areas.

Table 4.2 Revenue-based allocator values to be applied to shared UFB ducts and manhole assets for draft decision

	2012	2013	2014	2015	2016	2017	2018	2019	2020	[2021]	[2022]
Contracted FFLAS revenues (\$M)											
Total fibre revenues Chorus UFB areas (\$M)											
Ratio	44.0%	41.0%	42.4%	54.9%	64.7%	75.3%	80.5%	85.8%	88.6%		

Source: Chorus “A11.3 CONFIDENTIAL Chorus Integrated Demand Revenue Model”

- 4.91 The impact of our draft decision to allow for some sharing of UFB duct and manhole assets on the value of core fibre assets and the FLA (and the resulting initial PQ RAB value) is shown in Table 4.3 below. Table 4.3 also shows the impact of our draft decision on the expenditure allowances for the first regulatory period (PQP1).

Table 4.3 Impact on core fibre assets, FLA, total initial PQ RAB value, and PQP1 expenditure allowances (\$m)

Value	Change (\$m)
Core fibre assets	-3.3
FLA	-14.2
Total value of Initial PQ RAB	-17.5
PQP1 capex allowance	-0.1
PQP1 opex allowance	0.0

Source: Analysys Mason

- 4.92 We note that Chorus undertook some analysis of the extent to which UFB gigabit passive optical network (**GPON**) services have utilised pre-demerger fibre cables.¹⁸⁸ Chorus has used the results of this analysis (which indicated that 11.65% of pre-demerger fibre cables have been used for GPON services) to determine the allocation factor for pre-2011 fibre cable assets (ie, the extent to which a share of those assets is brought into the initial RAB value of the core fibre assets and the initial RAB value of the FLA). This indicates that it may be feasible for Chorus to undertake similar analysis of the extent to which assets installed after 1 December 2011 to provide UFB FFLAS (including communal ducts) have been used by services that are not UFB FFLAS.
- 4.93 In the absence of such information, which Chorus has had the opportunity but failed to provide, we consider that the approach that we have outlined above is a reasonable basis for our draft decision.
- 4.94 We also note that there will be a small amount of UFB2+ expenditure in Chorus' expenditure proposal for PQP1. We consider that our draft decision on allocating shared UFB ducts and manhole assets applies to this expenditure as well. Table 4.4 above illustrates the impact of our draft decision on Chorus' expenditure allowances for PQP1.

¹⁸⁸ Analysys Mason report for Chorus "[Building Block model IAV model documentation IAV model v314 120c](#)" (24 March 2021), Figure 15

Chapter 5 Cost allocation

Purpose of this chapter

- 5.1 This chapter sets out and explains our draft decisions on how shared costs and assets are allocated between PQ FFLAS, ID-only FFLAS, and services that are not regulated FFLAS. These decisions apply to:
- 5.1.1 the determination of the value of the FLA;
 - 5.1.2 the determination of the value of the initial PQ RAB as at 1 January 2022 (including on a forecast basis for the value of the transitional initial PQ RAB); and
 - 5.1.3 to forecasts of opex and capex, and the forecast roll-forward of the RAB for the purposes of determining building blocks revenue for PQP1.

Structure of this chapter

- 5.2 The first section summarises our draft decisions on the allocation of shared costs and shared assets, and the impact of these decisions on the FLA and initial PQ RAB.
- 5.3 The second section discusses the relevant considerations that have informed our analysis of individual cost and asset allocation decisions.
- 5.4 The third section summarises Chorus' high-level approach to implementing cost allocation via its model, and how this approach relates to subsequent decisions on individual allocators.
- 5.5 The subsequent sections then discuss individual cost and asset allocators, and whether we consider they meet the “objectively justifiable and demonstrably reasonable” requirement in the IMs. The allocator types we discuss in detail are:
- 5.5.1 Allocator types that Chorus has proposed (which are not on the default list in the IMs) for the allocation of certain operating expenses and asset values in the determination of the FLA. These allocator types are:
 - 5.5.1 future benefits;
 - 5.5.2 net book value (**NBV**);
 - 5.5.3 recipient business function;
 - 5.5.4 totex;

- 5.5.5 Shared Intelligent Service Access Manager (**ISAM**);¹⁸⁹ and
 - 5.5.6 proxy “shared with copper, fibre cable”.¹⁹⁰
- 5.5.2 Allocator types that Chorus has proposed for the allocation of the following pre-2011 assets in the determination of the FLA:
- 5.5.1 ducts; and
 - 5.5.2 central office floor space.
- 5.6 The final section deals with the application of the standalone cost cap on cost allocation.

Our draft decisions

- 5.7 Our draft decisions on the allocation of shared costs and shared assets are that:
- 5.7.1 We agree, in principle, with Chorus' overall approach to the allocation of aggregated costs between PQ FFLAS and ID-only FFLAS using a 2-step allocation approach as described by Chorus in its initial RAB and PQP1 expenditure proposals.
 - 5.7.2 We accept Chorus' allocations of aggregated costs after taking into account corrections for the following calculation or assignment errors we have identified:
 - 5.7.1 that expenses associated with recovering chargeable copper damages have been incorrectly charged to PQ FFLAS as a component of total ‘Billable and Core fibre service’ instead of to copper (non-FFLAS) services; and
- 5.8 Our draft decision on allocator types and allocators is to:
- 5.8.1 Approve the use of the future benefit allocator type to allocate certain joint marketing expenses. However, we have decided to calculate the value of the future benefit allocator type using forward-looking revenues over an 8-year timeframe;

¹⁸⁹ Analysys Mason report for Chorus “[BBM IAV model responses to s221 notice questions](#)” (26 March 2021), Figure 5.3, page 56. Analysys Mason notes that separate approval is being sought for the ISAM allocator type.

¹⁹⁰ Ibid, Figure 5.3, page 56. Analysys Mason notes that separate approval is being sought for the “Shared with copper, fibre cable” allocator type.

- 5.8.2 Agree to use the future benefit allocator type for the purposes of determining the value of the FLA, the initial PQ RAB and the PQP1 opex allowance;
- 5.8.3 Approve the use of the NBV allocator type for property damage costs and business interruption insurance costs;
- 5.8.4 Agree to use the NBV allocator type for the purposes of determining the value of the FLA, the initial PQ RAB and the PQP1 opex allowance;
- 5.8.5 Approve the use of the recipient business function allocator type for allocating to business units the costs of certain overhead functions/activities that support those units;
- 5.8.6 Agree to use the recipient business function allocator type for the purposes of determining the value of the FLA, the initial PQ RAB and the PQP1 expenditure allowance;
- 5.8.7 Approve the use of the totex allocator type to allocate specified overhead expenses where totex is an objectively justifiable and demonstrably reasonable allocator;
- 5.8.8 Agree to use the totex allocator type for the purposes of determining the value of the FLA, the initial PQ RAB and the PQP1 expenditure allowance;
- 5.8.9 Change the allocation of CTO Common Costs from being solely based on Totex to a split of 61% allocated via Totex and 39% being allocated via the recipient business allocator: CTO Overhead allocator; and to recalculate the CTO Overhead allocator to be dependent on the portion of CTO Common Costs allocated via Totex. This allocation is to apply in determining the value of the FLA, the initial PQ RAB and the PQP1 expenditure allowance;
- 5.8.10 Approve the use of 'shared ISAM' as an allocator type to allocate the value of Chorus ISAM equipment shared in the provision of FFLAS and non-FFLAS.
- 5.8.11 Approve the use of the allocator type 'shared with copper, fibre cable' to allocate the value of pre-2012 assets L1 fibre cable and associated L1 OFDF.
- 5.8.12 Approve the use of a number of alternative proxy allocators that are close approximations of causal allocation.

Relevant considerations

Relevance and application of s 166(2) to our decisions

5.9 This section sets out how our draft decision on allocator types promotes the outcomes of s 162 and, where relevant, promotes workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services.

The promotion of the Part 6 purpose: s 162

5.10 We consider that s 162(c) is relevant to the issue of cost allocation. According to s 162(c), one of the outcomes of Part 6 of the Act is that regulated fibre service providers allow end-users to share the benefits of efficiency gains in the supply of FFLAS, including through lower prices. A cost allocator that reflects the sharing of costs incurred in supplying multiple services, or an asset allocator that reflects the shared usage of an asset, allows FFLAS end-users to share in the benefits of the efficiency gains in the supply of FFLAS (in the form of economies of scope, where FFLAS is supplied along with other services). Allowing for such sharing therefore promotes s 162(c).

5.11 If Chorus' proposed approach to allocation results in a higher allocation of costs to FFLAS, then this approach would limit the extent to which FFLAS end-users are able to share in the benefits of efficiency gains, where shared costs are incurred in respect of both regulated FFLAS and services that are not regulated FFLAS.

The promotion of workable competition in telecommunications markets: s 166(2)(b)

5.12 The promotion of workable competition under s 166(2)(b) of the Act is also likely to be relevant to the issue of how to allocate shared costs. If such costs are incurred in respect of both regulated FFLAS and services that are not regulated FFLAS (such as copper-based services), a disproportionate allocation of these expenses to regulated FFLAS may distort competition, including in the supply of services that are not regulated FFLAS. For example, in our main IMs final reasons paper, we noted the potential implications of this for competition when discussing the relevance of s 166(2)(b) for cost allocation:¹⁹¹

The way in which shared costs are allocated between regulated FFLAS and other services can affect the ability of regulated providers to compete. For example, if a regulated provider's total economic common costs were all to be allocated to regulated FFLAS:

¹⁹¹ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 4.29.

other services supplied using the common assets would only need to recover their incremental cost. This would allow the regulated provider to set prices for those other services at a level that could frustrate competition in the long run; and

the competitive position of regulated FFLAS would be worsened, as regulated FFLAS would bear the entire stand-alone cost, with the result that end-users of regulated FFLAS would pay higher prices.

Input methodologies

- 5.13 The relevant IM is the cost allocation IM. We discuss the cost allocation IM further from paragraph 2.58 of the regulatory framework chapter.
- 5.14 The cost allocation IM requires that, for the purposes of ID and PQ regulation, operating costs and asset values (both actual or forecast):¹⁹²
- 5.14.1 must be allocated to PQ FFLAS or to ID-only FFLAS respectively where they are directly attributable to the provision of PQ FFLAS or ID-only FFLAS;
 - 5.14.2 must not be allocated to PQ FFLAS or ID-only FFLAS where they are directly attributable to the provision of services that are not regulated FFLAS;
 - 5.14.3 must be allocated using the ABAA where they are not directly attributable to the provision of PQ FFLAS, ID-only FFLAS, or services that are not regulated FFLAS (ie, shared costs).
- 5.15 The IM defines “directly attributable” as being where an operating cost is wholly and solely incurred, or an asset is wholly and solely employed, in the provision of a particular service.¹⁹³
- 5.16 Additionally, the cost allocation IM requires that for the purposes of allocating operating costs incurred, and assets employed, under the UFB initiative to the FLA, operating costs and asset values forecast that are:¹⁹⁴
- 5.16.1 directly attributable to the provision of UFB FFLAS must be allocated to UFB FFLAS; and
 - 5.16.2 not directly attributable to the provision of UFB FFLAS (ie, shared costs) must be allocated to UFB FFLAS by applying ABAA.

¹⁹² Clauses 2.1.1 and 3.2.1 of the IMs.

¹⁹³ Clause 1.1.4(2) of the IMs.

¹⁹⁴ Clause B1.1.6(1)(a) and (b), and clause B1.1.6(2)(b) and (c) of Schedule B of the IMs.

- 5.17 The cost allocation IM sets out the list of default allocator types available to allocate operating costs incurred under the UFB initiative to the provision of UFB FFLAS.¹⁹⁵ These are listed in paragraph 2.73 above.
- 5.18 As we noted in our initial PQ RAB consultation paper, in determining the value of any financial losses under s 177(2) of the Act, the cost allocation IM rules ensure that only those costs associated with the provision of UFB FFLAS are included in the calculation. This includes costs that are directly attributable to the provision of UFB FFLAS, as well as an allocation of any costs that are shared between UFB FFLAS and other services (ie, not directly attributable to UFB FFLAS).
- 5.19 The cost allocation IM relating to the calculation of the FLA is set out in section 3 of Schedule B of the IM Amendment Determination.¹⁹⁶
- 5.20 For operating costs or asset values that are not directly attributable to the provision of UFB FFLAS, the cost allocation IM requires these to be allocated to UFB FFLAS by applying ABAA.¹⁹⁷ Allocators must have a causal or proxy relationship with the operating cost or asset value and must be consistently applied within and between financial loss years. The choice of allocators must also meet the IM definition of a “proxy asset allocator or a proxy cost allocator” (ie, they must be ratios that are “objectively justifiable and demonstrably reasonable”).¹⁹⁸
- 5.21 When determining the value of the FLA, the IMs define the allocator types that can be used for the allocation of operating costs or asset values that are not directly attributable to UFB FFLAS. The list of available allocator types is set out in clause B1.1.6(1)(c) of Schedule B of the IM Amendment Determination in the case of cost allocators, and in clause B1.1.6(2)(d) in the case of asset allocators. These lists include allocator types that reflect demand drivers (such as end-users, peak or average traffic, and revenues), asset size (such as the number of ports, central office space, and used length of linear assets), and other drivers related to operating expenses (such as power usage and number of events). Clauses B1.1.6(1)(c)(x) and B1.1.6(2)(d)(x) of Schedule B provide that the Commission can also determine other allocator types.¹⁹⁹

¹⁹⁵ Clauses B1.1.6(1)(c) and B1.1.6(2)(d) of Schedule B of the IMs.

¹⁹⁶ [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24.

¹⁹⁷ Clause B1.1.6(1)(b) and clause B1.1.6(2)(c) of Schedule B of the IMs.

¹⁹⁸ Clause B1.1.1(2) of Schedule B of the IMs.

¹⁹⁹ Clause B1.1.6(1)(c)(x) and clause B1.1.6(2)(d)(x) of Schedule B of the IMs.

- 5.22 The Schedule B provisions that allow the Commission to determine other allocator types when determining the FLA apply equally to determining the initial RAB. The IMs provide that for the purposes of establishing an initial RAB, a regulated provider must apply the same allocator types as those used to determine the financial losses in accordance with Schedule B.²⁰⁰ As set out at paragraph 5.21 above, clauses B1.1.6(1)(c)(x) and B1.1.6(2)(d)(x) of Schedule B provide the Commission can determine an alternative allocator type to those set out in subclauses (1)(c) and (2)(d).

Two-step cost allocation process

- 5.23 In our IM reasons paper, we noted the introduction of reg 6 required us to consider the relationship between the different steps of cost allocation, that is, the interaction between:
- 5.23.1 the way that Chorus' costs for both assets and operating expenses are allocated between regulated FFLAS and services that are not regulated FFLAS; and
 - 5.23.2 how Chorus allocates these costs between different FFLAS classes (ie, PQ FFLAS, ID-only FFLAS and any additional FFLAS class).
- 5.24 Our IM reasons paper outlined and discussed the following two-step allocation process:
- 5.24.1 Step 1: Regulated providers allocate costs between regulated FFLAS and services that are not regulated FFLAS (eg, copper); and
 - 5.24.2 Step 2: Regulated providers allocate costs between different classes of regulated FFLAS (eg, PQ FFLAS and ID-only FFLAS).
- 5.25 We decided not to prescribe the cost allocation process in the IM (eg, single-step or two-step) that a regulated provider subject to both PQ and ID regulation must adopt. Rather, the IM allows the regulated provider to choose the process that suits its financial reporting systems.²⁰¹

²⁰⁰ Clause 2.3.1(3) of the IMs.

²⁰¹ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraphs 4.253-4.255.

- 5.26 However, to mitigate the risk of windfall gains when determining the value of the FLA, the IM requires:
- 5.26.1 assets only come into the FLA, and post-implementation, into the RAB, when they are employed in the provision of FFLAS;
 - 5.26.2 proportionate cost allocation using ABAA;
 - 5.26.3 cost allocation data to be updated annually;
 - 5.26.4 the inclusion of a cost cap to limit the amount of costs for reused assets to those which cannot be avoided in providing UFB FFLAS;
 - 5.26.5 the use of a list of default allocators; and
 - 5.26.6 that cost allocators are applied consistently across like costs and between years.
- 5.27 The IM also allows the Commission to retain the final decision in determining the value of the FLA and the cost allocation decisions behind it.²⁰²

Other relevant considerations in our reaching our draft decisions

- 5.28 Under the IMs, for the purposes of determining the initial RAB value of the FLA, opex and asset values that are not directly attributable to UFB FFLAS must be allocated to UFB FFLAS by applying ABAA.²⁰³ The IMs specify the allocator types available to be applied using ABAA for the purposes of determining the initial RAB value of the FLA.²⁰⁴ The same allocator types that are used for determining the initial RAB value of the FLA must then be used to determine the initial RAB value of any core fibre assets with asset values that are not directly attributable to PQ FFLAS, ID-only FFLAS or services that are not regulated FFLAS.²⁰⁵
- 5.29 However, we may still assess these allocators where they have been used in the initial PQ RAB and expenditure allowance proposals. This is to determine whether:
- 5.29.1 Chorus has correctly applied the cost allocation IM; and
 - 5.29.2 Chorus' proposed alternative allocators comply with the IM requirements and best promote the purposes of Part 6 of the Act.

²⁰² Clause 2.2.4 of the IMs.

²⁰³ Clauses B1.1.6(1)(b) and B1.1.6(2)(c) of Schedule B of the IMs.

²⁰⁴ Clause B1.1.6(1)(c) and B1.1.6(2)(d))

²⁰⁵ Clauses 2.1.3 and 2.1.1(4), (6)).

- 5.30 The cost allocation IM requires, in respect of decisions relating to the use of alternative allocator types for the initial PQ RAB and expenditure allowance decisions, that resulting forecasts are based on relevant and demonstrably reasonable assumptions, data, methods and judgements.²⁰⁶
- 5.31 We invited views from stakeholders on Chorus' proposed alternative allocator types (including those listed in paragraph 5.52) in our 30 April 2021 consultation on Chorus' initial PQ RAB proposal.²⁰⁷ The assessment of Chorus' alternative allocator types was identified as a priority area for our analysis and draft decisions on the initial PQ RAB.²⁰⁸ Where relevant, we have considered stakeholders' submissions in our analysis.

Chorus' two-step approach to cost allocation

- 5.32 This section contains:
- 5.32.1 Our draft view on Chorus' overall two-step approach to cost allocation;
 - 5.32.2 An overview of Chorus' proposed use of allocators to allocate costs to FFLAS for both the initial PQ RAB and the expenditure allowances for PQP1;²⁰⁹ and
 - 5.32.3 Our analysis of Chorus' proposed use of allocators including whether cost allocation IM rules have been applied.

Draft decision on Chorus' overall two-step approach to cost allocation

- 5.33 Our draft view is:
- 5.33.1 We agree with Chorus' overall approach to the allocation of aggregated costs between PQ FFLAS and ID-only FFLAS and using a two-step allocation approach as described by Chorus in its initial RAB and PQP1 expenditure proposals.

²⁰⁶ Clause 3.2.1 (5)(a) of subpart 3 of the IMs.

²⁰⁷ Commerce Commission "[Consultation on Chorus' initial price quality RAB proposal](#)" (30 April 2021), paragraph 4.50.

²⁰⁸ Ibid, paragraph 4.3.5.

²⁰⁹ [Chorus regulatory template 3 - Cost Allocation regulatory template - April-2021.xlsx](#)

- 5.33.2 We accept Chorus' allocations, taking into account corrections for the following identified calculation or assignment errors: that expenses associated with recovering chargeable copper damages have been charged to PQ FFLAS as a component of total 'Billable and Core fibre service' instead to copper (non-FFLAS) services; and
- 5.33.3 In later sections within this chapter, we examine in more detail some of the allocators used within the broad approach - in particular, the allocation of "CTO Common Costs".

Chorus' two-step approach to cost allocation

5.34 Chorus has implemented a two-step allocation approach, which is as follows.

Step 1

5.35 Chorus groups costs (operational and asset values) into expense categories and asset classes. Several causal and proxy drivers then apportion these costs, as follows:²¹⁰

5.35.1 For opex, allocation drivers allocate opex expense categories across five variables (as listed below). For example, opex expenses allocated by the maintenance overhead allocator are allocated as follows for 2022:

5.35.1 Billables and core fibre service – weighting [REDACTED]

5.35.2 NBV – weighting [REDACTED]

5.35.3 Totex – weighting [REDACTED]

5.35.4 Fibre access service – weighting [REDACTED] and

5.35.5 Copper access service – weighting [REDACTED]

5.35.2 For capex, asset classes are allocated as follows:

5.35.1 directly attributable to FFLAS;

5.35.2 shared between FFLAS and non-FFLAS; and

5.35.3 directly attributable to non-FFLAS.

²¹⁰ Chorus, [Regulatory Template 3 - cost allocation regulatory template - April 2021](#) (27 May 2021).

Step 2

- 5.36 The FFLAS costs (that is, the total of costs that are directly attributable and those that are shared with FFLAS) are allocated between the different classes of FFLAS (PQ FFLAS and ID-only FFLAS) using allocators.
- 5.37 For example, opex expenses apportioned by the maintenance overhead allocation driver for 2022 are allocated to regulated FFLAS via the following weighting:
- 5.37.1 D1, Billables and core fibre service – weighting [REDACTED]
 - 5.37.2 D2, NBV – weighting [REDACTED]
 - 5.37.3 D3, Totex – weighting [REDACTED]
 - 5.37.4 D4, Fibre access service – weighting [REDACTED] and
 - 5.37.5 D5, Copper access service – weighting [REDACTED].²¹¹
- 5.38 Chorus' approach to cost allocation is consistent between its expenditure proposal for PQP1 and modelling the initial value of the RAB.^{212,213}

²¹¹ Chorus, [Regulatory Template 3 - cost allocation regulatory template - April 2021](#) (27 May 2021)

²¹² Chorus: "[A3 Short form responses: Short form responses to the Information Request from the Commission dated 18 November 2020](#)", 10 February 2021, page 28.

²¹³ Chorus: "[Our Fibre Plans](#)", 12 February 2021, page 107.

Our analysis of Chorus' approach to cost allocation

5.39 As noted in our main IMs final reasons paper, we do not prescribe a single or two-step process:²¹⁴

After considering submissions, our final decision does not prescribe further structure in the cost allocation process (eg, a single or two-step approach) that a regulated provider subject to both PQ and ID regulation must adopt.

5.40 In principle, our draft view is to agree with Chorus' approach to allocating aggregated costs between PQ FFLAS and ID-only FFLAS and using a two-step allocation approach as described by Chorus in supporting initial RAB and PQP1 expenditure proposal documentation.^{215,216}

Identified error in Chorus' method

5.41 We have identified what we consider to be an error in Chorus' allocation of chargeable copper damages as presented in Chorus' expenditure proposal.²¹⁷ Specifically, expenses associated with recovering chargeable copper damages have been incorrectly charged to PQ FFLAS as a component of total 'Billable and Core fibre service' instead of to copper (non-FFLAS) services.

5.42 We estimate that correcting this error will reduce 'Billable and Core fibre service' expenses allocated to PQ FFLAS by the amounts shown in the table below.

Table 5.1 CNO – Chargeable damages – copper expenses charges to PQ FFLAS in error²¹⁸

	2022	2023	2024
Allocated expenditure			
PQ FFLAS allocation			
Amount allocated to PQ FFLAS in error			

²¹⁴ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 4.253.

²¹⁵ Analysis Mason: "[Report for Chorus Documentation of opex allocation for the BBM opex workstream \(including responses to notice to supply information\), Model version V3.31](#)" (26 March 2021), page 10.

²¹⁶ Analysis Mason: "[Report for Chorus Building Block model IAV model documentation: IAV model v314 120c](#)" (24 March 2021), page A.31.

²¹⁷ Chorus regulatory template 3 - Cost Allocation regulatory template - April-2021.xlsx.

²¹⁸ Chorus, [Regulatory Template 3 - cost allocation regulatory template - April 2021](#) (27 May 2021).

5.43 Although we accept Chorus' overall approach to cost allocation, subject to the correction of the above error, we do not consider all Chorus' proposed proxy allocators meet the “objectively justifiable and demonstrably reasonable” requirement in the IMs.²¹⁹ These are discussed in the following sections.

Chorus' proposed alternative allocator types

5.44 In this section, we consider Chorus' proposed alternative allocator types for the allocation of certain operating costs in the determination of the FLA.

5.45 We first set out our draft decisions on Chorus' proposed alternative allocator types.

5.46 We then provide Report for Chorus Building Block model IAV model documentation: IAV model v314_120c a summary of Chorus' proposed alternative allocator types.

5.47 Following that, we consider each of the alternative allocator types Chorus has proposed. In each case, we provide a summary of what Chorus has proposed, a summary of submissions on our initial PQ RAB consultation paper, and our analysis of Chorus' proposed allocator type. We also outline any other alternative options that we considered in reaching our draft decisions.

Draft decision on Chorus' proposed alternative allocator types

5.48 Our draft decision is to:

5.48.1 Approve the use of the future benefit allocator type to allocate certain joint marketing expenses under clause B1.1.6(1)(c)(x) of Schedule B of the IMs for the purposes of determining the value of the FLA. However, our draft decision is to calculate the value of the future benefit allocator type using forward-looking revenues over an 8-year period;

5.48.2 Approve the use of the NBV allocator type for property damage costs; business interruption insurance costs under clause B1.1.6(1)(c)(x) of Schedule B of the IMs for the purposes of determining the value of the FLA;

5.48.3 Approve the use of the recipient business function allocator type for allocating to business units the costs of certain overhead functions/activities that support those units under clause B1.1.6(1)(c)(x) of Schedule B of the IMs for the purposes of determining the value of the FLA;

²¹⁹ Clause B1.1.1(2) of the IMs contains the definition of “proxy allocator”.

- 5.48.4 Approve the use of a totex allocator type to allocate a number of overhead expenses for determining financial losses under clause B1.1.6(1)(c)(x) of Schedule B of the IMs. However, as part of this draft decision we have excluded the value of infrastructure rates from the calculation of totex.
- 5.48.5 Change the allocation of “CTO Common Costs” from being solely (100%) based on totex to a split of 61% allocated via totex and 39% allocated via a recipient business allocator type. As a result, recipient business function allocations, such as the CTO Overhead allocator, that are dependent on CTO Common Costs need to be recalculated using the revised “CTO Common Costs” allocation.
- 5.48.6 Approve the use of “shared ISAM” as an allocator type to allocate the value of Chorus ISAM equipment shared in the provision of FFLAS and non-FFLAS.
- 5.48.7 Approve the use of the allocator type “shared with copper, fibre cable” to allocate the value of pre-2012 assets L1 fibre cable and associated L1 OFDF.
- 5.48.8 Approve the use of a set of proxy allocators that closely resemble causal allocation.

What Chorus has proposed

- 5.49 Chorus has proposed several alternative cost allocator types for the purposes of allocating operating costs, and two alternative asset allocator types for the purposes of allocating asset values. Chorus proposes to apply these proposed alternative allocator types in steps 1 or 2 of its allocation process.
- 5.50 We briefly summarise Chorus' proposed alternative allocator types below. We then set out our draft decision on each of these allocator types in the following sections.

Chorus' proposed alternative allocator types for allocation of costs

- 5.51 Chorus has proposed four alternative allocator types for the purposes of calculating its FLA for its initial PQ RAB that are not set out in the approved list of default allocator types in the IMs.²²⁰ The Commission has the discretion to determine any other cost allocator type under clause B1.1.6(1)(c)(x) of Schedule B of the IMs.

²²⁰ Clause B1.1.6(1)(c)(i)-(ix) of Schedule B of the IMs.

- 5.52 Chorus has proposed the following alternative allocator types:²²¹
- 5.52.1 future benefit: this allocator type uses forecast revenues to allocate certain marketing expenditures;
 - 5.52.2 net book value: this allocator type uses the NBV of assets to allocate the costs of insurance;
 - 5.52.3 recipient business function: this set of allocator types is proposed to allocate the overheads of certain activities provided by service companies as well as the services of certain overhead functions; and
 - 5.52.4 total expenditure (**totex**): This allocator type uses relative totex to allocate certain corporate expenses.

Chorus' proposed alternative allocator types for allocation of assets

- 5.53 Chorus has also proposed two alternative allocator types to be approved. The Commission has the discretion to approve any other allocator type under clause B1.1.6(2)(d)(x) of Schedule B of the IMs.
- 5.54 Chorus has proposed the following alternative allocator types:²²²
- 5.54.1 shared ISAM; and
 - 5.54.2 proxy “shared with copper, fibre cable”.

Use of future benefit as an allocator type

- 5.55 In this section, we set out the following:
- 5.55.1 Our draft decision;
 - 5.55.2 Chorus' proposed use of a future benefit allocator type;
 - 5.55.3 A summary of submissions on our initial PQ RAB consultation paper;
 - 5.55.4 Our analysis of Chorus' proposed future benefits allocator type; and
 - 5.55.5 Other alternatives that we considered.

²²¹ Incenta “[Certain cost allocation issues relevant to the IAV](#)” (published 30 April 2021), pages 12-13.

²²² Analysys Mason report for Chorus “[Building Block model IAV model documentation IAV model v314 120c](#)” (24 March 2021), page 142.

Our draft decision

- 5.56 Our draft decision is to approve Chorus' proposed use of the future benefit allocator type to allocate certain joint marketing expenses. However, we have decided to calculate the value of the future benefit allocator type using forward-looking revenues over an eight-year timeframe rather than Chorus' proposed 12 years.
- 5.57 Our draft decision applies to how certain marketing expenses are allocated to the initial RAB valuation as well as to forecast expenditure allowances in PQP1.

Chorus' proposed use of future benefits as an allocator type

- 5.58 In this section, we consider Chorus' proposal to allocate certain overhead expenses incurred throughout the pre-implementation period on the basis of what Chorus refers to as a future benefit allocator type. Specifically:
- 5.58.1 we provide an overview of Chorus' proposed use of the future benefit allocator type to allocate certain joint marketing expenses;
 - 5.58.2 we summarise Chorus' rationale in support of its proposed future benefit allocator; and
 - 5.58.3 we summarise Chorus' proposed calculation of future benefit allocator values.

