

Chorus' initial price-quality regulatory asset base as at 1 January 2022

Consultation on Chorus' initial price quality RAB proposal

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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
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
30 April 2021		Determining Chorus' first fibre price-quality path: Process update

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Acronyms and abbreviations

Abbreviation	Definition
BBM	Building blocks model
ESA	Exchange service areas
FAR	Fixed asset register
FFLAS	Fibre fixed line access services
FLA	Financial loss asset
IAV	Initial asset value, being Chorus' term for what we call the initial RAB
ID	Information disclosure
IM	Input Methodology
LFC	Local fibre company
MAR	Maximum allowable revenue
Opex	Operating expenditure
PQ	Price-quality
RAB	Regulatory asset base
PQ FFLAS	All FFLAS subject to price-quality regulation in regulations made under s 226 of the Act
PQ RAB	Price-quality regulatory asset base
PQP1	Price-quality path 1 (covering the period from 2022 to 2024)
PQP2	Price-quality path 2 (from 2025)
Totex	Total expenditure
UFB	Ultra-fast broadband
UFB FFLAS	Any FFLAS provided by a regulated provider under the UFB initiative during the financial loss period
WACC	Weighted-average cost of capital

Chapter 1 Introduction

Purpose

- 1.1 This paper invites stakeholders' views on Chorus Limited's (**Chorus**) initial price-quality regulatory asset base proposal (**initial PQ RAB proposal**) before we make our draft decision on the value of the initial PQ RAB in the third quarter of 2021.
- 1.2 In this paper we identify specific aspects of Chorus' initial PQ RAB proposal on which we are particularly interested in receiving stakeholders' views. We are also interested in stakeholders' views on any other aspect of Chorus' initial PQ RAB proposal that will help inform our draft decision on the initial PQ RAB.
- 1.3 The Telecommunications Act 2001 (**the Act**) requires us to establish the price-quality (**PQ**) path for Chorus by 1 January 2022 (**implementation date**) and for us to determine the initial RAB as an essential input into the building blocks revenue for the PQ path.¹
- 1.4 On 26 March 2021, Chorus submitted its initial PQ RAB proposal to us. This took the form of two Excel models (together, the **Models**):
 - 1.4.1 Initial Asset Value model that calculates the initial asset valuation at the implementation date (**IAV model**);^{2,3} and
 - 1.4.2 Opex model that allocates operating costs as described in cl 2.1.1 of the IM Amendment Determination (**Opex model**).^{4,5}
- 1.5 Together, the Models undertake the various calculations required to produce Chorus' initial PQ RAB proposal, which is comprised of:

¹ Section 172(1)(a). Unless stated otherwise all references to statutory provisions in this paper are references to statutory provisions under the Telecommunications Act 2001.

² Chorus' IAV model is described in Analysys Mason "Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c" (24 March 2021).

³ 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 which we use in this consultation and in the IMs.

⁴ 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)" (22 March 2021).

⁵ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020).

- 1.5.1 Chorus' estimate of the opening initial PQ RAB values of core fibre assets employed in providing PQ fibre fixed line access services (**FFLAS**) at 1 January 2022;⁶ and
 - 1.5.2 Chorus' estimate of the financial loss asset (**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).⁷
- 1.6 A public version of Chorus' IAV model, along with its model documentation, is available on our website.⁸

Structure of this paper

- 1.7 This paper is structured as follows:
- 1.7.1 Chapter 1 provides relevant background information on the initial RAB; Chorus' initial PQ RAB proposal; and our process and key phases and milestones for determining Chorus' initial PQ RAB;
 - 1.7.2 Chapter 2 provides a brief summary of the IMs that relate to the initial RAB;
 - 1.7.3 Chapter 3 provides an overview of Chorus' initial PQ RAB proposal and high-level approach to its calculation; and
 - 1.7.4 Chapter 4 identifies the specific areas of Chorus' initial PQ RAB proposal on which we are most interested in stakeholders' views.

Background to the initial Regulatory Asset Base (RAB)

Chorus is subject to new forms of regulation

- 1.8 From 1 January 2022, providers of regulated FFLAS will be subject to new forms of regulation under Part 6 of the Act. Input Methodologies (**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:

⁶ PQ FFLAS means, in respect of a regulated provider, all FFLAS subject to price-quality regulation in regulations made under s 226 of the Act.

⁷ "UFB FFLAS" is defined in the Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Schedule B, as "any FFLAS provided by a regulated provider under the UFB initiative during the financial loss period".

⁸ See <https://comcom.govt.nz/regulated-industries/telecommunications/projects/fibre-price-quality-path-and-information-disclosure>

- 1.8.1 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 as a result of regulations made by the Governor-General on 18 November 2019.⁹
- 1.8.2 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**).
- 1.9 In order to recognise the different scope of FFLAS specified in reg 5 and 6 and to implement these regulations, we categorised regulated FFLAS into “FFLAS classes” as follows:¹⁰
- 1.9.1 “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;
- 1.9.2 “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;
- 1.9.3 “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 information disclosure regulation in regulations made under s 226; and (b) are not subject to price-quality regulation in regulations made under s 226; and
- 1.9.4 “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.

⁹ 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 the ultra-fast broadband (UFB) initiative.

¹⁰ Fibre Input Methodologies: Main final decision reasons paper (13 October 2020) at [2.76]; refer also to Figure 2.3.

Regulatory Framework

- 1.10 The purpose of Part 6 of the Act is to promote the long-term benefit of end-users in markets for FFLAS by promoting outcomes consistent with those produced in workably competitive markets.¹¹ When making decisions, we are required to give effect to this purpose and, to the extent we consider it relevant, the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services.
- 1.11 We have developed an economic framework to help guide the decisions we make in developing the new regulatory regime for Part 6, including the fibre IMs. The framework helps us make individual decisions that are consistent with each other, and with the requirement to best give effect to the purposes described in s 166(2) of the Act.¹² The economic framework includes three key economic principles, an incentive framework, and competition screening considerations. 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.

We have adopted a building blocks model approach

- 1.12 We have adopted a building blocks model (**BBM**) approach to developing our IMs under Part 6.
- 1.12.1 Under the BBM, we calculate the value of the network (the collection of assets) that is used to supply the regulated services; this forms the regulated provider's RAB.
- 1.12.2 We then use the RAB, along with the regulated provider's other costs—together, the building blocks—as the basis for calculating the allowable revenue.

Calculation of the initial RAB

- 1.13 The IMs require us to determine the initial RAB as an essential input into the building blocks revenue for the PQ path.¹³ The initial RAB is made up of two components:

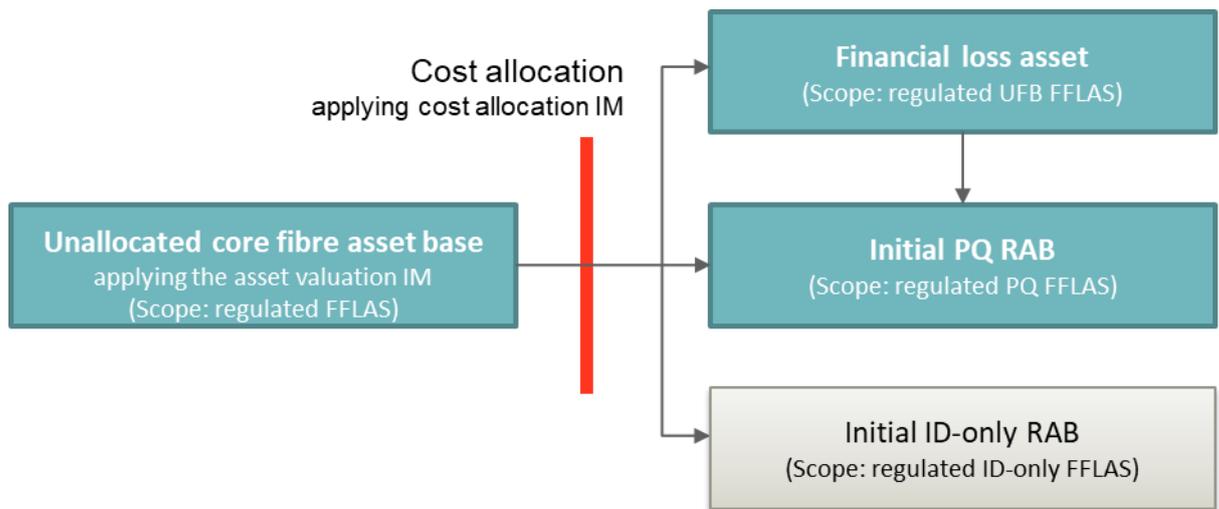
¹¹ Section 162.

