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Fibre input methodologies:

Financial loss asset final decision – reasons paper

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Associated documents

Publication date	Title
9 November 2018	CEPA – Quality dimensions of wholesale fibre telecommunication services
19 November 2019	CEPA - Cost of capital for regulated fibre telecommunications services in NZ - Asset beta, leverage, and credit rating
19 November 2019	Dr Martin Lally - Estimation of the TAMRP
19 November 2019	Dr Martin Lally - Review of submissions on the cost of capital for fibre network losses
19 November 2019	Ingo Vogelsang and Martin Cave - Framework for promoting competition
19 November 2019	Fibre IMs draft decision WACC calculations spreadsheet
21 May 2019	Martin Cave and Ingo Vogelsang - Financial capital maintenance and its role in fibre regulation in New Zealand
21 May 2019	Martin Cave and Ingo Vogelsang - Pricing under the new regulatory framework provided by Part 6 of the Telecommunications Act
26 May 2020	Martin Lally expert report – Further issues concerning the cost of capital for fibre input methodologies
13 October 2020	Fibre input methodologies: Main final decisions – reasons paper
13 October 2020	Fibre Input Methodologies Determination 2020 [2020] NZCC 21
13 October 2020	CEPA – Cost of capital for regulated fibre telecommunication services in New Zealand: Response to submissions on the Input Methodologies Draft Decision
3 November 2020	Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 [2020] NZCC 24

Commerce Commission

Wellington, New Zealand

CONTENTS

Executive summary

X1 This paper is the second of two papers we have published setting out our final decisions and reasons for the fibre input methodologies (**IMs**). It relates to the IM for determining the initial value of the financial loss asset (**FLA**) for providers of fibre fixed line access services (**FFLAS**) under the Telecommunications Act 2001 (**Act**).

X2 Our first paper published on 13 October 2020 (**main final reasons paper**) set out our final decisions and reasons for all fibre IMs other than the FLA IM.

Financial losses incurred under the UFB initiative

X3 As explained in our main final reasons paper, it was expected that Chorus and the other local fibre companies (**LFCs**) that deployed fibre access networks under the Government's Ultra-Fast Broadband (**UFB**) initiative would incur financial losses during their initial period of operation. That is, despite the provision of partial funding via concessionary Crown financing, it was expected that the initial uptake of UFB services would generate insufficient revenue to cover the costs that the LFCs incurred during that period.

X4 In order to provide an opportunity for each regulated provider to recover these losses within the new regulatory regime, the Act provides for these accumulated financial losses to be capitalised and included as an asset in the regulated asset base (**RAB**) of the LFCs as at 1 January 2022 (**implementation date**).

X5 In particular, s 177(2) requires the Commission to determine the amount of the financial losses for each regulated provider incurred for the period from 1 December 2011 through to the implementation date (**pre-implementation period**). In determining the financial losses, s 177(3) requires us to:

X5.1 "take into account any accumulated unrecovered returns on investments made by the provider under the UFB initiative"; and

X5.2 "refer to the actual costs of Crown financing incurred by the provider (or a related party)".

X6 "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.

X7 The initial value of the FLA included in the RAB is used for the purpose of two forms of regulatory control that must be in place from the implementation date:

X7.1 price-quality (**PQ**) regulation applying to Chorus Limited (**Chorus**); and

X7.2 information disclosure (**ID**) regulation applying to Chorus and the other LFCs – Enable Networks (**Enable**); Northpower Fibre Limited and Northpower LFC2 (**Northpower**); and Ultrafast Fibre Limited (**Ultrafast**).

X8 The IM discussed in this paper (**FLA IM**) contains the key upfront regulatory rules, requirements and processes for determining the initial value of the FLA for these regulated providers. The IMs are intended to promote certainty for regulated providers, access seekers and end-users.

X9 This paper is published alongside the Fibre Input Methodologies (initial value of the financial loss asset) Amendment Determination 2020 [2020] NZCC 24 (**amendment determination**), published on our website on 3 November 2020. The amendment determination introduces a new Schedule B to the Fibre Input Methodologies Determination 2020 [2020] NZCC 21 (**IM determination**), which, in keeping with the final decisions in this paper, only gives legal effect to our decisions on the FLA IM.

Our regulatory framework for the FLA IM

The purpose of Part 6: Sections 162 and 166 of the Act

X10 The purpose of Part 6 of the Act is focussed on promoting the long-term benefit of end-users in markets for FFLAS by promoting outcomes consistent with those produced in workably competitive markets. This purpose is set out in s 162. When making decisions, we are required to give effect to this purpose and, to the extent we consider it relevant, the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services. This requirement is set out in s 166(2).

We have developed an economic framework to help guide our final decisions

X11 We have developed an economic framework to help guide the decisions we make in developing the new regulatory regime for Part 6, including the FLA IM. The framework helps us make individual decisions that are consistent with each other, and with the requirement to best give effect to the purposes described in ss 162 and 166(2) of the Act. The economic framework includes three key economic principles, an incentive framework, and competition screening considerations. At its core, our incentive regulation introduces incentives for regulated providers to behave in ways consistent with the purposes described in s 162 of the Act.