Overview of what Chorus has proposed

- 5.59 Chorus proposes to apply a "future benefit" allocator type to the following marketing expense categories:²²³
- 5.59.1 Marketing & Sales – Net Personnel Costs (**NPC**);
 - 5.59.2 Marketing & Sales – Market Research; and
 - 5.59.3 Marketing & Sales – Marketing and Communications.

²²³ Analysys Mason "[Documentation of opex allocation for the BBM opex workstream \(including responses to notice to supply information\)](#)", (23 March 2021), Figure 4.14. These three expense categories are listed in Chorus' BBM opex model with 'Future benefits' as the allocation driver. See 'List' and 'Opex allocation' sheets.

- 5.62 In its response to our s 221 Notice, which included questions on the rationale for the choice of allocators and evidence that the allocator is “objectively justifiable and demonstrably reasonable”, Chorus refers to the model documentation supporting its BBM opex model.²²⁴
- 5.63 In the opex model documentation, Analysys Mason lists the future benefit allocator type as falling under clause B1.1.6(1)(c)(x) of Schedule B of the IMs, which requires Commission approval.²²⁵ Analysys Mason explains that expenses in each of the three marketing categories to which Chorus proposes to apply the future benefit allocator “are allocated based on future benefit which is calculated based on total revenues over 12 years (i.e. distribution in 2012 will be based on revenues from 2012 to 2023). This captures the nature of marketing which is oriented towards future revenue.”²²⁶ Analysys Mason also claims that “the allocator is based ultimately on data on Chorus' revenue so is justifiable and reasonable.”²²⁷
- 5.64 The opex model documentation prepared by Analysys Mason indicates that a number of alternative allocator types were considered for allocating marketing and sales expenses, including ‘Fibre 60 and Totex 40’, marketing personnel, subscribers, ‘Market research Subscribers’, and campaigns.²²⁸ However, there is no discussion of the advantages and disadvantages of these potential allocator types in the opex model documentation.

Rationale for Chorus' future benefits allocator type

- 5.65 In a report prepared for Chorus, Incenta reviews the economic rationale for the additional allocator types proposed by Chorus, including the ‘future benefits’ allocator type applied to certain marketing initiatives.^{229,230}

²²⁴ Chorus “Appendix B. Summary Description (B4.1 and B4.2)”, page 16 (response to Notice req. B22.6).

²²⁵ Analysys Mason [“Documentation of opex allocation for the BBM opex workstream \(including responses to notice to supply information\)”](#), (23 March 2021), Figure 4.14 (column headed “Allocator type under B.1.16 (sic) of the IM”.

²²⁶ Ibid, Figure 4.14.

²²⁷ Ibid, Figure 4.14.

²²⁸ Ibid, Figure 4.14.

²²⁹ Incenta [“Certain cost allocation issues relevant to the IAV”](#) (March 2021).

²³⁰ As noted above, the expense categories which Chorus proposes to allocate on the basis of future revenues represent almost all Chorus’ marketing and communications costs.

- 5.66 Incenta notes that “[d]uring the pre-implementation period, Chorus undertook substantial marketing initiatives to promote the use of better broadband services, which were agnostic to the technology employed.”²³¹ According to Incenta, the benefits of such marketing initiatives – in the form of encouraging customers to connect to Chorus’ broadband services, either by upgrading to a better quality copper services or by migrating to fibre – are likely to continue over an extended horizon.²³²
- 5.67 Incenta notes that Chorus has proposed to use relative revenue forecasts over a 12-year period, “which reflects three cycles of an average customer life of four years, which is consistent with how Chorus considers that customers react to marketing initiatives and hence has factored into its decisions on marketing initiatives.”²³³
- 5.68 Incenta considers that Chorus’ future benefits allocator type provides a good proxy for the benefits that might be expected from the marketing initiatives, as such initiatives are expected to influence customer decisions and result in increased customer numbers or revenues. Incenta notes that although the list of default allocator types in the IMs includes revenues, this might be interpreted as being contemporary revenues rather than forward-looking revenues. In Incenta’s view, contemporary revenues would not be a reasonable proxy to apply to marketing activities designed to promote uptake of higher quality fibre services going forward.²³⁴
- 5.69 Incenta briefly comments on whether Chorus’ proposed future benefits allocator type is sufficiently robust to be used for cost allocation purposes, given that it is based on forecasts. Incenta understands that Chorus’ future benefits allocator type is based on “corporate plan forecasts which existed over the period and were updated frequently, and so this allocator would reflect observable information from the period in question.”²³⁵

²³¹ Incenta [“Certain cost allocation issues relevant to the IAV”](#) (March 2021), page 15.

²³² Ibid, page 15.

²³³ Ibid, page 16.

²³⁴ Ibid, page 16.

²³⁵ Ibid, page 16.

Chorus' proposed calculation of the future benefit allocator values

- 5.70 Having proposed a future benefit allocator type based on forecast revenues, Chorus derives allocator values for each year of the pre-implementation period. This is done each year by estimating the ratio of FFLAS revenues to total revenues over the subsequent 12-year period. For example, the allocator value for 2012 is calculated as 'forecast' FFLAS revenues over the 12-year period from 2012 to 2023, divided by 'forecast' total revenues over 2012 to 2023. Allocator values for each of the subsequent years in the pre-implementation period are similarly calculated using as 12-year rolling average.^{236,237}
- 5.71 The revenues are extracted from Chorus' demand and revenue model.²³⁸ Chorus' demand and revenue model combines actual revenues for 2012-2020 and forecast revenues from Chorus' five-year plan for the period from 2021-2025. For the period beyond 2025, growth is assumed to continue based on an extrapolation of the trend over 2023-2025.²³⁹
- 5.72 The resulting allocator values for each year of the pre-implementation period are shown in Figure 5.2 below.

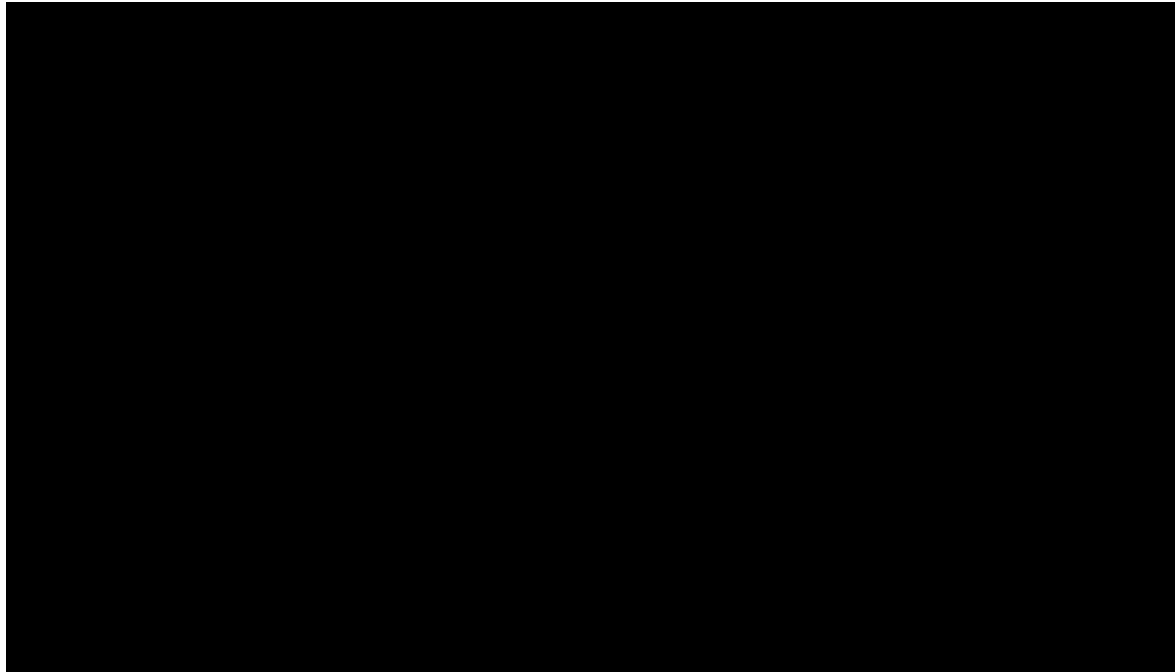
²³⁶ For example, for 2013, the allocator value is calculated on the basis of forecast revenues over the 12-year period from 2013 to 2024, and so on.

²³⁷ Analysys Mason report for Chorus "Documentation of opex allocation for the BBM opex workstream (including responses to notice to supply information)", Section A.4.2 on page A-91

²³⁸ Chorus 'A11.3 CONFIDENTIAL Chorus Integrated Demand Revenue Model_v4.3ad2 CC for Commission.xls'.

²³⁹ Analysys Mason "Documentation of demand and revenue model for the Chorus BBM IAV model", 8 June 2021, pages 10-11.

Chorus' proposed future benefits allocator values [REDACTED]



Source: Chorus BBM Opex Allocation v3.31 for Commission

- 5.73 The allocator values shown in Figure 5.2 are then applied to the three expense categories. The unallocated total value of these three expense categories is \$[REDACTED] million over the period from 2012-2022.²⁴⁰ Applying the allocator values in Figure 5.2 results in a total of \$[REDACTED] million being allocated to FFLAS over the period.
- 5.74 The allocated amounts of the three marketing expense categories flow through into the calculation of the FLA value.

Summary of views in submissions on our initial PQ RAB consultation paper

What we said in our initial PQ RAB consultation paper

- 5.75 In our initial PQ RAB consultation paper,²⁴¹ we noted Chorus had proposed using a number of allocator types that do not form part of the list of default allocator types in the IMs. One of the alternative allocator types proposed by Chorus is its future benefit allocator, which Chorus proposes to use to allocate certain marketing expenses. We invited views from stakeholders on Chorus' proposed alternative allocators.

²⁴⁰ These sums are extracted from Chorus 'BBM Opex Allocation v3.31 for Commission.xls' ('Opex allocation' worksheet).

²⁴¹ Commerce Commission, "[Chorus' initial price-quality RAB proposal - Chorus' initial price-quality regulatory asset base as at 1 January 2022](#)" (30 April 2021).

Submissions on our initial PQ RAB consultation paper

5.76 In its submission on our initial PQ RAB consultation, Chorus did not respond directly to our questions relating to its proposed use of alternative allocator types, instead referring to its response to an earlier information request:²⁴²

The justification for the allocator types provided as part of the initial RAB model ... is included in the documents provided as part of "Response to Attachment B of the Commerce Commission's 26 February 2021 section 221 Notice", dated 26 March 2021."

5.77 While not referring directly to the future benefits allocator type proposed by Chorus, Spark and Vodafone both note that Chorus is proposing to use a number of allocator types that are not listed in the IMs, and that a cautious approach should be taken. For example:

5.77.1 Spark "agree[s] that the Commission should be cautious adopting the proposed allocators as these have a significant impact on RAB outcomes."²⁴³

5.77.2 Vodafone submits that "[t]hese allocation methods must also be carefully considered against the costs already recovered for copper services. Without this cross-check, there is a high chance of double-recovery."²⁴⁴

5.78 2degrees commented on Chorus' proposal to allocate certain marketing expenses on the basis of 12-year forecasts of revenue and submitted that this would result in an inflated allocation of shared costs to FFLAS. According to 2degrees, "[m]arketing expenditure to promote uptake of fixed line services will benefit near-time uptake of fixed services. The most accurate and objective way to estimate the benefits to fixed services is the current uptake and revenue of the services".²⁴⁵

5.79 2degrees also submitted that there appears to be a disconnect between Chorus' unwillingness to publicly disclose its expenditure forecasts beyond the first regulatory period – which 2degrees understands is based on Chorus not having confidence in the reliability or accuracy of those forecasts – and Chorus' proposal to allocate marketing expenditure on the basis of 12-year revenue forecasts for copper and fibre services.²⁴⁶

²⁴² Chorus "[Submission on Commission's consultation on Chorus' initial PQ RAB](#)" (28 May 2021), pages 20-21.

²⁴³ Spark "[Chorus' initial price-quality regulatory asset base](#)" (28 May 2021), paragraph 88.

²⁴⁴ Vodafone "[Vodafone Aotearoa: Submission on Chorus' initial price-quality regulatory asset base proposal](#)" (28 May 2021), page 7.

²⁴⁵ 2degrees "[Commerce Commission Fibre Price-Quality Regulation: Consultation on Chorus' initial price quality RAB proposal](#)" (28 May 2021), page 9.

²⁴⁶ Ibid, page 9.

Our analysis of Chorus' proposal

- 5.80 Our draft decision is that, in principle, Chorus' proposal to allocate certain marketing expenses using an allocator type that reflects expected revenues is reasonable. Marketing initiatives are likely to be motivated by the potential to capture future revenues.^{247, 248} The use of an allocator type that is based on forward-looking revenues, rather than contemporary revenues, appears to be reasonable in the context of growing demand for UFB FFLAS. We note that, if demand for UFB FFLAS was stable, the marketing effort may more likely be focussed on retaining existing customers, in which case an allocation based on existing contemporary demand might be more appropriate.
- 5.81 However, we have a concern with Chorus' proposed "future benefit" allocator values in terms of the timeframe over which revenues are forecast. We discuss this below.

The period over which future revenues are forecast

- 5.82 Chorus' proposed future benefit allocator is calculated on a forward-looking basis, using relative revenues forecast over a 12-year period. Chorus does not provide an explanation of why it has used a period of 12 years, other than to note that the use of forecast revenues captures the nature of marketing which is oriented towards future revenue.²⁴⁹ Incenta observes that a 12-year horizon reflects three cycles of an average customer life of four years, although no rationale is given as to why one cycle is four years or why three cycles might be appropriate.²⁵⁰
- 5.83 In our view, any attempt to forecast revenues over a 12-year period is likely to be subject to considerable uncertainty. In this regard, we note that Chorus' corporate planning appears to be based on a five-year planning horizon, which is updated annually.²⁵¹ This suggests that a period shorter than 12 years is likely to be appropriate when determining the value of a cost allocator.

²⁴⁷ Strictly speaking, marketing activity is likely to be driven by a motivation to increase future profits rather than revenues.

²⁴⁸ We note that the expense categories that Chorus propose to allocate using its 'future benefits' allocator include marketing and communications costs incurred by Chorus' corporate cost centre. It is not clear what these costs consist of, but they may include for example general corporate communications such as the production of annual and half-year reports. The link between such costs and future revenue generation is likely to be quite tenuous. However, the amount of corporate marketing and communications expenses is relatively small, for example representing \$[redacted] million out of a total of \$[redacted] million in 2020.

²⁴⁹ [Analysys Mason Documentation of opex allocation for the BBM opex workstream \(including responses to notice to supply information\) \(Model version v3.31\)](#) (22 March 2021), Figure 4.14.

²⁵⁰ Incenta "[Certain cost allocation issues relevant to the IAV](#)" (March 2021), page 16.

²⁵¹ For example, in submitting its expenditure proposal, Chorus refers to its annual 5-year business planning round. See Chorus "Modelling and cost allocation report", page 2.

- 5.84 Although Incenta discusses the use of a 12-year forecasting period, this appears to be based on the understanding that this is consistent with Chorus' corporate plan forecasts and that these are updated frequently.²⁵² As noted in the preceding paragraph, Chorus' primary corporate planning document is its five-year plan, which is updated on an annual basis.
- 5.85 Chorus' treatment of customer retention costs in its audited annual financial accounts also supports the use of a shorter timeframe over which to consider the benefits of marketing activities to attract and retain customers. For example, in its annual report for 2020, Chorus refers to customer retention costs as the "incremental costs incurred in acquiring new contracts with new and existing customers ... Customer retention assets have a finite life and are amortised from the month that costs are capitalised on a straight-line basis over the average connection life." Chorus reports the average connection life as up to 4 years for new connections and migrations.²⁵³
- 5.86 Chorus' financial statements do not state how customer retention costs are allocated between different services. However, the split between fibre and copper shows a lower proportion allocated to fibre services than the "future benefits" approach as proposed by Chorus for the purposes of determining the initial PQ RAB. For example:²⁵⁴
- 5.86.1 for 2019, Chorus reported fibre customer retention capex of \$29 million and copper customer retention capex of \$22 million. This indicates that fibre customer retention capex was 57% of total customer retention capex in 2019 (compared to Chorus' proposed 74% allocation to FFLAS in 2019);
- 5.86.2 for 2020, Chorus reported fibre customer retention capex of \$20 million and copper customer retention capex of \$16 million. This indicates that fibre customer retention capex was 56% of total customer retention capex in 2020 (compared to Chorus' proposed 78% allocation to FFLAS in 2020).
- 5.87 These figures indicate that the approach to allocating customer retention costs in Chorus' financial statements results in a much lower allocation of costs to fibre than Chorus' proposed future benefits approach.

²⁵² Incenta ["Certain cost allocation issues relevant to the IAV"](#) (March 2021), page 16.

²⁵³ Chorus ["Annual report 2020"](#), page 45.

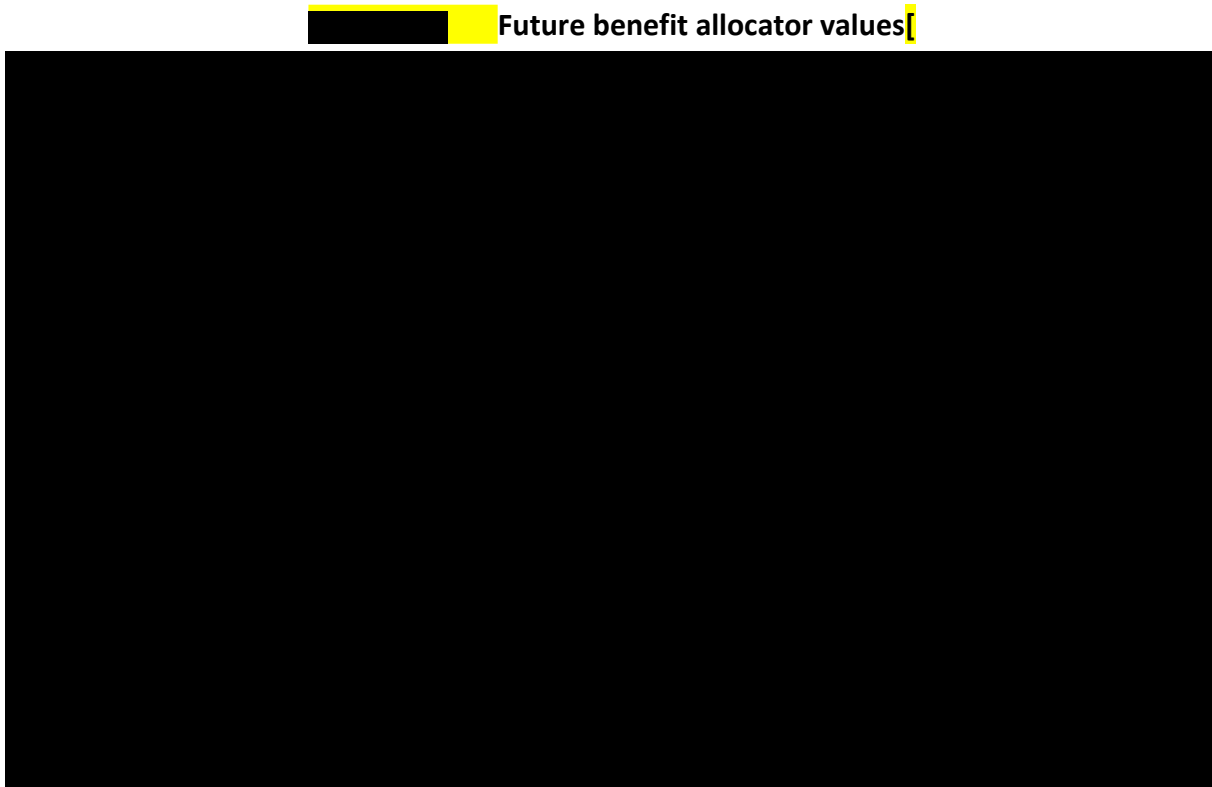
²⁵⁴ Chorus ["Annual report 2020"](#), page 28.

- 5.88 In the context of its claims around confidentiality, Chorus itself has expressed some concerns over the reliability of allocator values that are based on long-range forecasts. Chorus had initially claimed that allocator values were commercially sensitive and should therefore be redacted. Chorus subsequently withdrew its claim of confidentiality over allocator values for the pre-implementation period and for the PQP1 period but maintained its claim of confidentiality over allocator values beyond PQP1, on the basis that these values are extrapolated and are very long-dated forecasts.
- 5.89 As discussed above, 2degrees has noted that there appears to be a disconnect between Chorus' unwillingness to disclose information beyond the first regulatory period (whether that information relates to expenditure forecasts or to allocator values) and Chorus' proposal to allocate marketing expenses on the basis of twelve-year revenue forecasts.²⁵⁵
- 5.90 The above indicates that a shorter timeframe should be used in order to generate a "future benefit" allocator value which can be relied upon and which still reflects the forward-looking focus of the marketing expenditure each year throughout the pre-implementation period.
- 5.91 Our draft decision is that a timeframe of eight years is reasonable, taking into account that FFLAS was a new service being offered throughout the pre-implementation period, and so marketing activity is likely to have focused on driving new uptake of the service.
- 5.92 An eight-year timeframe also recognises that once an end-user moves on to a new FFLAS-based retail service, they may be more inclined to remain on that service (or to move to a higher-value FFLAS-based service) for a longer period of time, given the higher capability and quality of fibre compared to Chorus' legacy services. This would support a timeframe that is somewhat longer than Chorus' reported view on average customer lifetimes.²⁵⁶
- 5.93 We also note that a timeframe of eight years broadly aligns with the term of the original UFB contracts, which covered the period from 2011 to 2019. In our view, it would be reasonable to have regard to forecasts made as part of planning for this period.

²⁵⁵ 2degrees "[Commerce Commission Fibre Price-Quality Regulation: Consultation on Chorus' initial price quality RAB proposal](#)" (28 May 2021), page 9.

²⁵⁶ Using an 8-year timeframe, the future benefit allocator for 2012 is based on the expected revenues earned over 2012-2019; for 2013, the allocator is based on expected revenues earned over 2013-2020; and so on.

5.94 Figure 5.2 below summarises the future benefit allocator values for each year of the pre-implementation period, where revenue forecasts over an eight-year period are used.²⁵⁷ The allocator value increases over the period, from just under 17% in 2012 to just over [REDACTED] by 2022. For comparison, the values proposed by Chorus (using a 12-year period) are also shown, along with the values where revenues are forecast over a 4-year period.



Source: Chorus BBM Opex Allocation v3.31 for Commission

5.95 In terms of the impact of the future benefit allocator on the value of the FLA and on the initial PQ RAB value, the use of future relative revenues over an eight-year period, rather than Chorus' proposed twelve-year period, lowers the allocator value (as shown in Figure 5.3), resulting in a reduction in the marketing expenses that are allocated to FFLAS over the pre-implementation period.

5.96 The impact of our draft decision on the value of the FLA and on the initial PQ RAB value is shown in Table 5.2 below. The use of an eight-year period over which to determine the future benefit allocator values reduces the FLA value by -\$27.0 million. Table 5.2 also shows the impact of our draft decision on the expenditure allowances for PQP1.

²⁵⁷ These allocator values are calculated in the Chorus BBM opex model by changing the period over which revenues are aggregated.

Table 5.2 Impact on core fibre assets, FLA, total initial PQ RAB value, and PQP1 expenditure allowances (\$m)

	Change (\$M)
Core fibre assets	0.0
FLA	-27.0
Total value of Initial PQ RAB	-27.0
PQP1 capex allowance	0.0
PQP1 opex allowance	-0.9

Source: Analysys Mason

Summary of our draft decision on the use of Chorus' future benefit allocator type

- 5.97 Our draft decision is that, in principle, Chorus' proposed future benefit allocator is reasonable, given that the level of future benefit (in the form of expected revenues) could be expected to influence the level of marketing activity.
- 5.98 However, our view is that the allocator values should be determined using a forward-looking period of eight years (rather than the twelve-year period proposed by Chorus).
- 5.99 The resulting allocator values that we have used for our draft decision on the initial PQ RAB are summarised in Table 5.3. For each year, these values are calculated using Chorus' UFB FFLAS revenues as a proportion of total revenues over an eight-year period. For comparison, Table 5.3 also includes the values proposed by Chorus.

Table 5.3 Future benefit allocator values for draft decision

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Draft decision											
Chorus proposal											

- 5.100 Our draft decision applies to the application of the future benefit allocator type to expenditure in both the initial RAB and PQP1 expenditure allowances.

Other alternatives considered

- 5.101 In addition to Chorus' proposed approach, we considered a number of alternative options. These include the following:

- 5.101.1 the use of contemporary revenues to allocate marketing expenses. For the reasons given in paragraph 5.80 above, we did not adopt this alternative for our draft decision;
- 5.101.2 the use of a four-year period over which to measure future revenues, which would align with Chorus' reported view on the average life for new connections and migrations. For the reasons given in paragraphs 5.91 to 5.93 above, we consider that an eight-year period is more appropriate.

Use of net book value as an allocator as an allocator type

5.102 In this section, we set out the following:

- 5.102.1 Our draft decision;
- 5.102.2 An overview of Chorus' proposed use of a NBV allocator type to allocate costs for FFLAS for both the initial PQ RAB and the expenditure allowances for PQP1;
- 5.102.3 A summary of views on our initial PQ RAB consultation paper;
- 5.102.4 Our analysis of Chorus' proposed use of NBV as an allocator type, including an assessment of whether the NBV allocator type meets the IM requirement of being a ratio that is "objectively justifiable and demonstrably reasonable"; and
- 5.102.5 Other alternatives that we considered.

Our draft decision

5.103 Our draft decision is to:

- 5.103.1 Approve NBV as an allocator type for determining financial losses under clause B1.1.6(1)(c)(x) of Schedule B of the IM; and
- 5.103.2 Approve Chorus' proposed NBV allocation of Chorus' property damage and business interruption insurance costs for calculating the value of the draft initial PQ RAB.

Chorus' proposed use of NBV as an allocator type

Overview of what Chorus has proposed

- 5.104 Chorus has proposed using an allocator based on NBV to allocate property damage costs and business interruption insurance costs.²⁵⁸ This approach identifies the NBV of the relevant FFLAS and copper assets and applies the ratio to the relevant costs.
- 5.105 The NBV allocator would apply to relevant costs in both Chorus' initial PQ RAB and expenditure allowance proposals. As per Chorus' expenditure proposal, over the period 2012 to 2020, these costs had an average value of ██████ per annum, or ██████ of total opex. During PQP1, these costs are \$[████] - \$████ per annum.²⁵⁹
- 5.106 The allocation based on NBV is one of six alternative allocator types proposed by Chorus that requires the Commission's approval to use for calculating its FLA in line with clause B1.1.6(1)(c)(x) in Schedule B of the Fibre IMs.

The rationale for Chorus' proposal

- 5.107 Chorus' view is that that none of the default allocator types set out in the Fibre IMs would be adequate to allocate the costs of property damage and business interruption insurance costs between FFLAS and copper assets.^{260,261}
- 5.108 In its report on "Certain cost allocation issues relevant to the IAV", Incenta submits that:²⁶²

The rationale for applying "net book value" to allocate these insurance costs is that the net book value of each of the networks has a close relationship to the premium that is chargeable. Thus, net book value could be interpreted either as a causal allocator, or as a proxy allocator that provides a very close proxy for the true causal allocator.

- 5.109 Incenta's report also notes that while an allocator type based on revenue could reflect the relative size of the copper and fibre businesses, it would be a poor allocator type for insurance costs during the pre-implementation period.²⁶³ This is because during this period, the network was being constructed, and so there will have been a delay between the assets being installed (at which time insurance commences) and then subsequently being used (at which time revenue is generated).

²⁵⁸ Net book value of an asset should reflect the current accounting value of the asset in the PQ RAB ie, the historical value of an asset, taking into account depreciation and other treatments such as revaluations.

²⁵⁹ Chorus, [Regulatory Template 3 - cost allocation regulatory template - April 2021](#) (27 May 2021).

²⁶⁰ Incenta "[Certain cost allocation issues relevant to the IAV](#)" (published 30 April 2021), page 13.

²⁶¹ The default cost allocator types for the allocation of operating costs are set out in clause B1.1.6 (1)(c)(i)-(ix) in Schedule B of the IMs.

²⁶² Incenta "[Certain cost allocation issues relevant to the IAV](#)" (published 30 April 2021), page 13.

²⁶³ *Ibid*, page 13.

Summary of views in submissions on our initial PQ RAB consultation paper

What we said in the April consultation paper on Chorus' initial PQ RAB proposal

5.110 In our April consultation paper, we did not raise specific issues with Chorus' use of the NBV allocator type. However, we did seek stakeholders' views on the allocator types that Chorus proposed for sharing operating costs in the calculation of the FLA, including on the use of NBV.

Stakeholder views

5.111 No stakeholders made submissions on Chorus' proposed use of NBV as an allocator type to allocate operating costs.

Our analysis of Chorus' proposal

Our view on NBV as an allocator type

5.112 In principle, we consider that allocating insurance costs between regulated FFLAS and services that are not regulated FFLAS should reflect, where possible, the causal drivers of insurance premiums.

5.113 We consider the use of historic cost as an allocator type is relatively easy to implement for both copper and fibre assets and may reflect drivers of expenditure if the insurance in question is based on replacement cost. The evidence before us does not justify a change to this alternative, since it is not clear that this is the basis of the relevant insurance.

5.114 We also note that the total cost of Chorus' property damage and business interruption insurance is approximately ██████████ per annum. Any change in the allocation of these costs by the application of a different allocator will not materially alter the value of the draft initial PQ RAB.

5.115 We are on balance satisfied Chorus' proposed NBV allocation of its property damage and business interruption insurance costs meets the IM definition of a "causal relationship", which requires that the circumstance in which the cost driver leads to the operating cost being incurred is "objectively justifiable and demonstrably reasonable".²⁶⁴

Other alternatives that we considered

5.116 In assessing Chorus' proposal, we considered other possible causal drivers of these costs and the way in which the value of an asset insured may influence insurance premiums.