¹² Fibre Input Methodologies: Main final decision reasons paper (13 October 2020) at [2.272]-[2.309].

¹³ Clause 3.1.1 of the IMs.

- 1.13.1 Core fibre assets: fibre assets that are employed by a regulated provider in the provision of FFLAS (whether or not the asset is also employed in the provision of other services);¹⁴ and
- 1.13.2 The FLA: each regulated provider is treated as owning a FLA that captures unrecovered returns that have accumulated up to implementation date (starting on 1 December 2011 and ending on 31 December 2021).¹⁵
- 1.14 The components and scope of the initial RAB are set out in Figure 1.1 below.¹⁶

Figure 1.1 Initial RAB components and scope



Financial losses accumulated during the pre-implementation period

- 1.15 In our main final reasons paper, we explained 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.¹⁷ 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.

¹⁴ Section 177(1); and Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), cl 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.

¹⁵ Section 177(2) and (3).

¹⁶ In order to implement regulations 5 and 6, we introduced the requirement for reporting of multiple RABs under ID regulation. Regulated providers that are currently only subject to ID regulation will have a solely ID RAB. Chorus is, however, subject to both PQ and ID regulation. Certain of Chorus’ assets will only be subject to ID regulation, due to being exempt from PQ regulation under reg 6 (refer to paragraph 1.8.1 above). This means that while all of Chorus’ fibre assets will be in its ID RAB, only a subset of those fibre assets will be in its PQ RAB. Chorus’ fibre assets that are not included in the PQ RAB will be ID-only assets.

¹⁷ Fibre Input Methodologies: Main final decision reasons paper (13 October 2020).

- 1.16 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.
- 1.17 As set out in paragraphs 1.4-1.5 above, Chorus has submitted the outcome of the process and calculations it has undertaken to develop a proposal for the value of the initial PQ RAB. This proposal consists of a calculation of the estimated value of the initial opening PQ RAB at 1 January 2022, including the FLA up to 31 December 2021.

Transitional initial PQ RAB – revised approach

- 1.18 We will be adopting a transitional approach to determining Chorus' initial PQ RAB.
- 1.19 As set out in the Process Update Paper published alongside this document, it has become clear that setting out a draft transitional initial PQ RAB in time for the draft PQP1 determination in May 2021 (the timeframe we had initially envisaged) is not achievable.¹⁸
- 1.20 We propose to use a transitional initial PQ RAB for PQP1 determined in November 2021, based on estimates of asset values and an application of provisional cost allocators. The actual initial PQ RAB for Chorus would be determined in 2022, once further review and scrutiny has been applied to those asset values and cost allocators. We would then 'true-up' for differences between the transitional and actual PQ RAB values through a wash-up mechanism, which would adjust revenue values in PQP2.¹⁹
- 1.21 In order to implement this proposed approach, we are considering certain potential amendments to the IMs. Alongside this paper, as required under s 179(1) of the Act, we have published a notice of intention to begin work on these potential IM amendments that:
- 1.21.1 outlines the scope of the potential amendments under consideration by reference to the applicable IM and clause in the IMs;
 - 1.21.2 outlines the proposed process that will be followed; and

¹⁸ Commerce Commission "Determining Chorus' first fibre price-quality path: Process update" (30 April 2021), paragraph 9.

¹⁹ 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), para 5.124.

- 1.21.3 sets out our proposed indicative time frames.²⁰
- 1.22 We will now apply the following steps to determining Chorus' initial RAB:²¹
- 1.22.1 In order to have a meaningful consultation on PQP1, using the best available input for the initial PQ RAB at the time, we will use Chorus' initial PQ RAB proposal as the PQ RAB input to our draft PQP1 maximum revenues decision in May 2021. This will not represent an application of:
- 1.22.1.1 The IMs; or
- 1.22.1.2 The IMs that we are intending to propose amendments to alongside our draft PQP1 decisions.
- 1.22.2 We are consulting on which areas should be the focus of our scrutiny of Chorus' initial PQ RAB proposal.
- 1.22.3 We will determine a transitional initial PQ RAB in August 2021 that will
- 1.22.3.1 apply the relevant IMs for PQ paths in force at that time; and
- 1.22.3.2 be the PQ RAB input to our final maximum revenues decisions for PQP1 in November 2021²².
- 1.22.4 We will launch a consultation on our draft initial RAB in August 2021.
- 1.22.5 We will make a final determination of the initial PQ RAB in 2022.
- 1.23 We note that in addition to our consultation on Chorus' initial PQ RAB proposal, we are going to seek further assurance (via independent audit and from our own assessment) of Chorus' initial PQ RAB proposal.
- 1.24 This assurance will, for example, consider any allocations applied and the necessary associated calculations used to calculate Chorus' initial PQ RAB proposal.

²⁰ Commerce Commission "Notice of Intention 29 April 2021 Proposal to Make Potential Amendments to the Input Methodologies for Fibre – potential August 2021 amendments" (29 April 2021).

²¹ Commerce Commission "Determining Chorus' first fibre price-quality path: Process update" (30 April 2021) paragraph 5.

²² In our proposed process and approach paper, we outlined our intention to determine the transitional [initial PQ] RAB in Q4 in 2021 and use the value of this RAB in our calculation of building blocks revenue. See Commerce Commission "Fibre information disclosure and price-quality regulation: Proposed process and approach for the first regulatory period" (15 September 2020), Table 2.1 and 5.21-5.22.

Notice to supply information

- 1.25 On 26 February 2021, we issued Chorus a notice under s 221 of the Act (**s 221 notice**) requiring it to provide information on its initial PQ RAB proposal, having applied the asset valuation IM.
- 1.26 Chorus submitted its response to the s 221 notice on 26 March 2021, providing the outcome of the process and calculations it has undertaken to develop its initial PQ RAB proposal, as discussed in paragraphs 1.4 - 1.5 above and detailed in Chapter 3.

Our approach to evaluating Chorus' initial PQ RAB proposal

- 1.27 We will determine the value of the initial PQ RAB, including the FLA, as at 1 January 2022. Our determination of these values will be informed by Chorus' initial PQ RAB proposal which was submitted to us on 26 March 2021.²³
- 1.28 We have had, and continue to have, regular engagement with Chorus about its initial PQ RAB proposal, to understand the process it has undertaken to develop the calculation. This engagement has included workshops with Analysys Mason, the consultancy that has assisted Chorus to develop the Models that calculate Chorus' initial PQ RAB proposal.
- 1.29 We will run scenarios through our own high-level DCF model and compare our results to those from Chorus.
- 1.30 We are in the process of checking whether Chorus' initial PQ RAB proposal aligns with the requirements set out in the IMs.
- 1.31 As set out in our proposed process and approach paper, our approach relies on Chorus modelling that will be complemented by a comprehensive package of assurance.²⁴

Chorus' initial RAB calculation

How to navigate Chorus' initial RAB calculation

- 1.32 Chorus has provided the following:
- 1.32.1 a document listing Chorus' responses to our questions in the s 221 notice, or the associated separate documents that contain its response;
 - 1.32.2 various documents addressing specific Commission questions;

²³ Chorus provided us with draft versions of its models on 5 March 2021.

²⁴ Commerce Commission "Fibre information disclosure and price-quality regulation: proposed process and approach for the first regulatory period" (15 September 2020), at paras 5.135- 5.136.

