

## Fibre input methodologies

### Further consultation draft (initial value of financial loss asset) – reasons paper

**Date of  
publication:** 13 August 2020



## Associated documents

Publication date	Reference	Title
9 November 2018	978-1-869456-67-2	New regulatory framework for fibre: Invitation to comment on our proposed approach
21 May 2019	978-1-869456-95-5	Fibre regulation emerging views: Summary Paper
21 May 2019	978-1-869456-95-2	Fibre regulation emerging views: Technical Paper
19 November 2019	978-1-869457-73-0	Fibre input methodologies: Draft decision - reasons paper
11 December 2019	978-1-869457-78-5	[Draft] Fibre Input Methodologies Determination 2020
2 April 2020	978-1-869458-03-4	Fibre input methodologies: Draft decision – reasons paper (regulatory processes and rules)
2 April 2020	978-1-869458-04-1	[Draft – regulatory processes and rules] Fibre Input Methodologies Determination 2020
20 May 2020	978-1-869456-86-3	Fibre Input Methodologies: Process Update
23 July 2020	978-1-869458-30-0	Fibre input methodologies: Further consultation draft – reasons paper
23 July 2020	978-1-869458-29-4	[Further consultation] Fibre Input Methodologies Determination 2020
13 August 2020	978-1-869458-34-8	[Further consultation – initial value of financial loss asset] Fibre Input Methodologies Determination 2020

Commerce Commission

Wellington, New Zealand

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## Chapter 1 Introduction

### Purpose of this paper

- 1.1 This paper is the second part of our further consultation<sup>1</sup> on changes we are proposing to our draft decisions on Input Methodologies (IMs) for fibre fixed line access services (FFLAS) regulated under Part 6 of the Telecommunications Act 2001 (the Act), before we make our final IMs decisions.<sup>2</sup>
- 1.2 The paper seeks feedback on clarifications and changes we are proposing to our draft decisions relating to the determination of the financial loss asset (FLA) under s 177(2) of the Act. The changes apply to all regulated providers under Part 6.

### Contents of this paper

- 1.3 This paper sets out proposed clarifications and changes to our draft decisions on the approach to calculating the value of the FLA and shows how we intend to give effect to updated decisions in the IMs if adopted as final decisions.
- 1.4 In addition, the paper includes a drafting change to the definition of “capital contribution” that we inadvertently omitted to make to the [Further consultation] Fibre Input Methodologies Determination 2020 (further consultation determination) published on 23 July 2020. This change is required to implement a new draft decision in our Fibre input methodologies: Further consultation draft – reasons paper (further consultation paper) published on 23 July.
- 1.5 We are publishing this paper to give interested persons an opportunity to provide feedback on the following matters relating to the FLA:
  - 1.5.1 Our approach to the proposed legal interpretation of s 177 and clarifications relating to the treatment of assets acquired or constructed before 1 December 2011 (pre-2011 assets) set out in Chapter 2;<sup>3</sup>
  - 1.5.2 our proposed change of calculation method – from a building block model (BBM) method to a discounted cash flow (DCF) method, and the appropriate discount rate – set out in Chapter 3;

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<sup>1</sup> The first part of our further consultation, which covered changes to all other parts of the IMs determination, was our *Fibre input methodologies: Further consultation draft – reasons paper* (Further consultation paper) published on 23 July 2020.

<sup>2</sup> Unless stated otherwise, or it appears otherwise from the context, all references to statutory provisions are references to provisions in the Telecommunications Act 2001.

<sup>3</sup> Assets that Chorus held on 1 December 2011 as a result of the demerger from Telecom Corporation of New Zealand Limited (Telecom NZ) are treated as pre-2011 assets.

- 1.5.3 how we propose to implement the clarifications and changes in Chapters 2 and 3, which we explain in Chapter 4; and
  - 1.5.4 the accuracy and workability of the drafting in the [Further consultation – initial value of financial loss asset] Fibre Input Methodologies Determination 2020 (FLA determination) accompanying this paper, which implements the clarifications and changes explained in Chapters 2 and Chapter 3.
- 1.6 We also invite feedback on the workability and accuracy of the new definition of “capital contribution” in clause 1.1.4(2) of the body of the FLA determination that is explained in Chapter 5.
  - 1.7 Our expectation is that submissions focus on the scope of this consultation: the specific topics raised in this paper and whether the drafting in the FLA determination accurately reflects our proposed decisions and is workable.
  - 1.8 We do not intend to take account of submissions on matters that are outside the scope of this consultation.

### **Structure of this paper**

- 1.9 Chapter 1 of this paper explains the context and scope for this consultation and sets out how you can provide your views.
- 1.10 Chapter 2 explains our approach to the legal interpretation of s 177 and clarifications regarding the treatment of pre-2011 assets when determining the FLA.
- 1.11 Chapter 3 explains our proposed change of method when determining the FLA - from a BBM to DCF method - and the proposed change to the appropriate discount rate.<sup>4</sup>
- 1.12 Chapter 4 explains our proposed implementation of the clarifications and changes explained in Chapters 2 and 3.
- 1.13 Chapter 5 explains a change to the definition of “capital contribution” that we inadvertently omitted to make to the further consultation determination.
- 1.14 We have also published the FLA determination alongside this paper, showing the changes we have made to the further consultation determination published on 23 July 2020.<sup>5</sup> The FLA determination contains tracked changes in two colours:

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<sup>4</sup> The elements we are consulting on include risk-free rate, debt premium and TCSD. There are other elements we are not consulting on, such as the beta and the TAMRP.

<sup>5</sup> Our [Further consultation] Fibre Input Methodologies Determination 2020 is available on our website here: [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0019/221806/Further-consultation-Fibre-Input-Methodologies-Determination-2020-23-July-2020.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0019/221806/Further-consultation-Fibre-Input-Methodologies-Determination-2020-23-July-2020.pdf)

- 1.14.1 Changes tracked in purple are changes that were already made in the further consultation determination (ie, when compared to the [Draft – regulatory processes and rules] Fibre Input Methodologies Determination 2020 (RPR determination)); and
  - 1.14.2 Changes tracked in orange are changes we have made to the further consultation determination.
- 1.15 The FLA determination also includes drafting changes relating to Crown financing that implements the changes we described in our further consultation paper.<sup>6</sup>

### **Context and scope for this further consultation**

- 1.16 This paper is the second part of our further consultation on changes we are proposing to our draft decisions on IMs for FFLAS regulated under Part 6.
- 1.17 The first part of our further consultation, which covered changes to the majority of the RPR determination (further consultation paper) was published on 23 July 2020.<sup>7</sup>
- 1.18 Further information on the context for our further consultation is set out in paragraphs 1.14 to 1.18 of the further consultation paper.
- 1.19 The scope of this consultation covers clarifications and changes we are proposing in relation to our approach to determining the FLA. In particular, it covers:
- 1.19.1 clarifications regarding our interpretation of s 177 and the treatment of pre-2011 assets; and
  - 1.19.2 the adoption of a DCF method rather than a BBM method when determining the FLA.
- 1.20 We welcome submissions on the clarifications and proposed changes discussed in this paper and the accompanying amendments shown in the FLA determination, including on the accuracy and workability of the revised drafting in the FLA determination.
- 1.21 Views on matters that are not discussed in Chapters 2-4, or that do not relate to the workability and technical accuracy of the new changes tracked in orange in the FLA determination, are outside the scope of this consultation.

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<sup>6</sup> Commerce Commission “Fibre input methodologies: Further consultation draft – reasons paper” (23 July 2020), pp 31-46.

<sup>7</sup> Our Fibre input methodologies: Further consultation draft – reasons paper is available on our website here: [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0018/221805/Fibre-input-methodologies-Further-consultation-draft-Reasons-paper-23-July-2020.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0018/221805/Fibre-input-methodologies-Further-consultation-draft-Reasons-paper-23-July-2020.pdf)

- 1.22 We do not intend to take account of submissions in response to this consultation on matters that are outside its scope, including any submissions relating to matters that are covered in other consultation processes. These include any matters that are unrelated to the determination of the FLA covered by the further consultation which commenced on 23 July 2020 and the consultation on Dr Martin Lally's report (published on 27 May 2020), which are on a different timeline.<sup>8</sup>

### Invitation to make submissions

- 1.23 We invite your views on:
- 1.23.1 any of the matters outlined or discussed in Chapters 2-4; and
  - 1.23.2 whether the new changes tracked in orange in the FLA determination are workable and accurately give effect to our proposed decisions explained in Chapters 2-5 of this paper.

### How you can provide your views

#### Process for making a submission

- 1.24 Submissions can be made through the submission portal available on our website at: <https://comcom.govt.nz/regulatedindustries/telecommunications/projects/fibre-input-methodologies>.
- 1.25 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.

#### Timeline for submissions

- 1.26 We invite submissions on the matters discussed in Chapters 2-4 and on the drafting of the FLA determination by **12pm on Thursday, 3 September 2020**.
- 1.27 We invite cross-submissions responding to matters raised by submissions by **5pm on Thursday, 24 September 2020**.

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<sup>8</sup> We extended the due date for submissions on Dr Lally's report to 20 August 2020 to allow consideration of aspects of this paper to be taken into account by submitters.

## Confidentiality

- 1.28 The protection of confidential information is something the Commission takes seriously. To continue to protect confidential submissions, we are trialling a new submission process. This 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.
- 1.29 When including commercially sensitive or confidential information in your submission, we offer the following guidance:
- 1.29.1 Please provide a clearly labelled confidential version and public version. We intend to publish all public versions on our website.
- 1.29.2 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.
- 1.29.3 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 Updates to our draft decisions – treatment of pre-2011 assets

### Purpose of this chapter

- 2.1 This chapter explains our approach to the legal interpretation of s 177 of the Act and clarifies the treatment of pre-2011 assets when we determine the financial losses under s 177(2).

### Our position in the draft decision

- 2.2 The Asset Valuation chapter of the draft decision reasons paper set out our draft decisions on the calculation of the FLA.<sup>9</sup> A key component of this was our draft decision that pre-2011 assets formed part of the calculation of the FLA and that there was nothing precluding the Commission from taking account of accumulated unrecovered returns on pre-2011 investments (provided the unrecovered returns related to the period 1 December 2011 to the implementation date (which we refer to in this paper as the ‘transition period’)).<sup>10</sup>
- 2.3 We are proposing to maintain our draft decision on this point and discuss below why we are doing so, while providing further clarifications on how we propose to deal with pre-2011 assets.

### Our proposed approach to the pre-2011 assets

#### Conceptual basis for the FLA

- 2.4 The Ultrafast Broadband (UFB) partners – Chorus Limited (Chorus) and the other local fibre companies (LFCs) – were expected to incur financial losses during the UFB network’s initial period of operation. This is because UFB partners made investments ahead of demand, and initial end-user uptake of UFB services and the associated revenues recovered in accordance with the UFB contracts were not sufficient to cover the fixed and/or variable costs that the UFB partners incurred during that period.<sup>11</sup>

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<sup>9</sup> Commerce Commission “Fibre input methodologies – Draft decision paper” (19 November 2019), paragraphs 3.86-3.178.

<sup>10</sup> Commerce Commission “Fibre input methodologies – Draft decision paper” (19 November 2019), paragraphs 3.157-3.166.

<sup>11</sup> Commerce Commission “Fibre input methodologies – Draft decision paper” (19 November 2019), paragraphs 3.90-3.97. Section 177(2) requires us to determine financial losses for “each regulated provider” at implementation date. Where a regulated provider has not participated in the UFB initiative prior to implementation date (and hence, has not made any accumulated unrecovered returns in the financial loss period or has not received any Crown financing as at the implementation date, the initial RAB value of the financial loss asset for a regulated provider will be determined by the Commission as nil).

2.5 The Act provides for the recognition of the financial losses that were incurred by the regulated providers during the transition period. Section 177 requires us to capitalise these losses and to treat them at the implementation date as an additional asset—the FLA—to be included in the regulatory asset base (RAB). Section 177(2) provides:

Each regulated service provider is treated, as at the implementation date, as owning a fibre asset with an initial value equal to the financial losses, as determined by the Commission, incurred by the provider in providing fibre fixed line access services under the UFB initiative for the period starting on 1 December 2011 and ending on the close of the day immediately before the implementation date.

2.6 Section 177(3) provides that in determining the financial losses under subsection (2), the Commission:

- (a) must take into account any accumulated unrecovered returns on investments made by the provider under the UFB initiative; and
- (b) in respect of any Crown financing provided in connection with those investments, must refer to the actual financing costs incurred by the provider (or a related party).

2.7 The inclusion of financial losses in the RAB allows for their recovery in whole or part through prices charged to end-users in the future.<sup>12</sup>

### **Submissions received on FLA**

2.8 We received a large number of submissions from stakeholders on this issue in response to both our Fibre regulation emerging views – technical paper and our draft decisions.<sup>13</sup> Some submissions on this topic suggested that s 177 does not permit the inclusion of pre-2011 assets in the calculation of financial losses. Other submissions raised serious concerns that the inclusion of pre-2011 assets could allow regulated providers to extract excessive profits or make returns exceeding normal returns, including through ‘double-dipping’. Some submitters also proposed that we adopt a pure incremental costs approach when determining the financial losses which would exclude the pre-2011 assets.

2.9 We discuss these concerns and explain below why we propose to include the pre-2011 assets and not to adopt a pure incremental approach when determining the financial losses.

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<sup>12</sup> Recovery of all losses is not guaranteed with s 177(4) expressly stating that “It is not the intention of subsections (2) and (3) that regulated fibre service providers should be protected from all risk of not fully recovering those financial losses through prices over time”.

<sup>13</sup> Commerce Commission “Fibre regulation emerging views – technical paper” (1 May 2019), available at: <https://comcom.govt.nz/regulated-industries/telecommunications/projects/fibre-input-methodologies?target=documents&root=105019>.

## Submissions focused on the interpretation of s 177

2.10 The submissions that focussed on the interpretation of s 177 can be grouped according to two issues:

2.10.1 whether s 177(2) and (3) permit the inclusion of pre-2011 assets in the calculation of financial losses; and

2.10.2 whether s 177(5) excludes pre-2011 assets from the financial loss calculation on the basis that the costs of these assets were “not incurred as a direct result of meeting specific requirements of the UFB initiative”.

### *Whether s 177(2) and (3) permit the inclusion of pre-2011 assets in the calculation of the FLA*

2.11 Trustpower Limited (Trustpower) submitted that while the cost of Chorus’ pre-2011 assets may be included in the fibre assets under s 177(1), the cost of these assets is excluded from the calculation of the loss asset, due to the language of s 177(2) and (3):<sup>14</sup>

...in calculating the financial losses that may be included in the fibre assets, it is Chorus’ post-2011 investments that must be considered.

Section 177(3)(a) provides that *“In determining the financial losses under subsection (2), the Commission— (a) must take into account any accumulated unrecovered returns on investments made by the provider under the UFB initiative”*.

Necessarily, these investments under the UFB initiative were made post-2011.

Therefore, if Chorus has unrecovered returns on pre-2011 investments, these should not in our opinion be included when calculating the financial losses within the fibre assets. This may include any pre-2011 assets that have subsequently been used for FFLAS by Chorus.

2.12 This view had support from Vocus Group NZ Limited (Vocus), who submitted:<sup>15</sup>

Investments made prior to this time were made (by definition) regardless of whether Chorus undertook UFB roll-out and therefore do not impact on the financial losses (if any) it incurred. We also agree with Trustpower’s ‘for the avoidance of doubt’ statement that ‘This may include any pre-2011 assets that have subsequently been used for FFLAS by Chorus’”.

2.13 Vodafone New Zealand Limited (Vodafone) submitted that the Act provides the Commission with sufficient discretion to implement an incremental cost approach:<sup>16</sup>

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<sup>14</sup> Trustpower “Fibre emerging views submission” (18 July 2019), paragraphs 3.5.5 - 3.5.8; supported by 2degrees “Cross submission on new regulatory framework for fibre” (5 February 2019) at pages 3, 12 and Vector Communications “Cross-submission on Fibre input methodologies draft decision” (18 February 2020).

<sup>15</sup> Vocus “Fibre Emerging Views cross-submission” (12 August 2019) paragraphs 7; 55-57.

<sup>16</sup> Vodafone “Fibre emerging views submission” (18 July 2019), at pages 17-19.

The Act requires the Commission to determine the financial losses “incurred by the provider in providing fixed line access services under the UFB initiative”. The Act says nothing about how to allocate common costs.

As the expert body the Commission is tasked with applying its judgement to the losses to determine which (if any) common costs are relevant, including:

- Whether to attribute any existing sunk costs incurred prior to December 2011 to fibre (Section 177(1)(a)(ii) (which instructs the Commission how to deal with assets that were owned before December 2011) does not apply. The losses asset will be established as at 1 January 2022, it was not ‘owned by Chorus before 1 December 2011’).
- The portion of incremental common capex that should be recovered under the UFB initiative.
- Whether to include any common operating expenses.