²⁶⁴ [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24, Schedule B: clause B1.1.1(2) definition of "causal relationship".

- 5.117 For example, a replacement cost valuation will reflect the impact of inflation. Copper assets are older than fibre assets and will have a lower NBV on average. Therefore, if insured values were based on current replacement value (rather than depreciated historic cost), an allocation based on replacement costs would likely allocate a higher proportion of costs to copper than an NBV approach.
- 5.118 However, we note that replacement cost is a calculated value which may not be readily available. In our view, requiring Chorus to maintain replacement costs to allocate a relatively small amount of expenditure would not be proportionate.
- 5.119 We also note that business interruption insurance may be based on the expected level of profitability of the business, rather than asset values. It is likely that copper assets contributed more to Chorus' profitability during the pre-implementation period given that the migration of customers from copper to fibre was still in its early stages. However, the expected level of profitability is less objective than asset values as it requires forecasting rather than reporting on actual values.

Use of recipient business function as allocator type

- 5.120 In this section, we set out the following:
- 5.120.1 Our draft decision;
 - 5.120.2 An overview of Chorus' proposed use of recipient business function to allocate costs of FFLAS for both the initial PQ RAB and the expenditure allowances for PQP1;
 - 5.120.3 A summary of views on our initial PQ RAB consultation paper;
 - 5.120.4 Our analysis of Chorus' proposed use of recipient business function as an allocator type, including whether the recipient business function allocator is "objectively justifiable and demonstrably reasonable", as required by the cost allocation IM; and
 - 5.120.5 Other alternatives that we considered.

Our draft decision

- 5.121 Our draft decision is to approve recipient business function as an allocator type for determining financial losses under clause B1.1.6(1)(c)(x) of the IM.
- 5.122 Allocators of the recipient business function type include those listed below:
- 5.122.1 Accommodation relationship driver;
 - 5.122.2 Service Company overhead;

- 5.122.3 Chorus - all NPC costs;
- 5.122.4 Chorus proactive maintenance overhead;
- 5.122.5 Chorus reactive maintenance overhead;
- 5.122.6 Corporate - all insurance costs
- 5.122.7 Corporate personnel;
- 5.122.8 Maintenance overhead;
- 5.122.9 Provisioning; and
- 5.122.10 Power relationship driver;

Chorus' proposed use of recipient business function as an allocator type

Overview of what Chorus has proposed

- 5.123 Chorus has proposed using proxy cost allocators to allocate certain overhead costs to the internal business unit they are associated with. A proxy cost allocator is the ratio used to allocate operating costs for which a causal relationship cannot be established. The recipient business function proxy cost allocator is based on costs to the business unit which the overheads costs are supporting. The recipient business function allocator type has been used to allocate costs mostly relating to Customer and Network Operations (CNO) and Chief Technology Officer (CTO) overhead categories in step 1 of Chorus' allocation process, as shown in Table 5.5 below
- 5.124 Examples of how this allocator type has been applied by Chorus include:
- 5.124.1 the overhead costs of supervising the work of service companies are allocated in the same manner as the payments that are made to service companies; and
 - 5.124.2 maintenance in relation to power and property assets is allocated in the same manner as the property-related power and accommodation operating expenditures, respectively.
- 5.125 In aggregate, the costs that Chorus proposes to allocate using a recipient business function allocator represent on average ████████ of total opex in the period 2012 to 2020.

Table 5.4 Opex cost categories that use a recipient business type allocator²⁶⁵

Expense category	Allocator
CNO – NPC – Network	Service company overhead
CNO - NPC - overall Serco management	Service company overhead
CNO - NPC - Operations & Optimisation	Service company overhead
CNO - NPC overhead costs	Service company overhead
CTO - Common - Schedules	Service company overhead
CNO - NPC - property - overhead	Corporate personnel
CNO - NPC - Assure	Maintenance overhead
CNO - payment to service companies - maintenance	Maintenance overhead
CNO - Network integrity - non-chargeable	Maintenance overhead
CNO - payment to service companies - provisioning	Provisioning
CNO - Chorus network proactive maintenance (power)	Power relationship driver
CNO - Chorus network reactive maintenance (power)	Power relationship driver
CNO - NPC - property - power	Power relationship driver
CNO - Chorus proactive maintenance overhead	Chorus proactive maintenance overhead
CNO - Chorus network proactive maintenance (accommodation)	Accommodation relationship driver
CNO - NPC - property - accommodation	Accommodation relationship driver
CNO - Chorus network reactive maintenance (accommodation)	Accommodation relationship driver
CNO - property - accommodation	Accommodation relationship driver
CNO - property - Rates - Buildings	Accommodation relationship driver
CNO - project opex - shared	Accommodation relationship driver
CNO - Chorus reactive maintenance overhead	Chorus reactive maintenance overhead
CNO - property - corporate	Corporate personnel
CTO - NPC	CTO Overhead
CTO - Common - Faults/Tickets	Chorus reactive maintenance overhead
CTO - Common - S/O Volumes	Provisioning overhead
Corporate - Insurance - Chorus benefit of the insurance of staff	Chorus - all NPC costs
Corporate Insurance	Corporate - all insurance costs

²⁶⁵ Analysys Mason “Report for Chorus Documentation of opex allocation for the BBM opex workstream (including responses to notice to supply information)” (22 March 2021)

Rationale for Chorus' proposal

5.126 In its report for Chorus, Incenta states that:²⁶⁶

there are a range of overhead functions that perform services for other functions within Chorus, and Chorus proposes to extend the allocation that is applied to the lower level (service recipient) function to the higher level (service provider) function; and

the implicit assumption behind this proxy allocator is that the effort that is undertaken in the relevant overhead function between the different services is related to the relative size of expenditures of the business function that is receiving the overhead service.

Chorus' proposed calculation of the recipient business allocator values

5.127 On the allocation of operational costs Chorus outlines that:²⁶⁷

Allocation drivers range from simple ones (e.g. 100% allocated to copper) to more complex data-driven allocation, changing from year to year. Some allocation drivers are calculated as the weighted average of other allocation drivers.

5.128 The proposed recipient business allocations are the weighted average of other allocation drivers. For example, Chorus explains the application and calculation of the recipient business allocator 'Chorus proactive maintenance overhead' as follows:²⁶⁸

Allocates proactive maintenance overhead based on weighted average of the other proactive maintenance allocation drivers which makes sense as proactive maintenance overhead can be assumed to be in line with other proactive maintenance spend

Summary of views in submissions on our initial PQ RAB consultation paper

What we said in our April consultation paper on Chorus' initial PQ RAB proposal

5.129 In our April consultation paper, we did not raise specific issues with the use of recipient business function as an allocator type. However, we did seek stakeholders' views on Chorus' proposed allocator types for shared operating costs in the calculation of the FLA, including on the use of recipient business function as an allocator type.

Submissions on our initial PQ RAB consultation paper

5.130 There were no submissions on the use of recipient business function as an allocator type for the allocation of operating costs.

²⁶⁶ Incenta "[Certain cost allocation issues relevant to the IAV](#)" (published 30 April 2021), page 17.

²⁶⁷ Analysys Mason "[Report for Chorus: Documentation of opex allocation for the BBM Opex workstream \(including responses to notice to supply information\) – Model version 3.31](#)" (26 March 2021), page 10.

²⁶⁸ Ibid, page 31.

Our analysis of Chorus' proposal

- 5.131 A business unit's overheads, of the kind identified by Chorus, must be allocated in a way that is reasonable. Generally, for overhead costs we consider there is no cost allocator based on a causal relationship available. The IM requires that any proxy cost allocator used is "objectively justifiable and demonstrably reasonable".²⁶⁹
- 5.132 We consider a proportional (ie, weighted average) allocation of a business unit's overhead costs, based on the unit's other cost allocation drivers, is an acceptable approach, provided the underlying cost allocators on which it is calculated are themselves objectively justifiable and demonstrably reasonable.
- 5.133 Our draft decision, therefore, is to accept the recipient business unit allocator based on the evidence before us.

CTO - Overhead proxy allocator and bias

- 5.134 As noted above, we consider a recipient business function allocator type is reasonable, provided the underlying proxy cost allocators are themselves objectively justifiable and demonstrably reasonable as required by the IM.²⁷⁰
- 5.135 In considering the reasonableness of the underlying allocator on which the recipient business unit proxy cost allocator is based, we identified an issue with the calculation of the CTO Overhead proxy cost allocator. This allocator is calculated based on several underlying causal and proxy cost allocators. "CTO Common Costs" is a significant proportion of the non-overhead cost base of the CTO business unit.
- 5.136 The CTO Overhead is the weighted average of the allocations of the other CTO expense categories, as shown in Table 5.5 below.

²⁶⁹ Clause B1.1.1(2) of Schedule B in the IMs - definition of "proxy cost allocator".

²⁷⁰ [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020 \[2020\]](#) NZCC 24, Schedule B: clause B1.1.1(2) definition of "proxy cost allocator".

Table 5.5 CTO expense categories used to calculate the weighted average “CTO Overhead allocator”²⁷¹

CTO Expense category
 CTO - Fibre
 CTO - Copper
 CTO - Common costs
 CTO - Common - Faults/Tickets
 CTO - Common - Revenue
 CTO - Common - Schedule
 CTO - Common - S/O Volumes
 CTO - Common - Orders
 CTO - project opex

- 5.137 We set out below, starting at paragraph 5.182, an issue we identified with the use of totex to allocate “CTO Common Costs”.
- 5.138 Our draft decisions are:
- 5.138.1 to change the allocation of “CTO Common Costs” as we set at paragraph 5.179; and
- 5.138.2 to recalculate the CTO Overhead allocator as we set out below at paragraph 5.180.

Alternatives considered

- 5.139 We considered the following options when assessing Chorus’ proposed recipient business function allocator type:
- 5.139.1 Accept Chorus’ proposed allocator type and cost allocator.
- 5.139.2 Use an alternative allocator/allocation. Candidates for this would be causal or proxy allocators arrived at from a detailed understanding of how business function overheads, such as personnel costs, have been allocated.
- 5.140 We have not identified, based on the evidence before us, alternative causal or proxy cost allocators that we consider should be used to allocate CTO Overhead costs. Our draft decision is that the recipient business unit allocation approach is reasonable.

²⁷¹ Analysys Mason “[Report for Chorus: Documentation of opex allocation for the BBM Opex workstream \(including responses to notice to supply information\) – Model version 3.31](#)” (26 March 2021). page A-77

Use of totex as an allocator type

- 5.141 In this section, we consider Chorus' proposal to allocate certain overhead expenses on the basis of a totex allocator.
- 5.142 Specifically, we set out the following:
- 5.142.1 Our draft decisions;
 - 5.142.2 An overview of Chorus' proposed use of totex as an allocator type to allocate a number of overhead expenses;
 - 5.142.3 A summary of submissions on our initial PQ RAB consultation paper;
 - 5.142.4 Our analysis of Chorus' proposal; and
 - 5.142.5 Other alternatives that we considered.

Our draft decisions

- 5.143 Our draft decision is to approve the use of totex as an allocator type for determining the financial losses under clause B1.1.6(1)(c)(x) of Schedule B of the IMs. However, this is on the basis that the cost allocators used in the calculation meet the IM requirement of being objectively justifiable and demonstrably reasonable. Were this requirement not met, it would result in inflating the value of Chorus' FLA to the long-term detriment of end-users, contrary to s 162 (c) and (d) of the Act.
- 5.144 Our draft decision is to exclude rates costs from the calculation of the opex component of the totex allocator:
- 5.144.1 Rates should be excluded from the opex element of the totex allocator for the purpose of calculating the FLA in the pre-implementation period;
 - 5.144.2 Like other pass-through costs, rates should be excluded from the opex element of the totex allocator for the purpose of cost allocation in the PQP1 period.

Chorus proposal for the calculation of a totex allocator

- 5.145 Chorus has proposed to allocate, in step 2 of its allocation process, certain operational overhead costs to in-scope FFLAS (eg UFB FFLAS and PQ FFLAS) with the "prorated totex" allocator. This allocator is determined by the following formula:

Figure 5.4 Calculation of totex allocator

$$5.146 \quad \frac{\text{Total Capex Allocated to FFLAS} + \text{Total Opex Allocated to FFLAS (Excluding Costs Allocated by Totex)}}{\text{Total Capex} + \text{Total Opex (Excluding Costs Allocated by Totex)}}$$

5.147 The value of costs to be allocated by the totex allocator is determined in step 1 of Chorus' allocation process. In step 1 of the process, certain operational overhead costs are allocated, in full or part, to a category of "costs to be allocated by totex".

5.148 Chorus proposes to allocate certain expenditures associated with Chorus' corporate, Chief Technology Office (CTO) and Customer and networks operations (CNO) functions. Table 5.6 lists Chorus' expenditures that are allocated in full or part using totex.

Opex categories allocated on the basis of Totex (PQ RAB only)

5.149 As shown in Table 5.6, on average between 2012 to 2020, operating costs totalling [REDACTED] per annum, representing [REDACTED] of Chorus' total operating costs, are identified for allocation by totex. This is the largest allocation of Chorus' operating expenses after allocation to FFLAS and non-FFLAS services.

5.150 Two expense categories, "CTO Common Costs" [REDACTED], and Corporate NPC costs [REDACTED] account for approximately three quarters of the [REDACTED] expenditure identified to be allocated by totex.

- 5.151 Chorus have also used the totex allocator type to allocate certain opex to FFLAS as part of its forecast expenditure allowance proposal for PQP1. Our analysis also considers the use of the totex allocator type for use in allocating expenditure to FFLAS for determining PQP1 allowances.

Rationale for Chorus' totex allocator

- 5.152 In a report for Chorus, Incenta explains the rationale for using totex to allocate operating overhead costs. Incenta submits that:²⁷²

It is not uncommon for aspects of corporate overhead to be allocated between activities on the basis of expenditure, as this reflects the reasonable assumption that the degree of effort required in corporate support roles are related to the magnitude of the expenditure. For example, the potential for and complexity of legal advice that may be sought in relation to contracts with external service providers would be expected to have a strong relationship to the cost to Chorus of the services provided. The one additional extension to this common allocator for corporate services is the observation that effort that is provided by corporate is reasonably indifferent as to whether the activity would be classified as an operating expense or as a capital cost. Indeed, given the UFB rollout comprised a very large undertaking using a new technology, it should be expected that a substantial part of the effort of corporate was directed to decisions and management in relation to this capital project.

- 5.153 Further, Incenta submits that the default allocator types listed in the IMs²⁷³ are unlikely to provide a reasonable proxy where a new network is being built, as approved allocator types such as customer connections lag the timing of certain expenditures. Incenta states:

In terms of the list of default allocators, none of the allocators would be expected to provide a reasonable proxy for the effort that corporate service functions exercise in relation to expenditures between the copper and fibre services that reflect the current context, namely where one of the networks is being constructed. Where there were two networks in operation (i.e., already constructed), then relative customer connections may be a reasonable proxy for relative corporate effort. However, as customer connections will lag expenditures by some period where a network is being constructed, this allocator is not appropriate in the context of fibre services. Moreover, the context whereby relative customers are not related to relative expenditure (or assets) is also not something that likely arose in the context of the Commission's FPP modelling.

Chorus' proposed calculation of the totex allocator values

- 5.154 In step 1 of Chorus' cost allocation process, certain operating costs are allocated in full or part to 'costs to be allocated using totex'. The operating cost categories that are fully (100%) allocated to 'costs to be allocated using totex' are:

5.154.1 CTO – Common costs;

²⁷² Incenta "[Certain cost allocation issues relevant to the IAV](#)" (published 30 April 2021), page 15.

²⁷³ Clause B1.1.6(1)(c) of Schedule B of the Fibre Input Methodologies Determination 2020, 9 July 2021.

- 5.154.2 Corporate – audit fees & expenses; and
- 5.154.3 Corporate – insurance - general liability errors & omission Directors & Officers Statutory.
- 5.155 Other operating costs, however, have only a portion of their costs allocated using totex. The degree to which operational costs are allocated using totex varies between cost categories, and from year to year.
- 5.156 In step 2 of Chorus’ cost allocation process, the “costs to be allocated by totex” are assigned between in-scope FFLAS (UFB or PQ FFLAS) and other FFLAS (voluntary or ID-only FFLAS), using the proxy cost allocator “prorated totex”.²⁷⁴ For annual “prorated totex” allocations between FFLAS and non-FFLAS, see Table 5.7²⁷⁵

Table 5.7 Prorated Totex allocations by year

Prorated Totex	FFLAS	Non-FFLAS
2022	76.0%	24.0%
2023	74.0%	26.0%
2024	74.2%	25.8%

Source: Chorus - RT03 Cost allocation, 10 February 2021.²⁷⁶

Summary of views in submissions on our initial PQ RAB consultation paper

What we said in the April consultation paper on Chorus’ initial PQ RAB proposal

- 5.157 In our consultation paper on Chorus’ initial PQ RAB proposal, we highlighted that Chorus proposed to use allocator types other than those available under clause B1.1.6(1)(c) of Schedule B of the IMs to be used to allocate operating costs not directly attributable to the provision of UFB FFLAS. One of the allocator types proposed by Chorus was total expenditure (totex).

²⁷⁴ Analysys Mason report for Chorus “[Documentation of opex allocation for the BBM Opex workstream \(including responses to notice to supply information\) – Model version 3.31](#)” (26 March 2021), Figure A.104, page A-96.

²⁷⁵ Analysys Mason report for Chorus “[Building Block model IAV model documentation IAV model v314 120c](#)” (24 March 2021); Figure 18, page A-42

²⁷⁶ Chorus, [Regulatory Template 3 - cost allocation regulatory template - April 2021](#) (27 May 2021).

- 5.158 We also noted a significant proportion of Chorus' operating costs were proposed to be allocated on the basis of totex, including CTO and corporate overheads:²⁷⁷

While it may be the case that a measure such as totex reflects the level of effort and focus of corporate technology functions (such as Chorus' CTO), we query Chorus' proposed application of totex to allocate corporate personnel costs more broadly. It may be the case that the focus of corporate resources will be influenced by the relative business segments of Chorus. For example, in the early part of the pre-implementation period (2013 to 2015), a significant regulatory issue for Chorus was the review of regulated pricing for key copper access services (the unbundled copper local loop service and the unbundled bitstream access service). Chorus' public statements at the time indicated that the pricing review was one of the most important factors affecting Chorus, and that significant Board and management effort had been directed to the review of copper pricing, given the importance of Chorus' copper revenues. This could indicate that an allocator that reflected the relative segments of Chorus might be a better proxy for the effort required in corporate support roles.

- 5.159 We also suggested that many of the operating costs that had been allocated using totex may relate to end-user uptake and suggested an allocator based on connection numbers could be considered as an alternative allocator to totex.

Submissions on our initial PQ RAB consultation paper

- 5.160 Chorus, in its submission on our April consultation paper, disagreed with the suggestion that an allocator based on connections might prove a better cost allocator than totex, noting:²⁷⁸

"... it runs counter to the fact that we built an entirely new business to deploy a new network. A connection-based allocation does not make logical sense given the time lag between 'build' and 'connect'."

- 5.161 Further, Chorus submitted on our suggestion that its proposed application of totex to allocate corporate personnel costs did not necessarily reflect the efforts of its corporate function during the early part of the pre-implementation period (2013 to 2015), noting:²⁷⁹

".... the FPP was a time-consuming process. However, it cannot be considered in isolation. During that period, we were standing up a fibre business and ramping up the fibre rollout. The FPP did not require the same level of effort across the business as the nation-wide fibre rollout and therefore did not cause as much cost. It is not demonstrably reasonable to assume that a single project was representative of the effort required by the entire business. As discussed by Incenta Chorus has applied Totex as an allocator because it better reflects the actual effort that drove costs across our entire business and the timing of when those costs were incurred. The default allocators do not provide a demonstrably reasonable proxy whereas Totex does."

²⁷⁷ Commerce Commission, "[Chorus' initial price-quality RAB proposal - Chorus' initial price-quality regulatory asset base as at 1 January 2022](#)" (30 April 2021), paragraph 4.34.

²⁷⁸ Chorus "[Submission on Commission's consultation on Chorus' initial PQ RAB](#)" (28 May 2021), paragraph 38

²⁷⁹ Ibid, paragraph 40

5.162 Spark, in its submission on our April consultation paper, noted:²⁸⁰

We agree that the Commission should be cautious adopting the proposed allocators as these have a significant impact on RAB outcomes. Our expenditure proposal benchmarking highlights that Chorus anticipates allocating significant operating costs to FFLAS and, if applied to the FLA, would add significantly to end user prices. Further, the [Commission] should also consider whether the cumulative effects of the allocations support the proportionate transition of costs that it was expecting to see.

5.163 Spark further noted in respect of Chorus' proposed allocation of expenses using the totex allocator:²⁸¹

In any case, totex is unlikely to reflect actual cost drivers or result in the proportionate transition of costs:

a. While Incenta advise for Chorus that it is not uncommon for overhead to be allocated between activities on the basis of expenditure, this does not mean it is the allocator that is consistent with the Commission's framework and best promotes the purposes of the Act.

Further, the drivers to which Incenta refers relate to labour costs that we expect would be capitalised into the asset. Therefore, the approach would be seeking to recover labour costs from FFLAS that were already built into the asset value.

b. The consultation paper rightly observes that through time corporate resources would be focused on other issues – i.e. the copper pricing review – suggesting an allocator reflecting segments might be a better proxy.

c. Chorus financial reporting that labour and associated overheads in relation to the UFB roll out have been capitalised and, as costs are largely capitalised, there will be little impact on reported labour costs:

Labour costs and the associated overheads in relation to the UFB build and connect activity are capitalised. As this activity reduces over time, we expect the related labour cost savings to be largely capital in nature.

This further suggests totex is unlikely to be a material operating cost driver.

d. As noted above, the Commission's Reasons Paper approach anticipates a proportionate shifting of costs from copper to fibre network. Therefore, we expect that the cumulative effect of the allocators would likewise see a proportionate allocation over time."

²⁸⁰ Spark "[Chorus' initial price-quality regulatory asset base](#)" (28 May 2021), paragraph 88.

²⁸¹ Spark "[Chorus' initial price-quality regulatory asset base](#)" (28 May 2021), paragraph 89.

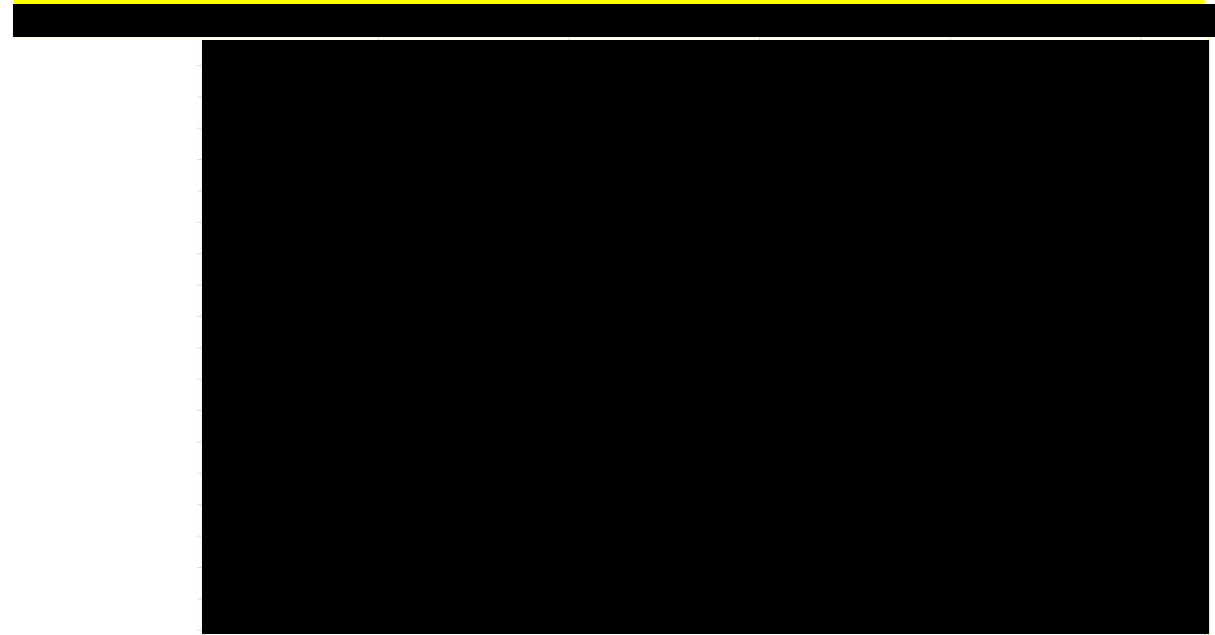
Our analysis of Chorus' proposal

- 5.164 In determining whether totex is an appropriate alternative allocator, we need to ensure it meets the requirements of the IMs. The IMs set out the following compliance requirements that must be satisfied in respect of proxy allocators. In particular:
- 5.164.1 any proxy cost allocator must meet the IM requirement that the ratio used to allocate operating costs is “objectively justifiable and demonstrably reasonable”;²⁸²
- 5.164.2 any proxy asset or cost allocators used to determine the FLA, must also be “consistent with similar measures, both within a financial loss year and from financial loss year to financial loss year.”²⁸³
- 5.165 Allocations made using the totex allocator are material to the calculations of Chorus' FLA and expenditure allowance for PQP1. The allocations of operational expenditure in the early years of the pre-implementation period impact significantly on the calculated value of the FLA in the initial RAB.
- 5.166 In the early stages of the pre-implementation period, Chorus invested heavily in UFB deployment (particularly in communal assets), while initial uptake of UFB FFLAS was low. Incenta submitted on Chorus' behalf:²⁸⁴
- “Chorus has applied Totex as an allocator because it better reflects the actual effort that drove costs across our entire business and the timing of when those costs were incurred. The default allocators do not provide a demonstrably reasonable proxy whereas Totex does”.
- 5.167 We have looked at the relative difference in the timing of an expense allocated using the proposed prorated totex allocation, compared to an allocation using subscribers, which is a default allocator type in the IM.
- 5.168 We found, as Incenta submitted, an allocation of expenses based on the “prorated totex” allocator would allocate a higher proportion of costs to in-scope FFLAS (ie, UFB FFLAS) in the early years of the UFB rollout programme than a demand-based allocation (ie, subscribers). Not until after 2016 would a demand-based allocation (based on subscribers) allocate more than ████████ of costs to in-scope FFLAS, as shown in Figure 5.5.

²⁸² Clause B1.1.1(2) of Schedule B of the IMs - definitions of “proxy asset allocator” & “proxy cost allocator”.

²⁸³ Ibid.

²⁸⁴ Chorus “[Submission on Commission's consultation on Chorus' initial PQ RAB](#)” (28 May 2021), paragraph 40.



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- 5.169 Certain overheads incurred by Chorus' corporate function, such as non-capitalised, operational expenses incurred in directing initial decisions and future investment in Chorus' participation in the UFB programme, should be recognised at the time they were incurred. Chorus' incentive to invest and innovate would otherwise be diluted, contrary to s 162 (a) of the Act.
- 5.170 However, the risk with such an approach is that costs —other than those for which the totex allocator meets the IM requirement of being “objectively justifiable and demonstrably reasonable”—, could be allocated inappropriately to UFB FFLAS at rates greater than they should otherwise be allocated. An inappropriate allocation of costs by “prorated totex” would inflate the value of Chorus' FLA to the long-term detriment of end-users, contrary to s 162(c) and (d) of the Act.

Inclusion of pass-through costs in the calculation of the totex allocator

- 5.171 Some pass-through costs, specifically infrastructure rates, have been included in the calculation of the opex component of the totex allocator.
- 5.172 Chorus' rationale for the totex allocator is that it meets the definition of a “proxy cost allocator”. Totex provides a proxy for overhead functions that support FFLAS and copper services.
- 5.173 Pass-through costs are not related to an activity performed by Chorus' overhead functions. They therefore do not represent activities that support either copper or FFLAS. The existence of the pass-through cost does not in itself impact the costs incurred by Chorus' overhead functions. Accordingly, we consider the inclusion of these costs in the opex component of totex is likely to distort the cost allocator.

5.174 Our draft decision is to exclude infrastructure rate costs from the calculation of the opex component of the “prorated totex” allocator:

5.174.1 Infrastructure rates have been excluded from the opex element of the totex allocator for the purpose of calculating the FLA in the pre-implementation period.

5.174.2 Like other pass-through costs, infrastructure rates will be excluded from the opex element of the totex allocator for the purpose of cost allocation in RP1.

Alternatives considered

5.175 We considered the following options when assessing Chorus’ proposed totex allocator:

5.175.1 Accept Chorus’ proposed allocator type and cost allocator.

5.175.2 Use an alternative allocator type. Candidates for this would be a default causal demand-based allocator type such as number of subscribers (customers) or revenue.

5.176 On the basis of the evidence before us, for the reasons given above, we have accepted totex as an allocator type to be used for determining financial losses under clause B1.1.6(1)(c)(x) of Schedule B of the IMs.

5.177 However, we have identified a use of totex that we do not consider to be justified and in respect of which an adjusted approach is required, as outlined below.

The allocation of “CTO common Costs”

5.178 In this section, we consider whether the proposed full (100%) allocation of “CTO Common Costs” using the totex allocator type meets the IM requirement of being “objectively justifiable and demonstrably reasonable”.

Summary of our draft decisions on Chorus use of allocator types

5.179 Our draft decision is to change the allocation of “CTO Common Costs” from being based solely on totex, to an allocation that splits the cost between totex and a recipient business unit allocator. The split of “CTO Common Costs” is to be via an allocation of 61% using the totex allocator type and 39% using the CTO Overhead allocator where, in the absence of direct allocator information, our draft conclusion is the recipient business unit allocator type is superior to totex.