- 1.32.3 a public version of its IAV model for publication with randomised input values (data);
 - 1.32.4 a public version of the Analysys Mason report for Chorus on the BBM IAV model responses to our s 221 notice;
 - 1.32.5 a public version of the Analysys Mason report for Chorus on the BBM IAV model documentation: IAV model v314_120c 24 March 2021; and
 - 1.32.6 a public version of the Analysys Mason report for Chorus Documentation of opex allocation for the BBM opex workstream (including responses to the s 221 notice), model version v3.31, 22 March 2021.
- 1.33 These documents:
- 1.33.1 set out details of both the IAV and Opex models that Analysys Mason has built to calculate the proposal of the initial RAB;
 - 1.33.2 provide a version of the IAV model containing randomised input data, which allows stakeholders to see how the model is structured and how it calculates results; and
 - 1.33.3 provide details of Chorus' responses to our request for information under the s 221 notice.

Access to Chorus' confidential and/or commercially sensitive RAB information will be limited to approved nominated counsel and independent experts.

- 1.34 We note that some of the information provided by Chorus is confidential and/or commercially sensitive and has not been published. In specific cases, aggregated or amended versions of the information have been included in the published initial RAB documentation. This has been done so that stakeholders have access to the maximum amount of information while still retaining Chorus' right to confidentiality in respect of certain information.

- 1.35 As previously notified, access to Chorus' confidential and/or commercially sensitive information will be limited to approved nominated counsel and independent experts under an order made under s 100 of the Commerce Act 1986.²⁵ Accordingly, any interested parties who have appointed independent experts and wish them to be given access to Chorus' confidential and/or commercially sensitive initial PQ RAB information must provide us with the details of their nominated counsel (who must be a person who has a current certificate to practice as a barrister and solicitor of the High Court of New Zealand) and independent expert(s).

²⁵ Commerce Commission notification email regarding our proposed approach to confidential information https://comcom.govt.nz/_data/assets/pdf_file/0026/232496/Notification-email-Proposed-approach-to-confidential-information.pdf (20 January 2021).

Process and key phases and milestones (including other PQID milestones)

Table 1.1 Indicative dates for the PQ and ID projects

Phase	Timing	Scope
Initiation Complete	Q4 2020 to Q1 2021	Process and approach paper Submissions on process and approach paper Chorus PQP1 information request and proposal Consultation on Chorus PQP1 expenditure proposal Submissions on PQP1 expenditure proposal Stakeholder workshop on quality of service
Process update and initial PQ RAB proposal Now	29 April 2021 30 April 2021	Process update paper Potential IM amendment notices of intention (NOI) Publication of Chorus' initial PQ RAB proposal Consultation on Chorus' initial PQ RAB proposal Submissions on initial PQ RAB proposal (four weeks)
Draft PQ and ID decisions	27 May 2021	ID draft decisions PQP1 draft decisions Potential August 2021 and November 2021 IM amendment draft decisions Submissions on potential August 2021 IM amendment draft decisions (four weeks) Submissions on ID, PQP1 and potential November 2021 IM amendment draft decisions (six weeks) Cross-submissions on draft decisions (two weeks)
PQP1 WACC determination	By 31 July 2021	Publication of final PQP1 WACC determination
Draft initial PQ RAB decision	By 31 August 2021	Initial PQ RAB draft decision Final decisions on potential August 2021 IM amendments Transitional PQ RAB final decision Submissions on draft initial PQ RAB (four weeks) Cross-submissions on draft initial PQ RAB (two weeks)
Final PQP1 expenditure decisions	By 30 September 2021	Final decisions on base capex, connection capex, and opex allowances (excluding cost allocation)
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 financial loss assets and determination of all initial RABs Disclosure on all initial RABs

Figure 1.2 Links between the initial RAB process and Chorus PQ process

- 1.36 When the actual initial PQ RAB for Chorus is determined in 2022, we will then ‘true-up’ for differences between the transitional and actual PQ RAB values through a wash-up mechanism, which would adjust revenue values in PQP2.

Process for providing views

- 1.37 We encourage stakeholders to consider Chorus’ initial PQ RAB proposal and to provide views to help shape our draft decision on the initial PQ RAB, which we intend to publish in the third quarter of 2021. We are particularly interested in stakeholders’ views on questions set out in chapter 4 of this paper.
- 1.38 Submissions can be made through the submission portal available on our website at <https://comcom.govt.nz/file-upload-form-folder/file-upload-form>.
- 1.39 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.
- 1.40 We invite submissions on the matters discussed in this paper or on any other issues related to the evaluation of Chorus’ initial PQ RAB proposal by 5pm on Friday 28 May 2021.

Confidentiality

- 1.41 The protection of confidential information is something the Commission takes seriously. To continue to protect confidential submissions, we 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.
- 1.42 When including commercially sensitive or confidential information in your submission, we offer the following guidance:
- 1.42.1 Please provide a clearly labelled confidential version and public version. We intend to publish all public versions on our website.

- 1.42.2 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.
- 1.42.3 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 Relevant IMs for the determination of the initial RAB

- 2.1 In determining the initial RAB, the two key Input Methodologies (IMs) are the asset valuation and cost allocation IMs:
- 2.1.1 The asset valuation IM sets out the rules regarding the determination of the initial value of each regulated provider's fibre assets, which includes both the core fibre assets and the FLA.
 - 2.1.2 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.²⁶ This produces the allocated RAB that applies on implementation date.
- 2.2 A brief summary of each IM is set out below.²⁷

Asset valuation IM

- 2.3 Under our approach to asset valuation, assets supporting the delivery of regulated FFLAS will be included in the RAB.²⁸ The regulatory values of these core fibre assets will be based on the depreciated historic cost of investments (as required by s 177(1) of the Act). In addition to the core fibre assets, the RAB will include a FLA that captures unrecovered returns that have accumulated up to the implementation date (s 177(2) and (3)).
- 2.4 The asset valuation IM includes the rules relating to the valuation of assets in the initial RAB. These cover the following areas:
- 2.4.1 the scope of the RAB and its valuation;
 - 2.4.2 core valuation rules for initial RAB assets;
 - 2.4.3 limits on allocation of shared assets to regulated FFLAS;
 - 2.4.4 capital contributions; and
 - 2.4.5 the benefits of Crown financing.

²⁶ Refer to paragraph 1.9 above for a description of FFLAS classes.

²⁷ The fibre IM determinations are available at <https://comcom.govt.nz/regulated-industries/telecommunications/projects/fibre-input-methodologies#projecttab>

²⁸ Commerce Commission "Fibre Input Methodologies Main final decision reasons paper" (13 October 2020) at [3.6].

Cost allocation IM

- 2.5 The cost allocation IM includes the rules relating to the attribution and allocation of assets and costs in determining the initial RAB. These cover the following areas:
- 2.5.1 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**); and
 - 2.5.2 the treatment of new costs incurred during the pre-implementation period to deliver UFB FFLAS.
- 2.6 There are several IMs that relate to the application of cost allocation that are pertinent to the initial RAB calculation that Chorus has undertaken. These are briefly summarised in this chapter.

Cost allocation methodology for determining financial losses²⁹

- 2.7 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).
- 2.8 Specifically, 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.³⁰
- 2.9 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.³¹ 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.³²

²⁹ In our main final reasons paper, we stated that when establishing the initial RAB, each regulated provider must apply the same cost allocators as those used for calculating its financial loss asset. See Fibre Input Methodologies: Main final decision reasons paper (13 October 2020), page 230.

³⁰ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020).

³¹ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Clause B1.1.6(1)(a) and Clause B1.1.6(2)(b).

³² Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Clause 1.1.4(2).

- 2.10 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 an accounting-based allocation approach (**ABAA**). This involves using cost allocators to allocate operating costs and asset allocators to allocate asset values.³³ 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 be objectively justifiable and demonstrably reasonable.³⁴

Cost and asset allocators for use in determining the financial losses

- 2.11 The cost allocation IM specifies a list of “default” allocator types that are available to be used in the context of calculating the FLA:³⁵
- 2.11.1 number of customers, end-users, or premises (intact, connected or passed);
 - 2.11.2 number of ports;
 - 2.11.3 revenue;
 - 2.11.4 central office space;
 - 2.11.5 peak traffic;
 - 2.11.6 average traffic;
 - 2.11.7 used length of linear assets;
 - 2.11.8 power usage;
 - 2.11.9 number of events; and
 - 2.11.10 any other allocator type as approved by the Commission.