2.14 2degrees Limited (2degrees) took this point further, arguing that s 177(2) directs the Commission to calculate the financial losses on an incremental basis, and the Commission does not have any discretion to adopt an alternative:<sup>17</sup>

2degrees does not consider the Commission has discretion to adopt any alternative than to calculate financial losses on an incremental cost basis. The starting point must be for the Commission to define what is meant by “financial loss”. Deviation from an incremental or avoidable cost allocation methodology would be in violation of any reasonable or orthodox definition of “financial losses” and would result in Chorus being overcompensated in violation of the Commission’s Financial Capital Maintenance (FCM) principle and the statutory purpose of limiting excessive profits.

2.15 Chorus disagreed with submissions from retail service providers (RSPs) that suggested that pre-2011 assets should not be included in the financial loss calculation. Contrary to RSPs’ interpretation, Chorus took the view that the Act *requires* the Commission to include pre-2011 assets in the FLA calculation:

Any submissions suggesting the Commission can ignore the financial losses incurred by LFCs’ participation in the UFB initiative are inconsistent with the Act. Section 177 requires the Commission to include assets in the financial loss calculation irrespective of when the assets were acquired or constructed, or whether they’re used to provide FFLAS only or shared with non-FFLAS. The legislation recognises that the UFB initiative involved committing significant expenditure well ahead of demand and that they should be compensated for any losses incurred as a result.

...

The Commission’s role is to calculate financial losses using the methodology set out in the Act and it has no discretion to exclude pre-2011 fibre assets. The Act does not give the Commission discretion to exclude losses on the basis that an asset reused for UFB was created or acquired before 1 December 2011. We

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<sup>17</sup> 2degrees “Submission on Fibre input methodologies – Draft decision” (30 January 2020).

therefore disagree with the submissions suggesting that assets constructed or acquired before 1 December 2011 shouldn't be included in the financial loss calculation.

- 2.16 Chorus pointed to the legislative history of s 177, noting that subsection (3) was inserted by Supplementary Order Paper (SOP) to clarify the matters that the Commission must take into account when calculating a regulated provider's FLA:<sup>18</sup>

It was not intended to change the understanding of what fibre assets could be incorporated into the initial value of the RAB. In particular, subsection (3) does not exclude recovery of financial losses from investments in pre-2011 assets. Rather, "*investments made by the provider under the UFB initiative*" includes pre-2011 and shared assets, as per the definition of a 'fibre asset'.

The proposed interpretation of section 177(3) [by RSPs to exclude pre-2011 assets] would reward inefficient decisions to build new assets for UFB, when suitable existing assets were available to be reused – which cannot have been Parliament's intention.

*Whether s 177(5) excludes pre-2011 assets from the financial loss calculation on the basis that the costs of these assets are "not incurred as a direct result of meeting specific requirements of the UFB initiative"*

- 2.17 Several parties submitted that s 177(5) signals that pre-2011 assets should be excluded from the FLA calculation. Section 177(5) provides:

- (5) To avoid doubt, the initial value of a fibre asset determined under this section includes the costs incurred by the provider in relation to the asset—  
(a) as a direct result of meeting specific requirements of the UFB initiative

- 2.18 Trustpower submitted that if Chorus has unrecovered returns on pre-2011 investments, these should not be included when calculating the financial losses within the fibre assets:<sup>19</sup>

We consider that calculating financial losses in this way would be the correct outcome, as it is only those costs incurred "*... as a direct result of meeting specific requirements of the UFB initiative*" (s. 177(5)) that may be considered and any costs associated with pre-2011 assets would not be directly incurred as a result of UFB.

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<sup>18</sup> Chorus "Fibre Emerging Views cross-submission" (12 August 2019) at paragraphs 36-37.

<sup>19</sup> Trustpower "Fibre emerging views submission" (18 July 2019) at paragraph 3.5.9.

- 2.19 Vector Communications Limited (Vector) made a similar submission that the requirement under s 177(2) that the financial losses must be *“incurred by the provider in providing [FFLAS] under the UFB initiative”* from 1 December 2011 until the implementation date is further developed in s 177(5): the requirement that *“costs [must be] incurred ... as a direct result of meeting specific requirements of the UFB initiative”*.<sup>20</sup>

The Commission must consider what are the “specific requirements” of UFB and what costs are the “direct result” of those requirements.

If costs are not directly incurred in providing FFLAS under the UFB initiative, then they cannot be considered in determining the financial losses.

We also note that the requirement for costs to be a “direct result” of meeting UFB obligations for the purposes of calculating losses is in contrast to the IMs to be applied going forward. In that instance, common costs are explicitly contemplated (s. 176(1)(a)).

While we acknowledge that the term “fibre assets” is defined in s.177(6) as including assets employed in providing other services, this extended meaning should not be applied to the financial losses calculation, where clearly the costs must be the direct result of UFB.

This analysis supports an argument that common costs, which are not incurred (solely/directly) in providing FFLAS under the UFB initiative, should be disregarded for the purposes of determining Chorus’ financial losses. Accordingly, the Commission will need to review carefully fibre providers’ audited accounts to ensure that only those costs that are a direct result of meeting UFB obligations are included in the assessment of past losses.

- 2.20 In response to the argument from RSPs that, by definition, pre-2011 assets could not have been “made by the provider under the UFB initiative”, Chorus submitted that:<sup>21</sup>

This ignores the reality that the acquisition of pre-2011 assets by Chorus was itself undertaken as a condition of, and pursuant to, the UFB initiative. This reality is reflected in section 177 in a number of ways. First, section 177 defines ‘fibre assets’ as both those assets that are:

*(a) constructed or acquired by a regulated fibre service provider; and*

*(b) employed in the provision of fibre fixed line access services (whether or not the asset is also employed in the provision of other services).*

Second, the section provides for the value of a fibre asset to be calculated, in the case of pre-2011 assets, as the book value of those assets acquired by Chorus on demerger.

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<sup>20</sup> Vector “Fibre emerging views submission” (18 July 2019) at paragraphs 25-27.

<sup>21</sup> Chorus “Fibre Emerging Views cross-submission” (12 August 2019) at paragraphs 34-35.

- 2.21 Finally, in its submission on the draft decision, Vector submitted that the construction of Part 6 “expressly contemplates common overhead opex to be excluded from the calculation of losses”.<sup>22</sup> Vector submitted that the absence of a specific reference to cost allocation in s 177 means that the Act implicitly prohibits shared overhead costs from being recognised in the FLA.<sup>23</sup>

...we consider there is merit to the suggestion of determining losses from the incremental costs incurred by Chorus and LFCs. This approach will allow assets/costs directly incurred in meeting FFLAS obligations or assets invested in to meet FFLAS and non-FFLAS objectives to be considered as part of the equation of determining losses. However, this does not extend the scope for re-purposed assets or re-purposed shared assets to be accounted for as part of a loss estimation exercise. This is consistent with section 177(5) which uses the terminology of direct result of meeting specific requirements of the UFB initiative.

The construction of Part 6 also expressly contemplates common overhead opex to be excluded from the calculation of losses. The absence of any requirement akin to section 176(1)(a)(iii) for the allocation of common costs in section 177 meant Parliament implicitly prohibited shared overhead costs from being recognised in any loss quantification as part of the financial loss asset.

### **Our view on the interpretation of s 177**

- 2.22 In our view, s 177 permits (though does not require) pre-2011 assets to be included in the calculation of the FLA. Our explanation of our position, and responses to submissions are set out below.

#### *Section 177(2) and (3) permit the inclusion of pre-2011 assets in the calculation of the FLA*

- 2.23 Section 177(2) provides a statutory guarantee that some financial losses are to be recovered. However, s 177(2) provides that the value of the FLA is to be “determined by the Commission”. This discretion must be exercised consistently with the Act, giving proper effect to its policy and objects.<sup>24</sup>

- 2.24 As with all IM decisions, our IM determination for the valuation of the FLA under s 177(2) and (3) must best give, or be likely to best give, effect to the purpose in s 162 and, where relevant, the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services in s 166(2)(b). It must also promote the certainty purpose of IMs specified in s 174.

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<sup>22</sup> In its submission, Vector refers to “common overhead opex”, which is a subset of common costs.

<sup>23</sup> Vector “Draft Fibre Input Methodologies Determination” (28 January 2020), at paragraphs 21-22.

<sup>24</sup> *Unison Networks Limited v Commerce Commission* [2007] NZSC 74, [2008] 1 NZLR 42 at [53].

- 2.25 We do not think that our IM determination (or the determination of the FLA value) is directly relevant to the promotion of competition. Accordingly, when we determine the IMs for the valuation of the FLA, we consider that we are not required to take account of s 166(2)(b), but only the mandatory considerations in s 177 and the purposes in s 162 and s 174.<sup>25</sup>
- 2.26 We consider that the starting point for understanding our task is s 177(2). This is the substantive clause telling us what we have to do, including in respect of determining the financial losses.
- 2.27 The only limitations in s 177(2) are that the losses must have been incurred by the provider:
- 2.27.1 in providing FFLAS;
  - 2.27.2 under the UFB initiative; and
  - 2.27.3 for the transition period.
- 2.28 There is nothing in the language of s 177(2) that constrains the Commission from taking pre-2011 assets into account in its determination of the financial losses. The only temporal element in s 177(2) is that the financial losses must be incurred “for the period starting on 1 December 2011”. Accordingly, such a constraint could only arise if this was required by a contextual reading of s 177(2). As discussed below, we do not consider that a contextual reading of s 177(2) has this result.
- 2.29 Section 177(2) is constrained to a limited extent by s 177(3). Section 177(3) includes two mandatory considerations for the Commission. It must:
- 2.29.1 “take into account any accumulated unrecovered returns on investments made under the UFB initiative”; and
  - 2.29.2 “refer to the actual financing costs” in respect of any Crown financing.
- 2.30 While these mandatory considerations constrain our discretion in certain respects, we are still required to exercise our judgement in the manner that we consider would best give, or be likely to best give, effect to the purpose in s 162.

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<sup>25</sup> It follows that our view is that our determination of the financial losses will not be relevant to the promotion of competition as intended in s 166(2)(b). Accordingly, we anticipate that when we determine the financial losses, we will not take account of s 166(2)(b).

- 2.31 In our view, s 177(3) does not constrain us from taking account of pre-2011 assets that were used to provide FFLAS under the UFB initiative even if these investments do not qualify as “investments made by the provider under the UFB initiative”. There is no express exclusion of pre-2011 assets in the wording of s 177(3), nor is there an implied exclusion when the words are read in their context.
- 2.32 We consider that the intent of the words in the mandatory requirement in s 177(3) relating to “investments made by the provider under the UFB initiative” is to make it clear that we must take these investments into account when determining the FLA value, and not to restrict us from taking any other relevant investments (or other relevant matters) into account when we make our decision. This interpretation is consistent with our role in deciding how to determine the financial losses required by s 177(2) and the requirement to make the decisions that we consider would best give, or be likely to best give, effect to the purpose in s 162. It is also consistent with the legislative history given the SOP introduced s 177(3) to make it clear that the Commission’s calculation of the FLA must take into account the regulated provider’s “accumulated unrecovered returns”. That history suggests that the reference to “investments made under the UFB initiative” was used to introduce that mandatory consideration, not that Parliament was focused on the treatment of pre-2011 assets or that Parliament intended to exclude them.<sup>26</sup>
- 2.33 While we must consider the matters in s 177(3), we have the ultimate discretion to determine the extent to which pre-2011 assets are included in the calculation of financial losses, subject to the requirement to do so in the manner which we consider best gives, or is likely to best give, effect to the purpose in s 162. This view is further supported by the clarification in s 177(4) that “it is not the intention of subsections (2) and (3) that regulated fibre service providers should be protected from all risk of not fully recovering those financial losses through prices over time”. Accordingly, if we consider that the pre-2011 assets are relevant considerations to the calculation of the financial losses under s 177(2), we should also take them into account.
- 2.34 We further consider that there is a good argument that the words “investments made by the provider under the UFB initiative” could include pre-2011 assets that were redeployed in whole or part to provide FFLAS under the UFB initiative. If this interpretation is correct, s 177(3) would require us to take account of pre-2011 investments when we determine the financial losses. We therefore disagree with the position taken by Trustpower, Vector and a number of other submitters that costs that were incurred prior to 2011 cannot have been “incurred under the UFB initiative” and are therefore excluded from the financial losses calculation under s 177(2) and (3).

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<sup>26</sup> Supplementary Order Paper dated Tuesday, 16 October 2018.

- 2.35 We consider that there are several further elements of s 177 that appear to suggest that the section permits the inclusion of pre-2011 assets in the calculation of financial losses:
- 2.35.1 Section 177(1)(a) makes clear that Chorus will use pre-2011 assets to deliver the UFB initiative, and s 177(6) makes clear that assets can be shared assets. The legislation provides for a comparable means of valuing these assets: ie, based on actual/historic costs.
  - 2.35.2 Section 177(2) refers to financial losses “incurred ... for the period”. It does not say “in the period”. This suggests that an approach in accordance with generally accepted accounting principles (GAAP), rather than a strict temporal requirement, is intended. On a GAAP approach, for example, depreciation spreads cost over the period of use, rather than simply when the expenditure occurred. An assessment as to whether an appropriate financial return (or financial loss) has been made on an asset at a certain point in time, can only be made by reference to its expected life.
  - 2.35.3 If s 177(2) had a strict temporal element then while Chorus’s pre-2011 assets would be excluded, arguably the *full* actual cost of other assets constructed or acquired prior to the implementation date (whether by Chorus or other fibre service providers) would need to be taken into account in determining the FLA. That is because their cost would have been incurred within the transition period. We do not consider this could have been the intention of s 177(2).

*Section 177(5) is not a restriction on either s 177(1) or (2): it does not preclude inclusion of pre-2011 assets*

- 2.36 Section 177(5) is an enlarging provision that provides, for the avoidance of doubt, that the initial value of a fibre asset determined under s 177 includes costs incurred by the provider as a direct result of meeting specific requirements of the UFB initiative and for both standard connections and non-standard connections (see [2.17] above).
- 2.37 Section 177(5) does not impose a restriction on s 177(1) or (2). The subsection was introduced in response to concerns expressed by Chorus and other LFCs that, given that regulated providers were subject to specific requirements under the UFB initiative, the Commission should not review historic costs for efficiency. In the Departmental Report on the Telecommunications (New Regulatory Framework) Amendment Bill, officials noted:<sup>27</sup>

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<sup>27</sup> Ministry of Business, Innovation and Employment *Departmental Report: Telecommunications (New Regulatory Framework) Amendment Bill* (20 April 2018).

I have also re-considered the requirement that costs of regulatory assets must have been ‘efficiently incurred’. Chorus and the LFCs have argued that there is no justification for a backward-looking efficiency test to be applied to the opening value of regulated assets at 2020. They contend that the contract with Crown Fibre Holdings (CFH) required them to roll out in specific ways (such as passing schools and hospitals first) to meet policy objectives. In hindsight, the Commission may not consider this to be the most efficient way of building the network. The contracts were competitively tendered and CFH subjected them to intense scrutiny throughout the deployment process.

- 2.38 Subsection (5) protects regulated providers, in that if the UFB initiative specifically required them to incur costs that were inefficient, these costs must nevertheless be included in the initial value of the FLA under s 177(2).
- 2.39 Finally, we address Vector’s argument regarding the interpretation of ss 176(1) and 177 (outlined at [2.21] above). We disagree with Vector’s interpretation of sections 176(1) and 177. The relevant provisions of the Act and our reasons are as follows:
- 2.39.1 Section 176(1) sets out the matters that must be covered by the fibre input methodologies, the most relevant of which, for present purposes, are:
- (a) Section 176(1)(a)(ii): the valuation of assets, including depreciation and treatment of revaluations; and
  - (b) Section 176(1)(a)(iii): allocation of common costs (for example, between activities, businesses, access seekers, regulated services, or geographic areas).
- 2.39.2 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.
- 2.39.3 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).
- 2.40 The absence of a specific reference to the “allocation of common costs” in s 177 does not preclude including common overhead costs in the calculation of financial losses.<sup>28</sup> Section 177 prescribes the approach for calculating the value of fibre assets generally (ie, it is not limited solely to the calculation of losses, rather, it covers both core fibre assets and the FLA). As we understand Vector’s argument, if

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<sup>28</sup> As noted at FN22 above, “common overhead opex” is a subset of common costs.

it were taken to its logical conclusion, the absence of a reference to the “allocation of common costs” in s 177 would mean that cost allocation would not apply to any fibre assets. Such an outcome would be contrary to s 177, which contemplates that the allocation of common costs will apply to calculating the value of fibre assets, including both the FLA and core fibre assets.