- 5.180 The draft decision requires the recalculation of recipient business function allocators (eg: the “CTO Overhead” allocator) that are dependent on the portion of “CTO Common Costs” allocated via totex. The recalculation will therefore ensure, for example, that only those “CTO Common Costs” allocated via totex are used to calculate the CTO Overhead allocator.
- 5.181 This draft decision applies to how the totex allocator type is used in determining the value of the FLA in the initial RAB value and allocated expenditure allowances for PQP1.

The allocation of “CTO Common Costs”

- 5.182 In this section, we assess whether Chorus’ allocation of “CTO Common Costs” is “objectively justifiable and demonstrably reasonable” as required by the IMs.²⁸⁵

Chorus’ rationale for allocation of “CTO Common Costs”

- 5.183 Chorus submits its 100% allocation of “CTO Common Cost” to “costs to be allocated by totex” is reasonable because the CTO function supports the entire organisation.²⁸⁶

Our analysis of Chorus’ allocation of “CTO Common Costs”

- 5.184 We reviewed Chorus’ reasoning and supporting evidence for its allocation of “CTO Common Costs” to “costs to be allocated by totex”. As previously noted, Chorus considers a 100% allocation of “CTO Common Costs” to “costs to be allocated by totex” is reasonable because the CTO function supports the entire organisation. However, we could not conclude from a review of the costs within this category that Chorus’ 100% allocation of “CTO Common Cost” via totex was objectively justifiable and demonstrably reasonable, as required under the IM.²⁸⁷
- 5.185 From Chorus’ documentation we learnt of the existence of an input file that contained additional information on the value of Chorus “CTO Common Costs”. On 25 June 2021, we issued a notice for a copy of that input file from Chorus. In July 2021, Chorus supplied us with a copy of that file.

²⁸⁵ Clause B1.1.1(2) of Schedule B of the IMs - definitions of “proxy asset allocator” & “proxy cost allocator”, page 131.

²⁸⁶ Analysys Mason report for Chorus “[Documentation of opex allocation for the BBM Opex workstream \(including responses to notice to supply information\) – Model version 3.31](#)” (26 March 2021), Page 47.

²⁸⁷ Ibid, page 47.

5.186 From our analysis of the supplied input file, we found:

5.186.1 Chorus' "CTO Common Costs" expenditure category was the total of 274 individual expenses, 53 of which are forecast to be \$100,000 or greater for the 2022 financial year;

5.186.2 from the descriptions provided we were able, for several expenses, to identify the supported system or function within Chorus. For example, expenses associated with Chorus' sales management, network asset management, and service assurance and billing systems; and

5.186.3 for reasons set out above we consider the allocation of "CTO Common Costs" by totex is not objectively justifiable and demonstrably reasonable, at least for a number of the individual expenses that comprise "CTO Common Costs" For example, we consider licence support expenses for an order fulfilment system that support the provision of FFLAS and non-FFLAS services could reasonably be allocated based on orders or connections.

5.187 We have assessed the impact of an alternative allocation of the "CTO Common Costs". Our assessment involved selecting and applying alternative allocators we considered appropriate based on Chorus' description of the costs, all other cost allocation remaining unchanged. The alternative allocators were chosen from Chorus' proposed set of allocators and applied to those 53 "CTO Common Costs" forecast to be \$100,000 or greater for the 2022 financial year that we considered totex was not "objectively justifiable and demonstrably reasonable".

5.188 Our revised allocation of "CTO Common Costs" is shown in Table 5.8 below.

Table 5.8 Our revised allocation of "CTO Common Costs"

Expense item	Description	Revised allocator
Overhead Recovery	Spark Non-Portfolio Charges	Service company overhead
IT Outsing-Ntwk Svc	ALU Network Operations Service Fee	Service company overhead
IT Outsing-DataC &IA	Server Support Services	Totex
IT Outsing-Tech Svc	Datacom IT Services Management	Service company overhead
Software Maintenance	Desktop Distributed Services	Totex
Spark owned sys opex	Shared Infrastructure Services	Totex
IT Outsing-Ntwk Svc	ALU Configuration Service Fee	Service company overhead
S/ware Licence Supp	Microsoft Licensing	Totex
Chorus/Spark Pass Th	Netcracker	Orders
Spark owned sys opex	Remote Access CITRIX	Totex
Software Maintenance	Desktop applications	Totex

Software Maintenance	Service Desk CCL	Totex
Telecom - External	Cardax	Corporate Personnel
Spark owned sys opex	Websphere License	Totex
Telecom - External	CCL WAN & Inter-Data Centre Connectivity	Corporate Personnel
S/ware Licence Supp	Netcracker	Orders
S/ware Licence Supp	SAP-ERP	Corporate Personnel
Telecom - External	Spark Line Rental, Activity, 0800 &Other	Corporate Personnel
Overhead Recovery	SSA Incentive Payments	Corporate Personnel
Software Maintenance	SAP-ERP	Corporate Personnel
S/ware Licence Supp	Netmap	Accommodation relationship driver
Spark Tech Ops Rcvry	Spark Non-Portfolio Charges	Service company overhead
S/ware Licence Supp	5530 Network Analyser (Fibre and Copper)	Maintenance overhead
Hardware - Rental	VDI rental costs	Corporate Personnel
S/ware Licence Supp	Oracle License	Corporate Personnel
SerCoy Netw Dep Field Ser	Vodafone Fixed and Mobile Costs	Corporate Personnel
Telecom - External	Vodafone Fixed and Mobile Costs	Corporate Personnel
Telecom - External	Telecommunications WAN services costs	Corporate Personnel
S/ware Licence Supp	Singl.eView	Revenue
IT Outsing-Ext lab	Programme Management	CTO - Project opex
SAAS	Sales Management	Revenue
Spark owned sys opex	Singl.eView	Revenue
IT Outsing-DataC &IA	Sharepoint Documents online	Corporate Personnel
Software Maintenance	Netmap	Accommodation relationship driver
Software Maintenance	Address Location Management	Accommodation relationship driver
Telecom - External	Business Continuity-DR initiative	Corporate Personnel
S/ware Licence Supp	Address Location Management	Accommodation relationship driver
Spark owned sys opex	Genesys and Call Centre Infrastructure	Orders
Spark owned sys opex	Overhead Servers	Totex
Spark owned sys opex	Microsoft Licensing	Totex
S/ware Licence Supp	Websphere License	Totex
Telecom - External	Telecommunications Landline costs	Corporate Personnel
Software Maintenance	Chorus Data Warehouse	Corporate Personnel
S/ware Licence Supp	Sales Management	Revenue
Software Maintenance	Centrally managed channels costs	Revenue
Spark owned sys opex	Infosphere	Corporate Personnel
Spark owned sys opex	BI Feeds	Corporate Personnel
S/ware Licence Supp	SAP People Management	Corporate Personnel

S/ware Licence Supp	Server-Desktop SW Licence Agreements	Corporate Personnel
Spark owned sys opex	Internal Data Network Management System	Service company overhead
Spark owned sys opex	TMS Network management system	Service company overhead
Software Maintenance	Chorus Appln Maintenance	Corporate Personnel
Spark owned sys opex	Netmap	Accommodation relationship driver

5.189 Our assessment of “CTO Common Costs” using alternative allocators for those costs we considered totex was not objectively justifiable or demonstrably reasonable found 61% of “CTO Common Costs” forecast to be \$100,000 or greater for the 2022 financial year would be allocated to “costs to be allocated by totex”, not 100% as was proposed by Chorus.

Not all “CTO Common Costs” should be allocated via totex

5.190 Our draft decision is Chorus' allocation of costs to the CTO Common Cost category and subsequent allocation of “CTO Common Costs” to “costs to be allocated by totex” is, in the circumstances, not objectively justifiable or demonstrably reasonable, given:

5.190.1 The IM requires that a proxy allocator, such as totex, may only be used to allocate costs and assets values for which a causal relationship cannot be established. We consider, based on our observation and understanding of the costs that comprise “CTO Common Costs”, that causal relationships could be established for several “CTO Common Costs”.

5.190.2 Additionally, we consider Chorus’ “CTO Common Costs” are unlikely to all have the same degree of “time lag” characteristic as Chorus’ corporate overheads, for which totex is Chorus’ proposed allocator type. Therefore, an allocation of “CTO Common Costs” using totex (a corporate overhead allocator) may result in an allocation of costs that unreasonably inflates the value of Chorus' FLA for the initial RAB by recognising a higher proportion of costs ahead of when they should otherwise reasonably occur. An inappropriate allocation of costs by “prorated totex” would inflate the value of Chorus’ FLA for the initial RAB to the long-term detriment of end-users, contrary to s 162(c) and (d) of the Act.

5.191 Our draft decision is to:

5.191.1 limit the amount of “CTO Common Costs” to be allocated by totex to 61% of its total annual value. We have chosen 61% as this is the average rate we observed after alternative allocators were applied to costs for which we considered totex was not objectively justified or demonstrably reasonable. Our assessment was based on the description of “CTO Common Costs” forecast to be \$100,000 or greater for the 2022 financial year.

5.191.2 For the remaining 39% of “CTO Common Costs” not to be allocated by totex, our decision is to allocate those costs by the recipient business unit allocator CTO Overhead. This allocator type is used to allocate other CTO overheads and is the weighted average of other CTO cost allocations. We consider it is objectively justifiable and demonstrably reasonable to use the CTO Overhead in the absence of information on specific causal allocations.

Circularity in using the CTO Overhead allocator type for “CTO Common Costs”

5.192 The CTO Overhead allocator type is a recipient business allocator and is the weighted average of the allocations of the other CTO expense categories, including “CTO Common Costs”, as listed in Table 5.8 above.²⁸⁸

5.193 The CTO Overhead allocator type is currently calculated using the “CTO Common Costs” as an input to its calculation which creates a circularity in the calculations.

5.194 To use the CTO Overhead allocator type to allocate the portion of the “CTO Common Costs” not to be allocated via totex, the CTO Overhead allocator must be calculated excluding the value of “CTO Common Costs” that is to subsequently be allocated by the CTO Overhead allocator.

5.195 Currently, the inclusion of the “CTO Common Costs” allocation (based on the totex allocator) as part of the calculation of the CTO Overhead allocator weights the CTO Overhead allocator heavily towards “costs allocated using totex”. This is shown in Table 5.9 below, where the totex allocation currently represents more than half the weighting.

²⁸⁸ Analysys Mason “[Report for Chorus: Documentation of opex allocation for the BBM Opex workstream \(including responses to notice to supply information\) – Model version 3.31](#)”, page A-64.

Table 5.9 CTO Overhead expense allocation by BBM opex expense category²⁸⁹

CTO Overhead	1%	37%	8%	54%
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5.196 A revised CTO Overhead allocator calculated as the weighted average of the cost allocations of the CTO expense categories listed in Table 5.8 above, but only including the portion of “CTO Common Costs” still allocated by totex, would result in the following allocations in Table 5.10.

Table 5.10 Revised CTO Overhead expense allocation by BBM opex expense category

CTO Overhead	36%	2%	61%	0%
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5.197 The impact of our draft decision to reallocate a portion of “CTO Common Costs” (based on the revised CTO Overhead allocator shown in Table 5.10 above) is shown in Table 5.11 below. Our draft decision results in a reduction in the value of the FLA of -\$51.7 million. Our draft decision results in a reduction in the opex allowance for PQP1 of -\$38.6 million.

Table 5.11 Impact on core fibre assets, FLA, total initial PQ RAB value, and PQP1 expenditure allowances (\$m)

	Change (\$M)
Core fibre assets	0.0
FLA	-51.7
Total value of Initial PQ RAB	-51.7
PQP1 capex allowance	0.0
PQP1 opex allowance	-38.6

Source: Analysys Mason

5.198 Consequently, for CTO Overhead allocations to be “objectively justifiable and demonstrably reasonable”, as required by the IM, it must be based on the allocation of revised “CTO Common Costs”.

²⁸⁹ Allocation driver values can be found in Analysys Mason “Opex allocation – numerical info v3.31” (26 March 2021)

Table 5.12 CTO cost allocations used to calculate the weighted average “CTO Overhead allocator”

CTO Expense category
 CTO - Fibre
 CTO - Copper
 CTO - Common costs
 CTO - Common - Faults/Tickets
 CTO - Common - Revenue
 CTO - Common - Schedule
 CTO - Common - S/O Volumes
 CTO - Common - Orders
 CTO - project opex

Use of “shared ISAM” as an asset allocator type

5.199 This section explains our draft decision to approve the use of the “shared ISAM” alternative cost allocator.

Our draft decision

5.200 Our draft decision is to approve the use of the allocator type “shared ISAM”. This allocator type will share the value of Chorus' layer 2 (L2) ISAM equipment in providing FFLAS and non-FFLAS services.

5.201 Our draft decision applies to how the value of Chorus “shared ISAM” is allocated to the initial RAB valuation.

Chorus’ proposed use of “shared ISAM” as an allocator type

5.202 In this section, we consider Chorus’ proposal to allocate the value of certain L2 assets shared in the provision of FFLAS and non-FFLAS in the pre-implementation and post-implementation periods, specifically Chorus ISAM equipment. In particular:

5.202.1 we provide an overview of Chorus’ proposed use of the “shared ISAM” allocator type to allocate the value of ISAM line cards used to provide FFLAS service.²⁹⁰

5.202.2 we summarise the rationale that Chorus has put forward in support of its proposed “shared ISAM” allocator; and

²⁹⁰ ISAM is reference to Intelligent Services Access Manager equipment that Chorus installed in its access network to provide DSL and fibre services. An ISAM chassis supports separate line cards for DSL and fibre (FFLAS).

5.202.3 we summarise Chorus' proposed calculation "shared ISAM" allocator values.

Overview of Chorus proposed "shared ISAM" as an allocator type

5.203 Chorus has proposed a new national allocator type "shared ISAM" for allocating the value of its ISAM equipment used to support the provision of FFLAS and non-FFLAS services.

The rationale for Chorus' proposed use of "shared ISAM" as an allocator type

5.204 In proposing this new allocator type, Chorus notes the new allocator type is closely related to the "number of ports" allocator listed as an approved allocator type under B1.1.6(2)(d) of the IM.

Calculation of the "shared with copper, fibre cable" as an allocator

5.205 The "shared ISAM" allocator type allocates the cost of ISAM layer 2 equipment based on the percentage of national ISAM cards used to support FFLAS to the total number of cards (ie, FFLAS card/all cards).

5.206 The values of the "shared ISAM" allocator (ie, the ratio) used in the calculating of the initial RAB, the MAR (PQ FFLAS) and ID-only FFLAS are given in Figure 5.6 below.

Figure 5.6 Shared ISAM allocation factors[

Summary of views in submissions in our initial PQ RAB consultation paper

What we said in our PQ RAB consultation paper

5.207 We invited stakeholders' views on the allocators chosen by Chorus, including those that Chorus had proposed requiring Commission approval. We did not specifically seek stakeholders' view on Chorus proposed "shared ISAM" allocator type.

5.208 No submissions were received on this issue.

Materiality of “shared ISAM” as an allocator

5.209 Chorus' allocation of L2 ISAM assets using the proposed “shared ISAM” allocator results in the allocations set out in Figure 5.7 below.



Our draft decision on use of “shared ISAM” as an allocator type

- 5.210 Our draft decision is to approve Chorus' proposed use of the allocator type “shared ISAM” to allocate the value of layer 2 ISAM assets used by Chorus to provide FFLAS and non-FFLAS services.
- 5.211 We consider Chorus' approach to the allocation of shared L2 ISAM equipment costs is functionally similar to an allocation based on “number of ports”, one of the default allocator types in the IM.
- 5.212 We consider, in the context of allocating “shared ISAM” costs, Chorus' proposed “shared ISAM” allocation is “objectively justifiable and demonstrably reasonable”, as required by the IM.

Use of allocator 'shared with copper, fibre cable’ as an asset allocator

5.213 This section sets out our draft decision to approve the “shared with copper, fibre cable” asset allocator.

Our draft decision

- 5.214 Our draft decision is to approve the use of the allocator type “shared with copper, fibre cable” to allocate the value of certain shared pre-2012 assets used by Chorus to provide FFLAS and non-FFLAS services, as proposed by Chorus.²⁹¹
- 5.215 Our draft decision applies to how the value of the following pre-2012 assets are shared and allocated to the initial RAB valuation:
- 5.215.1 L1 fibre cable; and
 - 5.215.2 L1 Optical Fibre Distribution Frame (OFDF)

²⁹¹ Analysys Mason report for Chorus “[BBM IAV model responses to s221 notice questions](#)” (26 March 2021) page 56, Figure 5.3.

Chorus' proposed use of "shared with copper, fibre cable" as an allocator type

5.216 In this section, we consider Chorus' proposal to allocate the value of certain pre-2012 layer 1 assets shared in the provision of FFLAS and non-FFLAS in the pre-implementation and post-implementation periods. Specifically:

5.216.1 we provide an overview of Chorus' proposed use of the "shared with copper, fibre cable" allocator type to allocate the value of certain shared pre-2012 assets;

5.216.2 we summarise the rationale that Chorus has put forward in support of its proposed "shared with copper, fibre cable" allocator; and

5.216.3 we summarise Chorus' proposed calculation "shared with copper, fibre cable" allocator values.

Overview of Chorus proposed "shared with copper, fibre cable" as an allocator type

5.217 Chorus proposes to use the "shared with copper, fibre cable" allocator to allocate the values of certain pre-2012 layer 1 assets used in the delivery of FFLAS and non-FFLAS, ie, shared assets). The pre-2012 assets the allocator applies to are:

5.217.1 L1 Fibre; and

5.217.2 L1 OFDF.

The rationale for Chorus' proposed use of "shared with copper, fibre cable" as an allocator type

5.218 The IM requires that any asset value that is not directly attributable to the provision of UFB FFLAS must be allocated to UFB FFLAS by applying an ABAA allocator of a type listed in B1.1.6(2)(d) of the IM.

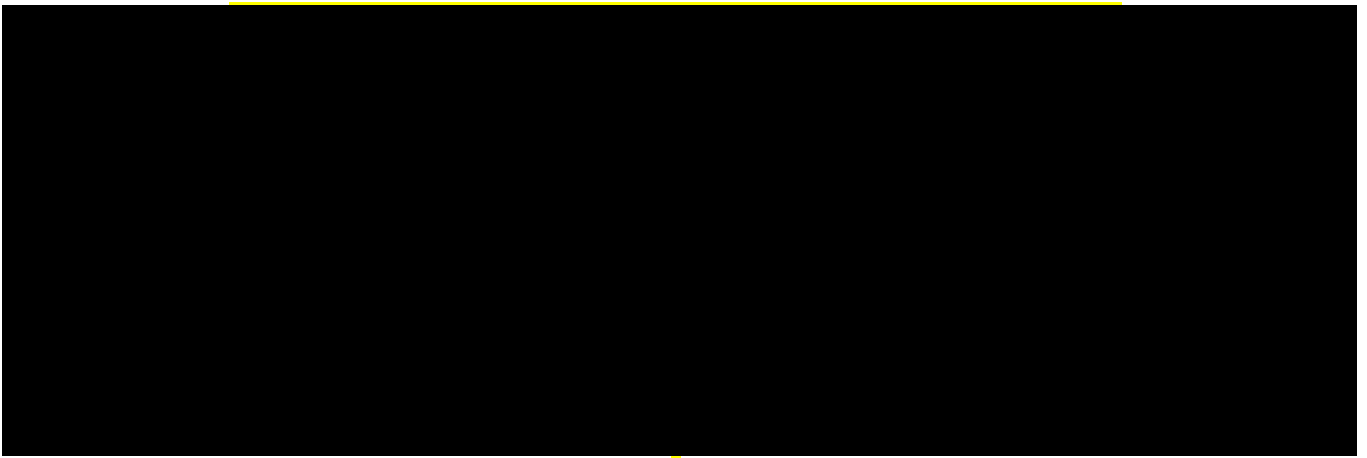
5.219 Chorus has proposed the "shared with copper, fibre cable" allocator to allocate the value of pre-2012 assets used to provide UFB FFLAS and non-FFLAS services, specifically pre-2012 L1 fibre cable and associated L1 OFDF.

5.220 We understand Chorus approach by extrapolating surveyed data back to 2012 given the absence of data on the actual use of pre-2012 L1 fibre cables and L1 OFDF assets over the pre-implementation period.

Calculation of the "shared with copper, fibre cable" as an allocator

5.221 The "shared with copper, fibre cable" allocator is the product of the fibre allocation factor multiplied by the duct length ratio where:

- 5.221.1 The fibre allocation factor is 11.65%, in all areas. The fibre allocation factor is Chorus' estimate of percentage of national fibres used to provide GPON services (UFB FFLAS) in pre-demerger (pre-1 December 2011) fibre cables.
- 5.221.2 Duct length ratio is a proxy for the extent of UFB network deployment over time. It is calculated as the national duct length used for UFB in any year to the 2023 national duct length used for UFB.
- 5.221.3 The values of the “shared with copper, fibre cable” allocators used in calculating the initial RAB, the MAR (PQ FFLAS) and ID-Only FFLAS are given in Table 5.13 below.



Summary of views in submissions in our initial PQ RAB consultation paper

What we said in our PQ RAB consultation paper

- 5.222 In our initial PQ RAB consultation paper,²⁹³ we indicated the value of the initial PQ RAB includes the value of assets that were owned by Chorus as of 1 December 2011 and which had been subsequently employed in the UFB deployment. Those assets included ducts, manholes, poles, fibre cables, exchange buildings, and shared power assets.²⁹⁴

²⁹² Analysys Mason report for Chorus “[BBM IAV model responses to s221 notice questions](#)”, 26 March 2021, Figures 7.33, 7.34 and 7.35

²⁹³ Commerce Commission, “[Chorus’ initial price-quality RAB proposal - Chorus’ initial price-quality regulatory asset base as at 1 January 2022](#)” (30 April 2021).

²⁹⁴ Ibid, paragraph 4.16.

- 5.223 Further, we noted Chorus had proposed an allocation of shared fibre cable assets over the pre-implementation period based on a point in time estimate (survey) of the level of fibre assets sharing Chorus had achieved that was extrapolated backward over the pre-implementation period in line with observed changes in UFB duct overlap.
- 5.224 We invited views from stakeholders on whether this may be a reasonable approximation for the level of sharing of pre-2011 fibre cable assets.²⁹⁵

Submissions on Chorus' use of "shared with copper, fibre cable" as an allocator

- 5.225 In its submission on our initial PQ RAB consultation paper, Chorus did not specifically respond to our question on whether its approach to the allocation of shared fibre cable assets was reasonable.
- 5.226 However, Chorus did note that an approach to asset valuation and cost allocation must ensure that costs that are directly related to the UFB initiative are included in the RAB.²⁹⁶

The definition of "fibre assets", and particularly the express references to investments made under the UFB initiative, indicate that Parliament's expectation was that investments that related to the UFB initiative would be recovered through FFLAS prices. In addition to assets commissioned as part of the UFB initiative, any asset employed in the provision of FFLAS is included in the RAB. The approach to asset valuation and cost allocation must therefore ensure that costs directly related to the UFB initiative are included in the RAB so that they can be recovered through FFLAS prices. An approach that excludes a material proportion of UFB-related costs from the initial RAB implicitly allocates those costs to consumers of non-FFLAS services, which would be inconsistent with the statutory intent.

- 5.227 In its submission on our initial PQ RAB consultation paper, Spark noted in respect of Chorus' proposed approach to allocation of fibre cables, that:²⁹⁷

The proposal assumes that 11.65% of fibres in shared cables are used by UFB. The only shared cables are those existed in 2012 as the rest are assumed to be fully dedicated to UFB. The survey is of demerger cables. The shared cable is then weighted by the percent UFB coverage represents in an ESA.

- As the allocator is based on duct overlap rather than demand it is unlikely to result in a proportionate allocation as expected.
- Artificially differentiates between asset class/platform investment prior to 2012 and post 2012 (which is considered incremental to fibre). This is not consistent with mitigating double recovery concerns.

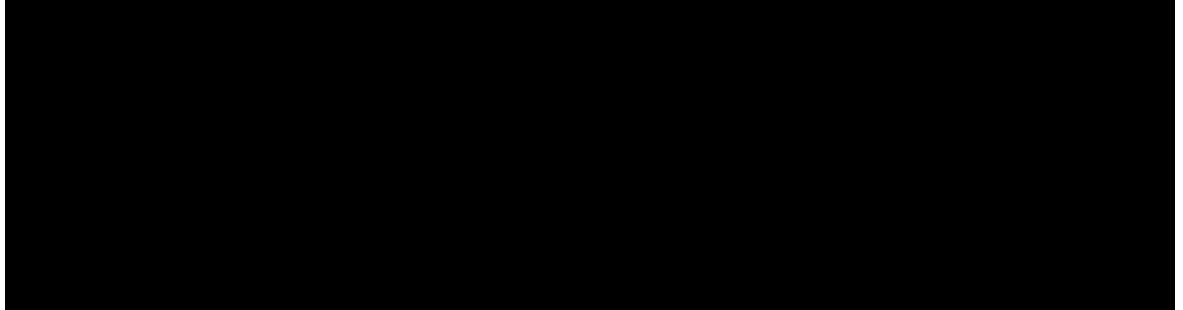
²⁹⁵ Ibid, paragraph 4.23

²⁹⁶ Chorus, [Submission on Commission's consultation on Chorus' initial PQ RAB](#), 28 May 2021 paragraph 12, page 7

²⁹⁷ Spark, [Chorus' initial price-quality regulatory asset base Submission](#), 28 May 2021, page 20.

Materiality of “shared with copper, fibre cable” as an allocator type

5.228 Chorus' allocation of pre-2012 L1 fibre cables and L1 OFDF assets using the proposed “shared with copper, fibre cable” results in the allocations set out in Table 5.14 below.



Our draft decision on use of “shared with copper, fibre cable” as an allocator type

5.229 Our draft decision is to approve use of the allocator type “shared with copper, fibre cable” to allocate the value of certain shared pre-2012 assets used by Chorus to provide FFLAS and non-FFLAS services, as proposed by Chorus.²⁹⁸

5.230 We consider Chorus’ approach to the allocation of pre-2012 L1 fibre cable and L1 OFDF assets used to provide FFLAS service is “objectively justifiable and demonstrably reasonable” in the circumstances. Chorus’ approach based on the extrapolation of a surveyed data back to 2012 is reasonable in the absence of data on the actual use of pre-2012 L1 fibre cables and L1 OFDF assets over the pre-implementation period.

Additional alternative allocator types

5.231 In addition to the alternative allocator types discussed in detail above, Chorus' BBM IAV model also makes use of a series of allocators that we consider very closely approximate causal allocators. Strictly speaking, they are proxy allocators, and as such they require approval under clause B1.1.1(2)(c) of the IMs.

5.232 Given how close the relationship between the proxy allocator type and the underlying costs described are, our draft decision is to approve their use.

5.233 These allocators are set out in Table 5.15.²⁹⁹

²⁹⁸ Analysys Mason report for Chorus “[BBM IAV model responses to s221 notice questions](#)” (26 March 2021). Figure 5.3, page 56

²⁹⁹ Analysys Mason “[Report for Chorus - Documentation of opex allocation for the BBM opex workstream \(including responses to notice to supply information\)](#)” (22 March 2021).

Table 5.15 Additional alternative allocator types

Allocator type	Example expense category	Chorus' explanation
Billable to third party	CNO - Network integrity - chargeable	Entirely allocated to billable to third party and partially included in the fibre BBM calculations. These are allocated to services and areas using connections in the IAV model. The allocator is based on identifying costs billable to third party so is justifiable and reasonable
Cancellations	CNO - Cancellations	Cancellations costs are shared between copper services (not to be included in the fibre BBM calculations) and fibre services (to be included in the fibre BBM calculations) based on the analysis of cost centres.
CC Provisioning	CNO - NPC - CC Provisioning	Allocates costs based on an analysis of full time equivalent (FTE) job description.
CNO - chargeable damages - Copper	CNO - chargeable damages - Copper	Shared between billable to third party (partially included in the fibre BBM calculations in the IAV model) and copper services (not to be included in the fibre BBM calculations).
CNO - chargeable damages - Fibre	CNO - chargeable damages - Fibre	Shared between billable to third party (partially included in the fibre BBM calculations in the IAV model) and fibre services (to be included in the fibre BBM calculations). Treatment of chargeable damages is consistent across the two opex categories "CNO - Chargeable damages – Fibre" and "CNO - Chargeable damages - Copper"
CNO - Fibre Route Survey	CNO - Fibre Route Survey	Fibre route survey costs are shared between other services (not to be included in the fibre BBM calculations) and fibre services (to be included in the fibre BBM calculations) based on the analysis of cost centres.
Core fibre	CNO - Chorus network proactive maintenance (core fibre)	Entirely allocated to core fibre services billable to third party and partially included in the fibre BBM calculations in the IAV model.
Corporate consultants	Corporate - consultants' costs	Corporate consultants' costs are shared based on an analysis of consultants spend
Corporate legal	Corporate - legal costs	Corporate legal costs are shared based on an analysis of the legal department spend.
Corporate other	Corporate - other costs	Corporate other costs are shared based on an analysis of other costs spend.
Customer Supply & Billing	CNO - NPC - Customer Supply & Billing	Allocates costs based on an analysis of FTE job description.
Infrastructure rates driver	CNO - property - rates - infrastructure	Allocates rates in infrastructure between the four areas (Won, Lost, Non and National) with the final allocation to services done in the IAV model.
Project opex	CNO - Project opex	project opex costs are shared between services based on the analysis of cost centres. CTO - project opex costs are shared based on specific allocation data provided by Chorus subject matter experts
Provisioning post-2017	CNO Provisioning (from July 2017)	Provisioning costs are shared based on an analysis of cost centre costs (for non-fibre part).
Provisioning pre-2017	CNO Provisioning (before July 2017)	Provisioning costs are shared based on an analysis of cost centre costs.

Asset allocators for pre-2011 assets

5.234 In this section, we set out our draft decisions on asset allocators that Chorus has proposed for pre-2011 ducts and central office floorspace.