Our final decisions on the initial value of the FLA

Methodology for determining the FLA

X12 We consider a Discounted Cash Flow (**DCF**) methodology – which values a project through its discounted cash flows over time – best meets the requirements of s 177 for valuing the FLA. It is the simplest method to understand and implement, and promotes transparency of the calculation of the FLA. The FLA IM implements a DCF methodology through a set of standalone requirements that allows accounting rules to be adopted where possible, reducing compliance costs for regulated providers.

X13 Under the DCF methodology, the initial value of the FLA at implementation date is equal to the accumulated unrecovered returns made by each provider under the UFB initiative during the pre-implementation period.

X13.1 Unrecovered returns are calculated as the present value, at implementation date, of the revenue inflows less expenditure outflows occurring during the pre-implementation period, adjusted for the depreciated value of UFB assets at implementation date. Expenditure shared between UFB and other services during the pre-implementation period is subject to cost allocation rules.

X13.2 The compounding rate for calculating the present value at implementation date is equal to the post-tax weighted average cost of capital (**post-tax WACC**), calculated for each year of the pre-implementation period. Interest and other financing payments are excluded from DCF cash flows as these are implicitly accounted for in the compounding rate.

X13.3 The actual cost of Crown financing during the pre-implementation period is accounted for by adding back the present value of the costs that the regulated provider avoids due to the concessionary funding from the Crown. The rate used to calculate the benefit of the Crown financing (ie, the avoided costs) depends on how financing was advanced (by debt or equity, or a combination of both).

X14 The DCF methodology can be expressed algebraically as follows:

Figure X1 Calculation of the FLA

FLA at implementation date	=	*PV (UFB revenues cash flows) – PV (UFB costs cash flows)*
		+ UFB asset base closing value at implementation date
		+ PV (benefit of Crown financing)

X15 We have prescribed a set of requirements for the DCF calculation which apply to both Chorus and the other LFCs. The process and timeframes for calculating the initial value of the FLA for each regulated provider will be worked through as part of the implementation of PQ and ID regulation. For PQ regulation, a forecast of Chorus' FLA at implementation date is required to set Chorus' first PQ path.

X16 We have concluded that under s 177, the costs of assets that were constructed or acquired prior to 1 December 2011 (**pre-2011 assets**) which have been employed during the pre-implementation period to provide UFB FFLAS are eligible to be included in the calculation of the FLA. Pre-2011 assets, however, are subject to various measures to address concerns around the potential for double recovery or 'windfall' gains as discussed below.

Cost of capital

X17 A key component of calculating the FLA is how we calculate the present value of cash flows at implementation date. The cost of capital is the financial return investors require from an investment given its risk, and the WACC is an estimate of that rate of return. As mentioned above, we have adopted the post-tax WACC as the DCF compounding rate.

X18 The cost of capital is not directly observable and therefore we have to estimate it from market data. In doing so we also estimate the range within which we believe the WACC sits, and our best estimate of the WACC is the midpoint of that range. Our estimates have been based on market data as much as possible, have been subject to rigorous processes, and we have also benefited from several expert reports and consultation submissions.

X19 In reaching our final decisions we have considered each main element of the WACC and the combination of those elements as a package. To calculate the post-tax WACC for each year in the pre-implementation period we have decided to:

X19.1 apply a risk-free rate based on the 5-year rate at the middle of each year of the pre-implementation period (or middle of each part year for 2012 and 2021);

X19.2 apply an asset beta, leverage and credit rating for the pre-implementation period at the same values as for the post-implementation period (0.50, 29% and BBB respectively);

X19.3 apply a TAMRP that is 7.0% for the period until the commencement date of the IM determination on 13 October 2020 and 7.5% for the remainder of the pre-implementation period;

X19.4 use a prevailing debt risk premium with the term equal to 7 years;

X19.5 not include a TCSD;

X19.6 not provide a WACC uplift; and

X19.7 apply the WACC parameters consistently between regulated providers subject to PQ, and regulated providers subject to ID regulation only.

X20 The decision on the debt risk premium is different to that proposed in our August 2020 further consultation paper and our decision on the risk-free rate is consistent with our August 2020 further consultation paper. The other decisions are consistent with our November 2019 draft decisions.

Asset valuation

X21 Asset values are required under the DCF method to calculate annual net investment cash flows, to calculate an annual cost allocation adjustment, and to add back the value of UFB assets at implementation date. We have decided the following.

X21.1 Assets will be eligible to enter the DCF calculation in the year in which they are employed to provide UFB FFLAS. The value of an asset is its cost, less capital contributions. We will not undertake a review of the costs of the assets, eg, for efficiency.