³³ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Clause B1.1.6(1)(b) and Clause B1.1.6(2)(c).

³⁴ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Clause B1.1.1(2).

³⁵ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Clause B1.1.6(1)(c) and Clause B1.1.6(2)(d).

- 2.12 The allocator values must be reviewed and updated annually.³⁶ 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.³⁷
- 2.13 As discussed later in Chapter 4, we are particularly interested in stakeholders' views on those aspects of Chorus' initial RAB proposal where Chorus has exercised judgement on the attribution and allocation of costs.

³⁶ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Clause B1.1.6(3).

³⁷ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Clause B1.1.6(4).

Chapter 3 Brief overview of Chorus' submission and high-level approach

- 3.1 This chapter summarises Chorus' initial PQ RAB proposal which was submitted to us on 26 March 2021.³⁸ A public version of Chorus' initial PQ RAB proposal was published on our website on 30 April 2021.
- 3.2 The proposal that Chorus submitted produces a starting RAB of \$5.5 billion for Chorus' FFLAS at 1 January 2022. The main components of Chorus' initial RAB proposal are summarised in Table 3.1.

Table 3.1 Chorus' initial RAB proposal³⁹

Asset Category	Allocated value in opening RAB
Fibre cable	\$1.6 bn
Ducts, manholes, poles	\$1.8 bn
Property	\$0.1 bn
Cabinets, Transport, Layer 2, IT and other	\$0.5 bn
Core fibre RAB	\$4.0 bn
add Financial Loss Asset	\$1.5 bn
Initial RAB	\$5.5 bn

- 3.3 Chorus engaged consultants Analysys Mason to develop its initial RAB model. As set out at paragraph 1.4 above, Analysys Mason has produced an excel-based initial RAB model, the IAV Model; an opex model (the outputs of which are used in the initial RAB model in the calculation of the FLA); as well as supporting model documentation.⁴⁰
- 3.4 Chorus has also had:
- 3.4.1 reviews for model integrity and compliance with the IMs undertaken;⁴¹ and

³⁸ Chorus 'Chorus Initial Asset Value Model' (26 March 2021), available at <https://chorus-nzx.hosting.outside.net/api/announcements/download/2021/1624123a-07ba-42d9-add7-f071903383a8/64f1d70b-a17b-4795-a5b3-aaea955a0142/343107.pdf>

³⁹ Chorus "Initial Asset Value Model" (26 March 2021), slide 5, available at <https://company.chorus.co.nz/investor-news>

⁴⁰ Analysys Mason "Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c" (24 March 2021); and Analysys Mason "Report for Chorus - Documentation of opex allocation for the BBM opex workstream (including responses to notice to supply information)" (22 March 2021).

⁴¹ Chorus 'Chorus Initial Asset Value Model' (26 March 2021), slide 3, available at

- 3.4.2 advice on a number of cost allocation issues, including the application of the shared cost cap, the risk of double recovery, and the rationale for Chorus' proposed alternative cost allocators.⁴²
- 3.5 Chorus has included reports from consultants as part of its initial RAB submission. Chorus has asserted confidentiality over two of these reports.

Overview of Chorus' initial RAB (IAV) model

- 3.6 Chorus' IAV model has been developed by Analysys Mason. It produces an estimate of Chorus' initial RAB (\$5.5 billion), which is comprised of an initial allocated RAB (\$4.0 billion) and an estimate of the FLA (\$1.5 billion).
- 3.7 Chorus' IAV model is based on a number of data sources, including Chorus' statutory accounts (Chorus' fixed asset register (**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.⁴³
- 3.8 A description of Chorus' IAV model is provided in the model documentation prepared for Chorus by Analysys Mason. This is summarised as follows:
- 3.8.1 The IAV model is based around four service categories. It refers to these as "contracted UFB FFLAS", "voluntary FFLAS", "non-FFLAS fibre", and "copper services");
- 3.8.2 There are 93 asset classes in Chorus' IAV model;
- 3.8.3 There are four time periods, which relate to when the particular asset was employed in the provision of UFB FFLAS; and
- 3.8.4 There are four geographies in Chorus' initial RAB model, representing exchange service areas (**ESAs**):
- 3.8.4.1 where Chorus was awarded the majority UFB contract;
- 3.8.4.2 ESAs where Chorus lost the majority UFB contract;
- 3.8.4.3 ESAs which are outside of the scope of the UFB deployment; and

<https://chorus-nzx.hosting.outside.net/api/announcements/download/2021/1624123a-07ba-42d9-add7-f071903383a8/f7095463-c0ce-4f8b-aae6-f8413bd26e7b/343108.pdf>

⁴² Incenta "Certain cost allocation issues relevant to the IAV" (March 2021), page 1.

⁴³ See for example Analysys Mason "Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c" (24 March 2021), Figure 15.

3.8.4.4 A “national” geography for central and core assets.

3.9 We discuss each of these in greater detail below.

How Chorus has structured the IAV model to cater for assets across time and geographies

Asset classes within the model

- 3.10 The IAV model that calculates Chorus’ initial PQ RAB proposal groups assets according to “asset classes”. This allows a large degree of aggregation and simplification from the highly granular data held in the FAR.
- 3.11 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.
- 3.12 The model has space for 93 asset classes, but four are reserved for special purposes.

Time periods used within the model

- 3.13 The model has two time-related dimensions:
- 3.13.1 the periods over which results are calculated; and
 - 3.13.2 the date at which assets are acquired.
- 3.14 The time period covered by the IAV model is from FY12 through to FY39. Where possible, it works in Chorus financial years. Note that “FY12” refers to the financial year ending 30 June 2012, which is a special 7-month financial year.⁴⁴
- 3.15 The initial RAB comes into operation on the 1 January 2022 implementation date. Given that Chorus’ financial years (apart from FY12) run from 1 July to 30 June, the final “year” of the pre-implementation period (ie, FY21) is also a special 6-month financial year.
- 3.16 The IAV model is split into four distinct timeframes as follows:
- 3.16.1 Pre-2012;
 - 3.16.2 Post2012Actuals (up to EOP FY20);
 - 3.16.3 Post2012Forecasts (from SOP FY21 to the implementation date); and
 - 3.16.4 PostRAB (from implementation date).

⁴⁴ The pre-implementation period commenced on 1 December 2011.

- 3.17 It should be noted that the date of establishment of the RAB (ie, the boundary between Post2012forecast and PostRAB) is fixed in the model.

Geographies used within the model

- 3.18 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.⁴⁵
- 3.19 The model makes use of 4 geographies:
- 3.19.1 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**"));
 - 3.19.2 ESA areas where Chorus is not the main provider of UFB services ("**Lost**");
 - 3.19.3 ESA areas where there is no provider of UFB service (i.e. no UFB deployment) ("**Non**");
 - 3.19.4 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.
- 3.20 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.
- 3.21 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

- 3.22 Chorus' 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.
- 3.23 For example, "Pre2012 L1 Duct Won" would represent:
- 3.23.1 An asset built prior to 1 December 2011;

⁴⁵ Analysys Mason "Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c" (24 March 2021), section 2.7.

3.23.2 The asset class is layer 1 Duct; and

3.23.3 The asset geography is in the “Won” area.

A separate worksheet calculates the value of the FLA

3.24 Chorus’ initial RAB model calculates the value of the FLA, using the discounted cashflow (DCF) methodology.⁴⁶ 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

3.25 Chorus has sought testing/verification by independent parties.

3.26 The Commission notes that the testing and verification that has been undertaken does not constitute an assurance engagement and is not an audit for the purposes of New Zealand standards on auditing.

The Commission will seek further independent scrutiny and review of Chorus’ initial PQ RAB proposal

3.27 We will be requiring further independent scrutiny and review of the calculation of Chorus’ initial PQ RAB proposal as part of our work to review Chorus’ proposal.