Relevant considerations

Legal framework

- 5.235 Section 177 of the Act sets out how the initial value of fibre assets must be determined. The requirements of s 177 have been given effect through the asset valuation IM rules.³⁰⁰
- 5.236 The asset valuation IM requires that assets that were built before 2011 and therefore pre-date the UFB initiative, which have been employed in the provision of FFLAS under the UFB initiative for Chorus, are valued at their depreciated cost derived from Chorus' general-purpose financial statements.
- 5.237 For asset values that are not directly attributable to the provision of UFB FFLAS, the cost allocation IM requires these to be allocated to UFB FFLAS by applying an ABAA. This involves using cost allocators to allocate operating costs and asset allocators to allocate asset values.³⁰¹ Allocators must have a causal or proxy relationship with the operating cost or asset value and must be consistently applied within and between financial loss years. The choice of allocators must also meet the IM requirement of being a ratio that is "objectively justifiable and demonstrably reasonable".³⁰² The IM limits the shared costs allocated to FFLAS to the costs that a regulated provider could not have avoided incurring if it ceased supplying services that are not regulated FFLAS.³⁰³
- 5.238 Chorus has deployed its FFLAS network by taking advantage of existing assets such as central offices and ducts. In information we obtained for our s 9A fibre study, and in its submission on our proposed approach to the new regulatory framework for fibre, Chorus noted that it operates one network involving two technologies, copper and fibre, resulting in a significant sharing of network as well as non-network assets.
- 5.239 This limitation is a factor in our consideration of both the duct and central office space allocators and will be considered in more detail in our discussion of each.

³⁰⁰ See "Determining the initial value of fibre assets", page 35, from paragraph 2.44.

³⁰¹ Clause B1.1.6(1)(b) and clause B1.1.6(2)(c) of Schedule B of the IMs.

³⁰² Clause B1.1.1(2) of Schedule B of the IMs.

³⁰³ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020).

Pre-2011 Duct allocator

5.240 In this section, we set out the following:

- 5.240.1 our draft decision on the allocation of pre-2011 ducts;
- 5.240.2 Chorus' proposed allocation of pre-2011 ducts;
- 5.240.3 a summary of submissions on our initial PQ RAB consultation paper; and
- 5.240.4 our analysis of Chorus' proposed allocation of pre-2011 ducts.

Draft decision on the allocation of pre-2011 ducts

5.241 Our draft decision is that in principle, Chorus' proposed allocator type for pre-2011 duct values meets the IM requirement of being "objectively justifiable and demonstrably reasonable". However, in our view, the allocation to UFB FFLAS should be capped at 30% to reflect the proportion of ducts available to be used for UFB.

Chorus' proposed allocation of pre-2011 ducts

5.242 The value of pre-2011 ducts to be included in the PQ RAB each year is calculated using an allocator. As the UFB network was constructed, its coverage, and therefore its use of the existing duct network, was extended.

5.243 For clarity, 'ducts' in this context refers to duct lines and includes pits.

What Chorus proposes: Route length ratio allocator

5.244 Chorus' proposed allocator used the total route length of ducts and the respective number of connections for copper and UFB networks to allocate the costs of pre-2011 ducts to FFLAS and copper.³⁰⁴

5.245 This allocator is based on the proportion of its pre-2011 ducts that are within its UFB contract areas, multiplied by the proportion of UFB uptake in each year. This reflects the availability of pre-2011 ducts to be used in Chorus' UFB deployment, as well as the timing of the usage of the ducts to supply UFB FFLAS.

5.246 Chorus has supplied a detailed description of how this allocator has been calculated.³⁰⁵ Key points are:

- 5.246.1 Chorus considered a range of allocators before selecting the chosen one.

³⁰⁴ Chorus response to RFI 113: "Pre-2011 Ducts" (6 August 2011)

³⁰⁵ Chorus, "A13 - Chorus' input data collection for pre-1 December 2011 duct allocator values" (30 June 2021)

- 5.246.2 Chorus' network system records ducts system records ducts, and the UFB footprint is known precisely, so the allocator is based on factual inputs.
- 5.246.3 The non-FFLAS connections used (the denominator) include connections outside the overlap boundary, since the ducts inside the overlap boundary likely support infrastructure used to supply these services as well as those inside the overlap area.
- 5.246.4 Chorus has applied different approaches pre- and post-implementation to take into account the increase in scope post-implementation.
- 5.246.5 Chorus has measured its pre-2011 ducts in 'route metres', not 'duct metres'. Thus, a 100 metre long 2-way duct line is recorded as 100 metres and not 200 metres.
- 5.246.6 Once there is no more copper in an area, this allocator will dedicate the whole of the pre-2011 duct cost in that area to fibre. This is consistent with our approach to unavoidable costs in the IMs.³⁰⁶

The rationale for Chorus' proposed pre-2011 duct allocator

- 5.247 Chorus says that the Route Length Ratio allocator that it has used was chosen as best meeting the causal test. Chorus considered three other approaches:³⁰⁷
- 5.247.1 Connections ratio: Chorus rejected this approach on the basis that it was a proxy allocator, and a causal allocator was available;
- 5.247.2 Route length overlap: Chorus rejected this approach because it does not take into account the extent of sharing between FFLAS and non-FFLAS;
- 5.247.3 Route length overlap multiplied by 50%: Chorus rejected this approach because it does not scale with increasing use of fibre.

³⁰⁶ Commerce Commission, "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020) paragraph 4.42.3.

³⁰⁷ Chorus, "A13 - Chorus' input data collection for pre-1 December 2011 duct allocator values", 30 June 2021

Summary of views in submissions on our initial PQ RAB consultation paper

What we said in our initial PQ RAB consultation paper

- 5.248 In our initial PQ RAB consultation paper,³⁰⁸ we noted Chorus' proposed allocator was based on the proportion of its pre-2011 ducts that were within its UFB contract areas, multiplied by the proportion of UFB uptake. This appeared to reflect the availability of pre-2011 ducts to be used in Chorus' UFB deployment, as well as the timing of the usage of the ducts to supply UFB FFLAS.
- 5.249 We also noted that Chorus measures duct overlap with reference to the length of duct, which did not appear to take account of the number or size of ducts on each route.³⁰⁹
- 5.250 We asked interested parties to provide views on this and the implications for the allocation of shared ducts.³¹⁰

Submissions on Chorus' pre-2011 duct allocator

- 5.251 In its submission, Spark commented on Chorus' pre-2011 duct allocation.³¹¹ Spark submitted that Chorus' method does not take into account the fact that some ducts are unusable, meaning that excess value will be allocated to FFLAS.
- 5.252 Spark also submitted that if Chorus used duct trench length to calculate the allocator, less value would be assigned to the shared asset than if it used total duct length.³¹²
- 5.253 We note that Chorus is using duct trench length in its proposal, so in our view this is likely a misunderstanding.
- 5.254 In addition, Spark submitted that if end-users are lost from the copper network to another network (eg, Fixed Wireless Access), the duct cost allocated to FFLAS increases.
- 5.255 In our view, this is an unavoidable consequence of our IM decision to include costs that Chorus could not have avoided in the PQ RAB.

³⁰⁸ Commerce Commission, "[Chorus' initial price-quality RAB proposal - Chorus' initial price-quality regulatory asset base as at 1 January 2022](#)" (30 April 2021), paragraph 4.19.

³⁰⁹ Ibid, paragraph 4.19.

³¹⁰ Ibid paragraph 4.19.

³¹¹ Spark, "[Chorus' initial price-quality regulatory asset base](#)" (28 May 2021) paragraph 28.

³¹² Ibid, paragraph 29(e).

- 5.256 L1 Capital submitted that Chorus investors have transferred in significant pit and duct assets at below market value.³¹³
- 5.257 The value at which pre-2011 assets are transferred into the PQ RAB is set by s 177 of the Act.

Our analysis of Chorus' proposal

- 5.258 In our view, Chorus' calculation for allocating pre-2011 duct costs based on the weighted average of lines is an acceptable approach, but an allowance needs to be made for the limited proportion of ducts available for reuse.
- 5.259 In this regard, we agree with Spark that Chorus' proposed approach makes no allowance for unusable ducts (damaged or already in use). In our FLA final reasons paper, we discussed the use of filters as a way to ensure that pre-2011 assets are only included to the extent they are employed to provide UFB services.³¹⁴ These filters relate to the geographic footprint of the UFB networks, usability, timing and allocation of costs between services.

Options considered

- 5.260 According to information provided to the Commission in 2015 (in the context of the UCLL pricing review), the national average of the proportion of duct routes with an empty duct available for reuse in 2015 as calculated by Chorus was 7.2%.³¹⁵ We acknowledge that Chorus found higher availability for reuse in larger central office areas, such as 31.0% in Auckland. In addition, it is possible that a higher proportion of duct was available in 2011 than in 2015 when these numbers were derived.
- 5.261 We accept that UFB has generally been rolled out in the larger central office areas, so the proportion of ducts available for reuse for UFB will be higher than the 7.2% national average. These larger areas generally have in the region of 15% - 30% of their ducts available for reuse. Also, as copper services have been replaced by fibre over time, it is likely that some copper cables have been removed from ducts, increasing the proportion available for UFB.
- 5.262 Considering these factors, we have chosen a ceiling allocation of 30% for all central office areas where UFB has been rolled out.

³¹³ L1 Capital, "[Submission of Fibre PQID proposal](#)" (28 May 2021).

³¹⁴ Commerce Commission "[Fibre input methodologies – Financial loss asset – reasons paper](#)" (3 November 2020), paragraph 3.328.

³¹⁵ Chorus response to RFI 113: "Pre-2011 Ducts" (6 August 2011)

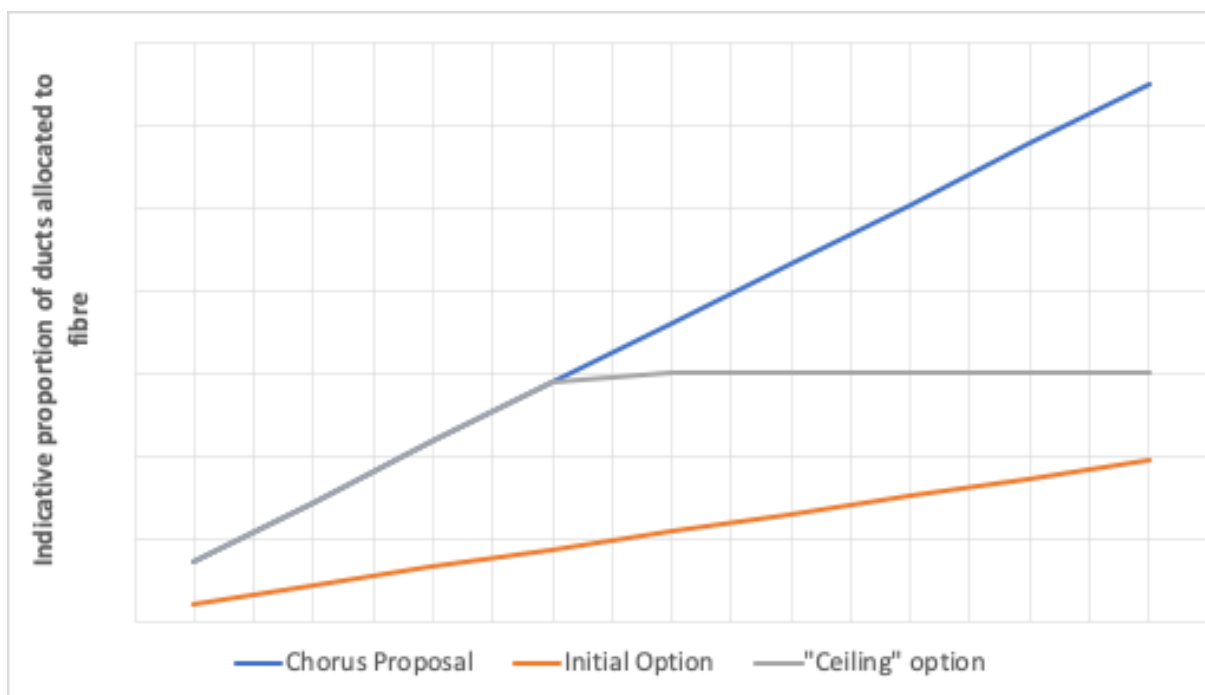
5.263 There are two ways we could apply this limit to the proportion of duct that can be reused for fibre:

5.263.1 We could consider this as a reduction in the amount available to be allocated. This would mean applying Chorus' allocation process to 30% of the value of the ducts in overlapping areas, thus reducing Chorus' allocation of pre-2011 duct costs to the initial RAB to 30% of the original amount, or

5.263.2 We could consider the 30% as a 'ceiling' to the proportion of duct that can be allocated to fibre costs. This would mean applying Chorus' allocation methodology, but only up to the amount that is available for reuse (30%).

5.264 Figure 5.8 below illustrates the impact of the two alternatives we considered compared to Chorus' proposed allocation.

Figure 5.8 Illustrated effects of allocation options compare to Chorus' proposal for allocation of pre-2011 duct costs



5.265 In our view, the 'ceiling' approach most closely models the way in which ducts would be utilised in practice, in that they would simply be allocated until there were no more available. Our draft decision is, therefore, to accept Chorus' allocation method for pre-2011 ducts, but to limit this to 30% for the reasons discussed above. 30% our best national estimate of the proportion of ducts available for reuse, but more granular data could provide a more accurate proportion.

5.266 The resulting impact on the value of core fibre assets and the FLA (and the resulting initial PQ RAB value) is shown in Table 5.15 below. Table 5.15 also shows the impact of our draft decision on the expenditure allowances for PQP1.

Table 5.16 Impact on core fibre assets, FLA, total initial PQ RAB value, and PQP1 expenditure allowances (\$m)

	Change (\$M)
Core fibre assets	-61.7
FLA	-7.3
Total value of Initial PQ RAB	-68.9
PQP1 capex allowance	0.0
PQP1 opex allowance	-0.1

Source: Analysys Mason

Pre-2011 central office floorspace allocator

5.267 In this section, we set out the following:

- 5.267.1 Our draft decision on the allocation of pre-2011 central office building costs;
- 5.267.2 Chorus' proposed allocation of pre-2011 central office building costs;
- 5.267.3 A summary of submissions on our initial PQ RAB consultation paper; and
- 5.267.4 Our analysis of Chorus' proposed allocation of pre-2011 central office building costs.

Draft decision on the allocation of pre-2011 central office building costs

5.268 Our draft decision is to accept Chorus' central office space allocator on the condition that that the model is certified as correct, and in the expectation that appropriate changes will be made to ensure that newly vacant space at Chorus central business district (CBD) sites remains outside the allocation pool.

Chorus' proposed allocation of pre-2011 central office building costs

5.269 Chorus has used space in a number of existing central office buildings for UFB. Its outside plant is centred on its central office sites, which are centrally positioned within service areas, and many of them have space available from Telecom's move from electro-mechanical exchanges to the SPC NEAX exchanges in the 1980s and nineties.

What Chorus proposes

- 5.270 Chorus' central office space allocator is based on the proportion of the total available space in each central office building taken up by fibre equipment.³¹⁶ The available space used in this proportion excludes space taken up by Spark exchange equipment. However, it does include vacant space, resulting in costs associated with vacant space being apportioned across services that are delivered from the site (including FFLAS).
- 5.271 Chorus calculates this proportion based on the number of lines of UFB, and a standard allowance per line for equipment installed at each site.
- 5.272 Chorus has supplied the model it has used to calculate its building cost allocator. The model has minimal supporting documentation and sheds no light on the details of the approach Chorus has taken. The model also appears to have been certified on the basis of a discussion between the certifiers and the technical lead who produced the model. This is unsatisfactory because it is not able to be verified and the model itself is not sufficiently documented to allow independent verification.
- 5.273 Chorus' model does not include an explicit calculation for vacant space, simply apportioning the total cost of the building between UFB and non-UFB. This means that any consideration of vacant space will require further data collection and modelling.

The rationale for Chorus' proposed central office space allocator

- 5.274 Chorus proposes the central office space allocator as a causal allocator of building costs. Chorus has not indicated whether other possible allocators were also considered.
- 5.275 Chorus considers that the allocation of vacant central office space is consistent with the IM allowing unavoidable costs to be included in the PQ RAB.

³¹⁶ Commerce Commission, "[Chorus' initial price-quality RAB proposal - Chorus' initial price-quality regulatory asset base as at 1 January 2022](#)" (30 April 2021), paragraph 4.20.

Summary of views in submissions on our initial PQ RAB consultation paper

What we said in our initial PQ RAB consultation paper

5.276 In our initial PQ RAB consultation paper, we sought views on whether the allocation of costs associated with this surplus space to UFB FFLAS was appropriate, or whether an alternative allocator which better reflected the space actually occupied should be considered. This included the implications of either approach for Chorus' incentives to rationalise its property assets as demand migrates from copper to fibre.

Submissions on Chorus' central office space allocator

5.277 We received a submission from Spark on Chorus' allocation of central office space. Spark submitted that:³¹⁷

Chorus' approach apportions vacant central office space across services delivered from the central office. This means that, where all the copper in a central office has been replaced by fibre, the entire cost of the central office will be allocated to FFLAS. This appears to be contrary to the example in the Reasons Paper that the space used for copper would be avoidable and hence excluded. The cap is intended to avoid this outcome, and we recommend the Commission applies it.

5.278 We partly agree with Spark. It is possible that vacant space at larger sites is avoidable, but less likely that it is avoidable at smaller sites. Also, a number of larger sites where Chorus has fibre equipment belong to Spark, so are not covered by this allocator, reducing the impact of avoidable cost at larger sites.

5.279 2Degrees' submission raised similar concerns to Spark, stating that vacant central office space was not required for the provision of FFLAS and should not be included, particularly in the FLA calculation.³¹⁸

Our analysis of Chorus' proposed central office space allocator³¹⁹

5.280 Our draft decision is that Chorus' proposed central office space allocator is reasonable for the initial RAB. At large sites, vacant space is likely to be an avoidable cost, but this is not material for the initial RAB in our view. We note that Chorus is already offering a data centre-type product at some large sites, which combines central office space with the no-break power and cooling capacity left by the removal of Spark's NEAX exchange equipment.

³¹⁷ Spark NZ "[Chorus' initial price-quality regulatory asset base](#)" (28 May 2021).

³¹⁸ 2Degrees "[Commerce Commission Fibre Price-Quality Regulation, Consultation on Chorus' initial price quality RAB proposal](#)" (28 May 2021).

³¹⁹ Central office space is defined in B1.1.6(2)(d)(iv) of Schedule B of the IMs.

- 5.281 The impact of vacant space at large central offices is reduced by the fact that some of these exchanges are Spark owned sites, so the allocator for Chorus central office space will not apply. This means that it is likely that correcting for avoidable costs at large sites is unlikely to make a material difference.
- 5.282 Going forward, as Spark vacates more space with the removal of its NEAX exchanges, and as Chorus withdraws its own copper equipment from its central offices, it is our view that this newly vacated space should not then be shared between FFLAS and non-FFLAS services at CBD Chorus sites but should remain outside the RAB. This may require an update to the existing mechanism to permit the space vacated by Spark to remain outside the allocation pool.

Cap on cost allocation

Summary of issue

- 5.283 The IMs require that the total asset values or operating costs allocated to UFB FFLAS should not exceed the asset values or operating costs that would continue to be incurred if only UFB FFLAS were to be provided.³²⁰ This requirement applies to allocations that would have a material effect on the total asset values or operating costs allocated to UFB FFLAS.³²¹
- 5.284 The inclusion of this cap on allocated costs is to limit the amount of allocated costs of reused assets to those which cannot be avoided in providing the UFB services. Using an example from our IMs reasons paper, as copper-based equipment is retired over time, this will free up space in the central office building. In this scenario, where the excess space in the central office could be put to alternative uses, the costs avoided when copper services are discontinued are likely to be material. Rather than allocating the entire cost of the central office building to regulated FFLAS, it may be appropriate to cap the cost at the level that is unavoidable as demand is shifted away from copper-based services. In this case, the costs that would be assigned to regulated FFLAS would only relate to the space in the central office occupied by equipment used to supply regulated FFLAS.

What Chorus has said

- 5.285 Chorus has claimed that the shared cost cap is unlikely to bind for any cost or asset categories, for the following reasons:³²²

³²⁰ Cause B1.1.6(4) of Schedule B of the IMs.

³²¹ Clause B1.1.6(5) of Schedule B of the IMs.

³²² Chorus letter Response to Attachment B of the Commerce Commission's 26 February 2021 section 221 notice (26 March 2021), Appendix A, paragraph 9.

- 5.285.1 Chorus has applied the ABAA methodology for opex and assets, with causal and proxy allocators used to distribute shared costs across multiple services. Due to economies of scope, the shared costs allocated to FFLAS are no more than costs of a standalone FFLAS provider;
- 5.285.2 Applying a materiality threshold implies that the cap should only be considered for a small number of costs; and
- 5.285.3 Most assets are economically sunk in that they cannot practically be used for anything else or, where they can, the costs of repurposing them exceeds the benefit.
- 5.286 The IM reasons paper made it clear that this exercise was not intended to optimise the network in a hypothetical, TSLRIC, sense.
- 5.287 Analysys Mason expresses the same view, for similar reasons:³²³
- As regards 3.2.1(11) and clause B1.1.6(4) of Schedule B (the cost allocation cap) we do not believe that the allocators that we use ever exceed this cap.
- 5.288 Chorus also referred to advice it had received from Incenta on testing for compliance with the shared cost cap.³²⁴
- 5.289 According to Incenta,³²⁵ the requirement to apply causal allocators where possible has the effect of sharing economies of scope from joint provision of fibre and copper services, which implies that the allocated cost of providing fibre services will be below the standalone cost of providing fibre. In the case of assets, an additional consideration is the extent to which the asset is sunk. For an asset that is economically sunk, in that the asset cannot be used for an alternative purpose, the avoided costs of ceasing to supply a service will be negligible, as the Commission noted in the case of ducts.

³²³ Analysys Mason report for Chorus "[BBM IAV model responses to s221 notice questions](#)" (26 March 2021), pages 6-7.

³²⁴ Chorus letter Response to Attachment B of the Commerce Commission's 26 February 2021 section 221 notice, 26 March 2021, Appendix A, paragraph 9.

³²⁵ Incenta "[Certain cost allocation issues relevant to the IAV](#)" (published 30 April 2021), page 6.

- 5.290 Incenta noted that there are some areas where it may be feasible to sell off or lease assets if copper services were no longer provided, with the most obvious examples being exchange-based assets that would no longer be required (such as power, air-conditioning, building and land assets). In these cases, any costs of removing copper equipment and making the exchange space ready for alternative uses would have to be taken into account.³²⁶
- 5.291 Incenta conclude that it is unlikely that the avoided cost cap would bind, and less likely again in a material way.³²⁷

What other stakeholders have said

- 5.292 In its submission on the initial RAB consultation paper, Spark commented on Incenta’s advice to Chorus relating to the shared cost cap.³²⁸ Spark submitted that Incenta’s conclusion – that the shared cost cap is unlikely to bind – will only apply in limited circumstances, including where there is no error in attribution and allocator decisions, where Chorus’ legacy costs are no higher than a fibre-only business, and if assets cannot be reconfigured.³²⁹
- 5.293 Spark submitted that the shared cost cap is an integral part of the protections set out in the Commission’s IMs reasons paper, and that Chorus’ proposed approach to exchange space is contrary to the reasons paper approach, “which anticipates – as copper falls away – that space is reused and forms part of the avoided costs”.³³⁰
- 5.294 2degrees submitted that it was not clear that Chorus had properly applied the shared cost cap safeguards. 2degrees commented that “[i]t is not the role of FFLAS prices to recover the cost of potential stranded non-FFLAS (copper) services.”³³¹

Our analysis

- 5.295 In principle, we agree with Incenta’s characterisation of the shared cost cap and Incenta’s consideration of factors that are relevant to the application of the cap.

³²⁶ Ibid, pages 5-6.

³²⁷ Ibid, page 6.

³²⁸ See [Spark submission on initial RAB consultation](#).

³²⁹ Ibid, paragraph 49.

³³⁰ Ibid, paragraph 50c.

³³¹ See [2degrees submission on initial RAB consultation](#), page 10.

- 5.296 However, we consider that Incenta has downplayed the potential for space to be vacated as a result of the shift in demand from copper-based services to FFLAS-based services. In our view, such migration is likely to free up space in exchanges as Chorus retires legacy equipment located in its exchanges, as well as where Spark decommissions its Public switched telephone network (PSTN) switches and associated equipment in Chorus exchanges. Such space is likely to have alternative uses, particularly in larger exchange sites.
- 5.297 As we discuss above, our draft decision is that Chorus' proposed allocator for central office floorspace is reasonable for smaller sites where any vacant space is less likely to be avoidable. For larger sites, we consider that vacant space will be an avoidable cost, although this is not likely to have been material to date.
- 5.298 Going forward, as Chorus' copper-based equipment is retired, and as Spark vacates more space with the removal of its NEAX exchanges, it is our view that any vacated space in Chorus' larger sites should not be allocated to FFLAS. To the extent that the allocators applied to Chorus' central office floorspace allocate such vacant space to FFLAS, the shared cost cap may take effect.

Chapter 6 Other inputs to the financial loss asset

Purpose of this chapter

- 6.1 This chapter sets out and explains our draft decisions on the other inputs used to calculate the value of the FLA that are required by the fibre IMs.

Structure of this chapter

- 6.2 The first section of this chapter sets out the decisions we have made about key values (other than costs and cost allocation) within the FLA model.
- 6.3 The subsequent sections deal individually with specific inputs:
- 6.3.1 changes to the time value of money used when determining the FLA;
 - 6.3.2 cost of capital estimates;
 - 6.3.3 treatment of the “UFB cost allocation adjustment”; and
 - 6.3.4 timing assumptions.
- 6.4 The final section addresses instances of technical non-compliance with the IMs where we consider use of a “substantially equivalent” alternative is justified.

Relationship to proposed IM amendments

- 6.5 Several of these issues may warrant amendments to the fibre IMs. Accordingly, we will publish draft amendments to the IMs along with a supporting reasons paper soon after the publication of this paper. The material in this chapter covers the substantive drivers of those proposed amendments. The IM amendments reasons paper will set out why we consider the proposed amendments meet the requirements of our IM decision-making framework.

Draft decisions on FLA cashflows

- 6.6 Table 6.1 below summarises the decisions on cashflows within the FLA model that we must make under the IMs.

Table 6.1 Key cashflow draft decisions for the FLA model (\$m)

	2012 ³³²	2013	2014	2015	2016	2017	2018	2018	2019	2020	2021 ³³³
Tax costs	0	0	0	0	0	0	0	0	0	0	0
Revenue	16	34	41	67	101	166	238	333	434	527	307
Benefit of Crown financing	1	6	10	9	8	6	6	8	7	6	3

Source: Commerce Commission FLA demonstration model

Time value of money and tax losses

Draft decision

- 6.7 We are proposing a change to the IMs to use a vanilla WACC rather than a post-tax WACC to calculate the FLA. The draft decision applies the IMs as proposed to be amended. This decision increases the value of the FLA by \$80.5million compared to using a post-tax WACC.
- 6.8 We have also proposed a change to the IMs to calculate the value of the tax effect of losses at implementation. The draft decision applies the IMs as proposed to be amended, with the value of the tax effect of losses at implementation set at \$280.3 million. This is an increase of \$69.2 million compared to the value if the IMs were not amended.
- 6.9 The financial loss year WACCs are used in two ways in the FLA calculation:
- 6.9.1 to calculate the ‘mid-year compounding factor’, ‘revenue date compounding factor’ and ‘start date compounding factor’ in clause B1.1.2(7) of Schedule B; and
 - 6.9.2 to calculate the “benefit of Crown financing compounding factor” for the purposes of the “present value benefit of Crown financing” in clause B1.1.2(5)(e) of Schedule B.

³³² Seven months from 1 December 2011 to 30 June 2012.

³³³ Six months to 31 December 2021.

Relevant considerations

Provisions in the Act

- 6.10 By using the appropriate form of WACC in the calculation of the FLA and by calculating the appropriate value of the tax effect of losses at implementation, we are applying the IMs as proposed to be amended without exercising judgment as those IMs are likely to best give effect to section 166(2).

Clauses of the IMs

- 6.11 Clause B1.1.10(2) of Schedule B of the IMs specifies the WACC formula as a post-tax WACC.
- 6.12 We now consider that amending this clause through making an IM amendment will result in a more accurate calculation of the FLA. We propose a change to clause B1.1.10(2) of Schedule B to specify the WACC formula as a vanilla WACC.
- 6.13 Clauses B1.1.2(5) and B1.1.2(6) of Schedule B provide the formulas to calculate the finance rate used for the avoided cost of Crown financing. We propose to amend these clauses so that the cost of debt terms in the formulas are not adjusted for tax.
- 6.14 We propose to add an additional clause to the IMs to provide the value of the carry-over value of the tax effect of tax losses at implementation.
- 6.15 Without these changes, Chorus would be undercompensated for the reasons stated in this section.

Economic principles

- 6.16 In theory, the value of the FLA would be independent of the type of WACC used in the calculation.
- 6.17 The post-tax WACC accounts for the tax deductibility of interest through the tax adjustment term applied to the cost of debt in the WACC formula. The assumption underlying the post-tax WACC is that interest costs are fully deductible in each year (or part year) of the pre-implementation period. However, this assumption may not hold when tax losses exist.
- 6.18 When there are tax losses, it is more accurate to use an alternative to the post-tax WACC and model notional deductible interest in the tax cashflows. The inclusion of notional deductible interest in the tax cashflows allows for the correct recognition of the timing of the utilisation of losses and changes the closing value of tax losses that is carried forward.

- 6.19 When there are no tax losses, the post-tax WACC provides the same return to a regulated investor as the vanilla WACC. The lower return on assets from the post-tax WACC is exactly offset by the higher tax allowance in the regulatory accounts (the tax allowance is higher because interest is not deducted). However, when there are tax losses, the lower return on assets from the post-tax WACC is not offset because the tax building block is zero. The tax losses will eventually be used by the regulated investor, but in present value terms, there is a net cost.