### **Submissions on cost allocation and the potential for double recovery between copper and fibre services**

2.41 Submitters have generally agreed in principle that there should be no double recovery of shared costs across copper and fibre services as far as possible.<sup>29</sup> There have, however, been differing views on the approach that should be taken to mitigate the risk of double recovery of shared costs between copper and fibre.<sup>30</sup>

2.42 In an earlier submission on behalf of Spark New Zealand Limited (Spark), TERA had raised a concern about the potential for over-recovery of shared costs between copper and fibre services, in particular where different modelling approaches are used (total service long-run incremental cost (TSLRIC) for copper under the final pricing principle (FPP), and BBM for fibre under Part 6). TERA characterised the issue as follows:<sup>31</sup>

The coexistence of these two distinct modelling approaches could lead to inconsistencies and double recovery of shared costs used for providing both services based on copper and on fibre.

TSLRIC for copper does not allocate costs that are shared with fibre – because it models one technology only. This is a potential source of over-recovery, as some costs would go 100% to copper under TSLRIC model and then a further share of those same costs would be added to fibre under BBM.

2.43 TERA proposed that a cross-check be used, that would apply the costing methodology that we proposed for fibre in the draft fibre IMs, to both fibre and copper services (ie, depreciated historic cost of fibre and copper), and then determine the resulting maximum allowable revenue required to cover those costs. This would then be compared with what has been recovered through the regulated tariffs on copper and fibre services over the period.

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<sup>29</sup> We use the term “shared costs” and “common costs” interchangeably to refer to costs that are common to two or more types of services but are not directly attributable to an individual service. Common costs /shared costs include both operating expenditure and capital expenditure.

<sup>30</sup> For example, Vocus “Draft Fibre Input Methodologies Determination” (28 February 2020), paragraph 27(viii); 2degrees “Commerce Commission Fibre Input Methodologies Submission” (28 January 2020), page 12; Spark “Fibre Input Methodologies: draft determination” (28 January 2020), from paragraph 24.

<sup>31</sup> TERA “Study on potential cost over-recovery in the BBM model for fibre services” (31 July 2019), page 12.

- 2.44 Several RSPs have argued that more should be done to mitigate the risk of double recovery, and supported the cross-check approach proposed by TERA. For example, Spark submitted that given that past losses are expected to be significant, the Commission should critically consider claims for past losses and apply the cross-check proposed by TERA. Spark agreed that it would be impractical to fully ensure no double- or under-recovery, but the Commission should take reasonable and proportionate measures to minimise the risk of over- or under-recovery.<sup>32</sup>
- 2.45 2degrees submitted that the Commission needs to ensure cost allocation does not allow an excessive amount of costs to be loaded onto FFLAS, and that Chorus is not allowed to double recover shared costs from copper and fibre.<sup>33</sup> It argued that failure to address double recovery between copper and fibre would result in windfall gains to Chorus.<sup>34</sup>
- 2.46 Other RSPs, such as Vodafone and Vocus, also supported minimising the potential for double recovery of shared costs between copper and fibre to avoid or mitigate excess returns. RSPs generally supported the calculation of past losses on an incremental cost basis to ensure that shared costs are not inappropriately loaded onto fibre services.<sup>35</sup>
- 2.47 Vector, in particular, distinguished between cost allocation in a forward-looking context (where it is appropriate to take into account shared assets) and for a retrospective calculation of financial losses (where it submitted an incremental approach should be considered):<sup>36</sup>

As a principle Vector supports forward-looking access prices being determined with an allowance for shared assets and common costs used to deliver regulated services. In the circumstance of a standalone firm the exclusion of shared assets and common costs undermines the long-run financial viability of the firm. This is also the case for a multi-product firm producing both regulated and non-regulated inputs – the contribution of shared assets and common costs from non-regulated services is not assured. Therefore, a contribution for shared assets and common costs for the regulated service is fundamental to ensure investor certainty for legitimate cost recovery.

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<sup>32</sup> Spark “Fibre Input Methodologies: draft determination” (28 January 2020), paragraph 26.

<sup>33</sup> 2degrees “Commerce Commission Fibre Input Methodologies Submission” (28 January 2020), page 2.

<sup>34</sup> 2degrees “Commerce Commission Fibre Input Methodologies Submission” (28 January 2020), page 12.

<sup>35</sup> See for example, 2degrees “Commerce Commission Fibre Input Methodologies Submission” (28 January 2020), page 14; Vocus “Draft Fibre Input Methodologies Determination” (28 February (sic) 2020), paragraph 11; Vector “Draft Fibre Input Methodologies Determination” (28 January 2020), paragraphs 18, 20.

<sup>36</sup> Vector “Draft Fibre Input Methodologies Determination” (28 January 2020), paragraphs 18, 20.

However, the exercise for determining losses for Chorus and LFCs from their FFLAS differs markedly from setting forward-looking access prices. The retrospective nature of the exercise means the risk of common/shared cost recovery has largely been borne out for the period. Indeed, the fact that Chorus and LFCs were able to survive and turn a profit over the period indicates they were able to recover their shared asset and common costs from their multi-product service suite over the loss period in question.

2.48 Vodafone had previously advocated for an incremental approach:<sup>37</sup>

(m)ost firms assess projects on an incremental cost approach ...

For Chorus, most common costs have already been allocated to copper. Any under-recovery in copper revenue would have occurred whether Chorus participated in the UFB initiative or not.

2.49 Chorus and Analysys Mason Limited (Analysys Mason) agreed with the principle of no double (or under-) recovery of shared costs. Chorus, however, disagreed with TERA's approach. According to Chorus, TERA's approach is complex and uncertain,<sup>38</sup> while Analysys Mason said that TERA's approach mixes different methodologies – TSLRIC for copper and BBM for fibre – leading to incorrect conclusions around potential over-recovery.<sup>39</sup>

**Our view on cost allocation and the potential for double recovery between copper and fibre services**

2.50 As noted by several submissions, the issue of over-recovery can arise in the context of costs that are shared between several services. For example, Chorus supplies both copper services and fibre services. Some costs will be directly attributable to copper services, such as the cost of copper cables and electronics used to deliver broadband services over copper lines. Other costs will be directly attributable to fibre services, including the cost of fibre optical cables and the electronics required to light up the fibre. Some costs will also be shared between copper and fibre services, such as the cost of ducts which house both copper and fibre cables, and the costs of buildings which house both copper and fibre equipment.

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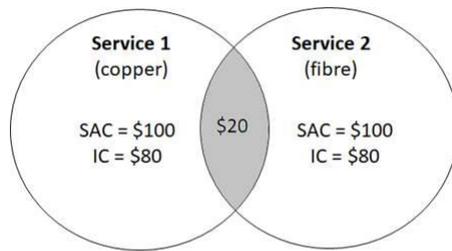
<sup>37</sup> Vodafone 'New Regulatory framework for fibre: Submission on Fibre Emerging Views' (16 July 2019), pages 16-17.

<sup>38</sup> Chorus "Submission on Fibre input methodologies: Draft decision" (28 January 2020), paragraph 185.

<sup>39</sup> Analysys Mason "Report for Chorus: Response to TERA paper on "over-recovery" (24 January 2020), page 2.

2.51 This can be illustrated in Figure 1 below.

**Figure 1: Example of incremental, shared, and standalone costs**



2.52 In the example shown in Figure 1:

2.52.1 the incremental cost that is directly attributable to copper services is \$80. This is the additional cost incurred in supplying copper services, given that fibre services are also supplied;

2.52.2 the cost of supplying copper services on a standalone basis (if no other services were supplied) is \$100;

2.52.3 the incremental cost that is directly attributable to fibre services is \$80. Again, this is the additional cost incurred in supplying fibre, given that copper services are also supplied;

2.52.4 the cost of supplying fibre services on a standalone basis (if no other services were supplied) is \$100; and

2.52.5 the level of shared costs is \$20.

2.53 Chorus' copper-based services have been subject to the unbundled copper local loop (UCLL) and unbundled bitstream access (UBA) FPP decisions (which fall outside the scope of fibre regulation). Over the transition period, connections to Chorus' copper-based services have declined:

2.53.1 In other LFC areas, they are replaced with FFLAS provided by LFCs under the UFB rollout.

2.53.2 Within Chorus' UFB areas, demand for Chorus' FFLAS 'cannibalises' demand for its copper services, as uptake of FFLAS drives relinquishment of a copper-based service.

2.54 In each situation, shared costs remain as they support both FFLAS and non-FFLAS services.

- 2.55 The incremental cost approach that has been proposed by RSPs would see all common and joint costs carried by a declining number of copper service connections. As a result, a growing number of FFLAS connections during the pre-implementation period would contribute nothing to meeting the costs of shared assets which are employed in the supply of FFLAS.
- 2.56 The migration of demand from copper to fibre services was discussed in the Commission's final pricing review determination for Chorus' UCLL service (the 'FPP decision'), where it was referred to as a 'death spiral'.<sup>40</sup> In this regard, we consider that TERA has mischaracterised the approach that was taken in the FPP decision. In that decision, shared costs were not allocated fully to copper services, as claimed by TERA. This would have resulted in escalating copper prices as shared costs were borne by a declining base of copper services. Rather, as we noted in the draft decision reasons paper,<sup>41</sup> the FPP decision assumed that the modelled network supplied aggregate demand for copper and fibre services, not just copper demand. In other words, the level of demand in the TSLRIC model included copper and fibre users. This is made clear in Attachment A of the FPP decision:<sup>42</sup>

... the hypothetical efficient operator has demand equal to the number of end-users paying for services on Chorus' copper and fibre networks, and LFC networks.

- 2.57 TERA were the consultants that assisted the Commission in building the TSLRIC cost models, and TERA's model documentation also makes this point. For example, in TERA's model reference paper, section 2.5 discusses the level of demand in the modelling for the UCLL service:<sup>43</sup>

Chorus UFB is replacing copper ... and therefore, the aggregated demand of the two should be considered for UCLL.

LFC UFB is replacing copper ... and therefore, the aggregated demand of the two should be considered for UCLL. ... Accordingly, it is recommended to include LFC demand in the TSLRIC model for UCLL.

- 2.58 In other words, both copper and UFB demand were in the model. As a result, the costs of the modelled network, which include the costs of ducts, were shared across all copper and fibre demand, rather than loaded 100% on to copper.

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<sup>40</sup> [2015] NZCC 37 (15 December 2015), for example at paragraph A88.

<sup>41</sup> Commerce Commission "Fibre input methodologies: Draft decision - reasons paper" (19 November 2019), paragraphs 3.485-3.487.

<sup>42</sup> [2015] NZCC 37 (15 December 2015), paragraph A4.2.

<sup>43</sup> TERA "TSLRIC price review determination for the Unbundled Copper Local Loop and Unbundled Bitstream Access services Model Reference Paper" (December 2015), available at [https://comcom.govt.nz/data/assets/pdf\\_file/0024/60684/TERA-Model-Reference-Paper-Dec-2015.PDF](https://comcom.govt.nz/data/assets/pdf_file/0024/60684/TERA-Model-Reference-Paper-Dec-2015.PDF)

- 2.59 The approach to shared costs that was taken in the FPP decision was broadly consistent with the approach that we proposed in the draft decision reasons paper, where we proposed that shared costs be allocated across all demand for services utilising those shared assets.
- 2.60 We also consider that there are two further difficulties with the cross-check proposed by TERA.
- 2.61 First, TERA’s proposed cross-check fails to account for important differences between regulated copper services and UFB services. The regulated price caps set for Chorus’ copper services were based on a fundamentally different standard from that to which Chorus’ FFLAS will be subject. This was recognised by Analysys Mason in its submission on our draft decision reasons paper,<sup>44</sup> where it documented some of the key differences between the TSLRIC and BBM standards. For example:
- 2.61.1 the TSLRIC model in the FPP is based on a hypothetical network (encompassing fibre as well as some wireless) which is national in scope, whereas the UFB deployment is a fibre network to 87% of premises;
  - 2.61.2 the TSLRIC model assumes a greater proportion of aerial deployment than has been achieved with the UFB deployment; and
  - 2.61.3 the TSLRIC model values modern equivalent assets based on current cost, whereas the BBM approach is based on the depreciated historic cost of actual assets.
- 2.62 Second, in our view, TERA’s cross-check appears to have the effect of revisiting the TSLRIC price set in the FPP, by clawing back some of the revenues earned by Chorus from the UCLL service. The result of applying TERA’s approach would be that Chorus would receive a UCLL price which is based on a share of ducts valued at historic cost rather than the standard the Commission adopted to determine a TSLRIC price for copper services during the FPP.
- 2.63 As we noted in the draft decision reasons paper, we agree with TERA on the principle of no double recovery of shared costs between copper and fibre, as this would not best promote the s 162(d) purpose of limiting the ability of regulated providers to extract excessive profits. However, we continue to have reservations over TERA’s proposed approach to check for double recovery between copper and fibre services based on a comparison of the revenues earned from the regulated tariffs on copper and fibre with the revenues that would be sufficient to cover the costs under BBM for copper and fibre. The regulated tariffs for copper services (UCLL and UBA) were not set using a BBM approach, and therefore comparing the

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<sup>44</sup> Analysys Mason “Report for Chorus: Response to TERA paper on “over-share recovery” (24 January 2020), section 3.3.2.

copper tariffs to costs determined using a BBM approach may result in under- or over-recovery.

- 2.64 In summary, our view is that a pure incremental approach to the calculation of financial losses would come with a significant risk of under-recovery of costs of providing FFLAS as such an approach would fail to recognise the migration of demand from the legacy services (copper) to the new services (fibre). As outlined above, excluding the cost of assets constructed prior to the UFB agreement, such as ducts, but which are used to support FFLAS, could lead to an under-recovery of the cost-shared assets used to provide FFLAS.

#### **Potential concerns with pre-2011 assets in the transition period**

- 2.65 When calculating the value of financial losses incurred during the transition period under s 177(2), we are conscious that the FLA represents a wealth transfer from consumers to regulated providers where, if losses are overestimated, then this will not be to the long-term benefit of end-users in FFLAS markets (s 162(d)), and if they are underestimated, this will harm incentives to innovate and invest (s 162(a)).
- 2.66 One question we have examined is whether regulated providers will receive a windfall gain or loss over the transition period through inclusion (by way of cost allocation) of repurposed assets, mainly in relation to assets that pre-existed the UFB contracts. A windfall gain or loss occurs because of an event outside the regulated provider's control, rather than due to firm performance.
- 2.67 For the fibre network build, we are basing the asset valuation on actual build costs (as per s 177(1)). This ensures prices are related to costs with no windfall gains from initial asset valuation. However, where we bring in assets that pre-exist the fibre build as shared costs when calculating the accumulated losses, this evaluation becomes more difficult.
- 2.68 Including pre-2011 assets in the loss calculation as shared costs potentially draws in actions that pre-date FFLAS regulation in terms of what a reasonable return represents, and raises the issue of reasonable investor expectations in light of the competitive tendering process for UFB. In 2009, in respect of revaluations and asset valuation in the context of the setting of input methodologies for Part 4 of the Commerce Act, we noted:<sup>45</sup>

...The reason the Commission considers past pricing behaviour and profitability is to help determine an asset value that is consistent with the past behaviour thereby minimising the risk that the choice of starting RAB imposes windfall gains or losses on suppliers. The Commission considers that this should be consistent with the reasonable expectations of investors to earn a normal return on their investments.

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<sup>45</sup> Commerce Commission, "Input Methodologies Discussion Paper" (June 2009), paragraph 6.28.

2.69 The High Court, in the Part 4 input methodologies merits appeals judgment, stated:<sup>46</sup>

The setting of the initial RAB does, however have an impact on the general investment environment for regulated industries and industries subject to the possibility of regulation. It sends signals about the behaviour of the regulator. This is a question of reasonable investor expectations. In our view, reasonable investors expectations should be met by following a carefully considered approach when setting a RAB, subject to there being no evidence that suppliers would be unable to recover the costs of their past prudent and efficient investments. (This does not imply that the cost of purchase of a regulated business as a going concern should necessarily be fully protected).

2.70 In the present case, the repurposing of pre-2011 assets will have affected Telecom NZ's competitive tender for the UFB initiative, which makes the determination of the FLA quite distinct to past exercises as to what reasonable investor expectations are and what a normal return on those investments represents. These assets are also subject to a separate exercise under s 177 of the Act in terms of calculating the accumulated losses which form part of the initial starting RAB for regulated providers. The assets' value is set on implementation date as the book value at 1 December 2011, less accumulated depreciation through the transition period.

2.71 Where we are considering the cost-allocation of pre-2011 assets which were not built to provide FFLAS, we have two perspectives on whether they represent a gain or loss:

2.71.1 legitimate investor expectations at the time the UFB contracts were signed; and

2.71.2 the revenue generated on those assets over their lives.