Chorus’ alternative cost allocation approach

3.28 Alongside its submitted IM-compliant RAB, Chorus also provided an “alternative” cost allocation approach that it claims supports a RAB of up to \$6 billion in value.⁴⁷ Chorus states that this alternative cost allocation approach reflects the standalone costs of establishing a structurally separated fibre business as required by its public-private partnership with the Government.⁴⁸ In its audio conference investor briefing on its Initial Asset Value model, Chorus noted that the key impacted area from the alternative cost allocation approach was corporate operating costs and the impact on the Financial Loss Asset (FLA). This is since structural separation meant that corporate functions were created and duplicated from Spark.

⁴⁶ Analysys Mason “Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c” (24 March 2021), section 3.6.7.

⁴⁷ Chorus ‘Chorus Initial Asset Value Model’ (26 March 2021), slide 4, available at <https://chorus-nzx.hosting.outside.net/api/announcements/download/2021/1624123a-07ba-42d9-add7-f071903383a8/f7095463-c0ce-4f8b-aae6-f8413bd26e7b/343108.pdf>

⁴⁸ Chorus ‘Chorus Initial Asset Value Model’ (26 March 2021), available at <https://chorus-nzx.hosting.outside.net/api/announcements/download/2021/1624123a-07ba-42d9-add7-f071903383a8/64f1d70b-a17b-4795-a5b3-aaea955a0142/343107.pdf>

- 3.29 Chorus' characterisation of its alternative approach indicates that it does not comply with the ABAA methodology required by the cost allocation IM, and which Chorus supported during the development of the IMs.⁴⁹ Chorus noted in its audio conference investor briefing on the model that allocating corporate operating costs directly to fibre relies on a standalone cost approach, which is technically not compliant with the IMs. Chorus also updated its expenditure proposal in relation to operating expenditure to align the cost allocation methodology with the submitted IM-compliant model.

Tax losses

- 3.30 In our Financial Loss Asset Reasons Paper published in November 2020, we said:⁵⁰

In using a post-tax WACC to discount pre-implementation date cash flows, we recognise, in the event of substantial tax losses, this will require a correction to account for the difference in the time value of money. This is because using a post-tax WACC will assume the tax deduction benefit for notional interest costs is received too early. In such an event, we would consider implementing an adjustment to true up the final amounts, for example through an IM amendment. Chorus submitted on the need to make an adjustment in relation to tax losses due to the use of a post-tax WACC and proposed a potential method to use.

- 3.31 We intend to provide our view on the quantum of the tax losses when we publish our draft decision on the initial RAB in August 2021.

⁴⁹ Chorus "Submission in response to the Commerce Commission's fibre regulation emerging views dated 21 May 2019" (16 July 2019).

⁵⁰ Commerce Commission "Fibre input methodologies: Financial loss asset final decision – reasons paper" (3 November 2020), para 3.402.

Chapter 4 Key areas for consultation feedback

- 4.1 This chapter presents the specific areas of Chorus' initial PQ RAB proposal on which we are most interested in stakeholders' views. The areas identified in this chapter are not an exhaustive list of the issues we are considering in making our draft decision on the value of Chorus' initial PQ RAB. We are also interested in your views on any other aspect of Chorus' initial PQ RAB proposal or Chorus' supporting material.
- 4.2 We invite stakeholder input that we will use to assist our evaluation of Chorus' initial PQ RAB estimate and contribute to the development of our draft decision on the initial PQ RAB in Q3 of 2021.

Particular elements of Chorus' initial PQ RAB proposal on which we are seeking feedback

- 4.3 We have identified key areas of Chorus' initial PQ RAB on which we are seeking stakeholders' views. These areas relate to the following:
- 4.3.1 Direct attribution of assets to UFB FFLAS;
 - 4.3.2 Allocation of shared assets created pre-1 December 2011;
 - 4.3.3 Operating costs allocated to UFB FFLAS during the pre-implementation period;
 - 4.3.4 Revenue allocated to UFB FFLAS during the pre-implementation period;
 - 4.3.5 Cost allocators requiring Commission approval; and
 - 4.3.6 FLA life.
- 4.4 We discuss each of these elements further below.

Direct attribution of assets to UFB FFLAS

- 4.5 A significant proportion of the value of the initial PQ RAB comprises assets that are "directly attributable" to UFB FFLAS.⁵¹ These are assets that Chorus says were either:
- 4.5.1 constructed or acquired for UFB; or

⁵¹ In particular, we note that analysis of assets during FAR processing records assets viewed as dedicated to UFB 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. See Analysys Mason "Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c" (24 March 2021), section 3.6.8, page A-26.

- 4.5.2 constructed or acquired to provide FFLAS services; and
- 4.5.3 have not been shared to support any services that are not FFLAS.
- 4.6 We will consider the degree to which the RAB asset value at 1 January 2022 is comprised of assets that are directly attributable to FFLAS, and allocated assets, including considering the break down by major asset categories (eg ducts, fibre, layer 2 equipment). This will allow us to focus our analysis on the more material elements of the RAB.
- 4.7 We note that clauses B1.1.6(1)(b) and (2)(c) of the IMs require that any operating cost and any asset value respectively that is not directly attributable to the provision of UFB FFLAS must be allocated to UFB FFLAS by applying ABAA. In addition, as noted earlier, 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.⁵² Direct attribution of assets or operating costs therefore indicates that there is never any sharing of these assets or functions.
- 4.8 We are interested in stakeholders’ views on Chorus’ direct attribution of assets. As Analysys Mason notes, where an allocation factor is 100% across all periods, then that asset class is directly attributable to a particular service.⁵³
- 4.9 There are clearly assets within Chorus’ asset base that will not be shared between FFLAS and services that are not FFLAS. For example, we would expect copper cables to be directly attributable to services that are not FFLAS, and fibre lead-in cables to be directly attributable to FFLAS. The IAV model also allocates assets and operating costs between UFB FFLAS and services that are not UFB FFLAS in the pre-implementation period, given that assets used to deliver services that are not UFB FFLAS are excluded from the FLA calculation.
- 4.10 We are considering whether the extent of direct attribution in Chorus’ IAV model is reasonable. In particular, we are interested in views on the following issues:

⁵² Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), Clause 1.1.4(2).

⁵³ Analysys Mason “Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c” (24 March 2021), page A-5.

4.10.1 Where assets are directly attributable to UFB FFLAS, the Commission has not identified any asset allocators that start off at 100% (ie, direct attribution to UFB FFLAS) which then subsequently become partly allocated to services that are not UFB FFLAS. This means that assets originally constructed or acquired for UFB are not shared at all with services that are not UFB FFLAS.

4.10.2 Chorus has previously stated that it has:⁵⁴

“a single network providing both regulated and unregulated services with dynamic asset utilisation.”

4.10.3 Given this, we will need to consider how we can ascertain that the forecast level of direct attribution of capex spent between 1 December 2011 and 31 December 2021 to UFB FFLAS in Chorus’ proposal is reasonable.

4.11 We also note that in some cases, it appears that shared assets are not being allocated between different services using ABAA (emphasis added):⁵⁵

Post-2012 capex on (**otherwise shared**) power assets in the Won area is allocated using “Full allocation” (100% to in-scope FFLAS at all times), whereas power assets employed pre-2012 are always allocated based on power usage (shared with copper property power). We note that the allocator types for the power assets bought in a given period do not change over time and neither does the allocator type for power assets in other areas.

4.12 The Commission is interested in stakeholders’ views on this approach, which on its face appears to be inconsistent with the IM.

4.13 There is also some direct attribution of operating costs in the opex model to FFLAS. Analysys Mason explains that this does not mean these costs are directly attributable to UFB FFLAS pre-implementation or to PQ FFLAS post-implementation:⁵⁶

Note: that no opex values are directly attributable to UFB FFLAS (pre-implementation) or PQ FFLAS (post implementation). This is because the allocation takes place in two steps in the model: the opex model output is to opex service categories (including opex directly attributed to FFLAS), and allocation between in-scope FFLAS and other FFLAS is done within the BBM IAV model. As a result while some opex costs are directly attributable to FFLAS in the opex model (see above list), they are subsequently allocated to a specific subset of FFLAS (such as UFB FFLAS, or PQ FFLAS, or ID-only FFLAS) in the IAV model.