Chorus' proposed method to correct for the underestimate of the FLA

- 6.20 In its submission, Chorus proposed a method to correct for the underestimate of the FLA due to the use of a post-tax WACC. Chorus' method involves calculating the present value of notional deductible interest and then using the tax effect of this value to adjust the FLA. The notional deductible interest calculations for each year are also used in the calculation of the carry-over value of the tax effect of tax losses.
- 6.21 Chorus noted that its calculation increases the FLA by \$77.5 million and increases the carry-over value of the effect of tax losses by \$65.4 million.
- 6.22 In terms of value to Chorus, the \$77.5 million is a present value figure, whereas the present value of the tax effect of losses will be less than \$65.4 million depending on how long it takes to use up the losses.

Views in submissions

- 6.23 There were no submissions that considered this matter in detail, other than from Chorus.

Reasons

- 6.24 In our FLA IMs final reasons paper, we decided to use a post-tax WACC to discount pre-implementation cash flows. In our decision, we recognised that, in the event of substantial tax losses, a correction would be required to account for the difference in the time value of money. We indicated that where substantial tax losses occur, "we would consider implementing an adjustment to true up the final amounts, for example through an IM amendment".³³⁴

³³⁴ Commerce Commission "[Fibre input methodologies – Financial loss asset – reasons paper](#)" (3 November 2020), paragraph 3.402.

6.25 We consider that substantial tax losses have occurred. When applying the existing IM, Chorus has calculated a carry-over value of tax losses of \$804 million at the implementation date. The tax effect of this loss amount is \$225m. These values are substantial because:

6.25.1 they are significant in dollar terms: \$225m is roughly equivalent to a sixth of the size of the FLA; and

6.25.2 their existence has a significant effect on both the calculation of the discounted cashflows for the financial loss period, and the forecast allowable revenue for PQP1 (there will be in effect no tax building block until the losses are used up).

6.26 We agree with Chorus that the existing IM materially underestimates the value of the FLA and the level of tax losses carried over to the implementation period.

Analysis of Chorus' method of calculating the FLA

6.27 In the DCF calculation of the FLA set out in Schedule B of the IMs, the use of a post-tax WACC to compound cashflows results in an underestimate of the value of the FLA. This occurs because the cost cashflows are compounded at a lesser rate than they would be if a vanilla WACC were used, and there is no offsetting compounding of tax because the tax allowance is zero due to the losses.

6.28 We consider that an accurate and straightforward way of correcting the underestimate of the value of the FLA is to use a vanilla WACC. The correction involves two proposed amendments to the IMs:

6.28.1 changing the compounding factor in the IM from a post-tax WACC to a vanilla WACC (clause B1.1.10(2) of Schedule B)); and

6.28.2 changing the formulas used to calculate the finance rate used for the avoided cost of Crown financing so that the cost of debt terms are not adjusted for tax (clause B1.1.2(5) and B1.1.2(6) of Schedule B)).

6.29 This draft decision therefore uses a vanilla WACC and results in a FLA of \$1,446.3 million which is an increase of \$80.5 million compared to using a post-tax WACC.

- 6.30 Chorus' consultant has checked the value of the FLA calculated with a vanilla WACC by using an alternative method. The alternative method involves calculating the correction to the FLA that was required due to the use of a post-tax WACC. The correction is the value from calculating the present value of the tax effect of the annual amounts of net notional deductible interest. This alternative method is explained in the next section because Chorus is proposing we use its method to calculate the carry-over value of tax losses.
- 6.31 This alternative method results in an FLA that is \$7.1m higher than the value that is calculated using a vanilla WACC. We have checked Chorus' consultant's calculation and agree that the alternative method is a useful cross-check. However, we consider using a vanilla WACC to calculate the FLA is less prone to error.
- 6.32 The reason Chorus' alternative method is more prone to error is because it involves making complex calculations of debt financing to account for middle of the year timing and part-years. In comparison, the vanilla WACC compounding method used in the DCF is a less complex way of ensuring the timing of cashflows is correctly accounted for.

Analysis of Chorus' method of calculating the tax effect of losses

- 6.33 Addressing the underestimate of the tax effect of losses is not straightforward. There are two parts to the calculation of notional deductible interest, which is an input to the calculation of the tax effect of losses.
- 6.34 The calculation of gross notional deductible interest needs to account for tranches of debt being financed at varying interest rates that are consistent with the benchmark cost of debt in the WACC.
- 6.35 Gross notional deductible interest needs to be reduced by the avoided cost of financing the Crown debt drawdown. This calculation of net notional deductible interest needs to account for tranches of Crown debt being financed at varying interest rates that are consistent with the financing arrangement between Chorus and the Crown.
- 6.36 The method developed by Chorus' consultant results in a value of the tax effect of losses at implementation of \$283.5 million.

- 6.37 We have checked Chorus' consultant's calculation of net notional deductible interest by using a method that separates the financing of capital expenditure from the financing of the annual losses. This alternative method creates a series of building block calculations of the financing associated with each tranche of capital expenditure and the avoided costs associated with Crown debt financing. It then adds to this the costs of financing annual losses. In comparison, Chorus' method uses cashflows rather than building blocks.
- 6.38 For the purpose of this draft decision, we have decided to use a value of \$280.3 million for the value of the tax effect of losses at implementation, which is based on our method. We consider this value is more accurate than the method developed by Chorus' consultant because of the way our method separates the financing of capital expenditure from the financing of the annual losses.
- 6.39 Another reason for concluding our method is more accurate is that if it were used to calculate the value of the FLA it would result in a value that is close to the value that is calculated from using a vanilla WACC. Our method results in a value that is \$1.6 million higher than the FLA whereas the method developed by Chorus' consultant results in a value that is \$7.1 million higher. Ideally, the method would produce exactly the same value of the FLA as from using a vanilla WACC, but given the complexity of the calculation, it has not been possible to achieve that result.

Cost of capital estimates applying for the FLA

Background

- 6.40 In determining the WACC parameters used in the calculation of the FLA, we are faced with the same regulatory challenges for determining the cost of capital post-implementation date.
- 6.41 That is, we must determine the cost of capital for the supply of regulated FFLAS consistent with the cost of capital that would be faced by regulated providers in workably competitive markets. We want to set an estimate that is neither too high (such that end-users are paying inefficiently high prices), nor too low (such that there will be less willingness to invest in regulatory assets or ability to attract capital for investment), to promote the long-term benefit of end-users.
- 6.42 Because the actual cost of capital of regulated providers in workably competitive markets is not observable, we must make an estimate using our WACC framework. Our methodology for determining the WACC parameters for the calculation of the FLA seeks to determine an estimate of a cost of capital that is reasonable and commercially realistic given investors' exposure to risk at the time.

Our WACC estimates for the FLA

- 6.43 We use the WACC estimates that apply for each financial loss year (or part year) as the relevant rate to compound cash flows to the implementation date.³³⁵ As part of the FLA IMs process, we outlined our reasons for the fixed WACC parameters as well as the methodology for estimating the remainder of the WACC parameters.³³⁶
- 6.44 As explained in the previous section, this draft decision is based on the proposed amendment to the IM to use a vanilla WACC, rather than a post-tax WACC.
- 6.45 The vanilla WACC that is applied to compound cash flows in the year in which the loss applies will be specified to match a mid-year timing assumption. A separate vanilla WACC for the start date of 1 December 2011 is applied for any pre-2011 UFB assets.
- 6.46 For the parameters used to calculate the WACC for each year in the pre-implementation period, we decided in the Fibre IMs process to:³³⁷
- 6.46.1 apply a risk-free rate based on the 5-year rate at the middle of each year of the pre-implementation period (or middle of each part year for 2012 and 2021);
 - 6.46.2 apply an asset beta, leverage and credit rating for the pre-implementation period at the same values as for the post-implementation period (0.50, 29% and BBB, respectively);
 - 6.46.3 apply a tax-adjusted market risk premium (TAMRP) that is 7.0% for the period until the commencement date of the IMs in October 2020 and 7.5% for the remainder of the pre-implementation period;
 - 6.46.4 use a prevailing debt risk premium with the term equal to 7 years (with associated debt issuance and associated costs to represent a 7-year term fixed at 14 bps (0.14%));
 - 6.46.5 not include a term credit spread differential (TCSD);
 - 6.46.6 not provide a WACC uplift; and

³³⁵ [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24.

³³⁶ Commerce Commission "[Fibre input methodologies – Financial loss asset – reasons paper](#)" (3 November 2020), pages 59–92.

³³⁷ Commerce Commission "[Fibre input methodologies – Financial loss asset – reasons paper](#)" (3 November 2020), pages 59–92.

- 6.46.7 apply the WACC parameters consistently between regulated providers subject to PQ (ie, currently, Chorus), and regulated providers subject to ID regulation only.
- 6.47 We estimate the five-year risk-free rate at the middle of each year of the pre-implementation period (or middle of each part year for 2012 and 2021) using a prevailing rate approach (based on data from the month preceding the middle of each year or part year).
- 6.48 We estimate the seven-year debt premium at the middle of each year of the pre-implementation period (or middle of each part year for 2012 and 2021) using a prevailing rate approach (based on data from the month preceding the middle of each year or part year). The bonds used in the debt premium estimations and how we have applied our judgement in determining the debt premium estimates are outlined in Attachment C.
- 6.49 For our TAMRP value, we use a 7.0% estimate for the period until the commencement date when the main IMs were determined in October 2020 and a 7.5% TAMRP for the remainder of the pre-implementation period.³³⁸
- 6.50 Table 6.2 below outlines the parameters that are not fixed during the pre-implementation period and the corresponding vanilla and post-tax WACC estimates. We have used Chorus' forecast WACC values for the six-month period to 1 January 2022 as the data is not currently available to undertake the estimation. This will be updated for our final determination when the determination data is available.
- 6.51 Figure 6.1 below displays the changes in the five-year risk-free rate, seven-year debt premium and vanilla WACC over the pre-implementation period. The main driver behind the reducing vanilla WACC is the risk-free rate, as most other WACC parameters remain relatively constant (or fixed) over the period.

³³⁸ For the financial loss year in which the TAMRP changes from 7.0% to 7.5% (loss year from 1 July 2020 to 30 June 2021) the TAMRP will be a weighted average between 7.0% and 7.5% from when the main IMs are determined, that is, the commencement date. This gives a weighted average of 7.4% for the financial loss year.

Figure 6.1 WACC variables over the pre-implementation period

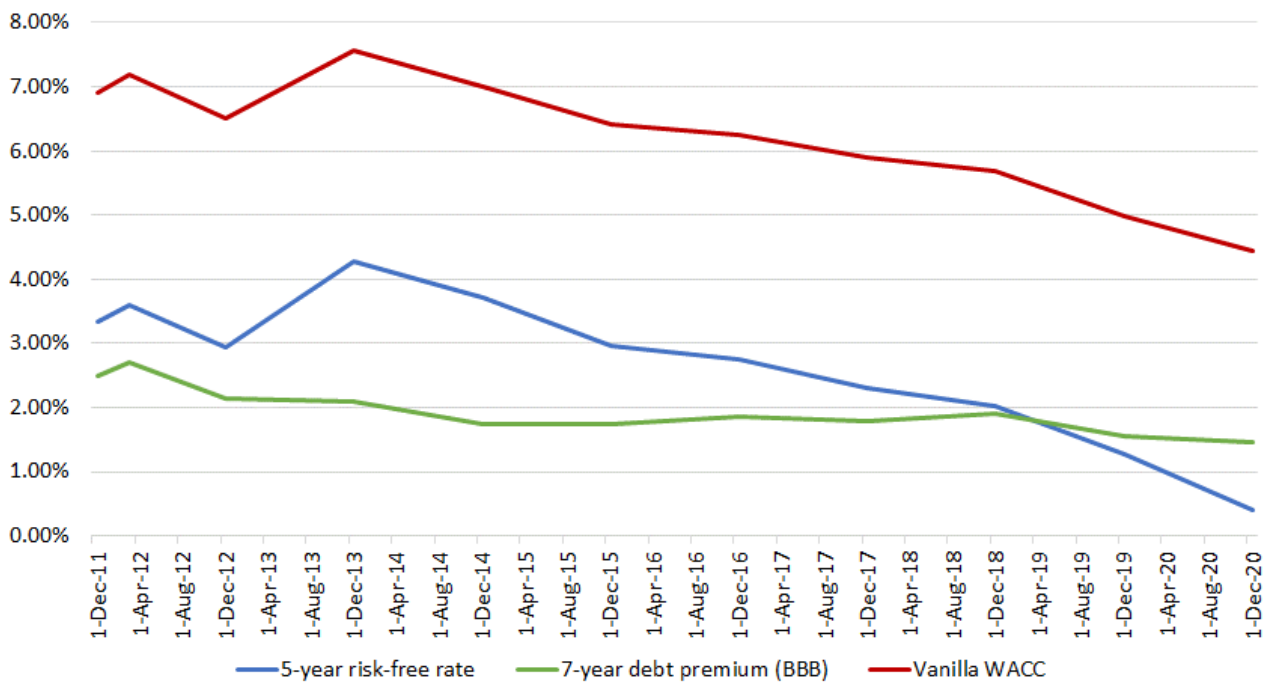


Table 6.2 Overview of WACC parameters³³⁹

Loss year	5-year risk-free rate	7-year debt premium (BBB)	TAMRP	Vanilla WACC	Post-tax WACC
Prior to 1 Dec 2011	3.33%	2.50%	7.0%	6.92%	6.43%
7 months to 30 Jun 2012	3.59%	2.70%	7.0%	7.18%	6.66%
Full year to 30 Jun 2013	2.95%	2.15%	7.0%	6.51%	6.08%
Full year to 30 Jun 2014	4.28%	2.10%	7.0%	7.56%	7.03%
Full year to 30 Jun 2015	3.71%	1.75%	7.0%	7.00%	6.55%
Full year to 30 Jun 2016	2.97%	1.75%	7.0%	6.40%	6.01%
Full year to 30 Jun 2017	2.75%	1.85%	7.0%	6.26%	5.87%
Full year to 30 Jun 2018	2.31%	1.80%	7.0%	5.89%	5.55%
Full year to 30 Jun 2019	2.02%	1.90%	7.0%	5.69%	5.36%
Full year to 30 Jun 2020	1.27%	1.55%	7.0%	4.99%	4.75%
Full year to 30 Jun 2021	0.41%	1.45%	7.4%	4.45%	4.29%
6 months to 1 Jan 2022	-	-	7.5%	4.81% ³⁴⁰	4.61% ²⁹⁷

Comparisons with Chorus' estimates

6.52 Chorus has also undertaken calculations of the WACC applying for the valuing the FLA. Table 6.3 below outlines our vanilla WACC estimates alongside Chorus' vanilla WACC estimates.³⁴¹

³³⁹ Note that the risk-free rates (and TAMRP for the full year to 30 June 2021) displayed in this table are shown to two decimal places, but the unrounded values are used in the determination of the vanilla and post-tax WACC estimates.

³⁴⁰ Chorus' forecast WACC values as the data is not currently available.

³⁴¹ Note that Chorus' WACC estimations and forecasts were received in May 2021. We will update the WACC estimates for our final decision when the determination data is available.

Table 6.3 Vanilla WACC comparisons

Loss year	Commission estimates	Chorus estimates
Prior to 1 Dec 2011	6.92%	7.00%
7 months to 30 Jun 2012	7.18%	7.19%
Full year to 30 Jun 2013	6.51%	6.53%
Full year to 30 Jun 2014	7.56%	7.59%
Full year to 30 Jun 2015	7.00%	7.01%
Full year to 30 Jun 2016	6.40%	6.41%
Full year to 30 Jun 2017	6.26%	6.24%
Full year to 30 Jun 2018	5.89%	5.88%
Full year to 30 Jun 2019	5.69%	5.68%
Full year to 30 Jun 2020	4.99%	4.97%
Full year to 30 Jun 2021	4.45%	4.46%
6 months to 1 Jan 2022	TBD (data not currently available)	4.81%

Our draft decision is to apply our vanilla WACC estimates

6.53 We have proposed to apply the above vanilla WACC estimates as the relevant DCF compounding rates for the calculation of the FLA in our draft decision.

UFB cost allocation adjustment cash flow

Draft decision

6.54 To reflect our intended formula, we are proposing the formula for “opening cost allocator value” currently specified in clause B1.1.2(4) of Schedule B from:

UFB opening asset value ÷ UFB unallocated opening asset value

to:

(UFB opening asset value + commissioned assets – depreciation) ÷ UFB unallocated closing asset value

- 6.55 We accept the calculation applied by Chorus despite not complying with the (to be amended) IM formula.

Relevant considerations

Clauses of the IMs

- 6.56 Clause B1.1.2(4) of Schedule B of the IMs specifies the “opening cost allocator value”.

Analysis of Chorus’ calculation

- 6.57 Having analysed Chorus’ calculation of the “UFB cost allocation adjustment cash flow”, we have determined that it produces an outcome that is economically equivalent to the outcome that would be produced were the (to be amended) IM compliant calculation to be applied, and as such, the impact on end-users (via the value of the FLA) will be the same in either case.

Chorus proposal

- 6.58 Chorus has proposed calculating the “UFB cost allocation adjustment cash flow” as the difference between the opening RAB for the subsequent financial period, and the closing RAB for the current financial period. In this calculation, Chorus uses an opening cost allocator value, but does not use a closing cost allocator value.
- 6.59 The method proposed by Chorus results in a zero value of the UFB cost allocation adjustment cashflow for the final financial loss year (ie, 1 July 2021 – 31 December 2021 (defined in the IMs as “financial loss year 2022”)), because the opening cost allocator value is outside of the pre-implementation period (ie, it is in the first year of PQP1).
- 6.60 If Chorus were to apply the allocators to the closing RAB for a period rather than the opening RAB of the subsequent period, the UFB cost allocation values would be the same in all periods, except for the final financial loss year (ie, financial loss year 2022). However, there would be an immaterial change in the value of the FLA, as can be seen from the following example.
- 6.61 If the UFB cost allocation cashflow for financial loss year 2022 was \$10m, which is half of the amount in the previous full year period, rather than zero, the FLA would change from \$1,446.340 million to \$1,446.457 million. The reason for the small change is that the cashflow is a mid-year value which would be compounded to the implementation date. However, the closing asset value, is a negative adjustment in the discounted cashflow calculation, and is not compounded.

View in submissions

- 6.62 There were no submissions on this matter.

Reasons

- 6.63 The DCF calculation includes a cashflow called the “UFB cost allocation adjustment cash flow”. This cash flow represents the periodic increase in the value of the RAB as a result of allocating assets to FFLAS. For example, as end-user demand shifts over time from copper to FFLAS, the proportion of costs allocated to FFLAS increases.
- 6.64 The (to be amended) IMs require Chorus to use an “opening cost allocator value” and a “closing cost allocator value” in the calculation of the “cost allocation adjustment cash flow”. The “UFB cost allocation adjustment cash flow” is equal to the “UFB unallocated closing asset value” multiplied by the difference between the closing and opening cost allocator values.
- 6.65 In order to ensure that our IMs are correct and reflect our intended formula, we are proposing to amend the IMs.
- 6.66 Having analysed Chorus’ calculation of the “UFB cost allocation adjustment cash flow”, we have determined that it produces an outcome that is economically equivalent to the outcome that would be produced were the (to be amended) IM compliant calculation to be applied, and as such, end-users would not be worse off.
- 6.67 The reason we do not consider it appropriate to require Chorus to recalculate the “UFB cost allocation adjustment cashflow” in line with our (to be amended) IM formula is that it would require a substantial change to the spreadsheet model that is used for the calculation of the FLA.

Revenue date timing

Draft decision

- 6.68 To reflect our intended formula, we have proposed amending the formula for “revenue date compounding factor” as specified in clause B1.1.2(7)(b) of Schedule B from:

the 20th day of the month following the month in which the day that is the mid-point of the financial loss year falls

to:

the day of the month that is calculated in accordance with the formula-

final day of the applicable “financial loss year” – (days in the applicable “financial loss year”/2) + 34

where:

“days in the applicable “financial loss year”” is rounded down to the nearest whole number

- 6.69 As this change requires a change to the fibre IMs, we will also discuss this change in the IM amendment reasons paper.

Relevant considerations

Clauses of the IMs

- 6.70 Clause B1.1.2(7)(b) of Schedule B of the IMs specifies the “revenue date compounding factor”.

Reasons

- 6.71 The formula currently stated in the IMs does not reflect the intentions of the Commission. This is because it results in the wrong number of days being used in the interval between the “revenue date” and the date to which values are being compounded.

Non-compliance with the asset valuation IM

High-level approach

- 6.72 Chorus has advised in its submissions and in response to s 221 notices that in several instances, it is unable to comply with the asset valuation IM as drafted. This is due to limitations in its information, the way in which it has recorded information in its accounting systems and the design its IAV model.
- 6.73 As a general solution to these issues, we propose to amend the fibre IMs to introduce an “alternative methodology with substantially similar effect” provision. Such an approach allows the Commission to adopt or approve the use of an alternative methodology that results in a substantially similar outcome.
- 6.74 The approach is modelled off similar provisions in the Part 4 IMs for customised price-quality paths.³⁴²
- 6.75 We will shortly publish an IM amendment reasons paper detailing these proposed changes to the IMs. The remainder of this section deals with the substantive issues of non-compliance with the IMs, and why we consider it would be appropriate to approve them under such a provision. In doing this, we have considered:
- 6.75.1 whether it is possible for Chorus to apply the IMs as drafted, given information limitations (for example whether data extracted from Chorus’ systems can be aligned with inputs required by the IMs);

³⁴² *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.26.

- 6.75.2 where Chorus cannot whether the alternative method of calculation is reasonable, given the data that is available, and would not detract from the s 162 purpose;
 - 6.75.3 whether Chorus' proposed treatment is economically equivalent to the outcomes that would result from applying the IMs as drafted; and
 - 6.75.4 the quantum of any difference between the outcomes under the proposed treatment and the outcomes that would result from strictly applying the IMs.
- 6.76 The instances in which Chorus is unable to comply with the IMs are as follows:
- 6.76.1 Capital contributions are not matched to individual assets;
 - 6.76.2 Use of NBV adjustments;
 - 6.76.3 VCA not recorded as a separate asset,³⁴³ and
 - 6.76.4 Present value benefit of Crown financing drawdown formula.

Capital contributions not matched to individual assets

Description of non-compliance

- 6.77 Clause 2.2.13 of the IMs requires the value of a commissioned asset with a commissioning date prior to the implementation date to be the cost as of the commissioning date, net of capital contributions.³⁴⁴
- 6.78 In its general-purpose financial reporting systems, Chorus has recognised capital contributions as income in accordance with generally accepted accounting practice (GAAP).
- 6.79 There is no link between Chorus' FAR and its record of capital contributions information that would enable capital contributions to be traced to the individual assets in respect of which they were collected. Chorus is therefore unable to apply the IM as written to derive the VCA. This was a matter discussed in our main IMs final reasons paper and we undertook to work flexibly with Chorus to implement a practical approach to accommodate any compliance difficulties.³⁴⁵

³⁴³ Clause B1.1.3(4)(b) of Schedule B of the IMs.

³⁴⁴ Ibid, clause 2.2.13(1)(a)(i) of the IMs..

³⁴⁵ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), paragraph 3.167.

Analysis

- 6.80 In its IAV model, Chorus emulates the IM treatment of capital contributions through the creation of “capital contribution asset classes” made up of negative capex, equalling the value of capital contributions income, and negative depreciation.
- 6.81 Although this is applied at an asset class rather than an individual asset level, it is conceptually equivalent. In fact, the modelling used in Chorus’ BBM IAV model applies all the IMs on an asset class basis, rather than summing the calculations at an individual asset level, which would not be workable given the large numbers of assets within each class.
- 6.82 For the values of the allocated negative capex and the depreciation charge to be actually equivalent to the value of commissioned asset as set out in the IMs, the asset classes to which the capital contributions are attributed must include the assets likely to have generated the various types of capital contribution. Moreover, the actual equivalence of the depreciation charge requires the life of the asset class to be equivalent to the weighted lives of the assets within that class that are likely to have attracted capital contributions.
- 6.83 In the IAV model, the asset life implied by the closing IAV value of capital contributions divided by depreciation is 9 years. This compares with the 14.1 years asset life implied for the asset base value as a whole. The closing unallocated value of capital contributions is \$288m.
- 6.84 The model transforms the input into modelled (negative) capital expenditure on four “capital contribution” asset classes (below), in each of the four geographies (Won, Lost, Non, National) for each year for which we have data on the capital contributions. The capital contribution asset classes in the model are as follows:
- 6.84.1 CC Copper;
 - 6.84.2 CC Fibre UFB A-D;
 - 6.84.3 CC Fibre UFB E; and
 - 6.84.4 CC Shared.
- 6.85 Each of these annual capital expenditures is modelled as falling within a particular timeframe, according to the year in which it occurs (eg, post2012actual or post2012forecast).

- 6.86 As is indicated by their names, these capital contributions asset classes are allocated differently between FFLAS and non-FFLAS.³⁴⁶ The capital contributions are collated from the following types:
- 6.86.1 Network relocations resulting from Roadworks activity;
 - 6.86.2 Reticulation for new property development;
 - 6.86.3 Access seekers next generation access (NGA) Provisioning Ancillary Charges (these are not considered further as capital contributions);
 - 6.86.4 Other Persons (Building owners) NGA Provisioning Ancillary Charges (these are not considered further as capital contributions);
 - 6.86.5 NZD20M NSI funding;³⁴⁷
 - 6.86.6 Access seeker HSNS (High Speed Network Service) Installations; and
 - 6.86.7 Access seeker Fibre Installation Fees (Direct Fibre Access Service (DFAS), Intra-Candidate Areas Backhaul Service (ICABS)).
- 6.87 For each of these types, there are a set of flags controlling how they are to be treated (eg, capitalised; capitalised for tax purposes; or treated as one of two different types of revenue for tax purposes). The treatment of capital contributions for tax purposes is consistent with the tax IM requirement to apply tax rules.³⁴⁸
- 6.88 Various allocation factors are then used for allocating the capital contributions of different kinds between the different geographies and capital contribution asset types (ie, providing weightings for each available combination of capital contribution asset class and geography (4x4)). The sum of the weightings within each allocation factor is equal to one.

³⁴⁶ Please note, Chorus/Analysys Mason uses the term 'non-FFLAS' to refer to 'services that are not regulated FFLAS' and 'services that are not UFB FFLAS'. Please refer to paragraph 2.31.3 above

³⁴⁷ Non-standard installation funding, see the definition of capital contributions, [Fibre Input Methodologies \(initial value of financial loss asset\) Amendment Determination 2020](#) [2020] NZCC 24.

³⁴⁸ Clause 3.4.1 of the IMs.

- 6.89 At an aggregate level, if the weighted average asset life over which the capital contributions is depreciated is less than that of the underlying core UFB asset classes, this will give rise to an increase in the closing UFB asset value relative to applying the correct asset life. This is because capital contributions depreciation is negative. This increase is exactly offset by a decrease in the FLA, being the present value of the sum of negative unrecovered returns plus the closing UFB asset value plus the benefit of Crown financing.
- 6.90 As a result, the effect of any depreciation difference arising from the application of a different life for the capital contributions is simply a value transfer between UFB assets and the FLA. As such, it does not matter from an overall valuation perspective if the life of the capital contributions asset class does not match the lives of the individual asset classes that would likely have attracted the capital contributions.
- 6.91 However, it does, affect the valuation in an absolute sense if the capital contributions asset is incorrectly allocated between copper, shared and FFLAS asset classes. From discussion with Analysys Mason we have confirmed that the capital contributions have been allocated consistent with the book value of the underlying UFB assets that are most likely to have attracted the capital contributions by type. For example, the capital contributions relating to network relocations and reticulation for new property development have been allocated to Fibre layer 1 infrastructure (cables, poles, trenches) using the same allocation factors for the four asset classes and four geographies.
- 6.92 We consider this allocation approach results in a substantially similar outcome to applying the IMs, with no detriment to the promotion of either the purpose of Part 6 or workable competition.

Use of NBV adjustments

Description of non-compliance

- 6.93 Chorus' accounts record transfers (between asset classes) and other NBV adjustments, for example lease adjustments arising from changes in lease liabilities under NZ IFRS 16, in addition to disposals. To make things more complicated in Chorus' FAR in some years, certain transfers have been implemented via the "writeups" field rather than the "transfers" field. This means that in these particular years, the sum total of transfers is not zero.

- 6.94 The definition in the IMs of “UFB value of net commissioned assets cash flow” does not provide for transfers and other adjustments. It follows the definition of “fibre asset” in s 177 of the Act by concentrating on the cost incurred in constructing or acquiring the fibre asset, net of capital contributions, and adjusted for depreciation and impairment losses at the commissioning date.
- 6.95 The formula is expressed as “VCA of VCA less sum of value of disposals”.³⁴⁹ Chorus’ BBM IAV model includes disposals as a negative NBV adjustment. The NBV adjustment treatment is similar for the tax VCA in the Chorus IAV model.
- 6.96 If Chorus does not allow for the NBV adjustments, reconciliation differences arise between the IAV model and the FAR up to the end of FY20. The model would in effect be estimating depreciation in all loss years and calculating NBV/Tax NBV to derive the tax asset values rather than applying the accounting closing NBV/tax closing NBV ratio. This is because Chorus could not rely on any of the FAR metrics other than the VCA beyond the start of FY12. Moreover, it would be practically difficult to remove the NBV adjustments from the IAV model.

Analysis

- 6.97 The allocated values of the NBV adjustments are set out in set out in Table 6.4 below.

[REDACTED] NBV adjustments by year [REDACTED]

- 6.98 The large values in 2018 and 2020 arise from adjustments in respect of pole lease assets (\$ [REDACTED]m in 2018 and [REDACTED]m in 2020). Excluding these, the net value of the adjustments over the 9-year period is -\$([REDACTED]) and is not considered to be material.
- 6.99 Chorus has explained that the large 2018 value relates to the initial capitalisation of pole leases under NZ IFRS 16. They were treated as a write-up adjustment rather than VCA, as there was no capital expenditure involved.
- 6.100 The 2020 NBV adjustments were due to a change in asset class in the FAR for pole leases, from “Right of Use” to “Pole Operating Lease.” This was done via retirement/acquisition entries in the FAR, as this is how Chorus’ SAP (accounting system) is configured to process such a change.