*Legitimate investor expectations*

2.72 At the time of the UFB initiative announcement, Telecom NZ faced the prospect of its copper network being overbuilt by new government-subsidised FFLAS networks. This would have curtailed the expected revenue generated by the pre-existing assets built to deliver copper services (ie. the pre-2011 assets), whether or not Telecom NZ won the contracts to roll-out UFB.

2.73 For Telecom NZ, its potential UFB bid to the Crown would have taken into account its ability to re-purpose those assets for FFLAS, given that alternative bidders, without those assets or access to those assets would face the new build costs.<sup>47</sup>

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<sup>46</sup> *Wellington International Airport Ltd & Ors v Commerce Commission* [2013] NZHC 3289, paragraph [605].

<sup>47</sup> This is more complicated where the competing bidder itself had access to potentially shared assets; for example, aerial deployment on existing electricity poles.

- 2.74 Telecom NZ's bid would also have been expected to take into account the lost incremental revenue to its copper network from competing with a FFLAS network that would be foregone when it signed a UFB contract with the Crown. These counterfactual revenues are likely to have been generated by slower migration from copper to fibre in the current Chorus UFB areas. This would be represented by the time value of money from this revenue, given that over the longer-term, we would expect migration to fibre to nonetheless occur. Telecom NZ might also have expected to sell infrastructure access to a successful UFB bidder – for example, space in existing copper ducts. This would represent the lower bound of its expectations, below which it would not bid, and we would expect this to be above the pure incremental cost of FFLAS for Chorus.
- 2.75 We believe investors would have the legitimate expectation of earning at least the opportunity cost of the assets, and that this would not have been zero. This is one of the factors which leads us to reject submissions which suggest that an incremental cost approach should be taken, which would value these assets at zero.
- 2.76 Given the alternative of Telecom NZ facing competition with its copper network and the consequential limited remaining lifespan of the copper network, the lower bound may be more representative of investors' legitimate expectations. Telecom NZ would not necessarily have known its rival bidders' costs, so any increment above this lower bound would represent incremental profit, whereas mispricing the bid would lose this. It should be borne in mind that Telecom NZ lost bids on several initial UFB candidate areas. The Crown also had the opportunity to iterate negotiations to drive a harder bargain through the sequential awarding of UFB contracts.
- 2.77 We recognise that ascertaining legitimate investor expectations at the time the UFB contracts were signed is a difficult exercise. We do not believe we need to reach a conclusion on this matter, as we discuss later in paragraphs 2.82 to 2.84.

*Revenue generated on those assets over the life of those assets*

- 2.78 In a workably competitive market, we would expect firms (and their investors) to expect a normal return on investments over their lifetime. There are many pre-2011 assets which will have already generated significant revenues over their expected lifespan. Many of those assets were subject to direct price regulation by the Commission under the Act (ie, copper services).
- 2.79 Where the cost of an asset has already been fully recouped, or cost allocation to FFLAS overestimates the residual value of that asset over its remaining lifetime or underestimates the combined revenue received, the continued inclusion of that asset may represent over-recoupment against the value invested.

- 2.80 We recognise that a previous RAB value has not been assigned to these assets (whose services had, until the FPP decision, been regulated via price caps determined through international benchmarking). Our FPP decision, which was referred to in several submissions,<sup>48</sup> implemented a pricing principle for copper services that was fundamentally different from the regulatory regime for FFLAS. In the FPP decision, we determined a TSLRIC price, based on the replacement cost of a hypothetical new national broadband network, employing a modern equivalent asset (comprised mainly of fibre as well as some fixed-wireless infrastructure). In contrast, the approach under the new Part 6 for the period after the implementation date is a BBM approach based on the actual costs of deploying a fibre network to a largely urban customer base.
- 2.81 Consequently, while the services provided by these assets have been regulated, the issue of whether these asset values have been ‘over-recovered’ is not straightforward.<sup>49</sup>

*Some cost allocation of pre-2011 assets is justified*

- 2.82 From either perspective – whether legitimate investor expectations or the revenues generated on pre-2011 assets – the total exclusion of pre-2011 assets does not appear justified. We would be further concerned that assigning a value of zero to all pre-2011 used and useful assets for the provision of FFLAS may raise concerns under s 162(b) incentives to improve efficiency, potentially having adverse effects looking forward. This is because it may discourage future re-purposing and sharing of assets in bidding for infrastructure projects potentially subject to future regulation.
- 2.83 We therefore reject submissions that a pure incremental approach, which would exclude pre-2011 assets, is justified.
- 2.84 We note that the difference between the opportunity cost approach described in paragraphs 2.72 to 2.77, and a value-in-use approach described in paragraphs 2.78 to 2.80, potentially represents the sharing of benefits from re-using pre-2011 assets between investors and end-users. The cost allocation approach for pre-2011 assets, while not based on trying to determine the opportunity cost, is in our view nonetheless likely to be consistent with this.

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<sup>48</sup> See for example the TERA submission discussed above.

<sup>49</sup> See paragraphs 2.61 and 2.62 above.

*Remaining concerns regarding pre-2011 assets*

- 2.85 Nonetheless, in the context of calculating the FLA value, we continue to have heightened concerns with the treatment of pre-2011 assets.<sup>50</sup> Chorus has strong incentives to allocate as high a volume and value as possible to pre-2011 assets, and this risk of potential 'gaming' is heightened for the determination under s 177(2), given:
- 2.85.1 Some of these assets will go back over a long period of time, making verification more difficult. The calculation exercise could also cover a large number of assets, each of which could potentially be misstated, mis-allocated or over-allocated.
  - 2.85.2 There is the potential ability for regulated providers to over-allocate through actions in the network, such as allocating more space than is necessary in, for example, a central office for the provision of FFLAS.
  - 2.85.3 This is a one-off exercise, rather than a repeated exercise, where the asymmetry of information between the Commission and regulated providers may be particularly pronounced. Moreover, there is little opportunity for the Commission, as regulator, to better reveal true information over time.
  - 2.85.4 Regulated providers may expect little potential downside from engaging in potential 'gaming'.
- 2.86 Consequently, we are concerned to ensure that cost allocation of pre-2011 assets is appropriate, as windfall gains would represent a transfer of wealth from end-users with no corresponding benefit. We believe this is a potentially material risk to end-users.
- 2.87 Chorus will have transitioned from a copper-based access network to a largely fibre-based access network during the transition period. During this period, the choices around cost allocation could have a significant effect on how much of the assets' cost is allocated in calculating the FLA.

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<sup>50</sup> Commerce Commission "Fibre input methodologies: Draft decision - reasons paper" (19 November 2019), paragraph 3.474.

### *Cost allocation of pre-2011 assets*

- 2.88 While we think that pre-2011 assets should be included in the FLA calculation, they should only be included to the extent that they were employed to provide UFB services. In practice, this will mean that filters need to be applied in determining the value of pre-2011 assets that comes into the initial RAB and the calculation of financial losses during the transition period. These filters relate to the geographic footprint of the UFB networks, usability, timing and allocation of costs between services.<sup>51</sup>
- 2.89 Firstly, the UFB network does not have full nationwide coverage. In Chorus' case, its awarded UFB areas cover approximately 75% of the total UFB network coverage, which in turn will only apply to approximately 87% of homes and businesses in New Zealand once UFB2 is completed. In other words, when complete, Chorus's UFB fibre network coverage will represent approximately 65% of its nationwide copper network coverage.<sup>52</sup>
- 2.90 Secondly, not all pre-2011 assets are capable of actually being re-used to provide UFB services. For example, in its Scheme Booklet, issued prior to the demerger from Telecom NZ, Chorus estimated that approximately 40% of the UFB communal network deployment would utilise existing trenching (ducts and manholes).<sup>53</sup> Even where a pre-2011 asset, such as a duct, may technically be available for re-use (for example, where there are empty ducts or sub-ducts), the actual suitability of the asset for re-use may be subject to a range of limitations (such as whether blockages exist, which may prevent new sub-ducts being installed). Some types of assets, such as copper cables and active cabinets, have little or no potential for reuse for fibre networks, while other asset types have more potential.<sup>54</sup>

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<sup>51</sup> We are also aware that some assets may be decommissioned during the transition period, and, in doing so, would incur decommissioning costs. We consider that the costs of decommissioning surplus elements of the copper network, as opposed to the cost of repurposing existing assets, should not be included in the FLA. Our draft decision reasons paper included a definition of capital expenditure (capex) and operating expenditure that we consider excludes these decommissioning costs from being included in the value of a UFB asset or as an operating expense that flows into the FLA.

<sup>52</sup> Chorus, "Annual Report 2018", 27 August 2018, page 1.

<sup>53</sup> Chorus and Telecom NZ, "Scheme Booklet (Share in two journeys)", 13 September 2011, pages 97-98.

<sup>54</sup> We understand that the types of assets that may be reused includes ducts and manholes, poles, some layer 2 equipment, property and existing fibre cables.

- 2.91 Thirdly, those pre-2011 assets that were or will be reused will only come into the RAB (post-implementation) or be taken into account in the calculation of the FLA (for the transition period) when they were actually employed for the UFB network. This reflects the phased timing of the UFB rollout and connections. At that point, an appropriate (typically a default) asset/cost allocator will be applied to determine how much of the value of the employed shared infrastructure should be allocated to the UFB initiative/services. As we discuss further below, some scrutiny will be applied to determine the appropriateness of the chosen allocator.
- 2.92 An implication of these filters is that only an appropriate portion of the value of Chorus' pre-2011 assets will contribute to the FLA. The combination of multiple filters means that some assets will not contribute to the FLA (eg, due to geography or not having the potential to be reused), while for other assets, only some of their value will contribute to the FLA (eg, via the application of an asset allocator to a shared asset).
- 2.93 Filtering by timing for the current transition period will make the choice of allocators more significant than for a stable period. This is because some potential allocators will lag other allocators during the transition. This affects the proportion of the costs of a pre-2011 asset that will contribute to the FLA.
- 2.94 For example, if the allocation for a suburban street duct that houses copper and UFB fibre cables was based on premises passed, it may result in a 50/50 split ratio when the duct is first used to provide UFB services. However, if the allocation for the same duct was changed to a premises-connected basis, then the ratio would lag. Initially, when only one customer was connected, the allocation to the UFB initiative would be close to zero, but later, when the connection numbers for copper and UFB services are equal, it would reach a 50/50 split. Should copper be withdrawn from the street after the transition to fibre is complete, then the two cost allocators would both allocate all the duct's costs to fibre.

#### *Safeguards around windfall gains from cost allocation*

- 2.95 There are several ways that the costs of a pre-2011 asset could be over-allocated to the UFB initiative, and hence lead to double recovery or windfall gains. These include:
- 2.95.1 Allocating some, or all, of the costs of an asset to UFB before it is employed to provide UFB services.
- 2.95.2 Allocating costs to the FLA for a pre-2011 asset disproportionate to the value it adds to the UFB services.

- 2.95.3 Using an allocator that allocates costs to the FLA above the proportionate share of the costs for shared pre-2011 assets (eg, double recovery of copper costs).
- 2.96 We recognise and agree with the concerns surrounding the potential for windfall gains in the treatment of pre-2011 assets when determining the FLA value. However, it is important to view these concerns against the tools available to address ‘windfall gains’, which were set out in the draft decision reasons paper but may have been overlooked by concerned submitters. These are as follows:
- 2.96.1 Assets only come into the FLA, and post-implementation, into the RAB, when they are employed in the provision of FFLAS. This addresses the potential harm of allocating the costs of a pre-2011 asset to UFB before it is employed to provide UFB services,<sup>55</sup>
- 2.96.2 Proportionate cost allocation: the use of the accounting-based allocation approach (ABAA) allocates costs proportionately to the services that benefit from the shared pre-2011 assets. Hence, ABAA can be applied to split shared costs between fibre and copper services, or on a geographic basis (such as between Chorus UFB areas and non-UFB areas). For example, as demand transitions from copper services to fibre services, the allocation of costs of shared pre-2011 assets will reflect this transition. As we noted in our draft decision reasons paper and above (see paragraph 2.80), different costing methodologies apply to copper services (where a TSLRIC price was set based on the replacement costs of a hypothetical new network) and fibre services (where a revenue cap will apply based on the actual costs of the FFLAS network). While we remain of the view that these differences preclude a reconciliation of asset values between copper and fibre; we note that as Chorus has been subject to a price cap for its copper services, for each end-user who migrates from copper to fibre, Chorus

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<sup>55</sup> In the determination, the term “commissioned” means, for the purposes of determining the FLA “employed by the regulated provider in providing UFB FFLAS (whether or not the UFB asset is also employed in providing other services)” (see clause 1.1.1 of Schedule B). In turn, the term “employed” is defined as “available for use”. It is possible that a limited number of assets may have been employed (ie, available for use in providing UFB FFLAS) before they were actually in active use in the provision of UFB FFLAS. However, potential concerns with the value of these assets being attributed to UFB FFLAS, can be addressed through (1) the Commission reviewing (as part of PQ regulation) commissioning decisions, and hence additions to the unallocated RAB, to confirm these are supported by appropriate records and taking appropriate steps where such records are not available; and (2) to the extent that these pre-2011 assets are shared assets, by the choice of cost allocators applied to these assets (to be approved by the Commission as part of PQ regulation), and as a consequence, the rate at which these assets enter the allocated RAB (or FLA calculation for the transition period).

loses the revenues associated with the copper service.<sup>56</sup> This provides some protection against over-recovery;

- 2.96.3 Requiring the updating of cost allocation data annually: this seeks to capture the dynamics of the shift to fibre, and hence reduces the risk of allocator data from a year with a high allocation of shared costs to the UFB initiative being used for other periods;
- 2.96.4 Inclusion of a cost cap: the cost cap seeks to limit the amount of costs for reused assets to those which cannot be avoided in providing the UFB services. This recognises the benefits of reusing pre-2011 assets to supply UFB services, but at the same time, addresses the potential harm that would occur if such assets had 'nominal' costs in excess of what would otherwise have been incurred in providing UFB services. Our recent further consultation described our revisions to this approach;<sup>57</sup>
- 2.96.5 Use of a list of default allocators: the benefits of a default list include:
  - a) using metrics that tend to be measurable and for which regulated providers are likely to have data; and
  - b) having a limited set of allocators can reduce the risk of gaming;
- 2.96.6 A requirement that cost allocators are applied consistently across like costs and between years: this also seeks to reduce the risk of gaming; and
- 2.96.7 The Commission has the final decision in determining the value of the FLA and hence the cost allocation decisions behind it.

*Potential additional or replacement approaches*

- 2.97 Our draft decision laid out several tools to provide for an appropriate level of cost allocation of pre-2011 assets in the FLA calculation. We have also considered whether any additional safeguards are required and are interested in stakeholders' views.

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<sup>56</sup> In this regard, we note that Chorus reported a decline in copper-based broadband revenues of -18% between FY18 (\$421 million) and FY19 (\$344 million), while its fibre (GPON) revenues increased by 48% over the same period (from \$198 million in FY18 to \$294 million in FY19). Part of the reduction in copper revenues will be due to Chorus customers moving to competing fibre networks, part will be due to migration between Chorus copper and fibre services in Chorus UFB areas and part to other alternative services such as fixed wireless. See for example Chorus "FY19 Full Year Result" (26 August 2019), slides 8 and 12.

<sup>57</sup> Commerce Commission, "Fibre input methodologies Further consultation draft – reasons paper" (July 2020), paragraphs 3.168 to 3.184.

- 2.98 Additional tools or alternative approaches include:
- 2.98.1 to increase the downside for a regulated provider from any such gaming – such as to exclude in their entirety any assets which are found to have been over-allocated;
  - 2.98.2 to only allow costs of an asset to be allocated to FFLAS when it is used primarily for FFLAS; and
  - 2.98.3 to set a cap on the maximum copper asset values transferred to fibre. This would more clearly link the value transferred from copper to fibre to the expected residual value of that copper revenue that is transferred to fibre revenue. This in turn would reflect the expectations of the limited lifespan of copper in the counterfactual scenario where Chorus were not a regulated provider. A potential alternative is to use a reduced asset-life for copper assets in non-Chorus UFB areas to reduce the relevant overall asset valuation.
- 2.99 We recognise that a different cost allocation approach for pre-2011 assets relative to other assets may create a potential inconsistency. However, this may be justified where the risk of overallocation of pre-2011 assets is greater.
- 2.100 In our draft decision reasons paper, we presented our position on the choice of cost allocators, which included the use of a list of default cost allocators for pre-2011 assets (rather than prescribing specific allocators for classes of pre-2011 assets) and the manner in which we could review how these allocators are applied. We will respond to submissions on these parts of the draft decision reasons paper in our final decision and reasons paper.
- 2.101 Our draft decision was that the existing tools are sufficient to address potential for windfall gains. However, we would appreciate submissions on the following points:
- 2.101.1 Is there anything further that should be done in the IMs to be more certain about the appropriateness of cost allocation for pre-2011 assets in calculating the FLA?
  - 2.101.2 Is there a ‘rule of thumb’ that could be applied for the purpose of cost allocation for pre-2011 assets in calculating the FLA?
  - 2.101.3 Are there properties of pre-2011 assets that would impact the rules for cost allocation in calculating the FLA relative to post-2011 assets?
  - 2.101.4 Should there be a cap on the allocation of pre-2011 assets to the FLA during the transition period?