⁵⁴ Chorus “Submission on Fibre input methodologies: Draft decision – reasons paper dated 19 November 2019 and Draft fibre input methodologies determination 2020 dated 11 December 2019”, 28 January 2020. Paragraph 60.1.

⁵⁵ Analysys Mason “Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c” (24 March 2021), section 4.2.7, page A-37.

⁵⁶ Analysys Mason “Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c” (24 March 2021), section 4.3.1, page A-41.

- 4.14 The Commission is also interested in stakeholders' views on the direct attribution of operating costs to FFLAS.

Sharing of pre-2011 assets

- 4.15 The treatment of pre-2011 assets will be relevant to both the determination of the initial PQ RAB as of 1 January 2022, and the value of any financial losses incurred in providing FFLAS under the UFB over the period from 1 December 2011 to 31 December 2021.⁵⁷ To the extent that pre-2011 assets have been used to provide UFB FFLAS, an allocation of such assets to UFB FFLAS will be appropriate.
- 4.16 The value of the initial PQ RAB includes assets that were owned by Chorus as of 1 December 2011 and which have been subsequently employed in the UFB deployment. These assets include ducts, manholes, poles, fibre cables, exchange buildings, and shared power assets. In its IAV model, Chorus has allowed for some sharing of these assets (through the application of cost allocators) to reflect their use in the UFB deployment.
- 4.17 The cost allocators proposed by Chorus for each of the pre-2011 asset types are summarised in Table 4.1 below.

Table 4.1 Chorus' proposed cost allocators for pre- 2011 assets⁵⁸

Asset type	Proposed allocator
Ducts	Ratio of pre-demerger duct length in UFB areas over total duct length (duct overlap), weighted by UFB FFLAS uptake
Manholes	Ratio of pre-demerger manholes in UFB areas over total manholes, weighted by UFB FFLAS uptake
Poles	Ratio of poles with current and planned fibre lead-ins in UFB areas over total poles, weighted by UFB FFLAS uptake
Fibre cables	Ratio of GPON fibre count over total fibre count (to use for FY23, and then extrapolated back over the pre-implementation period in line with changes in duct overlap)
Power assets	Ratio of fibre equipment power consumption over total power consumption
Exchange space	Ratio of fibre equipment space used over total space used

⁵⁷ "Pre-2011 assets" refers to assets which were built before 1 December 2011 and therefore pre-date the UFB initiative, which have been employed in the provision of FFLAS under the UFB initiative for Chorus, and are valued at their depreciated cost derived from Chorus' general purpose financial statements. See Fibre Input Methodologies: Main final decision reasons paper (13 October 2020) at para 3.35. Chorus uses the term "pre-demerger assets" to describe these assets.

⁵⁸ This table is based on Analysys Mason "Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c" (24 March 2021), Figure 15.

- 4.18 Given the relative value of the asset classes and the level of sharing proposed by Chorus, the treatment of pre-1 Dec 2011 ducts, exchange space, and fibre cables are likely to be particularly important, and we would welcome stakeholders' views on Chorus' proposed allocators for these asset classes. We highlight a number of potential areas of interest in respect of Chorus' proposed allocations for these asset classes below and Table 4.2 summarises our specific stakeholder questions.
- 4.19 In the case of ducts, Chorus' proposed 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. This appears 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. We note that Chorus measures duct overlap with reference to the length of duct, which does not appear to take account of the number or size of ducts on each route. We are interested in views on this and the implications for the allocation of shared ducts.
- 4.20 Chorus' proposed allocator of exchange space is based on the footprint of UFB FFLAS equipment as a proportion of total equipment footprint. This appears to result in any vacant floorspace being apportioned across services that are delivered from the exchange. Under such an approach, in a scenario in which copper equipment in an exchange had been fully replaced by fibre equipment, the entire cost of the exchange building may end up being allocated to UFB FFLAS, even though the FFLAS equipment only occupies part of the exchange floorspace.
- 4.21 We note that in its expenditure proposal, Chorus acknowledged that as copper assets are replaced by fibre assets, this is likely to free up space in the exchanges:⁵⁹
- ... our buildings were built to house copper assets, which need more space than fibre network electronics. As a result, we have more floor space, and land area, than we require.
- 4.22 We are interested in views on whether the allocation of costs associated with this surplus space to UFB FFLAS is appropriate, or whether an alternative allocator which better reflects the space actually occupied should be considered. This includes the implications of either approach for Chorus' incentives to rationalise its property assets as demand migrates from copper to fibre. For example, if FFLAS were not to bear any costs associated with vacated space in the exchanges, Chorus may face stronger incentives to rationalise or make better use of surplus space in its exchanges. Conversely, if Chorus could allocate vacated space to FFLAS, it may face weaker incentives to pursue other options.

⁵⁹ Chorus "Our Fibre Assets" (10 February 2021), page 66, available at https://comcom.govt.nz/_data/assets/pdf_file/0022/234364/Chorus-Our-Fibre-Assets-10-February-2021.pdf

- 4.23 Chorus also proposes an allocation of shared fibre cable assets, based on an estimate of the level of sharing which Chorus has derived from a survey of fibre assets, which Chorus then extrapolates over the pre-implementation period in line with the change in duct overlap. We are interested in views on whether this may be a reasonable approximation for the level of sharing of pre-2011 fibre cable assets.

Operating costs allocated to UFB FFLAS during the pre-implementation period

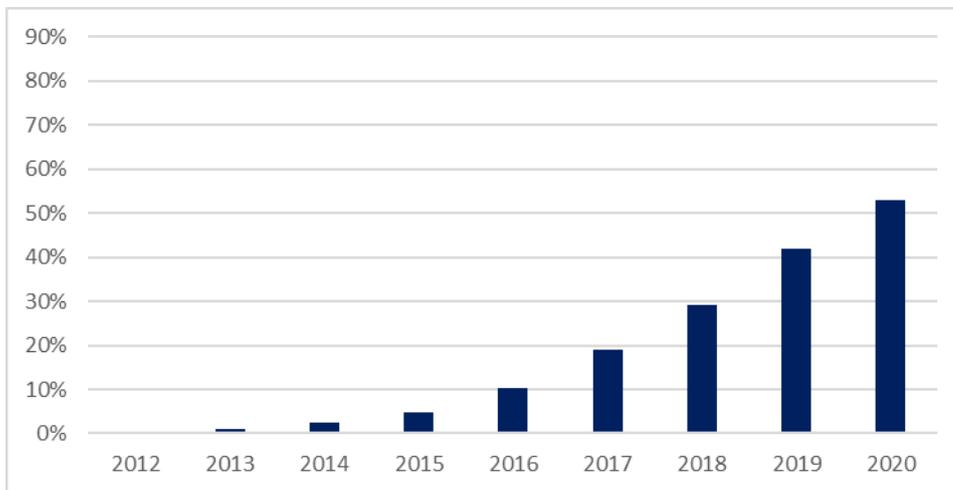
- 4.24 The level of operating costs allocated to UFB FFLAS during the pre-implementation period is a key input into the calculation of the value of the FLA. For example, Chorus has reported that its indicative FFLAS share of operating costs in 2020 was \$146 million, which represents 47% of total operating costs for that year.⁶⁰
- 4.25 When determining the value of the FLA, the IMs define the allocator types that can be used for the allocation of operating costs that are not directly attributable to UFB FFLAS. As noted in paragraph 2.11 above, the list of available allocator types is set out in clause B1.1.6(1)(c) in the IM Amendment Determination, and includes allocator types that reflect demand drivers (such as end-users, traffic, and revenues), asset size (such as the number of ports, exchange space, and length of linear assets), as well as other drivers related to operating expenses (power usage and number of events). Other allocator types can also be approved by the Commission.⁶¹
- 4.26 For some opex categories, Chorus has proposed to use a number of allocator types that are not listed in clause B1.1.6(1)(c). These include allocations based on the following:
- 4.26.1 net book value – to allocate property damage and business interruption insurance costs, and council rates;
 - 4.26.2 allocations applied in similar or recipient business functions – to allocate overheads associated with certain activities provided by service companies;
 - 4.26.3 total expenditure (totex) – to allocate overheads associated with Chorus' Chief Technology Officer (CTO), as well as other related corporate personnel costs; and
 - 4.26.4 future benefits – to allocate some marketing expenses.