³⁴⁹ *Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020* [2020] NZCC 24, clause B1.1.2(4)(d)(i) and (ii) of Schedule B.

6.101 We consider these explanations to be reasonable. The adjustments would give rise to values that are economically equivalent to those resulting from strict application of the IMs.

VCA not recorded as a separate asset

Description of non-compliance

- 6.102 Clause B1.1.2(9)(g) of Schedule B of the IMs define “UFB unallocated closing asset value”, in respect of a UFB asset and a financial loss year, as UFB unallocated opening value (with disposed assets valued at nil) less depreciation. There is no “value of commissioned assets” term in this formula, as commissioned assets in the year of commissioning for new assets are dealt with by clause B1.1.3(1) of Schedule B (the value of which is then carried forward through the unallocated opening value).
- 6.103 Clause B1.1.3(4)(b) of Schedule B requires expenditure in respect of an asset already commissioned to be treated as relating to a separate asset. This does not always happen in Chorus’ FAR, so, given that the IAV model follows the FAR for reconciliation purposes, it does not happen in the IAV model.
- 6.104 The fact that the IAV model asset classes are in fact aggregations of assets means the model inevitably has asset classes with VCA in multiple years, for example an aggregated asset class such as Post2012Actual L1 Duct UFBA-D Won with VCA in each year.
- 6.105 Because the IAV model deals with aggregates, (and even if it did not because, as noted above, the FAR sometimes allows VCA to be added to existing assets), in principle there is VCA in all years at an asset class level and disposals can be partial disposals.
- 6.106 The closing value calculation therefore needs to be implemented as the unallocated opening value plus VCA plus NBV adjustments (which includes disposals or partial disposals if any) less depreciation. Again, the same applies to the treatment of the tax asset NBV –the net effect is to reproduce the accounting closing NBV/tax closing NBV.

Analysis

6.107 Because of the large number of assets in the Chorus FAR, it is practically necessary to aggregate individual assets into asset classes.³⁵⁰

³⁵⁰ The approach to how this is modelled in practice is discussed in Chapter 5 at paragraphs 5.32 to 5.44.

- 6.108 The number of asset classes (93) in the IAV model has been limited by the need to limit the number of array calculations, as after applying geographic boundary (4) and financial year boundary (4) allocations the number of array calculations is already around 1500.
- 6.109 This means that, given the way the modelling has been implemented, there is no practical way to avoid having asset classes with commissioned assets across multiple years.
- 6.110 This does not affect the calculation of depreciation as the impact of VCA in multiple years on depreciation calculations is indirect. The model follows the FAR for depreciation (and tax depreciation) for all FAR assets in years to FY20. For all asset classes in FY21 and beyond, and for all years for any asset classes not in the FAR, the model uses calculated depreciation values based on the in-year VCA for new assets and the closing book value in the most recent year of “actual” data from the FAR (ie, FY20) depreciated over the estimated remaining lifetime (for old assets).
- 6.111 The result of the calculation of UFB unallocated closing asset value is economically equivalent to that required by the IMs.

Present value benefit of Crown financing drawdown formula

Problem definition

- 6.112 The IMs express the calculation for the present value benefit of Crown financing as follows:³⁵¹

$((A \times B) + (C \times D)) \times$ benefit of Crown financing compounding factor for the financial loss year in question

where-

A is the amount determined in accordance with the following formula:

(proportion of ‘B’ that is senior debt \times cost of debt for that financial loss year $(1 - T_c)$) + (proportion of ‘B’ that is subordinated debt \times (cost of debt for that financial loss year + 0.41%)($1 - T_c$));

B is the net drawdowns in the financial loss year that is debt (whether senior or subordinated);

C is the amount determined in accordance with the following formula:

$(0.75 \times$ cost of equity for that financial loss year) + $(0.25 \times$ cost of debt for that financial loss year);

D is the net drawdowns in the financial loss year that is equity;

³⁵¹ Clause B1.1.2(5) of Schedule B of the IMs.

'benefit of Crown financing compounding factor' is the amount determined in accordance with the following formula:

$$\frac{(((1 + \textit{financial loss year WACC})^Y) - 1)}{\textit{financial loss year WACC}}$$

where Y is the amount determined in accordance with the following formula:

$$\frac{\textit{the number of days between the day that is the mid - point of the financial loss year and the implementation date}}{365.25}$$

- 6.113 Chorus has identified an error in this formula. In loss years in which there is non-zero senior debt drawdown but no net debt drawdown (e.g. senior debt up, subordinate debt down by an equal amount, or vice versa) the IM formula gives an incorrect result because the proportion calculation (A*B) can be undefined (B=0).

Analysis

- 6.114 Chorus has proposed calculating the A*B + (C*D) term by term as follows:

= (senior debt drawdown*annual cost of senior debt) + (subordinate debt drawdown*annual cost of subordinate debt)*(1-TaxRate)

+ (debt-like equity drawdown*annual cost of debt-like equity)+(other equity drawdown*annual cost of other equity)

- 6.115 Chorus' method gives the mathematically correct result for all years including years in which there is a non-zero senior debt drawdown but no net debt drawdown.
- 6.116 For this reason, we consider that, error aside, it is economically equivalent to the IM method. Our intention is to amend the drawdown terms of the IM formula to agree with the form proposed by Chorus.

Attachment A Scope of FFLAS

Purpose of this attachment

- A1 This attachment sets out:
- A1.1 our proposed interpretation of what services come within the meaning of “fixed fibre lines access services” (FFLAS) in the Act; and
 - A1.2 whether Chorus has properly applied this definition in preparing its estimate of fibre asset values in its initial PQ RAB and its PQ expenditure proposal.
- A2 It also comments on how we propose treating any future services LFCs may introduce.
- A3 Our approach to the scope of FFLAS is relevant to our draft decisions on matters related to Chorus' initial PQ RAB and wider PQP1 decisions because:
- A3.1 whether assets are employed, or costs are incurred in the provision of FFLAS (PQ FFLAS for the initial PQ RAB and forecast expenditure, UFB FFLAS for the purpose of the determination of the initial RAB value of the FLA) determines how costs are allocated; and
 - A3.2 whether a service is FFLAS will determine whether revenues Chorus receives in respect of it will be included in the calculation of “total FFLAS revenue” for the revenue path and will contribute towards the determination of the initial RAB value of the FLA).

Draft decisions

- A4 A full list of the services we consider fall within the scope of FFLAS is set out in Table A1 below.

Table A1 Categories of services within the scope of FFLAS

Category	IM Description	Chorus services ³⁵²	Chorus ID-Only instances	Other LFC services
Voice services	Services to enable the delivery of telephony and low speed data services over a fibre network (including, but not limited to, anchor services, baseband, ATA voice).	ATA Voice, Baseband	where the FFLAS UNI is located in another regulated providers UFB coverage area and it was established as determined in our SFA database or could (as defined by the CIP shape files) have reasonably been established	ATA Voice, Baseband
Bitstream passive optical network (PON) services	Single or multi-class point-to-multipoint fibre access services (including, but not limited to, anchor services, Bitstream services, Bitstream 2, 3, 3A, Bitstream accelerate services, 10GPON, NGPON and multicast).	Bitstream 2 (Broadband Over Fibre, NGA Evolve, Home Fibre Bitstream 2 Accelerate, Evolve Education, Evolve Business, Small Business Fibre, Hyperfibre Home, Hyperfibre Small Business, RBI Bitstream 2), Bitstream 3/3A (NGA Business, Bitstream 3/3A Accelerate, Hyperfibre Business, Education 3A, Hyperfibre Education, RBI Bitstream 3/3A), Multicast	where the FFLAS UNI is located in another regulated providers UFB coverage area and it was established as determined in our SFA database or could (as defined by the CIP shape files) have reasonably been established	Bitstream 2/2A (GPON Bitstream, GPON Bitstream Educational), Bitstream 3/3A/3B, Multicast
Unbundled PON services	Point-to-multipoint layer 1 fibre access services (including, but not limited to, PON fibre access services (PONFAS) and unbundled fibre services).	PONFAS	where the FFLAS UNI is located in another regulated providers UFB coverage area and it was established as determined in our SFA database or could (as defined by the CIP shape files) have reasonably been established	PONFAS
Point-to-point services	Single, multi-class or layer 1 point-to-point fibre access services (including, but not limited to, Bitstream 4, enhanced Bitstream 4, HSNS, BFAS and DFAS).	Bitstream 3/3A P2P, Bitstream 4 (NGA Business Premium, Mobile Access, RBI Bitstream 4), DFAS, BFAS (Bandwidth Fibre Access Service), HSNS Lite, HSNS Premium, STM1, STM4, ATM, CNS Ethernet, CNS SDH/PDH	where the FFLAS UNI is located in another regulated providers UFB coverage area and it was established as determined in our SFA database or could (as defined by the CIP shape files) have reasonably been established	Bitstream 4 (P2P Bitstream, P2P Bitstream Educational), DFAS
Transport services	Layer 1 or managed throughput fibre services provided over the fibre network, to transport voice and data traffic between central offices, including central offices that are also POIs (including, but not limited to ICABS, TES and inter-CO fibre services; but excluding national / inter-candidate area backhaul services such as Chorus Regional Transport).	ICABS HSNS Tail Extension (where it is not POI-to-POI), Chorus Regional Transport (where it is not POI-to-POI).	where the address of the UNI of the end-user who is the recipient of FFLAS to which the transport service is connected is located in another regulated provider's UFB coverage area and it was established as determined in our SFA database or it could (as defined by the CIP shape files) have reasonably been established and the Transport services other termination is at any location	Inter-CO Fibre Service
Co-location and interconnection services	Network equipment accommodation and management services including network interconnection services (including, but not limited to, central office and point of interconnection (POI) co-location services, handover connections, Ethernet handover connections, tie cables and jumpering).	Handover Links, Handover Fibre, UFB Handover Connection, Tie cable, TPAD Central Office and POI co-location service, Commercial co-location Exchange space	where the central office containing co-location service is located in another regulated providers UFB coverage area defined by the CIP shape files.	Handover Connection, Fibre Patching Service, Central Office and POI co-location service
Connection services	Services to install and enable FFLAS between communal fibre network infrastructure and an end-user's premises, building or other access point (including, but not limited to, pre-wiring, cable and duct fit-out).	First time installation of a UNI for Voice services, Bitstream PON services, Unbundled PON services, point-to-point services.	where the FFLAS UNI is located in another regulated providers UFB coverage area and it was established as determined in our SFA database or could (as defined by the CIP shape files) have reasonably been established	First time installation of a UNI for Voice services, Bitstream PON services, Unbundled PON services, point-to-point services.

³⁵² Does not include every variant (eg, Hyperfibre has multiple speed variants 2, 4, 8 G).

Framework

Legal framework

- A5 This exercise is one of interpreting provisions of the Act and assessing whether they have been applied. It does not involve an exercise of discretion or judgement by the Commission. As such, the general decision-making framework under section 166 is not our main consideration.
- A6 However, to the extent that the provisions of the Act require interpretation, the section 162 purpose remains relevant, as the Act must be interpreted in light of its purpose.
- A7 In our October 2020 IM reasons paper, we explained our interpretation of FFLAS and the concept of service categories. We have applied this interpretation in determining which regulated provider services are FFLAS. We repeat some of the definitions below as background.
- A8 “FFLAS” is defined in s 5 as follows:
- (a) means a telecommunications service that enables access to, and interconnection with, a regulated fibre service provider’s fibre network;
 - (b) but does not include the following:
 - (i) a telecommunications service provided by a regulated fibre service provider (F) if the ultimate recipient of the service is F or a related party of F (as if the test for related parties were the same as the test in section 69U, applied with any necessary modifications);
 - (ii) a telecommunications service provided, in any part other than a part located within an end-user’s premises or building, over a copper line;
 - (iii) a telecommunications service used exclusively in connection with a service described in paragraph (ii).
- A9 “Fibre network” is defined in s 5 as:
- a network structure used to deliver telecommunications services over fibre media that connects the user-network interface (or equivalent facility) of an end-user’s premises, building, or other access point to a regulated fibre service provider’s fibre handover point.
- A10 In turn, “telecommunications service” is defined in s 5 as:
- any goods, services, equipment, and facilities that enable or facilitate telecommunication.
- A11 “Telecommunication” is defined in s 5 as:
- the conveyance by electromagnetic means from one device to another of any encrypted or non-encrypted sign, signal, impulse, writing, image, sound, instruction, information, or intelligence of any nature, whether for the information of any person using the device or not.

- A12 The definition of FFLAS in s 5 incorporates the broad definition of telecommunications service, which includes goods, services, equipment and facilities that both enable and facilitate telecommunication.
- A13 The definition of FFLAS is qualified by the requirement that the telecommunications service enables access to, and interconnection with, a regulated provider's fibre network. Therefore, FFLAS are limited to telecommunications services that relate to the fibre network of a regulated provider who is declared in regulations under s 226 to be subject to PQ or ID regulation, or both.

Analysis

- A14 The determination of the value of fibre assets within the PQ RAB requires that the services that are FFLAS are clearly identified. We said in our IM reasons paper we would reach a final view on what individual services come within the definition of FFLAS in our PQ and ID determinations under section 170.
- A15 Our main IMs final decisions reasons paper explained when services would be FFLAS in terms of the definition in the Act.³⁵³
- A16 These services fall within one of the seven categories of:
- A16.1 Voice services;
 - A16.2 Bitstream PON services;
 - A16.3 Unbundled PON services;
 - A16.4 Point-to-Point services;
 - A16.5 Transport services;
 - A16.6 Co-location and Interconnection services; and
 - A16.7 Connection services.
- A17 The telecommunications market is highly dynamic and evolving. We are not excluding the possibility that newly introduced future services may meet the definition of FFLAS. We will continue to apply the statutory test in determining whether any given service is included within the definition.

³⁵³ Commerce Commission "[Fibre input methodologies: Main final decisions – reasons paper](#)" (13 October 2020), page 42-59

- A18 Our starting point was to include the UFB Reference Offer services in Table A2 which have been grouped into our service categories.
- A19 Services within these categories are further tailored by regulated providers to meet market segments and given different market names. Where this has been done, we have included all of these variants and grouped them under the UFB Reference Offers.
- A20 We have also included fibre services that existed before UFB was introduced that we also consider to be FFLAS.
- A21 Spark raised in their submission Fibre PQ and ID initial proposal 28 May 2021 that we do not clearly define the service delivery points of FFLAS.³⁵⁴ In our IMs (as proposed to be amended), we have defined “UNI” as used in the proposed definition of “connection”, by reference to “a user-network interface in relation to ID or PQ FFLAS provided by a regulated provider”.³⁵⁵ This can be an optical network terminal (ONT) for service categories such as Voice services and PON Bitstream services or a fibre termination for point-to-point services.
- A22 Connection services are all those installation activities that provide a first-time installation the communal fibre network a Universal Network Interface (UNI) for: Voice services, Bitstream PON services, Unbundled PON services, point-to-point services.

³⁵⁴ Spark, Fibre PQID initial proposal 28 May 2021, page 9

³⁵⁵ Commerce Commission “[Draft] Fibre Input Methodologies Amendment Determination 2021” (27 May 2021), clause 1.1.4(2) of Attachment B definition of “connection” and “UNI”.

Table A2 UFB reference offer services

Category	UFB Services
Voice services	ATA Voice, Baseband
Bitstream PON services	Bitstream 2/2A, Bitstream 3/3A/3B, Multicast
Unbundled PON services	PONFAS
Point-to-point services	Bitstream 4, DFAS
Transport services	Inter-CO Fibre Service
Co-location and interconnection services	Handover Connection, Fibre Patching Service, Central Office and POI co-location service
Connection services	First time installation of a UNI for Voice services, Bitstream PON services, Unbundled PON services, point-to-point services.

Included services

- A23 Chorus have several service variants that fall generically within the scope of Bitstream 2. These are currently Broadband Over Fibre, NGA Evolve, Home Fibre Bitstream 2 Accelerate, Evolve Education, Evolve Business, Small Business Fibre, Hyperfibre Home, Hyperfibre Small Business, Rural Broadband Initiative (RBI) Bitstream 2.
- A24 Chorus have several service variants that fall generically within the scope of Bitstream 3/3A. These are currently NGA Business, Bitstream 3/3A Accelerate, Hyperfibre Business, Education 3A, Hyperfibre Education, RBI Bitstream 3/3A.
- A25 Chorus have several service variants that fall generically within the scope of Bitstream 4 point-to-point services. These are currently NGA Business Premium, Mobile Access, RBI Bitstream 4.
- A26 Chorus legacy point-to-point services STM1, STM4, CNS Ethernet, CNS SDH/PDH all have a fibre access component and therefore fall within the scope of FFLAS. The point-to-point service ATM can have either fibre or copper access. ATM with fibre access falls within the scope of FFLAS. The point-to-point service HSNS Lite can also have copper or fibre access. HSNS Lite with fibre access falls within the scope of FFLAS.

- A27 Chorus' UFB Inter-CO fibre services are its ICABS. HSNS Tail Extension is also a transport service that provides extension of a service (eg, Bitstream) from a CO to a POI. Commercial Backhaul instances are also included where they are also used for CO to CO or CO to POI.
- A28 Chorus have several services that fall generically within co-location and interconnection services. These are Commercial co-location, Exchange Space, Tie Cables, TPAD, and the interconnection services of Handover Links, Handover Fibre, and UFB Handover Connection.
- A29 Co-location services includes a central office footprint, equipment rack space, power and cables (ie, Tie cables) to enable interconnection with Chorus' access network and backhaul service.
- A30 The service instances under each service category delivered under the RBI are also included as FFLAS.

Reasons for excluded Chorus services

- A31 Our draft decision is that these services are not FFLAS as they do not meet the statutory test of enabling access to, and interconnection with, a regulated fibre service provider's fibre network.³⁵⁶ We consider that field services should all be excluded when determining the initial PQ RAB (or when setting the PQP1 revenue path).

Field services

- A32 Chorus agree that field services are not FFLAS but have difficulty identifying the costs associated with the revenue and so have left the part revenue in its estimate of the total initial PQ RAB value as they state "the impact on the starting RAB is likely to be immaterial (ie, as these costs have corresponding revenue so largely net-out)."³⁵⁷
- A33 We consider that this approach is reasonable, and results in an outcome that is consistent with the intent of the definition of FFLAS in s 5. This is because the "netting out" impact (both the cost and the revenue being included) means that costs are not over-allocated to FFLAS.

³⁵⁶ [REDACTED]

³⁵⁷ Chorus Fibre PQ – Initial RAB - RFI 112

- A34 However, this approach – effectively reducing the value of a FFLAS cost by the quantum of a non-FFLAS revenue – though consistent with the current IMs is not required by them.
- A35 We may need to consider an amendment to the IMs in future to resolve the current inconsistency where the costs of these services (which are necessary to incur in the provision of FFLAS) are within the scope of the regime (ie, contribute to Chorus' cost and asset bases) but revenues associated with them are not.

Chorus Regional Transport

- A36 Chorus included part of Chorus Regional Transport (CRT) which is a national backhaul service. We consider that in general, CRT is not FFLAS as it provides connectivity between POIs, which is beyond the scope of FFLAS as it is not connected to a fibre access service. Chorus agree that CRT is not FFLAS.
- A37 However, the distinction between ICABS (which is FFLAS) and CRT generally (which is not) is a result of the introduction of Part 6. On a historical basis, Chorus did not clearly distinguish between the two.
- A38 For these historical reasons, Chorus has revenue allocated to CRT that is not actually the POI-to-POI service but rather a Transport service similar to ICABS.³⁵⁸ We accept this explanation, and Chorus' plan to rectify this within their internal systems ahead of the Part 6 ID regime taking effect.

³⁵⁸ Chorus Fibre PQ – Initial RAB - RFI 112

Attachment B Application of regulation 6

Purpose of this attachment

- B1 This section sets out:
- B1.1 our approach to the interpretation of reg 6 of the Telecommunications (Regulated Fibre Service Providers) Regulations 2019 (the Regulations); and
 - B1.2 our draft decision on whether Chorus has complied with reg 6 in preparing its initial PQ RAB estimate and PQ expenditure proposal when allocating costs and assets between its PQ FFLAS and ID-only FFLAS.
- B2 To give effect to reg 6, we need to identify the geographical areas where Chorus' FFLAS are subject to PQ regulation, and those where FFLAS are exempt from PQ regulation – ie, geographical areas where a regulated fibre service provider (other than Chorus) has installed a fibre network as part of the UFB initiative (we refer to these as “ID-only areas”).

Draft decisions

- B3 Our draft decision is that the question of whether Chorus' FFLAS fall within reg 6, and are exempt from PQ regulation is assessed differently for different categories of FFLAS as follows:
- B3.1 for voice services, Bitstream PON, unbundled PON, point-to-point, and connections services, assessment of whether these fall within reg 6 and are exempt from PQ regulation will be based on whether the FFLAS UNI³⁵⁹ is located within another LFC's UFB coverage area, and either:
 - B3.1.1 the other LFC has installed UFB communal infrastructure based on our Specified Fibre Areas (SFA) database; or
 - B3.1.2 UFB communal infrastructure could reasonably be installed as defined in the Crown Infrastructure Partners (CIP) shapefiles (GIS shapefiles (maps) created by CIP for the purposes of the UFB contracts);
 - B3.2 for transport services, assessment of whether these fall within reg 6 and are exempt from PQ regulation will be based on whether the UNI address of the end-user to which the transport service is connected is located within another LFC's UFB coverage area, and either:

³⁵⁹ As defined in Commerce Commission “[Draft] Fibre Input Methodologies Amendment Determination 2021” (27 May 2021), page 47.

- B3.2.1 the other LFC has installed UFB communal infrastructure based on our SFA database; or
 - B3.2.2 UFB communal infrastructure (as defined by the CIP shape files) could reasonably be installed;
 - B3.3 for co-location and interconnection services, assessment of whether these fall within reg 6 and are exempt from PQ regulation will be based on whether the central office containing the service is located within another regulated provider's UFB coverage area, as defined by the CIP shape files.
- B4 We consider that Chorus has correctly applied these approaches in preparing its initial PQ RAB estimate and PQ expenditure proposals.

Framework

Legal framework

- B5 This exercise is one of interpreting reg 6 and assessing whether it has been applied. It does not involve an exercise of discretion or judgement by the Commission. As such, the general decision-making framework under section 166 is not our main consideration.
- B6 Reg 6 provides that all Chorus' FFLAS, except to the extent that a service is provided in a geographical area where a regulated provider other than Chorus has installed a fibre network as part of the UFB initiative, are subject to PQ regulation.
- B7 Reg 6 determines the scope for PQ regulation (including of the PQ RAB). It implicitly requires us to specify geographic boundaries for PQ regulation for services that are determined to be FFLAS, in order to define the geographical areas in which FFLAS are exempt from PQ regulation (ie, ID-only FFLAS). It therefore implicitly defines the scope of ID-only FFLAS and relatedly, the ID-only RAB.
- B8 Reg 6 also has implications for other provisions in the Act, such as the obligations on Chorus to provide certain types of regulated services under ss 198-200; and to meet the geographically consistent pricing requirement under s 201.

- B9 Reg 6 comes into force on 31 December 2021. By that time, Chorus will have largely completed, and the other LFCs will have completed installation of their fibre networks under the UFB initiative.³⁶⁰
- B10 Beyond this point in time, however, Chorus and the other LFCs will likely explore opportunities to roll out their respective fibre networks further (ie, on a commercial basis, outside of the UFB initiative).³⁶¹

What we said in previous consultations

- B11 In our main IMs final reasons paper, we indicated we would make decisions regarding how to implement the Regulations—including how we define the geographic areas where PQ regulation applies— as part of our process for setting PQ and ID regulation.³⁶²
- B12 In our PQ process and approach paper, we considered that the contracted UFB candidate areas (defined in the UFB contracts as “coverage areas”) for each LFC would be a useful starting point for identifying the geographic areas where Chorus’ FFLAS would be exempt from PQ regulation (ie, ID-only areas). The coverage areas are where the LFCs were contractually required to construct a fibre network under the UFB initiative.
- B13 However, we noted that coverage areas are unlikely to provide the complete picture. There will likely be differences between the UFB contracted coverage areas and the as-built network coverage areas. The UFB contracts anticipated that developments such as an adjacent greenfield property development would be accommodated in the network build. Conversely, there may be pockets in other LFCs’ coverage areas, where Chorus has installed a fibre network, but the other LFC have elected not to install fibre assets.

³⁶⁰ Crown fibre infrastructure partners (CIP) has confirmed: Northpower limited UFB1 network build was completed April 2014 and UFB2 network build was completed December 2020; Enable networks UFB1 completed September 2018 with greenfield developments accepted up to December 2019; and Ultrafast fibre UFB1 build was completed June 2016 and UFB2 network build completed January 2020.

³⁶¹ We cannot rule out that additional UFB initiative network expansions will not occur in the future. Our processes need to cater for such an event, should it occur, as any further expansion of the UFB initiative may increase the network coverage of regulated services providers, other than Chorus, and thereby the geographic areas where Chorus will be exempt from PQ-regulation.

³⁶² Commerce Commission “Fibre input methodologies: Main final decisions – reasons paper” (13 October 2020), paragraph 2.69.

- B14 Given that the LFCs other than Chorus have completed their UFB fibre network build, their ‘as-built’ UFB fibre network coverage areas provide the best starting reference for identifying the relevant geographic areas where Chorus’ FFLAS will be exempt from regulation (ie, the ID-only areas).
- B15 In our PQ approach paper, we proposed using the SFA database to identify the end-user premises in the geographic areas where Chorus would be exempt from PQ regulation (ie, the ID-only areas).³⁶³ On 19 December 2019, we published our initial SFA assessment. The SFA database, and the interactive map we published on our web site detail the address locations where specified fibre services are available to end-users.
- B16 Section 69AB(6) of the Act defines specified fibre services as either of the following:
- B16.1 a fibre fixed line access service; or
 - B16.2 a telecommunications service provided by a regulated fibre service provider (F) over fibre media where the ultimate recipient of the service is F or a related party of F (as if the test for related parties were the same as the test in section 69U, applied with any necessary modifications).
- B17 The SFA database identifies end-users’ premises in geographic areas where a regulated service provider has installed fibre network, including fibre networks built under the UFB initiative. However, it does so at a level of granularity that is too precise for determining, at least initially, the geographic areas where Chorus is to be exempt from PQ regulation (ie, the ID-only areas). This was highlighted by Enable Network in its submission. We also referred to it in our process and approach paper in the two scenarios we envisaged.³⁶⁴ We propose using these scenarios as the basis of our approach.

Draft decisions

- B18 We have divided our approach to assessment of whether FFLAS fall within reg 6 and are exempt from PQ regulation by FFLAS type. These FFLAS types fall into two overarching categories:
- B18.1 FFLAS provided to end-user premises, which comprise:
 - B18.1.1 voice services;

³⁶³ Commerce Commission “[Fibre Information disclosure and price-quality regulation – proposed process and approach for the first regulatory period](#)” (15 September 2020), Table 6.1, page 124.

³⁶⁴ Enable and Ultrafast Fibre “[Submissions on PQID process and approach paper](#)” (14 October 2020), in response to Commerce Commission “[Fibre Information disclosure and price-quality regulation – proposed process and approach for the first regulatory period](#)” (15 September 2020).

- B18.1.2 Bitstream PON services;
- B18.1.3 unbundled PON services;
- B18.1.4 point-to-point services; and
- B18.1.5 connection services; and
- B18.2 aggregated services, which comprise:
 - B18.2.1 transport;
 - B18.2.2 co-location; and
 - B18.2.3 and interconnection.

FFLAS provided to end-user premises

- B19 As set out in our process and approach paper, there are two broad scenarios where Chorus could potentially be considered to provide FFLAS in another LFC's UFB area, and where reg 6 means that Chorus' FFLAS are exempt from PQ regulation:³⁶⁵
- B19.1 where an LFC has already installed a FFLAS network under the UFB initiative; and
 - B19.2 where an LFC has the potential to install a FFLAS network.

Scenario 1 – existing LFC installed network

- B20 Under Scenario 1, where both Chorus and another LFC can provide FFLAS to an end-user, an access seeker can choose between competing LFCs. In this scenario, Chorus' FFLAS falls within reg 6, is exempt from PQ regulation, and is subject to ID regulation only (ie, it is ID-only FFLAS and the assets used (exclusively) in the provision of these services are part of the ID-only RAB).³⁶⁶
- B21 For these categories, if the premise that has (or would have) the UNI for the particular type of FFLAS is located in another LFC's UFB area, and that LFC has established UFB communal infrastructure that can serve that premise as recorded in our SFA database, the FFLAS are subject to ID regulation only.

³⁶⁵ Commerce Commission "[Fibre Information disclosure and price-quality regulation – proposed process and approach for the first regulatory period](#)" (15 September 2020), para 6.32.1.

³⁶⁶ Ibid, paragraph 6.32.1.

Scenario 2 – potential LFC installed network

- B22 Under Scenario 2, where Chorus has installed a fibre network in another LFC’s UFB coverage area and the other LFC has elected not to immediately overbuild Chorus’ UFB fibre network, then the end-user and access seeker’s only choice of fibre provider is Chorus.³⁶⁷
- B23 Under this scenario, while there is no current competition, Chorus is still subject to (and end-users enjoy the benefits of) potential competition.
- B24 As discussed in our process and approach paper, the critical consideration when determining the boundary of a geographical area where Chorus will be exempt from PQ regulation under reg 6, is whether end-users are likely to enjoy the benefits of (actual or potential) competition between Chorus and the other regulated fibre provider.³⁶⁸ In interpreting whether the geographic areas where end-users are likely to enjoy the benefits of (actual or potential) competition, we must be guided by what best promotes the long-term benefit of end-users and must not treat any of the s 162(a)-(d) outcomes as paramount.