## Chapter 3 Updates to our draft decisions – moving to a Discounted Cash Flow method

### Purpose of this chapter

- 3.1 This chapter explains our reasons for moving from a BBM to a DCF method for the purposes of calculating the financial losses for all regulated providers.

### Reasons for moving to a DCF method

- 3.2 In our draft decision, we assumed each year's expenditure was financed at a variable rate weighted average cost of capital (WACC) with a term to implementation.<sup>58</sup> However, we mistakenly calculated the unrealised returns and their compounded value using the sequence of subsequent WACCs, rather than the WACC that applied at the time when the expenditure occurred. In effect, we allowed the term as well as the WACC to vary over time for each expenditure increment.
- 3.3 Having considered the evidence, expert opinion, and submissions on our draft decision, we have decided to revise our approach. We now propose to apply one WACC to each expenditure increment for compounding forward in each year of the transition period leading up to the implementation date (ie, from 1 December 2011 to 31 December 2021) in calculating the financial losses. We consider that the five-year WACCs are the most appropriate measures of the opportunity costs of capital in each year of the transition period. We believe this retrospective treatment best preserves investor confidence in the regime, consistent with the purpose in s 162(a)), while ensuring regulated providers are limited in their ability to extract excess profits, in line with s 162(d).<sup>59</sup>
- 3.4 It is not possible to use WACCs with varying terms in a traditional BBM. In our usual approach to BBM, a single WACC for a regulatory control period is applied to a RAB that combines capex from different years. This does not capture the changing opportunity costs of capital that we now know occurred over the transition period.

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<sup>58</sup> Commerce Commission "Fibre input methodologies – Draft decision paper "(19 November 2019), paragraph 3.86.4.

<sup>59</sup> Dr Lally has advised us that it is not possible to implement this in a traditional BBM with our normal formulation of the WACC. In our usual approach to BBM, the WACC is applied to a RAB that combines capex from different years which does not reflect the underlying finance assumptions we believe are appropriate. See Martin Lally "Further issues concerning the Cost of Capital for Fibre input methodologies" (May 2020), available at: [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0017/217412/Dr-Martin-Lally-expert-report-Further-issues-concerning-the-cost-of-capital-for-fibre-input-methodologies-25-May-2020.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0017/217412/Dr-Martin-Lally-expert-report-Further-issues-concerning-the-cost-of-capital-for-fibre-input-methodologies-25-May-2020.pdf)

- 3.5 Different WACCs could be applied by maintaining separate RABs for each increment of capex in order to consistently use the WACC that applied to each increment.<sup>60</sup> Instead—and equivalently—we propose simply to present-value each expenditure increment in the transition period at the WACC relevant to that increment. Deducting the terminal value of the RAB as at implementation date will then isolate the accumulated losses from the expenditure over the transition period.
- 3.6 Such an approach is a DCF analysis. This is where a project is valued through its discounted cash flows over time. Under a DCF approach, we would record expenditure outflows and revenue inflows as they occur. Hence, the initial investment enters as an expenditure at the time of that investment (rather than through depreciation under a BBM approach) and we would discount these cash flows to arrive at the present value of the whole investment over its lifetime.
- 3.7 This would compound values forward in time to the implementation date rather than discount future cash flows back to the investment date. Given we would be calculating for part of the life of the investment, as mentioned above, we would also need to net off the residual value of the investment whose cash flows fall outside the transition period (ie, treat this residual value at the end of the transition period as the “terminal” cash flow).
- 3.8 We have chosen to use the DCF method given:
- 3.8.1 It is the simplest to understand and interpret and should be familiar to all investment analysts. It is the standard approach adopted in finance theory and practice and avoids the cumbersome use of multiple BBM calculations.
- 3.8.2 This in turn promotes transparency of the calculation of the FLA, which is an important part of the regime.
- 3.8.3 We believe it is the most natural representation of the task in front of us under s 177(2), particularly having regard to the requirement under s 177(3)(a) to “take into account any accumulated unrecovered returns on investments made by the provider under the UFB initiative”.<sup>61</sup>

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<sup>60</sup> Dr Lally also demonstrated the use of an effective forward rate which transforms the WACC in order to achieve the same result without maintaining separate RABs under a BBM. We have decided not to use Dr Lally’s proposed “forward” WACC rate approach because it is not easily understood and is not an established approach in finance theory or practice. See Martin Lally “Further issues concerning the Cost of Capital for Fibre input methodologies” (May 2020) (link to report at footnote 59).

<sup>61</sup> “Accumulated unrecovered returns” are defined in s 177(6) as “the sum (adjusted to reflect the present value, as calculated in the manner that the Commission thinks fit, at the implementation date) of the unrecovered returns on investments for each financial year, or part financial year, that starts on or after 1 December 2011 and ends before the close of the day immediately before the implementation date”.

### Underlying finance assumptions

- 3.9 Stakeholders have submitted that finances must be arranged in advance and that it is unrealistic to assume that a regulated provider's investments to date under the UFB initiative have been refinanced every year. We agree, and therefore propose to apply the risk-free rate that prevailed at the time the expenditure occurred or will occur, by present-valuing the expenditure for the period leading up to the implementation date.
- 3.10 We also accept that investors – at least until 2018 – could not have known about regulatory arrangements that would take effect after 2020. As such, there would have been no reason to set the term of financing for each investment (in what are long-lived assets) only to 2020. Accordingly, we propose to draw on evidence of utility firms' financing practice to adopt a risk-free rate with a five-year term in each WACC.
- 3.11 In his most recent report advising on his preferred approach of using the risk-free rate at the time of investment of a term to the implementation date, Dr Lally noted:<sup>62</sup>

Acting in the way suggested here would seem to presume that firms could have perfectly forecast that the pre-implementation period would last until 2021 and that losses would be reimbursed by adding them to the opening RAB once regulation commenced in 2022. This does not follow. It is not possible to know how firms acted in respect of borrowing. The natural course of action is then to presume they acted as suggested above, in accordance with the fact that the pre-implementation period will end in 2021 and the undertaking to reimburse firms at that point was given in 2018, because this requires no judgement about how firms acted. It will also produce more favourable results for firms than any other approach because interest rates fell over the course of the pre-implementation period.

- 3.12 We agree with Dr Lally that it is not possible to know how firms acted in respect of borrowing for a standalone UFB rollout. We agree also that this is further complicated by considerations such as the 2018 announcement of the extension of the implementation date to 1 January 2022 and how this should be treated with respect to determining the appropriate WACC rate to apply.

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<sup>62</sup> Martin Lally, "Further issues concerning the Cost of Capital for Fibre input methodologies" (May 2020), page 21 and 22 (link to report at footnote 59).

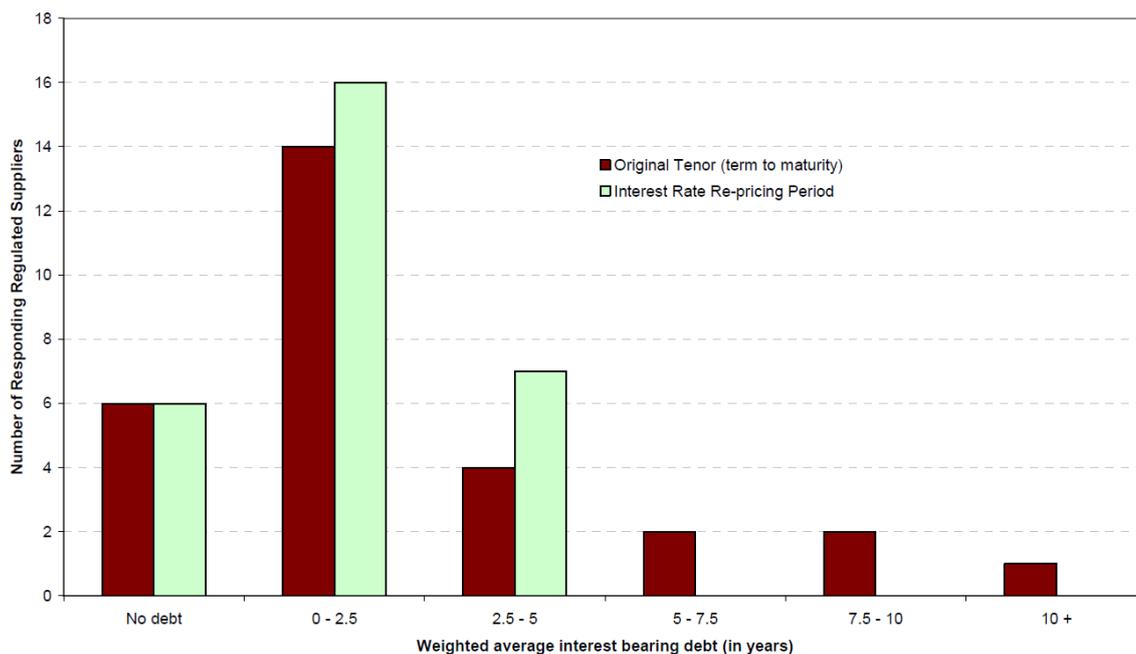
- 3.13 We do not believe there is a single ‘correct’ answer for how to balance these considerations. In considering the appropriate financing assumptions on which to base our decisions, we are required under s 166 to make the decision that best gives effect to the Part 6 purpose; that is, to promote the long-term benefit of end-users in FFLAS markets by promoting outcomes consistent with those produced in workably competitive markets. In this case, most relevantly, this involves ensuring that regulated providers:
- 3.13.1 have incentives to invest, consistent with s 162(a); and
  - 3.13.2 are limited in their ability to extract excessive profits, consistent with s 162(d).
- 3.14 While we can see the merits in Dr Lally’s preferred approach of adopting a term to the implementation date, we do not believe that adopting an approach that will “produce more favourable results for firms than any other approach” best promotes the outcomes set out in s 162(a) and (d). On balance, our chosen approach is to consider the term of debt that we observe occurs in practice among infrastructure providers including where they have employed swaps to change their interest rate pricing period. We have observed that, in practice, infrastructure providers rely on financing periods shorter than 10 years, either by using interest rate swaps, or through the debt they issue.
- 3.15 The evidence on which we have based this decision consists of:
- 3.15.1 the surveys undertaken by the Commission on debt issuance by infrastructure providers in New Zealand; and
  - 3.15.2 the financing undertaken by Chorus and other LFCs during the transition period.
- 3.16 In 2010, we relied on confidential debt surveys we undertook when setting the IMs for Part 4 of the Commerce Act 1986. We did the same in reviewing the Part 4 IMs in 2016. Our broad observations from those surveys are:
- 3.16.1 the average term of debt taken out by infrastructure providers surveyed was around 7 years.<sup>63</sup> We place more weight on the information from the earlier survey given these are regulated providers and the form of the regulatory regime from 2010 may have influenced their financing strategies.

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<sup>63</sup> Commerce Commission “Input Methodologies (Electricity Distribution and Gas Pipeline Services): Reasons Paper” (December 2010) at paragraph 6.3.16; and Commerce Commission “Input methodologies review draft decisions: Topic Paper 4: Cost of capital issues” (June 2016) at paragraph 206.

3.16.2 the 2010 survey also examined how suppliers have used interest rate swaps to influence the term of their debt. We have reproduced a figure from our 2010 IMs reasons paper which demonstrated the effect of interest rate swaps on the original term to maturity of debt below. As can be seen, this has tended to reduce the term to 5 years (rather than extend the term).

**Figure H3 Regulated suppliers' debt portfolios: Weighted average original term to maturity vs. weighted average interest rate re-pricing period (2010)**



3.17 We have also examined available information on regulated providers' actual financing arrangements and found:

3.17.1 There are caveats to the use of this information: Chorus appears to have initially been weighted to shorter-term syndicated bank debt but seems to have been shifting its financing towards longer-term bond issuance.<sup>64</sup>

<sup>64</sup> We understand that at the time of the demerger, Chorus acquired £260m in GBP pound-denominated fixed rate bonds that had a due date of 2020 and had syndicated bank facilities with terms ranging from 3 to 5 years for the period from 2012 to 2016.

- 3.17.2 Chorus' last bond offerings were a 5-year NZ Retail bond issued in 2016;<sup>65</sup> Euro Medium Term notes issued in 2016 that mature in 2023 (7 years)<sup>66</sup> and 2019 that mature in 2026 (7 years);<sup>67</sup> and a 2018 NZ Retail Bond which matures in 10 years with an interest rate resetting after 5 years. This is reset based on a base rate (defined as a 5-year mid-market rate for a NZD interest rate swap) plus 1.8% issue margin.<sup>68</sup> Chorus' 2019 accounts note "The bond will mature in December 2028, with an interest rate reset in December 2023. The exposure of the floating rate at reset date has been hedged using interest rate swaps."<sup>69</sup>
- 3.17.3 Christchurch City Holdings Ltd (CCHL) – Enable – issued a 6-year bond in 2018 and 5-year bond in 2017.<sup>70</sup>
- 3.17.4 WEL Networks (Ultrafast Fibre) issued a 5-year bond in 2018.<sup>71</sup>
- 3.17.5 Both CCHL and WEL may have been raising finance to support other activities, including regulated electricity distribution networks. Hence, there are some reasons to believe these may not be a good representation of a standalone regulated fibre service provider.
- 3.17.6 Nonetheless, in total, we believe this provides evidence that longer-term financing implied by our draft decision assumption has not been supported by observed practice.
- 3.18 Overall, this evidence provides support for the use of a 5-year, and no more than a 7-year, term. This has implications not only for the term used to fix the date, but also the refinancing of debt incurred towards the end of the transition period (at lower interest rates). The 7-year term would be more consistent with firms' refinancing debt and the 5-year term would be more consistent with the use of swaps to shorten the term of debt.

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<sup>65</sup> Chorus "Product Disclosure Statement" (March 2016), available at: <https://company.chorus.co.nz/investor-info#text-bondholders>.

<sup>66</sup> Chorus "Chorus to issue notes under its EMTN programme – Stock Exchange Announcement" (October 2016), available at: <https://www.nzx.com/announcements/290680>.

<sup>67</sup> Chorus "Chorus prices Euro 300 million bond – Stock Exchange Announcement" (November 2019), available at: <https://www.nzx.com/announcements/345128>.

<sup>68</sup> Chorus "Final Terms Sheet" (November 2018), Available at: <https://company.chorus.co.nz/investor-info#text-bondholders>.

<sup>69</sup> Chorus "Annual Report 2019" (26 August 2019), page 45.

<sup>70</sup> Christchurch City Holdings Limited, "Final Terms Sheet" (November 2018) available at: <https://www.cchl.co.nz/bond-offer> and Christchurch City Holdings Limited, "Final Terms Sheet" (November 2017), available at: <https://www.cchl.co.nz/uploads/images/CCHL-Final-TS.pdf>.

<sup>71</sup> WEL Networks "Product Disclosure Statement for an offer of unsecured subordinated fixed rate bonds by WEL Networks Limited" (June 2018), available at: <https://www.wel.co.nz/UserFiles/WelNetworks/File/Bonds%20Information/PDS%20June%2018.pdf>.

- 3.19 In reaching this view, we are aware that this task requires the exercise of judgement. In our view, maintaining a prevailing term that applies from the date of the investment until implementation date likely overcompensates regulated providers, given the evidence before us.
- 3.20 We consider that fixing the term to 5 years better balances the considerations and evidence before us. We accept that there is a risk a 5-year term may involve underestimating the length of time for which financing should initially be locked in, but that is balanced by providing regulated providers with some over-compensation towards the end of the transition period.<sup>72</sup> It also has the benefit of simplicity in what is already a complicated exercise, and, it is more reflective of the evidence before us.
- 3.21 Consequently, we also propose adopting a term of 5 years for the debt premium calculated, rather than the term to the implementation date, for the median loss. No term credit spread differential is proposed.