⁶⁰ Chorus "Initial Asset Value Model" (26 March 2021), slide 8, available at <https://chorus-nzx.hosting.outside.net/api/announcements/download/2021/1624123a-07ba-42d9-add7-f071903383a8/f7095463-c0ce-4f8b-aae6-f8413bd26e7b/343108.pdf>

⁶¹ Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 (3 November 2020), , cl B1.1.6(1)(c)(x).

- 4.27 In particular, we note that a significant proportion of Chorus' proposed allocated operating costs relates to costs that are allocated on the basis of totex. These include CTO overheads and corporate personnel costs.
- 4.28 For the FLA calculation, the choice of allocator type for operating costs is likely to be particularly significant in the early stages of the pre-implementation period, where there was relatively heavy investment in the UFB deployment (particularly in communal assets) but also relatively low uptake of UFB FFLAS.
- 4.29 For example, Figure 4.1 summarises Chorus' reported fibre connections as a proportion of total connections over the period from 2012 to 2020.⁶²

Figure 4.1 Chorus' fibre connections as a proportion of Chorus' total connections⁶³



- 4.30 As shown in Figure 4.1, Chorus' fibre connections were less than 1% of total connections in June 2012, increasing to 53% by June 2020. By comparison, Chorus' ratio of UFB FFLAS expenditure to total expenditure—which is the allocator proposed by Chorus for CTO overheads and corporate personnel costs—appears to be significantly higher. This can be seen by reference to capital expenditure and operating costs reported by Chorus for the year to June 2020:

- 4.30.1 Chorus report capital expenditure on fibre of \$548 million, out of total capital expenditure of \$663 million (Chorus annual report FY20, page 28);⁶⁴

⁶² Chorus' reported fibre connections will include both UFB FFLAS connections and other fibre connections. As a result, the proportions shown here are slightly higher than the UFB FFLAS proportions.

⁶³ Source: Chorus *annual reports*

⁶⁴ The reported fibre capex may include some capex on non-FFLAS fibre, so this is just an approximation.

4.30.2 Chorus has indicated that the FFLAS share of operating expenditure in the year to June 2020 was \$146 million out of total operating expenditure of \$311 million.⁶⁵

- 4.31 These figures indicate that Chorus' total expenditure on fibre represented approximately 71% of Chorus' total expenditure in 2020. This compares to a connections-based ratio of 53%.
- 4.32 In a report for Chorus, Incenta assesses Chorus' proposed alternative allocators, and discusses why they may be appropriate for certain opex categories.⁶⁶ This includes why totex may be a reasonable allocator type for sharing operating costs associated with corporate support roles between FFLAS and non-FFLAS (i.e. copper) services.⁶⁷ According to Incenta:⁶⁸

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.

- 4.33 Incenta argues that the default allocator types listed in the IMs are unlikely to provide a reasonable proxy where a new network is being built, as allocator types such as customer connections will lag expenditure.
- 4.34 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.

⁶⁵ Chorus "Chorus Initial Asset Value Model" (26 March 2021), slide 8, available at <https://chorus-nzx.hosting.outside.net/api/announcements/download/2021/1624123a-07ba-42d9-add7-f071903383a8/f7095463-c0ce-4f8b-aae6-f8413bd26e7b/343108.pdf>

⁶⁶ Incenta "Certain cost allocation issues relevant to the IAV" (March 2021), section 4.2.

⁶⁷ Incenta "Certain cost allocation issues relevant to the IAV" (March 2021), section 4.2.3.

⁶⁸ Incenta "Certain cost allocation issues relevant to the IAV" (March 2021), page 15.

- 4.35 We also note that Chorus has stated publicly that the “FFLAS proportion of opex is expected to increase significantly as fibre uptake grows and the copper network is retired.”⁶⁹ This suggests that operating costs are related to uptake, which appears to be at odds with Incenta’s comment that the ratio of customer connections may not be an appropriate allocator.
- 4.36 We are interested in views on Chorus’ proposed allocator types for sharing operating costs in the calculation of the FLA, and in particular the proposed use of totex.

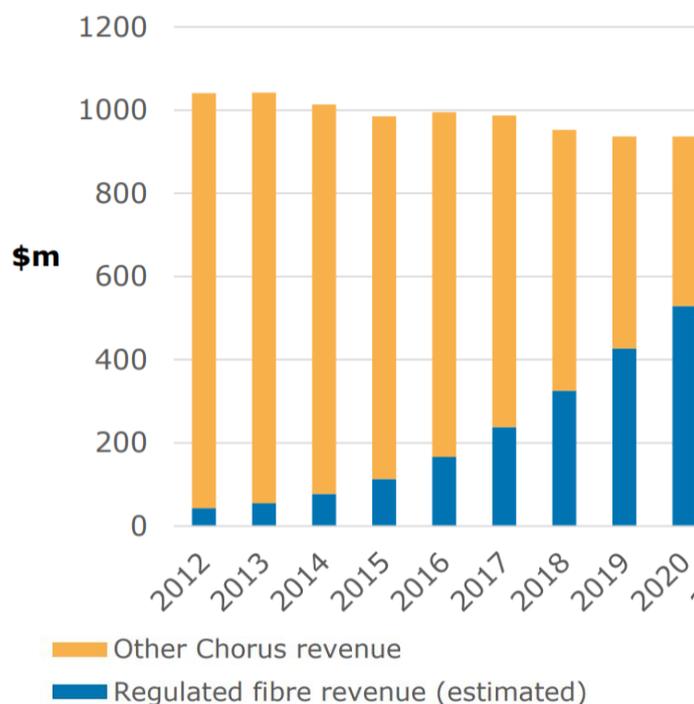
Revenue allocated to UFB FFLAS during the pre-implementation period

- 4.37 Revenues generated from the sale of UFB FFLAS during the pre-implementation period are captured in the model as part of the calculation of the FLA.
- 4.38 These revenues, while low compared to the overall UFB cash outflows in the early part of the pre-implementation period, increase over the pre-implementation period and reduce the net cashflow losses.
- 4.39 There is a Revenue and Demand model, which the Commission has not yet examined. This model provides analysis of the revenue attributable to, and the demand for, various types of FFLAS and non-FFLAS services (historical and forecast).⁷⁰ The results from this model for the end of period demand and period revenues for services are fed into the IAV model.
- 4.40 The services are divided into:⁷¹
- 4.40.1 Contracted FFLAS services;
 - 4.40.2 Voluntary FFLAS services (ie, those not provided under the terms of the UFB contract);
 - 4.40.3 Non-FFLAS fibre services; and
 - 4.40.4 Copper services.
- 4.41 Chorus’ estimated fibre revenues and other revenues to 2020 are shown in Figure 4.2.

⁶⁹ Chorus ‘Chorus Initial Asset Value Model’ (26 March 2021), slide 8, available at <https://chorus-nzx.hosting.outside.net/api/announcements/download/2021/1624123a-07ba-42d9-add7-f071903383a8/f7095463-c0ce-4f8b-aae6-f8413bd26e7b/343108.pdf>

⁷⁰ Analysys Mason “Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c” (24 March 2021). Section 2.3, page A-3.

⁷¹ Analysys Mason “Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c” (24 March 2021). Section 2.6.1, page A-4

Figure 4.2 Chorus' estimated fibre revenue and other revenue to 2020

Source: Adapted from Chorus Updated: Indicative MAR range vs estimated regulated fibre revenues.⁷²

- 4.42 A different view of geography is used for the modelling of demand and revenue (see AM section 2.6.4). This provides, according to Analysys Mason, a higher geographic granularity (page A-9).
- 4.43 Chorus' responses to specific questions within the s 221 notice provide more detail regarding revenue and revenue allocations that have been applied.⁷³
- 4.44 We note that Chorus says:⁷⁴
- 4.44.1 most of the revenue is directly attributable to the provision of UFB FFLAS;
 - 4.44.2 some revenue is allocated using "pro-rated in proportion to relevant directly attributable revenue of relevant demand and revenue service categories"; and

⁷² Chorus "MAR range slide from investor presentation" (6 April 2021), available at <https://company.chorus.co.nz/investor-news>

⁷³ Analysys Mason "Report for Chorus - BBM IAV model responses to s221 Notice questions" (26 March 2021), section 3.1, page 16.