FFLAS in both scenario 1 and scenario 2 are subject to ID regulation only

- B25 In our process and approach paper, the most reasonable interpretation of reg 6 is that both scenario 1 and 2, end-users are likely to enjoy the benefits of (actual or potential) competition between Chorus and the other LFC. On this basis, we considered that all FFLAS falling within scenarios 1 and 2 should be treated as being within the “geographical area” where Chorus is exempt from PQ regulation under reg 6, and subject to ID regulation only at implementation date (ie, it is ID-only FFLAS).
- B26 To understand the extent of Chorus’ ID-only areas we should not —at least initially— rely solely upon information from our SFA database. We need to identify the geographical area that is bounded generally by each non-Chorus’ LFC’s ‘as-built’ UFB fibre network. By “bounded generally” we mean that it does not have to identify every individual property that the non-Chorus LFC has passed with its UFB build, given that the effects of competition will be present around the edges of the bounded area.

³⁶⁷ Commerce Commission [“Fibre Information disclosure and price-quality regulation – proposed process and approach for the first regulatory period”](#) (15 September 2020), paragraph 6.32.2.

³⁶⁸ Ibid, paragraph 6.35.

- B27 However, both the Commission and the industry do need to know whether a given property is considered in or out of an ID-only area (in order to determine whether it is exempt from PQ regulation). To that end, we propose to use the ‘as-built’ coverage areas, certified for CIP as the basis for determining the initial geographic extent of ID-only areas. We propose to use the ‘as-built’ network information to identify all properties within the SFA database that are within the ID-only areas and to publish that alongside the SFA information on our website.
- B28 We consider it important to maintain a record of PQ-exempt properties in our SFA database in order that they can be readily identified for compliance purposes and updated as necessary as a result of any future UFB builds or competition reviews.

Treatment of aggregated services

- B29 In our PQ Draft reasons paper, we said that the issue of whether aggregated services are classed as ID-only FFLAS would be determined by the location of end-users who are the ultimate recipients of FFLAS (up to the FFLAS UTP).³⁶⁹
- B30 This means that if Chorus provides FFLAS to an address that is recorded in the SFA database that meets the conditions of scenarios 1 and 2 above, then it is ID-Only FFLAS.
- B31 The types of aggregated services to which this would apply are transport services, co-location and interconnection services. The following scenarios are subject to ID regulation only (ie, they are ID-only FFLAS):
- B31.1 where the UNI to which the transport service is connected is located in another LFC’s UFB coverage area where the LFC has, or could reasonably have established UFB communal infrastructure; and
- B31.2 where the co-location service is located in another LFC’s UFB coverage area.

Assessment of Chorus’ approach

- B32 While our interpretation of the Regulations has a broader impact than just Chorus’ initial PQ RAB and PQP1 expenditure proposals, these proposals are the most immediately relevant. Specifically, how Chorus has interpreted and applied reg 6 impacts how costs and assets are allocated between PQ FFLAS and ID-only FFLAS.
- B33 From our assessment, we are confident that Chorus has interpreted reg 6 consistent with our interpretation and applied this correctly in practice.

³⁶⁹ Commerce Commission “[Chorus’ Price-quality path from 1 January 2022 – Draft decision](#)” (27 May 2021 – Updated 16 May 2021), p 26-27; Regulations under s 226.

- B34 To assess this, we have obtained the GIS files (in simple terms, maps) that underpinned Chorus' categorisation of assets and costs into the "won" and "non" geographies (subject to PQ) and "lost" geography (ID-only), which are themselves based on the SFA database.

Attachment C Debt premium estimates applied in the vanilla WACC

C1 This Attachment outlines the corporate bonds used in the estimation of the debt premium values for the financial loss year periods. The debt premium is the parameter where we must apply judgement in determining an estimate. The tables below demonstrate our estimate of the debt premiums for a benchmark bond based on the corporate bond observations and the Nelson-Siegel-Svensson (NSS) estimate.

Figure C1 Debt premium estimates for period prior to 1 Dec 2011

Details of benchmark bond

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	2.50

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
c	CONTACT ENERGY LTD	Other	No	BBB	5.4	2.46	1
c	POWERCO LIMITED	Other	No	BBB	3.6	2.24	2
e	AUCKLAND INTL AIRPORT	Airport	No	A-	5.0	1.86	3
e	FONTERRA COOPERATIVE G	Other	No	A-	4.3	1.52	4
e	GENESIS ENERGY LTD	Other	No	BBB+	7.0	1.62	5
e	MERCURY NZ LTD	Other	No	BBB+	7.0	1.78	6
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	5.3	1.98	7
e	SPARK FINANCE LTD	Telco	No	A-	4.3	2.17	8
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.51	9
Nelson-Siegel-Svensson (NSS) estimate					7.0	2.51	

Notes on bonds analysed

- 1 CENNZ 7.855 04/13/17
- 2 PWCNZ 6.53 06/29/15
- 3 AIANZ 8 11/15/16
- 4 FCGNZ 6.83 03/04/16
- 5 GENEPO 7.65 03/15/16; GENEPO 8.3 06/23/20
- 6 MCYNZ 7.55 10/12/16; MCYNZ 8.21 02/11/20
- 7 MERINZ 7.55 03/16/17
- 8 SPKNZ 7.04 03/22/16
- 9 TPNZ 5.14 11/30/18; TPNZ 6.595 02/15/17; TPNZ 7.19 11/12/19

Figure C2 Debt premium estimates for 6 months to 30 Jun 2012**Details of benchmark bond**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	2.70

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
c	CONTACT ENERGY LTD	Other	No	BBB	5.1	2.67	1
c	POWERCO LIMITED	Other	No	BBB	3.3	2.40	2
e	AUCKLAND INTL AIRPORT	Airport	No	A-	5.6	1.91	3
e	FONTERRA COOPERATIVE G	Other	No	A-	4.0	1.69	4
e	GENESIS ENERGY LTD	Other	No	BBB+	7.0	1.72	5
e	MERCURY NZ LTD	Other	No	BBB+	7.0	2.10	6
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	5.0	2.21	7
e	SPARK FINANCE LTD	Telco	No	A-	4.0	2.10	8
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.70	9
Nelson-Sigel-Svensson (NSS) estimate					7.0	2.73	

Notes on bonds analysed

- 1 CENNZ 7.855 04/13/17
- 2 PWCNZ 6.53 06/29/15
- 3 AIANZ 5.47 10/17/17
- 4 FCGNZ 6.83 03/04/16
- 5 GENEPO 7.65 03/15/16; GENEPO 8.3 06/23/20
- 6 MCYNZ 7.55 10/12/16; MCYNZ 8.21 02/11/20
- 7 MERINZ 7.55 03/16/17
- 8 SPKNZ 7.04 03/22/16
- 9 TPNZ 5.14 11/30/18; TPNZ 7.19 11/12/19

Figure C3 Debt premium estimates for Full year to 30 Jun 2013**Details of benchmark bond**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	2.15

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
c	CONTACT ENERGY LTD	Other	No	BBB	4.3	1.99	1
c	POWERCO LIMITED	Other	No	BBB	2.5	1.87	2
e	AUCKLAND INTL AIRPORT	Airport	No	A-	7.0	1.61	3
e	FONTERRA COOPERATIVE G	Other	No	A-	3.2	1.37	4
e	GENESIS ENERGY LTD	Other	No	BBB+	7.0	1.61	5
e	MERCURY NZ LTD	Other	No	BBB+	7.0	2.04	6
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	4.3	1.76	7
e	SPARK FINANCE LTD	Telco	No	A-	6.9	1.84	8
f	CHRISTCHURCH INTL AIRP	Airport	Yes	A-	7.0	1.90	9
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.56	10
Nelson-Sigel-Svensson (NSS) estimate					7.0	2.21	

Notes on bonds analysed

- 1 CENNZ 7.855 04/13/17
- 2 PWCNZ 6.53 06/29/15
- 3 AIANZ 4.73 12/13/19
- 4 FCGNZ 6.83 03/04/16
- 5 GENEPO 7.65 03/15/16; GENEPO 8.3 06/23/20
- 6 MCYNZ 7.55 10/12/16; MCYNZ 8.21 02/11/20
- 7 MERINZ 7.55 03/16/17
- 8 SPKNZ 5 1/4 10/25/19
- 9 CHRINT 5.15 12/06/19
- 10 TPNZ 7.19 11/12/19; TPNZ 6.95

Figure C4 Debt premium estimates for Full year to 30 Jun 2014**Details of benchmark bond**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	2.10

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
c	CONTACT ENERGY LTD	Other	No	BBB	6.4	1.97	1
c	POWERCO LIMITED	Other	No	BBB	1.5	1.49	2
e	AUCKLAND INTL AIRPORT	Airport	No	A-	6.0	1.46	3
e	FONTEIRA COOPERATIVE G	Other	No	A-	2.2	0.91	4
e	GENESIS ENERGY LTD	Other	No	BBB+	7.0	2.03	5
e	MERCURY NZ LTD	Other	No	BBB+	7.0	1.98	6
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	3.3	1.48	7
e	SPARK FINANCE LTD	Telco	No	A-	5.9	1.73	8
e	WELLINGTON INTL AIRPOR	Airport	No	BBB+	6.5	1.89	9
f	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	7.0	1.79	10
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.36	11
Nelson-Sigel-Svensson (NSS) estimate					7.0	2.20	

Notes on bonds analysed

- 1 CENNZ 5.277 05/27/20
- 2 PWCNZ 6.53 06/29/15
- 3 AIANZ 4.73 12/13/19
- 4 FCGNZ 6.83 03/04/16
- 5 GENEPO 8.3 06/23/20; GENEPO 5.81 03/08/23
- 6 MCYNZ 8.21 02/11/20; MCYNZ 5.793 03/06/23
- 7 MERINZ 7.55 03/16/17
- 8 SPKNZ 5 1/4 10/25/19
- 9 WIANZ 5.27 06/11/20
- 10 CHRINT 5.15 12/06/19; CHRINT
- 11 TPNZ 6.95 06/10/20; TPNZ 5.448 03/15/23

Figure C5 Debt premium estimates for Full year to 30 Jun 2015**Details of benchmark bond**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	1.75

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
c	CONTACT ENERGY LTD	Other	No	BBB	5.5	1.53	1
c	POWERCO LIMITED	Other	No	BBB	0.5	0.94	2
e	AUCKLAND INTL AIRPORT	Airport	No	A-	6.5	1.20	3
e	FONTEIRA COOPERATIVE G	Other	No	A-	7.0	1.24	4
e	GENESIS ENERGY LTD	Other	No	BBB+	7.0	1.63	5
e	MERCURY NZ LTD	Other	No	BBB+	7.0	1.77	6
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	2.3	1.06	7
e	SPARK FINANCE LTD	Telco	No	A-	4.9	1.27	8
e	WELLINGTON INTL AIRPOR	Airport	No	BBB+	5.5	1.65	9
f	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	6.8	1.59	10
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.07	11
Nelson-Sigel-Svensson (NSS) estimate					7.0	1.79	

Notes on bonds analysed

- 1 CENNZ 5.277 05/27/20
- 2 PWCNZ 6.53 06/29/15
- 3 AIANZ 5.52 05/28/21
- 4 FCGNZ 5.52 02/25/20; FCGNZ 5.9 02/25/22
- 5 GENEPO 8.3 06/23/20; GENEPO 5.81 03/08/23
- 6 MCYNZ 8.21 02/11/20; MCYNZ 5.793 03/06/23
- 7 MERINZ 7.55 03/16/17
- 8 SPKNZ 5 1/4 10/25/19
- 9 WIANZ 5.27 06/11/20
- 10 CHRINT 6 1/4 10/04/21
- 11 TPNZ 6.95 06/10/20; TPNZ 5.448 03/15/23

Figure C6 Debt premium estimates for Full year to 30 Jun 2016**Details of benchmark bond**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	1.75

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
c	CONTACT ENERGY LTD	Other	No	BBB	5.9	1.37	1
e	AUCKLAND INTL AIRPORT	Airport	No	A-	6.9	1.32	2
e	FONTERRA COOPERATIVE G	Other	No	A-	7.0	1.46	3
e	GENESIS ENERGY LTD	Other	No	BBB+	7.0	1.67	4
e	MERCURY NZ LTD	Other	No	BBB+	7.0	1.73	5
e	SPARK FINANCE LTD	Telco	No	A-	7.2	1.49	6
e	WELLINGTON INTL AIRPOR	Airport	No	BBB+	4.5	1.34	7
f	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	5.8	1.51	8
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.13	9
Nelson-Sigel-Svensson (NSS) estimate					7.0	1.79	

Notes on bonds analysed

- 1 CENNZ 4.4 11/15/21
- 2 AIANZ 4.28 11/09/22
- 3 FCGNZ 5.9 02/25/22; FCGNZ 5.08 06/19/25
- 4 GENEPO 8.3 06/23/20; GENEPO 5.81 03/08/23
- 5 MCYNZ 8.21 02/11/20; MCYNZ 5.793 03/06/23
- 6 SPKNZ 4.51 03/10/23
- 7 WIANZ 5.27 06/11/20
- 8 CHRINT 6 1/4 10/04/21
- 9 TPNZ 4.3 06/30/22; TPNZ 5.448 03/15/23

Figure C7 Debt premium estimates for Full year to 30 Jun 2017**Details of benchmark bond**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	1.85

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
a	CHORUS LTD	Fibre	No	BBB	4.4	1.81	1
c	CONTACT ENERGY LTD	Other	No	BBB	4.9	1.78	2
e	AUCKLAND INTL AIRPORT	Airport	No	A-	6.9	1.51	3
e	FONTERRA COOPERATIVE G	Other	No	A-	7.0	1.87	4
e	GENESIS ENERGY LTD	Other	No	BBB+	6.2	1.88	5
e	MERCURY NZ LTD	Other	No	BBB+	6.2	1.86	6
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	6.2	1.71	7
e	SPARK FINANCE LTD	Telco	No	A-	7.0	1.57	8
e	WELLINGTON INTL AIRPOR	Airport	No	BBB+	3.5	1.58	9
f	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	4.8	1.72	10
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.34	11
Nelson-Sigel-Svensson (NSS) estimate					7.0	1.80	

Notes on bonds analysed

- 1 CNUNZ 4.12 05/06/21
- 2 CENNZ 4.4 11/15/21
- 3 AIANZ 3.97 11/02/23
- 4 FCGNZ 4.42 03/07/23; FCGNZ 5.08 06/19/25
- 5 GENEPO 5.81 03/08/23
- 6 MCYNZ 5.793 03/06/23
- 7 MERINZ 4.53 03/14/23
- 8 SPKNZ 4.51 03/10/23; SPKNZ 3.94 09/07/26
- 9 WIANZ 5.27 06/11/20
- 10 CHRINT 6 1/4 10/04/21
- 11 TPNZ 5.448 03/15/23; TPNZ 5.893 03/15/28

Figure C8 Debt premium estimates for Full year to 30 Jun 2018**Details of benchmark bond**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	1.80

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
a	CHORUS LTD	Fibre	No	BBB	3.4	1.62	1
c	CONTACT ENERGY LTD	Other	No	BBB	4.9	1.35	2
c	VECTOR LTD	EDB/GPB	No	BBB	6.2	1.93	3
c	WELLINGTON INTL AIRPOR	Airport	No	BBB	7.0	1.61	4
e	AUCKLAND INTL AIRPORT	Airport	No	A-	5.9	1.19	5
e	FONTERRA COOPERATIVE G	Other	No	A-	7.0	1.48	6
e	GENESIS ENERGY LTD	Other	No	BBB+	7.0	1.77	7
e	MERCURY NZ LTD	Other	No	BBB+	5.2	1.65	8
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	6.3	1.55	9
e	SPARK FINANCE LTD	Telco	No	A-	7.0	1.25	10
f	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	7.0	1.55	11
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.15	12
Nelson-Siegel-Svensson (NSS) estimate					7.0	1.78	

Notes on bonds analysed

- 1 CNUNZ 4.12 05/06/21
- 2 CENNZ 4.63 11/15/22
- 3 VCTNZ 4.996 03/14/24
- 4 WIANZ 5.27 06/11/20; WIANZ 5 06/16/25
- 5 AIANZ 3.97 11/02/23
- 6 FCGNZ 4.42 03/07/23; FCGNZ 5.08 06/19/25
- 7 GENEPO 5.81 03/08/23; GENEPO 5 04/03/25
- 8 MCYNZ 5.793 03/06/23
- 9 MERINZ 4.88 03/20/24
- 10 SPKNZ 4.51 03/10/23; SPKNZ 3.94 09/07/26
- 11 CHRINT 6 1/4 10/04/21; CHRINT 5.53 04/05/27
- 12 TPNZ 5.448 03/15/23; TPNZ 5.893 03/15/28

Figure C9 Debt premium estimates for Full year to 30 Jun 2019**Details of benchmark bond**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	1.90

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
a	CHORUS LTD	Fibre	No	BBB	2.4	1.82	1
c	CONTACT ENERGY LTD	Other	No	BBB	3.9	1.45	2
c	VECTOR LTD	EDB/GPB	No	BBB	5.2	1.98	3
c	WELLINGTON INTL AIRPOR	Airport	No	BBB	6.5	1.71	4
e	AUCKLAND INTL AIRPORT	Airport	No	A-	5.8	1.34	5
e	FONTERRA COOPERATIVE G	Other	No	A-	6.9	1.75	6
e	GENESIS ENERGY LTD	Other	No	BBB+	6.3	1.89	7
e	MERCURY NZ LTD	Other	No	BBB+	4.2	1.65	8
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	6.5	1.65	9
e	SPARK FINANCE LTD	Telco	No	A-	7.0	1.47	10
f	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	7.0	1.73	11
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	1.28	12
Nelson-Siegel-Svensson (NSS) estimate					7.0	1.88	

Notes on bonds analysed

- 1 CNUNZ 4.12 05/06/21
- 2 CENNZ 4.63 11/15/22
- 3 VCTNZ 4.996 03/14/24
- 4 WIANZ 5 06/16/25
- 5 AIANZ 3.51 10/10/24
- 6 FCGNZ 4.15 11/14/25
- 7 GENEPO 5 04/03/25
- 8 MCYNZ 5.793 03/06/23
- 9 MERINZ 4.21 06/27/25
- 10 SPKNZ 3.37 03/07/24; SPKNZ 3.94 09/07/26
- 11 CHRINT 4.13 05/24/24; CHRINT 5.53 04/05/27
- 12 TPNZ 3.823 03/06/25; TPNZ 5.893 03/15/28

Figure C10 Debt premium estimates for Full year to 30 Jun 2020

Details of benchmark bond

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	1.55

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
a	CHORUS LTD	Fibre	No	BBB	1.4	1.27	1
c	CONTACT ENERGY LTD	Other	No	BBB	4.7	1.37	2
c	VECTOR LTD	EDB/GPB	No	BBB	5.5	1.64	3
c	WELLINGTON INTL AIRPOR	Airport	No	BBB	5.5	1.35	4
e	AUCKLAND INTL AIRPORT	Airport	No	A-	4.8	0.96	5
e	FONTERRA COOPERATIVE G	Other	No	A-	5.9	1.58	6
e	GENESIS ENERGY LTD	Other	No	BBB+	5.3	1.51	7
e	MERCURY NZ LTD	Other	No	BBB+	3.2	1.32	8
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	5.5	1.28	9
e	SPARK FINANCE LTD	Telco	No	A-	6.7	1.11	10
f	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	7.0	1.41	11
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	0.92	12
Nelson-Sigel-Svensson (NSS) estimate					7.0	1.52	

Notes on bonds analysed

- 1 CNUNZ 4.12 05/06/21
- 2 CENNZ 3.55 08/15/24
- 3 VCTNZ 3.45 05/27/25
- 4 WIANZ 5 06/16/25
- 5 AIANZ 3.51 10/10/24
- 6 FCGNZ 4.15 11/14/25
- 7 GENEPO 5 04/03/25
- 8 MCYNZ 5.793 03/06/23
- 9 MERINZ 4.21 06/27/25
- 10 SPKNZ 3.94 09/07/26
- 11 CHRINT 4.13 05/24/24; CHRINT 5.53 04/05/27
- 12 TPNZ 1.735 09/04/25; TPNZ 5.893 03/15/28

Figure C11 Debt premium estimates for Full year to 30 Jun 2021

Details of benchmark bond

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)
Benchmark bond	Fibre	No	BBB	7.0	1.45

Debt premiums ordered by bond categories specified in the IMs

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium (%)	Notes reference
a	CHORUS LTD	Fibre	No	BBB	7.0	1.41	1
c	CONTACT ENERGY LTD	Other	No	BBB	3.7	0.96	2
c	VECTOR LTD	EDB/GPB	No	BBB	5.8	1.41	3
c	WELLINGTON INTL AIRPOR	Airport	No	BBB	4.5	1.87	4
e	AUCKLAND INTL AIRPORT	Airport	No	A-	3.8	1.02	5
e	FONTERRA COOPERATIVE G	Other	No	A-	4.9	1.11	6
e	GENESIS ENERGY LTD	Other	No	BBB+	4.3	1.09	7
e	MERCURY NZ LTD	Other	No	BBB+	7.0	1.03	8
e	MERIDIAN ENERGY LIMITE	Other	No	BBB+	4.5	0.95	9
e	SPARK FINANCE LTD	Telco	No	A-	5.7	0.70	10
f	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	6.3	2.04	11
f	TRANSPower NEW ZEALAND	Other	Yes	AA-	7.0	0.76	12
Nelson-Sigel-Svensson (NSS) estimate					7.0	1.49	

Notes on bonds analysed

- 1 CNUNZ 1.98 12/02/27; CNUNZ 4.12 05/06/21; CNUNZ 2.51 12/02/30
- 2 CENNZ 3.55 08/15/24
- 3 VCTNZ 1.575 10/06/26
- 4 WIANZ 5 06/16/25
- 5 AIANZ 3.51 10/10/24
- 6 FCGNZ 4.15 11/14/25
- 7 GENEPO 5 04/03/25
- 8 MCYNZ 1.56 09/14/27; MCYNZ 1.917 10/09/30
- 9 MERINZ 4.21 06/27/25
- 10 SPKNZ 3.94 09/07/26
- 11 CHRINT 5.53 04/05/27
- 12 TPNZ 1.735 09/04/25; TPNZ 5.893 03/15/28

Attachment D Overview of Chorus' initial PQ RAB (IAV) model

- D1 In this attachment, we provide an overview of Chorus' initial PQ RAB model, which Chorus submitted to us on 26 March 2021. Public versions of Chorus' initial PQ RAB model and model documentation were published on our website on 30 April 2021.
- D2 The model that Chorus submitted on 26 March 2021 produces a starting RAB of \$5.5 billion for Chorus' FFLAS at 1 January 2022. The main components of Chorus' initial PQ RAB estimate are summarised in Table D1 below.

Table D1 Chorus' initial PQ RAB estimate

Asset category	Allocated value in initial PQ RAB
Fibre cable	\$1.6 billion
Ducts, manholes, poles	\$1.8 billion
Property	\$0.1 billion
Cabinets, Transport, Layer 2, IT and other	\$0.5 billion
Core fibre RAB	\$4.0 billion
Initial RAB value of FLA	\$1.5 billion
Total initial PQ RAB value	\$5.5 billion

- D3 Chorus' initial PQ RAB model has been developed by Analysys Mason, an excel-based initial RAB model, the BBM IAV Model.³⁷⁰ As shown above, it produces an estimate of Chorus' total initial PQ RAB value (\$5.5 billion), which is comprised of the sum of the (allocated) initial RAB values of Chorus' core fibre assets (\$4.0 billion) and an estimate of the initial RAB value of Chorus' FLA (\$1.5 billion).
- D4 Chorus' initial PQ RAB model is based on a number of data sources, including Chorus' statutory accounts (Chorus' FAR for assets, and general ledger for operating costs and revenues), as well as forecasts from Chorus' five-year plan. Other key inputs include Chorus' proposed cost and asset allocators and allocator values, which are described in the model documentation.³⁷¹

³⁷⁰ Chorus uses the term Initial Asset Value (IAV) in its model and model documentation. This is equivalent to the term initial RAB. We use the terms IAV and initial RAB interchangeably in this draft decision and in the IMs. Similarly, we will also use the terms Chorus' initial RAB model and BBM IAV model interchangeably

³⁷¹ See for example Analysys Mason report for Chorus "[Building Block model IAV model documentation IAV model v314 120c](#)" (24 March 2021), Figure 15.

- D5 A description of Chorus' BBM IAV model is provided in the model documentation prepared for Chorus by Analysys Mason. This is summarised as follows:
- D5.1 The BBM IAV model is based around four service categories. It refers to these as "contracted UFB FFLAS", "voluntary FFLAS", "non-FFLAS fibre", and "copper services");
 - D5.2 There are 93 asset classes in Chorus' BBM IAV model;
 - D5.3 There are four time periods, which relate to when the particular asset was employed in the provision of UFB FFLAS; and
 - D5.4 There are four geographies in Chorus' BBM IAV model, representing exchange service areas (ESAs):
 - D5.4.1 where Chorus was awarded the majority UFB contract;
 - D5.4.2 ESAs where Chorus lost the majority UFB contract;
 - D5.4.3 ESAs which are outside of the scope of the UFB deployment; and
 - D5.4.4 A "national" geography for central and core assets.
- D6 We discuss each of these in greater detail below.

How Chorus has structured the BBM IAV model to cater for assets across time and geographies

Asset classes within the model

- D7 The BBM IAV model that calculates Chorus' initial PQ RAB estimate groups assets according to "asset classes". This allows a large degree of aggregation and simplification from the highly granular data held in the FAR.
- D8 Chorus explains that each asset class groups assets that have similar asset lifetimes and replacement cost trends. Each asset class is also shared between the different services in a similar way.
- D9 The model has space for 93 asset classes, but four are reserved for special purposes.

Time periods used within the model

- D10 The model has two time-related dimensions:
- D10.1 the periods over which results are calculated; and
 - D10.2 the date at which assets are acquired.

- D11 The time period covered by the BBM IAV model is from FY12 through to FY39. Where possible, it works in Chorus financial years. Note that “FY12” refers to the financial loss year ending 30 June 2012, which is a special 7-month financial year.³⁷²
- D12 The PQ RAB comes into operation on the 1 January 2022 implementation date, with the collection of fibre assets that are employed by Chorus in the provision of PQ FFLAS at 1 January 2022 being part of Chorus' initial PQ RAB. Given that Chorus' financial loss years (apart from FY12) run from 1 July to 30 June, the final “financial loss year” of the pre-implementation period (ie, FY21) is also a special 6-month financial year (1 July 2021 to 31 December 2021).
- D13 The model is split into four distinct timeframes as follows:
- D13.1 Pre-2012;
 - D13.2 Post2012Actuals (up to EOP FY20);
 - D13.3 Post2012Forecasts (from SOP FY21 to the implementation date); and
 - D13.4 PostRAB (from implementation date).
- D14 It should be noted that the date of establishment of the PQ RAB (ie, the boundary between Post2012forecast and PostRAB) is fixed in the model.

Geographies used within the model

- D15 Chorus' FAR has records of assets with most tagged to an ESA. Chorus describes a Chorus ESA as an area served by its copper network from one building.³⁷³
- D16 The model makes use of four geographies:
- D16.1 ESA areas where Chorus is the main provider of UFB services (ie, it was awarded the contract to deliver the majority of UFB services in the ESA, “Won”);
 - D16.2 ESA areas where Chorus is not the main provider of UFB services (“Lost”);
 - D16.3 ESA areas where there is no provider of UFB service (i.e. no UFB deployment) (“Non”);
 - D16.4 A final geography for central and core assets which are used by all the other geographies (“National”). This class also includes some assets with unknown location.

³⁷² The pre-implementation period commenced on 1 December 2011.

³⁷³ Analysys Mason report for Chorus “[Building Block model IAV model documentation IAV model v314_120c](#)” (24 March 2021), section 2.7.

- D17 Chorus also uses a geographic term “rest of New Zealand” (RONZ). Chorus explains that this is a term used in other contexts to represent the area, including within an ESA, within which there are no UFB services. This is not a synonym for the “Non” area.
- D18 RONZ is used within Chorus’ demand and revenue forecast model, which is an input to the BBM IAV model, to indicate a specific geography. It includes Non-ESA areas and those parts of Won and Lost ESAs not covered by UFB services. That is, part of the RONZ is in the “Non” (RONZ/Non), but part is in the “Lost” (Lost/RONZ) and part is in the “Won” (which it calls Won/RONZ).

Asset classes are associated with a purchase timeframe and a geography

- D19 Chorus’ BBM IAV model combines asset classes with timeframes and geographies. As a result, the model generates approximately 1,500 combinations of asset class, geography, and timeframe, each of which are to be allocated using an asset allocator type and value.
- D20 For example, “Pre2012 L1 Duct Won” would represent:
- D20.1 An asset built prior to 1 December 2011;
 - D20.2 The asset class is layer 1 Duct; and
 - D20.3 The asset geography is in the “Won” area.

A separate worksheet calculates the initial RAB value of the FLA

- D21 Chorus’ initial RAB model calculates the initial RAB value of the FLA, using the DCF methodology.³⁷⁴ This calculation takes the present value of cashflow costs and cashflow revenues over the period from 1 December 2011 to 31 December 2021, as well as the present value of the benefits of Crown financing.

Verification and testing undertaken on Chorus’ initial PQ RAB proposal

- D22 Chorus has sought testing/verification by independent parties.
- D23 Chorus has provided supporting documentation of verification it has sought to date on the model developed by Analysys Mason. Chorus says that the BBM IAV model built by Analysys Mason is based on the best available data, which can be reconciled to its published accounts.

³⁷⁴ Analysys Mason report for Chorus “[Building Block model IAV model documentation IAV model v314_120c](#)” (24 March 2021), section 3.6.7.

- D24 The Commission has obtained further independent scrutiny and review of Chorus' initial PQ RAB proposal.
- D25 We noted in our consultation that we would be requiring further independent scrutiny and review of the calculation of Chorus' estimate of the initial PQ RAB as part of our work to review Chorus' proposal.
- D26 The Commission has now undertaken further review of Chorus' estimate since that time. The results of that review are reflected in these draft decisions.