*Submissions on the financing assumptions*

- 3.22 Several themes have emerged from the submissions received on our draft decision on the risk-free rate. Where possible, we have grouped submissions according to these themes in order to provide our response. However, we recognise that there is some overlap between the submissions made, and it is not always clear which precise point is being raised, partly because in our reasons paper we pointed to the term of the risk-free rate being set at the remaining term to the implementation date, whereas our practical implementation allowed this term to vary.
- 3.23 The first theme concerns the use of a variable risk-free rate where firms need to fix their debt financing.<sup>73</sup> Atlas Infrastructure Limited (Atlas Infrastructure) also proposed an alternative of using regulated providers' embedded cost of debt.<sup>74</sup>

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<sup>72</sup> A 5-year term of a fixed risk-free rate can be interpreted as a proxy for a 7-year term where the investment is refinanced after 7 years (changing the risk-free rate) and then fixed to the end of the transition period.

<sup>73</sup> For example see submissions from Cooper Investors Pty Ltd "Submission on Fibre input methodologies – Draft decision" (30 January 2020), page 2, Atlas Infrastructure "Submission on Fibre input methodologies – Draft decision" (28 January 2020), page 2, Black Crane Investment Management Ltd "Submission on Fibre input methodologies – Draft decision" (30 January 2020), page 2, Investors Mutual Limited "Submission on Fibre input methodologies – Draft decision" (30 January 2020), page 1.

<sup>74</sup> Atlas Infrastructure "Submission on Fibre input methodologies – Draft decision" (28 January 2020), page 1.

- 3.23.1 As we note above, our draft decision was to use a variable risk-free rate with a term to the implementation date. We agree that finance will have been taken out at the time the investment was undertaken and will not be refinanced every year. Hence, we have moved from our draft decision to now propose fixing the WACC prevailing at the time investment occurred. For example, for investment that occurred in 2013, the five-year risk-free rate that applied in 2013 is applied to that investment for the period leading up until the implementation date.
- 3.23.2 The WACC is estimated for a notional UFB company with a notional leverage and other parameters. The suggested alternative of using embedded debt costs would require us to distinguish between finance raised for the purposes of providing FFLAS as opposed to that raised for other uses and is complicated by finance that was either obtained prior to the UFB contracts or was inherited. For example, at separation date on 30 November 2011, Chorus may have been assigned debt from Telecom NZ which would have been raised for purposes other than providing FFLAS. We have seen no suggestions of how these obstacles could be overcome. We would also be concerned that this would insulate companies from their financing decisions including over the remaining years to the implementation date.
- 3.24 A similar point has been raised that, in practice, debt is raised as a portfolio and must be raised prior to investment occurring.<sup>75</sup>
- 3.24.1 We agree debt is often raised as a portfolio and that this is arranged prior to investment occurring. We do not believe this undermines the proposed approach of fixing the risk-free rate at the time the investment occurs. Dr Lally has noted the use of interest rate swaps to allow for a different risk exposure to interest rate risk:<sup>76</sup>

In respect of losses incurred in (say) 2012-2013, the risk-free rate used within the cost of debt is that prevailing in mid-2012 for the remaining term of the pre-implementation period (9.5 years), which is consistent with the firm borrowing for its preferred term (five years perhaps) and then swapping the risk-free rate component of its cost of debt in that of 9.5 years debt.

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<sup>75</sup> See submissions from Chorus “Submission on Fibre input methodologies – Draft decision” (30 January 2020), paragraphs 5.3 and 15.5, Vector Communications “Submission on Fibre input methodologies – Draft decision” pages 5 to 6, and Atlas Infrastructure “Submission on Fibre input methodologies – Draft decision” (28 January 2020), page 2.

<sup>76</sup> Martin Lally “Further issues concerning the Cost of Capital for Fibre input methodologies” (May 2020).

- 3.24.2 Whilst we favour moving away from the term to the implementation date to reflect commercial practice, we agree with Dr Lally on the principles he raises on this point. The preferred portfolio of debt that a firm raises (to manage refinancing risk) need not dictate the profile of interest rate risk, which can be managed through interest rate swaps.
- 3.25 The third theme was that the risk-free rate should be set as of 2011 because that was the time at which investment was committed and when regulated providers will have fixed the costs of debt.<sup>77</sup>
- 3.25.1 Dr Lally has advised it is more appropriate to assume capex is financed when it occurs.<sup>78</sup>
- 3.25.2 We agree with Dr Lally that risk-free rates would not be locked-in at the outset for investment across the entire transition period. Further, we think it would be unrealistic that investment that occurs, say, in 2020 should be financed using interest rates from 2011. This would not match evidence of actual financing we have before us that relates to Chorus and the other LFCs.
- 3.26 The fourth theme was that the risk-free rate of 2011 should be used because the transition period should be treated as a regulatory period.<sup>79</sup>

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<sup>77</sup> See submissions from Atlas Infrastructure “Submission on Fibre input methodologies – Draft decision” (28 January 2020) page 1, Investors Mutual Limited “Submission on Fibre input methodologies – Draft decision” (30 January 2020), page 1, L1 Capital “Submission on Fibre input methodologies – Draft decision” (30 January 2020), page 24, Telstra Super “Submission on Fibre input methodologies – Draft decision” (30 January 2020) page 2, Black Crane Investment Management Ltd “Submission on Fibre input methodologies – Draft decision” (30 January 2020), page 2. Enable and Ultrafast Fibre “Submission on Fibre input methodologies – Draft decision” (30 January 2020), paragraph 8.19 and Enable and Ultrafast Fibre “Fibre Emerging Views cross-submission” (12 August 2019), paragraphs 6,1 and 6,2, Similarly Sapere (for Chorus) have submitted that this should be considered a regulatory period because is economically equivalent and that prices were fixed in 2011, Sapere “Cost of capital report” (report prepared for Chorus 27 January 2020), paragraph 26 to 36.

<sup>78</sup> Martin Lally “Further issues concerning the Cost of Capital for Fibre input methodologies” (May 2020), page 4.

<sup>79</sup> See Submissions from Chorus “Submission on Fibre input methodologies – Draft decision” (30 January 2020), paragraphs 123 to 126, Sapere “Cost of capital report” (report prepared for Chorus 27 January 2020), paragraphs 26 to 49, Northpower Fibre “Submission on Fibre input methodologies – Draft decision” (30 January 2020), paragraph 11, and Houston Kemp “Fibre emerging views submission – Risk free rate debt premium and TAMRP report” (report prepared for Chorus, 18 July 2019), section 3.1.

- 3.27 Chorus and their consultants, Sapere Research Group Limited (Sapere), submitted that in May 2011, there was a clear expectation that prices were fixed to 2020 and should be treated as a single regulatory period with the risk-free rate at the start of the period fixed across the FLA calculation.<sup>80</sup> Chorus noted that if this is not treated as a single regulatory period, then a 10-year term for the risk-free rate should be adopted, as was the approach in the Commission’s Fuel Study.<sup>81</sup>
- 3.28 Sapere also pointed to the description from Crown Fibre Holdings (CFH) of how contracts were negotiated as not supporting the view that prices were set without reference to costs and this should be treated as a single regulatory period.<sup>82</sup> In response, Dr Lally noted the characteristics of a competitive tender differ significantly to those of a regulatory period and that “the current exercise does not concern how prices were set in 2011 but how to compound forward losses to the implementation date, and the relevant risk-free rates for such an exercise are those at the times at which the losses were incurred.”<sup>83</sup>
- 3.29 We believe 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 later. Investments were made based on commercial terms achieved through the competitive UFB tendering process.
- 3.30 More generally, the evidence before us indicates that none of the regulated providers that were parties to the UFB contracts with the Crown did in fact lock in the finance rates in 2011 for the length of their contract. We note further that we also do not propose to lock in the 2011 interest rates for calculating the benefits of Crown financing up until the point at which this is scheduled to be repaid.<sup>84</sup>

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<sup>80</sup> Chorus “Submission on Fibre input methodologies – Draft decision” (30 January 2020), paragraphs 123 to 126.

<sup>81</sup> Chorus “Submission on Fibre input methodologies – Draft decision” (30 January 2020), paragraph 127.

<sup>82</sup> Sapere “Cost of capital report” (report prepared for Chorus 27 January 2020), paragraphs 42 to 49.

<sup>83</sup> Martin Lally “Further issues concerning the Cost of Capital for Fibre input methodologies” (May 2020), pages 4 and 5.

<sup>84</sup> Commerce Commission, Fibre input methodologies Further consultation draft – reasons paper” (July 2020), paragraphs 3.30 to 3.31.

- 3.31 We also disagree with Chorus' submission in favour of the use of a 10-year term for these purposes. We agree it is usual commercial practice among analysts to adopt an assumption of a 10-year term and a single discount rate for long-lived investments. This can be a useful simplification of the concept that the interest rate applied to a set of cash flows should reflect the term and the risk of those cash flows. This does not mean that where we are required to discount accumulated losses up to the implementation date (eg, as in the case of determining financial losses), such a simplifying assumption is appropriate.<sup>85</sup>
- 3.32 In a workably competitive market, the cost of debt changes dynamically as a portion of a multi-term debt portfolio is refinanced periodically and by using interest rate swaps which provide for a different interest rate repricing period. Firms have incentives to keep their costs of debt as low as possible to remain competitive. We note we have seen no evidence that the average term of debt raised is 10 years. The evidence before us suggests the commercial debt portfolio of Chorus and the other LFCs has not held an average term of 10 years throughout the transition period. Furthermore, the evidence before us also suggests firms tend to use interest rate swaps to shorten rather than lengthen the effective term of debt. In our view, a 10-year term would overcompensate regulated providers for their accumulated losses. A 10-year term neither matches the theoretical position nor the evidence on actual debt issuance.
- 3.33 Chorus has pointed to our use of a 10-year term in the retail fuel market study, where we were assessing the profitability of the retail fuel sector and formed a range of estimates for this purpose.<sup>86</sup> We note that a simplification and use of common commercial practice is appropriate in the purpose and context of that market study, which unlike our present task, did not involve determining large wealth transfers.

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<sup>85</sup> For example, see Brealey, Myers and Marcus "Fundamentals of Corporate Finance" (2<sup>nd</sup> ed, Irwin/McGraw-Hill, 1999), page 152 "Notice that in principle there could be a different opportunity cost of capital for each period's cash flow. In that case we would discount C1 by r1, the discount rate for 1-year cash flows; C2 would be discounted by r2; and so on. Here we assume that the cost of capital is the same regardless of the date of the cash flow. We do this for one reason only – simplicity."

<sup>86</sup> Commerce Commission "Market study into the retail fuel sector: Final Report" (December 2019), paragraphs B12 to B16.2.

### **Relevant WACC for mid-year cash flow timings**

- 3.34 Our amended proposed approach incorporates mid-year timing assumptions for many of the relevant cash flows. Consequently, for a given financial year ending 30 June, the relevant WACC becomes that estimated in the middle of the particular financial loss year. Hence, the WACC is estimated as at December of that particular financial loss year, with the risk-free rate estimated on the 3 months prior to December. The mid-month of the two partial years (2012 and 2021) differs accordingly.
- 3.35 We have also considered whether to use a risk-free rate based on an average of the entire transition period or the average of the WACC at the start and end of the financial loss year. On balance, we believe the mid-year estimate is the simplest approach and avoids the need for forecast risk-free rate and wash-up in the final year.
- 3.36 A similar issue arises with the change in tax adjusted market risk premium (TAMRP) for the financial year ending 30 June 2021, where we propose to use a weighted average of the differing TAMRP values.

### **Modifications to DCF for implementation purposes**

- 3.37 As set out in further detail in paragraphs 4.9.3 and 4.9.4 of Chapter 4, we have incorporated several modifications to a conventional DCF method to facilitate its implementation for fibre regulation and ensure an appropriate result. These include:
- 3.37.1 Adopting the “value of commissioned assets” determined under the IMs as the measure of cash flows associated with asset investments during the transition period; and
  - 3.37.2 Calculating an annual “cost allocation adjustment” amount and treating it as a cash flow which ensures that changes in the proportion of asset sharing occurring in that year are brought into the calculation.

### **DCF method meets requirements of s 177 of the Act**

- 3.38 In broad terms, the DCF method involves:

- 3.38.1 for each year (or part year) of the transition period, determining relevant cash flows under the UFB initiative (eg, revenues, capex, opex, changes in cost allocation (refer to paragraph 1.1.5(c)) and tax costs) and converting these cash flows into net present values as at the implementation date (1 January 2022);<sup>87</sup>
  - 3.38.2 determining the benefit of Crown financing as the net present value of the net drawdowns minus the sum of the net drawdowns;<sup>88</sup>
  - 3.38.3 determining the value of UFB assets at the implementation date according to s 177(1) (this amount represents a “terminal” cash flow);
  - 3.38.4 calculating the “accumulated unrecovered returns on investments” by:
    - (a) summing the net present values of the relevant cash flows; and
    - (b) subtracting the net present values of Crown financing and the terminal value of UFB assets.
- 3.39 The present value calculations above use the same compounding rate (which is the post-tax regulatory WACC for that year in which the cash flow arises) but will account for different cash flow timing assumptions (as discussed at paragraph 4.9.9).
- 3.40 The Act sets out several requirements for calculating the FLA:
- 3.40.1 Section 177(2) directs us to include in the RAB an FLA “with an initial value equal to the financial losses ... incurred by the provider in providing fibre fixed line access services under the UFB initiative for the period starting on 1 December 2011 and ending on the close of the day immediately before the implementation date”.
  - 3.40.2 Section 177(3) requires us to:
    - (a) take into account any accumulated unrecovered returns on investments made by the provider under the UFB initiative; and
    - (b) refer to the actual costs of Crown financing incurred by the provider.

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<sup>87</sup> The initial value of UFB assets existing as at 1 December 2011 is effectively included as an outgoing cash flow in the form of an investment in UFB-related assets on 1 December 2011.

<sup>88</sup> Calculating the benefit of Crown financing in this way is equivalent to calculating the present value of the annual (or part year) avoided costs of Crown financing, where the avoided costs are calculated by multiplying the opening value of the accumulated Crown financing by the WACC for the relevant period.

3.40.3 Section 177(6) defines “accumulated unrecovered returns” as “the sum (adjusted to reflect the present value, as calculated in the manner that the Commission thinks fit, at the implementation date) of the unrecovered returns on investments for each financial year, or part financial year, that starts on or after 1 December 2011 and ends before the close of the day immediately before the implementation date.”

3.41 We consider the DCF method best satisfies these statutory requirements. In particular, the method sums unrecovered returns for each year (or part year) in a way that reflects their present value as at the implementation date and is based on the actual costs of Crown financing.

### **Moving to use a post-tax WACC in the calculation of accumulated losses**

3.42 To simplify the approach, we have moved from using a Vanilla WACC to a post-tax WACC. The use of a post-tax WACC rather than a Vanilla WACC is equivalent where we make a corresponding adjustment of excluding the interest tax shield from our tax calculations.

3.43 We recognise that in the event of substantial tax losses, this will require 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 implement an adjustment to true up the final amounts, for example through an IM amendment.

### **Approach to capital contributions for the transition period**

3.44 We have provided for flexibility to apply an approach to capital contributions for calculating the FLA and the initial RAB that does not require the re-creation of historical financial information.

#### *Draft decision*

3.45 Our draft decision required capital contributions to be deducted from the relevant asset value, so that asset values are net of capital contributions.<sup>89</sup> This approach applied both to the transition period, for the purpose of calculating the value of the FLA and the initial RAB, and post-implementation. In addition, “capital contributions” is a defined term.

#### *Why we have revised our draft decision*

3.46 Chorus disagreed with the draft decision to depart from GAAP for the treatment of capital contributions for the transition period:<sup>90</sup>

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<sup>89</sup> Refer to draft decision para 3.73 to 3.81.

<sup>90</sup> Chorus “Submission on Fibre input methodologies – Draft decision” (30 January 2020), para 103.

- 1.1.2 103.1 It's problematic for the pre-implementation period, as it would involve complex re-work of data over a number of years to implement;
  - 1.1.3 103.2 An assumed allocation would have no guarantee of accuracy, as we can't recreate information that doesn't exist; and
  - 1.1.4 103.3 What may happen in practice, due to the inconsistency between areas where the Commission has made mutually incompatible decisions – e.g. using actual depreciation from the accounts and then netting off capital contributions (which the accounts have not done, and do not do).
  - 1.1.5 104. This approach is at odds with the Commission's expressed desire to adopt a simplified approach to the losses calculation by making use of existing data and granularity. It would also be at odds with the legislation for pre-2011 assets, which directs the Commission to use the existing financial accounts in the losses calculation.
- 3.47 Under GAAP, capital contributions that are government grants are generally deducted from asset values, while other types of capital contributions are accounted for as revenue.
- 3.48 As we explained in our draft decision, adopting a net approach to capital contributions for regulatory purposes would:
- 3.48.1 simplify the assessment of capital contributions as an input to the capex building block under price-quality regulation; and
  - 3.48.2 improve the transparency of the information needed to assess the prudence and efficiency of capex forecasts. This transparency would help interested persons identify instances where regulated providers have made potential RAB additions that do not give best effect to s 162(d).
- 3.49 Section 177(1)(a)(i) provides that the initial value of fibre assets is calculated by:
- (a) taking the cost—
    - (i) incurred by a regulated fibre service provider in constructing or acquiring the fibre asset, net of specified capital contributions;
- 3.50 We do not consider that s 177(1)(a)(i) necessarily requires a re-working of pre-implementation financial information. Our aim is to ensure that the actual value of capital contributions, in line with the definition of 'capital contributions' in the IMs, is taken into account in establishing the initial RAB (including the FLA).
- 3.51 We understand Chorus' concerns regarding re-work of historical information for the transition period. Such an exercise is likely to be complex and costly without producing significant benefits.