⁷⁴ Analysys Mason "Report for Chorus - BBM IAV model responses to s221 Notice questions" (26 March 2021), section 3.1.5, page 26.

- 4.44.3 A small fraction of the revenue is allocated based on specific data relevant to that GL code.
- 4.45 We welcome stakeholders' views on the approach taken to revenue modelling and geographic granularity. We note that while the Analysys Mason documentation relating to the IAV model refers to the "demand and revenue model documentation", the Commission does not currently have this document, but intends to seek a copy.⁷⁵

Cost allocators requiring Commission approval

- 4.46 As set out in chapter 2, the IMs prescribe that operating costs or asset values that are not directly attributable to the provision of UFB FFLAS must be allocated to UFB FFLAS by applying ABAA. There is a list of cost allocators that must be used in B1.1.6(1)(c) and B1.1.6(2)(d), and there is the option to use any other allocator type approved by the Commission.
- 4.47 In the s 221 notice, we asked Chorus to provide details of whether the allocators it had proposed were one of those listed or were an allocator that is not on the list and would require Commission approval. In its response, Chorus indicated that the details of the cost allocators it has proposed that require our approval are discussed in sections 4.1 to 4.4 of the opex model documentation.^{76,77}
- 4.48 In the sections referred to, a set of tables lists 130 allocation drivers. These tables have a column entitled "Allocator type under B1.1.6 of the IM". The entries in this column indicate whether the allocator proposed is one of those listed in the IM, or whether it requires Commission approval.⁷⁸
- 4.49 As discussed earlier, in its report to Chorus, Incenta discusses Chorus' proposed use of alternative allocators for some categories of opex, and why the alternative allocators may be more suitable than the allocators listed in clause B1.1.6(1)(c).⁷⁹
- 4.50 We welcome stakeholders' views on the allocators chosen by Chorus, including those that Chorus has proposed and require specific Commission approval.

⁷⁵ Analysys Mason "Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c" (24 March 2021). Footnote 4, page A-8.

⁷⁶ Analysys Mason "Report for Chorus - BBM IAV model responses to s221 notice questions" (26 March 2021), section 4.1, page 43.

⁷⁷ Analysys Mason "Report for Chorus - Documentation of opex allocation for the BBM Opex workstream (including responses to notice to supply information), Model version v3.31" (22 March 2021), pages 14 to 62.

⁷⁸ Note that these allocators are labelled "B1.1.6(1)(c)(x) (requires Commission approval)" in the Allocator type under B1.1.6 of the IM column.

⁷⁹ Incenta "Certain cost allocation issues relevant to the IAV" (March 2021), section 4.2.

FLA life

- 4.51 In cl 2.2.10(1)(d) of the IMs, the asset life of the FLA is defined as either:
- (i) the period equivalent to the weighted average life of the UFB-related core fibre assets in an initial RAB as at the implementation date, where the weights used are the initial RAB values of those UFB-related core fibre assets; or
 - (ii) a period adopted by the regulated provider under an alternative method.
- 4.52 In discussing the life of the FLA, the Analysys Mason documentation states:⁸⁰
- The “unrecovered losses” asset will come into existence at implementation date, with a lifetime set to the weighted average life of allocated UFB assets as at immediately before implementation date.
- 4.53 Analysys Mason then clarifies the way it has calculated the weighted average life in a footnote that states: “(s)trictly speaking, this is the inverse of the weighted average inverse lifetime; this gives the correct expected depreciation per annum”. The Commission will review the weighted life number calculated in the IAV model in this way and compare it to the alternative method, weighting by the initial RAB values of UFB-related core fibre assets.
- 4.54 Analysys Mason’s description of the calculation of the weighted average life does not appear to comply with cl 2.2.10(1)(d)(i) of the IM. The Commission’s understanding of this calculation is that it weights asset lives by depreciation expense, not by the initial RAB values of the assets, as required by the IM.⁸¹
- 4.55 Analysys Mason’s application of the inverse of the weighted average inverse lifetime in each year would give rise to a depreciation charge profile for the FLA that matches the depreciation charge profile arising in respect of the corresponding core fibre assets, taking into account the timing of individual assets coming to the end of their useful lives. By contrast, a depreciation charge based on the initial weighted average life will give rise to a constant depreciation charge for the remainder of that weighted average life.
- 4.56 As noted above, under cl 2.2.10(1)(d)(ii) of the IMs, the regulated provider may adopt a period different to the weighted average life under an alternative method.

⁸⁰ Analysys Mason “Report for Chorus - Building Block model IAV model documentation: IAV model v314_120c” (24 March 2021). Section 3.6.5 page A-24.

⁸¹ We would observe that this approach may be applicable to the forecasting of depreciation expense.

- 4.57 Clause 3.3.2(5) of the IMs sets out that an alternative depreciation method may be applied for some or all fibre assets if the Commission is satisfied that particular conditions are met by applying the alternative method. In considering the method used by Chorus to set the weighted average life of the allocated UFB assets immediately before implementation date, we will consider the conditions as set out in cl 3.3.2(5)(a) to (c).
- 4.58 We welcome stakeholders' views on Chorus' approach to the calculation of the weighted average life of the UFB-related core fibre assets in an initial RAB as at the implementation date.

Summary of questions we are seeking stakeholder views on

- 4.59 A summary of the questions that we invite stakeholders to consider and respond to is included in Table 4.2 below.

Table 4.2 Summary of stakeholder questions

Topic	Stakeholder question
Direct attribution of capex to UFB FFLAS	What are your views on Chorus' forecast level of direct attribution of capex spent between 1 December 2011 and 31 December 2021 to UFB FFLAS, is Chorus' estimate reasonable? Please explain your views.
Direct attribution of capex to UFB FFLAS	Do you support Chorus' proposed direct attribution of assets to UFB FFLAS (ie, whether Chorus' approach of 100% allocation is consistent with the definition of "directly attributable" in the IMs, 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)? Please explain why you support or do not support Chorus' proposal.
Direct attribution of opex to FFLAS	What are your views on Chorus' forecast level of direct attribution of opex spent between 1 December 2011 and 31 December 2021 to FFLAS, is Chorus' estimate reasonable? Please explain your views and provide justification if you consider a different level would be more appropriate.
Allocation of Pre-2011 ducts	What are your views on Chorus' proposed allocation of pre-2011 ducts based on the proportion of those ducts that are within its UFB contract areas, multiplied by the proportion of UFB uptake? Please explain your views and provide justification if you consider a different allocation would be more appropriate.
Allocation of building costs	Is Chorus' proposed allocation of costs associated with any surplus space within buildings to UFB FFLAS appropriate? What alternative allocators might better reflect the space actually occupied and should therefore be considered? Please explain why you support Chorus' proposal or why any alternatives you propose would be more appropriate.
Operating cost allocators	What are your views on Chorus' proposed allocator types for sharing operating costs in the calculation of the FLA? If you consider alternative allocator types

Topic	Stakeholder question
	would be more appropriate, or you support the proposed allocators, please explain why, and outline any alternative allocators you would propose.
Totex as an operating cost allocator	What are your views on Chorus' proposed use of Totex as an allocator for sharing operating costs? If you consider alternative allocator types would be more appropriate, or you support the proposed use of Totex, please explain why, and outline any alternative allocators you would propose.
Choice of default allocators	Is Chorus' proposed choice of allocator types from the default list reasonable? Are these choices likely to be consistent with the IM, and if not, which allocator types should be used and why?
Proposed alternative allocators	Do you agree with Chorus' proposed use of a number of alternative allocator types, which must be approved by the Commission? Are these choices likely to be consistent with the IM, and if not, which allocator types should be used and why?
FLA life	What are your views on Chorus' approach to the calculation of the weighted average life of the UFB-related core fibre assets in the initial RAB as at the implementation date? Please explain why you support it, or what alternative approach you recommend and why.