- 3.52 We therefore propose changing the pre-implementation approach so that calculating the initial RAB (including the FLA) will incorporate capital contributions in line with the regulated providers' accounting approaches. Their approaches will either incorporate capital contributions as deductions from assets, account for capital contributions as additional income, or a combination of the two.

### **Approach to interest during construction for the transition period**

- 3.53 We have changed the draft decision so that the cost of interest during construction for the transition period reflects a regulated provider's borrowing cost under GAAP. This means that the FLA and the initial RAB will both incorporate these costs in the commissioned asset values and will not require the re-working of historical financial information.

#### *Draft decision*

- 3.54 Our draft decision provided that the interest applicable to works under construction must be calculated using a rate not greater than the regulated provider's weighted average of borrowing costs for each applicable disclosure year and financial loss year.

#### *Why we have revised our draft decision*

- 3.55 Chorus submitted that:<sup>91</sup>

105 While we support the draft decision to exclude working capital from the RAB and to include interest during construction in the RAB (capped at cost of capital) post-implementation, we don't support the interest included being capped at cost of capital for the pre-implementation period.

106 If the cost of capital is different to the interest applied during construction, it would require a lot of complex work to go back and change the methodology to historical data for little benefit. This is because:

106.1 There may be little difference in the rates in practice; and

106.2 The value of works in construction which attract the interest is relatively small.

- 3.56 We understand Chorus' concerns regarding re-work of historical data for the transition period. Such an exercise is likely to be complex and costly without producing significant benefits.

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<sup>91</sup> Chorus submission on fibre IMs draft decision para 105-106.

- 3.57 We are concerned that the calculation of the initial RAB (including the FLA) includes an appropriate amount of finance during construction. Section 177(2) provides that we must refer to the costs the regulated provider incurred in providing FFLAS under the UFB initiative during the transition period. Further, the initial value of a fibre asset must be valued at actual cost (ie, the legislation does not permit any review of costs for efficiency).<sup>92</sup>
- 3.58 We therefore propose changing to the pre-implementation approach so that the calculation of the initial RAB (including the FLA) would incorporate finance during construction consistent with regulated providers' cost actually incurred, reflected in commissioned asset values in accordance with GAAP.

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<sup>92</sup> Section 177(1) and (5).

## Chapter 4 Implementing our draft decisions

### Purpose of this chapter

- 4.1 This chapter explains how we propose to implement our decisions in Chapters 2 and 3, including what changes we propose to the further consultation determination.

### Implementation approach for Schedule B

- 4.2 Except where our decisions relating to calculating the FLA have changed since we published our RPR draft determination, we have incorporated the provisions (and associated definitions) in the RPR draft determination relating to calculating the FLA into Schedule B of the FLA determination.
- 4.3 Specifically, we have incorporated the following clauses (and associated definitions) from the RPR draft determination into Schedule B of the FLA determination:
- 4.3.1 Clause 2.1.4 (now clause 1.1.6 of Schedule B of the FLA determination);
  - 4.3.2 Clause 2.2.3(1)-(27) (now clause 1.1.2 of Schedule B of the FLA determination);
  - 4.3.3 Clause 2.2.12 (now clause 1.1.3 of Schedule B of the FLA determination);
  - 4.3.4 Clause 2.2.14 (now clause 1.1.4 of Schedule B of the FLA determination);
  - 4.3.5 Clause 2.3.2(5) (now clause 1.1.8(4) of Schedule B of the FLA determination);
  - 4.3.6 Clauses 2.3.3-2.3.4 (now clause 1.1.7 and 1.1.9 of Schedule B of the FLA determination); and
  - 4.3.7 Clauses 2.4.10-2.4.13 (now clauses 1.1.10-1.1.13 of Schedule B of the FLA determination).

### Key features of the DCF method

- 4.4 As mentioned in Chapter 3, we propose using a DCF method to determine the financial losses incurred by each regulated provider under the UFB initiative during the transition period. The losses are calculated in present value terms by compounding the relevant cash flows in the calculation to the implementation date.
- 4.5 Schedule B of the FLA determination sets out the DCF method, which is broadly:

- 4.5.1 The present value of UFB revenues costs cash flows are subtracted from the present value of associated UFB revenues cash flows to determine the present value of cash flow shortfalls for each year (or part year) of the transition period.
- 4.5.2 The present value calculations are achieved by applying 'compounding factors' determined with respect to the post-tax regulatory WACC determined for the year (or part year) in which the relevant cash flows occur.
- 4.5.3 The sum of the annual present value cash flow shortfalls for the transition period will be offset by two amounts:
  - (a) the value of the UFB asset base at implementation date (effectively treated as a "terminal" cash flow); and
  - (b) the present value benefit of the Crown financing at implementation date (ensuring that actual financing costs for Crown financing are taken into account).
- 4.5.4 The resulting value is the present value of the financial losses at implementation date.
- 4.6 Where the overall value of the financial losses at implementation date is negative – indicating an overall shortfall for the transition period – the initial value of the regulated provider's FLA is set to the absolute value of the losses (ie, an asset with a positive asset value will be established at implementation date). If overall financial losses are nil or a positive amount, this would indicate that there is no overall shortfall, and the initial value of the FLA at implementation date would be determined as nil.
- 4.7 The IMs that otherwise apply to a regulated provider from the implementation date onwards for cost allocation, taxation and cost of capital are modified through their inclusion in Schedule B to apply to the calculation of the financial losses during the transition period.
  - 4.7.1 Costs for assets or operating expenditure that are shared between the provision of FFLAS under the UFB initiative and services that are not UFB FFLAS will be determined with respect to a default list of cost allocator types.
  - 4.7.2 Tax costs are determined in respect of taxable income and expenditure arising with respect to the UFB initiative.
  - 4.7.3 A post-tax regulatory WACC for each year (or part year) is determined (see further paragraph 4.9.10).

- 4.8 Where a regulated provider is subject to both information disclosure regulation and price-quality regulation, the initial value of the FLA is expected to be the same for each type of regulation. This is because activities under the UFB initiative are expected to be a subset of the activities under each of information disclosure and price-quality regulation.

#### **Detailed description of the DCF method**

- 4.9 In implementing the DCF method:

4.9.1 UFB revenues cash flows comprise all revenue from FFLAS provided under the UFB initiative, including any capital contributions to the extent they were accounted for as revenue under GAAP – see paragraphs 3.44-3.52 above.

4.9.2 UFB costs cash flows comprise:

- (a) Investments made in UFB-related assets (referred to in the FLA determination as “UFB value of net commissioned assets cash flow”);
- (b) A cost allocation adjustment cash flow (referred to in the FLA determination as “UFB cost allocation adjustment cash flow”);
- (c) Operating expenditure cash flows (referred to in the FLA determination as “UFB operating expenditure cash flow”); and
- (d) Tax costs cash flows (referred to in the FLA determination as “UFB tax costs cash flow”).

4.9.3 For investments in UFB-related assets:

- (a) The relevant cash flows for a year are determined as the sum of the ‘value of commissioned assets’ for all UFB assets that were first commissioned in that year, after the cost allocation process has been applied, less the value of UFB asset disposals in that year;
- (b) The ‘value of commissioned assets’ is determined as the cost incurred by the regulated provider in constructing or acquiring the assets, less accumulated depreciation under GAAP at the date they are included as a cash flow. Additional rules apply in specific circumstances, however, such as those for finance leases and related party transactions. Interest during construction will reflect a regulated provider’s costs under GAAP – see paragraphs 3.53-3.58 above; and
- (c) The costs of assets owned before the UFB initiative (ie, pre-2011 assets) are effectively included (after applying the cost allocation process) as an outgoing cash flow in the form of an investment in UFB-related assets on 1 December 2011.

4.9.4 A cost allocation adjustment cash flow will be calculated in each year to reflect the changes in the proportion of asset sharing occurring in that year:

- (a) This adjustment is designed to 'bring in' (or exclude) a portion of the depreciated value of UFB-related assets for the DCF calculation in line with the increased (or decreased) sharing; and
- (b) The adjustment amount is treated as a positive (or negative) cash flow in the year in which it arises.

#### **Example of cost allocation adjustment**

Assume an asset shared between UFB activities and other services has a UFB unallocated opening asset value for a year within the loss period of \$100. Assume also that annual depreciation is \$10, and the asset is 50% shared with UFB fibre for the duration of the year.

- The allocated UFB opening asset value is calculated as:  
= \$100 UFB unallocated opening asset value × 50%  
= \$50
- The allocated UFB closing asset value is calculated as:  
= (\$100 UFB unallocated opening asset value – \$10 depreciation) × 50%  
= \$45

If the sharing of the asset with UFB activities by the end of the year were to increase to 60%:

- The allocated UFB closing asset value is calculated as:  
= (\$100 UFB unallocated opening asset value – \$10 annual depreciation) × 60%  
= \$54

The difference between the allocated closing asset value for the two scenarios is attributable to the increase in sharing relative to the depreciated closing value of the asset, calculated as:

$$\begin{aligned}
 &= \text{UFB unallocated closing asset value} \times (\text{closing allocator} - \text{opening allocator}) \\
 &= (\$100 \text{ UFB unallocated opening asset value} - \$10 \text{ annual depreciation}) \times (60\% - 50\%) \\
 &= \$9
 \end{aligned}$$

This amount is the 'cost allocation adjustment' which is included as an additional cash flow under the DCF method in the year in which it arises. Including it as a cash flow ensures that as sharing proportions vary over time the correct value of UFB investments is brought into the calculation of financial losses at the appropriate time.

(The calculation can be seen at row 58 of the DCF sheet in the illustrative model and in clause 1.1.2(3) of Schedule B of the determination, where the 'closing allocator' and 'opening allocator' are derived from the relative proportion of allocated values to unallocated values)

- 4.9.5 Operating expenditure cash flows are operating costs incurred in providing FFLAS under the UFB initiative after cost allocation has been applied. Depreciation is not included as an operating expenditure cash flow since it is a non-cash item.
- 4.9.6 Tax costs cash flows will be determined under tax IM rules:
- (a) The use of a post-tax WACC to compound the cash flows to implementation date means a notional deductible interest allowance is not required to be calculated; and
  - (b) Any excess of tax losses generated during the transition period will be carried forward to implementation date.
- 4.9.7 Under the DCF method, the value of the UFB asset base at implementation date as per s 177(1) is added back to the sum of the annual present value cash flow shortfalls and is therefore effectively treated as a “terminal” cash flow received by the regulated provider.
- 4.9.8 For Chorus, the calculation of the present value benefit of Crown financing uses the post-tax WACC as a measure of the avoided costs of Crown financing drawdown in any year. For the non-Chorus LFCs, the equity rate, the debt rate, or the post-tax WACC will be used as a measure of the avoided costs, depending on the nature of Crown financing advanced. This ensures that the benefits of Crown financing are taken into account.<sup>93</sup>
- 4.9.9 Cash flow timing assumptions will apply throughout the calculation:
- (a) UFB revenues are 20<sup>th</sup> day of the month following the mid-year;
  - (b) UFB-related assets that pre-date the transition period give rise to a cash flow on the start date of the transition period (1 December 2011);
  - (c) UFB investments made during the transition period, annual cost allocation adjustments, operating expenditure, and tax costs are mid-year; and
  - (d) Drawdowns and any repayments of Crown financing are mid-year.
- 4.9.10 The post-tax WACC that is applied to compound cash flows in the year in which the shortfall occurred will be specified to match a mid-year timing assumption. A separate post-tax WACC for the start date of 1 December 2011 is applied for UFB-related assets that pre-date the transition period.

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<sup>93</sup> Commerce Commission "Fibre input methodologies: Further consultation draft - reasons paper" (23 July 2020), pp 31-43.

- 4.9.11 We note that calculations to roll forward the values of any UFB-related assets during the transition period are still required to calculate cost allocation adjustment cash flows and for tax calculations.
- 4.10 We have published an illustrative spreadsheet alongside this reasons paper and the FLA determination that sets out the DCF method. User inputs can be changed in the spreadsheet to illustrate the effects of applying different assumptions, for instance, to include a value for pre-2011 assets (cell C8 of the Inputs worksheet) or for changing cost allocation values over the loss period for shared assets (row 16 of the Inputs worksheet).

### **Consequential changes to tax IMs**

#### *Tax losses from 1 January 2022*

- 4.11 In addition to our specification of UFB utilised tax losses in clause 1.1.9 of Schedule B of the FLA determination, we have made a consequential change to clause 2.3.3(3) of the further consultation determination. Clause 2.3.3(3) now specifies the methodology for ascertaining “opening tax losses” which occur in the disclosure years after the transition period.
- 4.12 This is a necessary change, as the methodology for ascertaining UFB utilised tax losses during the transition period is now specified in clause 1.1.9 of Schedule B and ends on the day before the implementation date (31 December 2021).
- 4.13 We have also made a further consequential change to the cross-reference in clause 2.3.3(4) so that it now refers to “subclauses (3)(a)-(b)”, rather than “subclauses (3)(a)-(c)”.

#### *Tax losses in transition period*

- 4.14 We have clarified that UFB opening tax losses in the transition period are determined for each financial loss year, rather than each disclosure year.<sup>94</sup>
- 4.15 In our RPR determination, we provided that opening tax losses for the transition period are determined for each disclosure year.<sup>95</sup> This was an error.

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<sup>94</sup> Commerce Commission “[Further consultation – initial value of financial loss asset] Fibre Input Methodologies Determination 2020”, clause 1.1.9(3)(b).

<sup>95</sup> Commerce Commission “[Draft] Fibre Input Methodologies Determination 2020” (11 December 2019), clause 2.3.3(3)(b)-(c).

### *Regulatory tax asset values for UFB assets*

- 4.16 We have clarified that regulatory tax asset values are also determined in respect of UFB assets during the transition period, not just fibre assets from 1 January 2022.<sup>96</sup>
- 4.17 In our RPR determination, we prescribed a methodology for determining the “regulatory tax asset value” of fibre assets, but not UFB assets.<sup>97</sup> This omission was an error.

### **Changes to non-exhaustive list of allocator types**

- 4.18 In its submission on [Draft] Fibre Input Methodologies Determination 2020, Chorus suggested we remove one allocator type, and make four other allocator types available to be applied either to allocate operating costs not solely incurred in the provision of “UFB FFLAS”, or using ABAA.<sup>98</sup>
- 4.19 After considering Chorus’ submission, we have added the following allocator types to those available to be applied in order to allocate operating costs and asset values:<sup>99</sup>
- 4.19.1 “used length of linear assets”;
  - 4.19.2 “power usage”;
  - 4.19.3 “number of events”; and
  - 4.19.4 “any other **allocator type** as approved by the **Commission**”.
- 4.20 We have added the final option set out at paragraph 4.19 above, ie, “any other **allocator type** as approved by the **Commission**” to replace the phrase “the allocator types available to be applied... *include the following*” with “the allocator types available to be applied... *are*” in clauses 1.1.6(1)(c) of Schedule B and 1.1.6(2)(b) of Schedule B.

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<sup>96</sup> Commerce Commission “[Further consultation – initial value of financial loss asset] Fibre Input Methodologies Determination 2020”, clause 1.1.8(1)-(3).

<sup>97</sup> Commerce Commission “[Draft] Fibre Input Methodologies Determination 2020” (11 December 2019), clause 2.3.2(1), 2.3.2(2)(a)(ii), 2.3.2(2)(b), and 2.3.2(3)(b).

<sup>98</sup> Chorus Limited “Submission on the Commerce Commission’s Draft Determination: Appendix C: Chorus Proposed Amendments to the Draft IM Determination” (28 January 2020), at 10.

<sup>99</sup> Commerce Commission “[Further consultation – initial value of financial loss asset] Fibre Input Methodologies Determination 2020”, clause 1.1.6(1)(c)(vii)-(x) of Schedule B and 1.1.6(2)(b)(vii)-(x) of Schedule B.

### **Transitional provision for price-quality RAB for the first regulatory period – methodology for calculating forecast values for FLA**

- 4.21 We have introduced a methodology for calculating the “opening RAB value” of the FLA included in the initial RAB used to specify the price-quality path for the first regulatory period.<sup>100</sup>
- 4.22 Our revised decision is that the “opening RAB value” of the FLA for the first regulatory period is determined by:
- 4.22.1 adopting actual values for calculations made under clause 1.1.2(2)-(6) of Schedule B of the FLA determination in respect of financial loss years 2012-2019; and
  - 4.22.2 applying forecasts for calculations under clause 1.1.2(2)-(6) of Schedule B of the FLA determination in respect of financial loss years 2020-2022.
- 4.23 In our further consultation decision published 23 July 2020, we introduced a transitional provision for valuing fibre assets for the purposes of specifying the first price-quality path.<sup>101</sup> The additional provisions at paragraph 4.22 complement these transitional provisions in relation to a key input to the initial RAB, ie, the “opening RAB value” of the FLA.<sup>102</sup>

### **Introduction of new defined term “financial losses”, changes to clause 2.2.4 and consequential changes to other defined terms/requirements**

- 4.24 We have introduced a new defined term “financial losses” in clause 1.1.4(2) of the FLA determination. We have made this change to improve clarity as previously this term was undefined.<sup>103</sup>
- 4.25 As the requirements specified in clause 2.2.4(2) of the further consultation determination are now captured by the new definition of “financial losses”, we have deleted clause 2.2.4(2) in the FLA determination. We have made this change to improve clarity.

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<sup>100</sup> Commerce Commission “[Further consultation – initial value of financial loss asset] Fibre Input Methodologies Determination 2020”, clause 1.1.5 of Schedule B.

<sup>101</sup> Commerce Commission “Further consultation draft reasons paper” (23 July 2020) at [3.75]-[3.88].

<sup>102</sup> Commerce Commission “[Further consultation] Fibre Input Methodologies Determination 2020”, clause 3.3.1(6)(d).

<sup>103</sup> Commerce Commission “[Further consultation] Fibre Input Methodologies Determination 2020”, clause 2.2.4(1)-(2).

- 4.26 As s 177(2) of the Act directs us to determine the financial losses, we have also deleted reference to s 177(3) in clause 2.2.4 of the further consultation determination to avoid any potential confusion.
- 4.27 We have made changes to the following definitions and clauses of the further consultation determination so that they now refer to a “determination of the financial losses”, rather than a “determination of the financial loss asset”:
- 4.27.1 paragraph (a) of the definition of “allocator type”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.2 paragraph (a) of the definition of “allocator value”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.3 paragraph (a) of the definition of “causal relationship”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.4 paragraph (a) of the definition of “commissioned”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.5 paragraph (b) of the definition of “cost of debt”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.6 paragraph (a) of the definition of “debt premium”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.7 paragraph (a) of the definition of “disposed asset”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.8 “financial loss year”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.9 paragraph (a) of the definition of “network spare”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.10 paragraph (a) of the definition of “operating cost”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.11 paragraph (a) of the definition of “proxy asset allocator”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.12 paragraph (a) of the definition of “proxy cost allocator”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.13 paragraph (a) of the definition of “related party”, as specified in clause 1.1.4(2) of the FLA determination;

- 4.27.14 paragraph (a) of the definition of “related party transaction”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.15 paragraph (a) of the definition of “value of commissioned asset”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.16 paragraph (a) of the definition of “vested asset”, as specified in clause 1.1.4(2) of the FLA determination;
  - 4.27.17 clause 2.1.5(4); and
  - 4.27.18 the heading in Schedule B.
- 4.28 We have made the changes referred to in paragraph 4.27 to clarify that these requirements and terms are used in the determination of the financial losses, with financial losses being equal to the initial RAB value of the financial loss asset.

## Chapter 5 Minor amendment to determination to give effect to draft decision in further consultation paper published on 23 July 2020

### Amendment to definition of “capital contribution” to include specific reference to Crown’s application of liquidated damages as a grant to Chorus

- 5.1 In the further consultation paper published on 23 July 2020, we set out our revised decision on the funding of non-standard connections.<sup>104</sup> Having the benefit of further information regarding the Crown’s application of liquidated damages as a grant to Chorus for additional network assets, we agreed with Spark’s submission that the funding of these connections should be treated as a capital contribution.<sup>105</sup>
- 5.2 We acknowledged that it was possible that the existing definition of “capital contribution” in the further consultation determination could be read as including the Crown’s application of liquidated damages as a grant to Chorus for non-standard connections. In particular, the Crown’s surrendering of its liquidated damages claim constitutes consideration received from ‘any other party’, therefore bringing it within the definition of a “capital contribution”.<sup>106</sup>
- 5.3 We omitted making a change to the further consultation determination, which would have given effect to our revised decision. That omission was an error. To remove any doubt, we have now revised our definition of “capital contribution” in clause 1.1.4(2) of the body of our FLA determination so that it explicitly refers to the quantum of liquidated damages of \$20 million which we understand the Crown surrendered to Chorus in exchange for its establishment of the fund for non-standard connections.<sup>107</sup> The revised definition is as follows:

<b>“capital contribution</b>	means
	(a) money or the monetary value of other considerations charged to or received in relation to the construction, acquisition or enhancement of a <b>core fibre asset</b> or <b>UFB asset</b> by a <b>regulated provider</b> from 1 or more of the following:
	(i) an <b>access seeker</b> ;
	(ii) an <b>end-user</b> ; or

<sup>104</sup> Commerce Commission “Further consultation draft reasons paper” (23 July 2020) at [3.54]-[3.64].

<sup>105</sup> Commerce Commission “Further consultation draft reasons paper” (23 July 2020) at [3.57].

<sup>106</sup> Commerce Commission “Further consultation draft reasons paper” (23 July 2020) at [3.63].

<sup>107</sup> Commerce Commission “[Further consultation – initial value of financial loss asset] Fibre Input Methodologies Determination 2020”, clause 1.1.4(2) – definition of “capital contribution”.

- (iii) any other party; and
- (b) includes the \$20 million fund established by **Chorus** for **financial loss** year 2013 in respect of non-standard installations, and consequently this fund is treated as if it is revenue under **GAAP**; but
- (c) does not include any **Crown financing**”.

## Attachment A Table summarising decision changes

Issue	Draft decision	Further consultation draft (initial value of financial loss asset) – reasons paper
Calculation method	<p>Building blocks model (BBM)</p> <p>A building blocks calculation will be used to determine the accumulated unrecovered returns for each regulated provider from 1 December 2011 to implementation (paragraph 3.86.1).</p> <p>To ensure that actual financing costs incurred by a regulated provider in respect of Crown financing are taken into account, the financial loss calculation adds a separate building block in each period to account for the avoided interest or equity costs (paragraph 6.1, page 89).</p> <p>UFB revenues will be subtracted from associated UFB costs for each year or part-year of the loss period to determine the shortfalls in revenues (paragraph 3.86.1.1).</p>	<p>Discounted cash flow (DCF) method</p> <p>We propose to adopt a DCF method rather than a BBM method when determining the FLA for each regulated provider.</p> <p>DCF values a project is valued through its discounted cash flows over time. Under a DCF approach, we would record expenditure outflows and revenue inflows as they occur. Hence investments enter as expenditure cash flows at the time of those investment (rather than through depreciation under a BBM approach) and we would discount these cash flows to arrive at the present value of the whole investment over its lifetime.</p> <p>This would compound values forward in time to the implementation date rather than discount future cash flows back to the investment date. Given we would be calculating for part of the life of the investment we would also need to net off the residual value of the investment whose cash flows fall outside the transition period (ie, treat this residual value at the end of the transition period as the “terminal” cash flow).</p>

	<p>The present value of the shortfalls at implementation date will then be calculated by applying the regulatory WACC as the discount rate (paragraph 3.86.1.2).</p> <p>The present value at implementation of the overall financial losses (i.e. the unrecovered returns which have taken into account the avoided financing costs in each period) is calculated using the conventional regulatory WACC for each year or part-year of the pre-implementation period (paragraph 6.2, p 89).</p>	<p>We have chosen to use the DCF method given it is the simplest to understand and interpret and should be familiar to all investment analysts. It is the standard approach adopted in finance theory and practice and avoids the cumbersome use of multiple BBM calculations to reflect financing assumptions.</p> <p><b>See paragraphs 3.2 – 3.8.</b></p>
Crown financing	<p>To ensure that actual financing costs incurred by a regulated provider in respect of Crown financing are taken into account, the financial loss calculation adds a separate building block in each period to account for the avoided interest or equity costs (paragraph 3.86.2).</p> <p>The value of this ongoing benefit was to be calculated by multiplying the relevant avoided cost of financing for the relevant year by the nominal outstanding total of concessionary Crown financing.</p> <p>The present value at implementation of the overall financial losses (i.e. the unrecovered returns which have taken into account the avoided financing costs in each period) is calculated using the conventional regulatory</p>	<p>The benefit of Crown financing is calculated as:</p> <ul style="list-style-type: none"> <li>• The sum of Crown financing in nominal terms as at 31 December 2021;</li> <li>• Less the sum of Crown financing in dollars of 31 December 2021 (ie annual drawdowns present valued to 31 December 2021 using the mid-year compounding rate), using the appropriate method to calculate the present value of Crown financing (see row below).</li> </ul> <p><b>See paragraph 3.38.2.</b></p>

	WACC for each year or part-year of the pre-implementation period.	
Determining the avoided cost of Crown financing <sup>108</sup> (now known as the benefit of Crown financing)	<p>When we calculate the avoided interest payments used to determine the benefit of Crown financing, we will take into account the actual credit rating of the regulated provider, rather than the benchmark BBB+ credit rating (paragraph 3.86.3).</p> <ul style="list-style-type: none"> <li>• Where the Crown financing is equivalent to debt then the benefit is calculated having regard to avoided interest payments.</li> <li>• Where the Crown financing is equivalent to equity, then the benefit will be calculated using the cost of equity.</li> </ul>	<p>For Chorus, the calculation of the present value benefit of Crown financing uses the post-tax WACC as a measure of the avoided costs of Crown financing drawdown in any year. For the non-Chorus LFCs, either the equity rate, the debt rate, or the post-tax WACC will be used as a measure of the avoided costs, depending on the nature of Crown financing advanced. This ensures that the benefits of Crown financing are taken into account.</p> <p><b>See paragraph 4.9.8.</b></p> <p><b>See also Further Consultation Update Paper, 23 July 2020, pp 31-43.</b></p>
Cash flow timing factors	Cash flow timing factors will apply to each item in the calculation: with either ‘mid-year’, ‘revenue date’ or ‘date of asset commissioning’ assumptions. We separately applied these factors as part of the calculation of the financial loss asset (paragraph 3.86.5.5).	<p>Cash flow timing factors will apply throughout the calculation, but via the calculation of the relevant ‘compounding factors’ for the DCF calculation, and with the ‘date of asset commissioning’ timing factor simplified to ‘mid-year’.</p> <p><b>See paragraphs 4.9.9 – 4.9.10</b></p>

<sup>108</sup> In the draft decision, we referred to the financial benefit arising from the favourable terms of Crown financing as both the “avoided cost of Crown financing” and the “benefit of Crown financing” interchangeably. We now refer to this concept exclusively as the “benefit of Crown financing”. The exception to this is where quoting directly from stakeholders’ submissions in this document. For the avoidance of doubt, these concepts are to be understood as interchangeable.

Treatment of initial value of FLA in cases where losses are nil or a positive amount	Not specifically addressed in draft decision.	<p>Where the overall value of the financial losses at implementation date is negative – indicating an overall shortfall for the transition period – the initial value of the FLA for the regulated provider is set to the absolute value of the losses (ie, an asset with a positive asset value will be established at implementation date).</p> <p>If overall financial losses are nil or a positive amount, this would indicate that there is no overall shortfall, and the initial value of the FLA at implementation date would be determined as nil.</p> <p><b>See paragraph 4.6.</b></p>
Risk-free rate	A risk-free rate that varies each year, with the term of the risk-free rate based on the number of years remaining until the implementation date (paragraph 3.86.4).	<p>The DCF method locks in a risk-free rate with a fixed term of 5 years for the purposes of compounding the cash flows for a financial loss year.</p> <p>Assume expenditure was financed at the prevailing 5-year fixed rate for the remaining term until implementation. This means, for example, that capital expenditure incurred in 2012 is effectively financed for 10 years at the 5-year rate prevailing in 2012.</p> <p><b>See paragraphs 3.9 – 3.20.</b></p>
Debt risk premium	The debt risk premium prevailing at the beginning of the year in which the median loss is incurred, with the term	<p>We propose adopting a term of 5 years for the debt premium. This is the debt premium prevailing at the beginning of the year in which the median loss is incurred.</p>

	equal to the remaining years until the implementation date (paragraph 3.86.4.2).	<b>See paragraph 3.21.</b>
WACC	Vanilla WACC	Post-tax WACC  <b>See paragraph 3.42.</b>
Tax adjusted market risk premium (TAMRP)	TAMRP transitions at commencement date from 7.0% to 7.5%.	TAMRP uses a weighted average for the loss year in which it transitions from 7.0% to 7.5%.  <b>See paragraph 3.36.</b>
Pre-2011 assets form part of the calculation of the FLA	Assets that pre-date the UFB initiative form part of the calculation of the financial loss asset (paragraphs 3.157-3.166).  Given the UFB initiative involved the use of pre-2011 assets, the “accumulated unrecovered returns on investments made by the provider under the UFB initiative” must necessarily include those returns on those pre-2011 investments on assets deployed for the UFB initiative (paragraph 3.159).	We are maintaining our draft decision that pre-2011 assets form part of the calculation of the FLA and that there is nothing precluding the Commission from taking account of accumulated unrecovered returns on pre-2011 investments (provided the unrecovered returns related to the period 1 December 2011 to the implementation date).  <b>See paragraphs 2.2 – 2.3, 2.22– 2.40.</b>
UFB operating expenditure	UFB opex will be defined as actual operating costs (opex) incurred in providing regulated FFLAS services under the UFB initiative (paragraph 3.86.5.3).	UFB costs cash flows include operating expenditure cash flows (referred to in the FLA determination as “UFB operating expenditure cash flow”).  <b>See paragraph 4.9.2.</b>

Tax	<p>The tax treatment will be determined by the tax IM (paragraph 3.86.5.4).</p> <p>A notional deductible interest is calculated as part of determining the taxation allowance, thereby incorporating the impact of the interest tax shield.</p>	<p>Tax costs cash flows will be determined under tax IM rules.</p> <p>We have moved from using a Vanilla WACC to a post-tax WACC. The use of a post-tax WACC rather than a Vanilla WACC is equivalent where we make the corresponding adjustment to exclude the interest tax shield from our tax calculations.</p> <p>We recognise that in the event of substantial tax losses, the move to using a post-tax WACC will require 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 implement an adjustment to true up the final amounts, for example through an IM amendment.</p> <p><b>See paragraphs 3.42 – 3.43, and 4.9.6</b></p>
Cost allocation method: ABAA	<p>Our draft decision is to use the ABAA approach for the allocation of shared costs in the calculation of the loss asset, for the following reasons:</p> <ul style="list-style-type: none"> <li>• It is consistent with the economic principle of FCM, including in terms of ensuring that Chorus receives a normal return on its investment in reused and common copper assets, particularly during the later years of the loss period when some of the assets will be increasingly, if not</li> </ul>	<p>We are maintaining our decision to use ABAA for allocation of shared costs in the calculation of the FLA.</p> <p>The use of the accounting-based allocation approach (ABAA) allocates costs proportionately to the services that benefit from the shared pre-2011 assets (where relevant to the regulated provider). Hence, ABAA can be applied to split shared costs between fibre and copper services, or on a geographic basis (such as between Chorus UFB areas and non-UFB areas). For example, as demand transitions from copper services to fibre</p>

	<p>fully, used to provide UFB services (paragraphs 3.479, 3.479.5).</p>	<p>services, the allocation of costs of shared pre-2011 assets can reflect this transition.</p> <p>While we think that pre-2011 assets should be included in the FLA calculation, they should only be included to the extent that they were employed to provide UFB services. In practice, this will mean that filters need to be applied in determining the value of pre-2011 assets that comes into the initial RAB and the calculation of financial losses during the transition period. These filters relate to the geographic footprint of the UFB networks, usability, timing and allocation of costs between services.</p> <p>As we noted in our draft decision reasons paper, for Chorus different costing methodologies apply to copper services (where a TSLRIC price was set based on the replacement costs of a hypothetical new network) and fibre services (where a revenue cap will apply based on the actual costs of the FFLAS network). While we remain of the view that these differences preclude a reconciliation of asset values between copper and fibre; we note that as Chorus has been subject to a price cap for its copper services, for each end-user who migrates from copper to fibre, Chorus loses the revenues associated with the copper service. This provides some protection against over-recovery.</p> <p><b>See paragraph 2.88 and 2.96.2.</b></p>
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