X21.2 Specific valuation rules apply for certain types of assets, such as easements, right of use assets, vested assets, network spares and assets subject to related party transactions. The treatment of capitalised interest during an asset's construction follows GAAP rules.

X21.3 The capital contributions to be deducted from asset values include funding of certain non-standard installations and non-repayable grants by the Crown to UFB partners.

X21.4 The minimum specificity requirements for recording asset-related information are those consistent with GAAP and good telecommunications industry practice.

Cost allocation

X22 The presence of shared costs incurred when supplying two or more services raises the issue of how to allocate such costs between services. In the context of the regulation of FFLAS, shared costs need to be allocated when determining the initial value of the fibre RAB, as well as when determining the costs of providing regulated FFLAS during the period following the implementation date.[1]

X23 The approach to cost allocation for the FLA is important because it affects:

X23.1 the treatment of pre-2011 assets that are employed during the pre-implementation period to provide UFB FFLAS; and

X23.2 the treatment of new costs incurred during the pre-implementation period to deliver UFB FFLAS.

X24 Cost allocation rules ensure that only those costs associated with the provision of UFB FFLAS are included in the DCF calculation. We have decided the following.

X24.1 All asset-related values and operating costs that are directly attributable to the provision of UFB FFLAS during the pre-implementation period must be allocated to UFB FFLAS when determining the FLA. Directly attributable costs are defined as those employed wholly and solely for the provision of UFB FFLAS during the pre-implementation period.

X24.2 A portion of asset-related values and operating costs that are shared between the provision of UFB FFLAS and other services during the pre-implementation period must be allocated to UFB FFLAS using an accounting-based allocation approach (**ABAA**) and an allocator of our choice. Our default list of allocators is:

X24.2.1 number of customers, end-users, or premises (intact, connected or passed);

X24.2.2 number of ports;

X24.2.3 revenue;

X24.2.4 central office space;

X24.2.5 peak traffic;

X24.2.6 average traffic;

X24.2.7 used length of linear assets;

X24.2.8 power usage; and

X24.2.9 number of events.

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1 In our main final reasons paper, we set the cost allocation rules that apply other than for the calculation of the initial value of the FLA. See Commerce Commission “Main final decisions reasons paper” (13 October 2020), Chapter 4.

X24.3 Shared costs that relate to the provision of UFB FFLAS during the pre-implementation period must be allocated using measures and statistics that are reviewed and updated for each year (or part year) of the pre-implementation period.

X24.4 A cap on costs allocated to UFB FFLAS based on unavoidable costs will apply for costs that are shared between the provision of UFB FFLAS and other services during the pre-implementation period, including for repurposed assets.

X25 Our final decision is that the costs of pre-2011 assets which have been employed during the pre-implementation period to provide UFB FFLAS are eligible for inclusion in the DCF calculation. The eligibility of pre-2011 assets to be included in the calculation of the FLA is subject to various measures available to address concerns around the potential for double recovery or windfall gains. These tools include restrictions on including assets until employed for FFLAS, use of a proportionate cost allocation method (ie, ABAA), adopting the default allocators above, and imposing the cap on costs of repurposed assets.

Taxation

X26 Our final decision is to use the tax payable approach as outlined in our main final reasons paper for the FLA as it provides us and other interested persons with the ability to track changes in tax costs over time, and is reflective of the tax costs imposed by the Inland Revenue Department (**IRD**) for the period. We prefer this methodology given its relative simplicity, and its greater transparency. This is unchanged from our November 2019 draft decision.

X27 In the DCF methodology the tax payable approach is to be applied from the start of the pre-implementation period. The initial regulatory tax asset value for UFB assets is determined from the roll forward of tax asset values from the beginning of the pre-implementation period and is proportionately reduced by the amount, if applicable, by which the sum of the adjusted tax values of all UFB assets on the date the regulatory tax asset value is determined exceeds the sum of the UFB unallocated opening asset values on that date.

X28 Any excess of tax losses generated during the pre-implementation period will be carried forward to implementation date, and are available for the purposes of PQ regulation or ID regulation from that date.

Treatment of Crown financing

X29 As mentioned above, the actual cost of Crown financing during the pre-implementation period is incorporated into the DCF calculation by adding back the present value of the costs that the regulated provider avoids due to receiving the concessionary funding from the Crown (ie, the benefit of Crown financing).

X30 As decided in the main final reasons paper:[2]

X30.1 For Chorus, which is subject to both PQ and ID regulation, the relevant finance rate for calculating the avoided costs uses the 50:50 mix of debt and equity contained in the financing contracts with the Crown.

X30.1.1 The cost of debt is based on an estimate of senior and subordinated debt with the mix consistent with the contract with the Crown. Senior debt is set at the benchmark cost of senior debt. Subordinated debt is set at 41 basis points above the benchmark cost of senior debt.

X30.1.2 The cost of equity is based on a 75% weighting to the benchmark cost of equity and 25% weighting to the benchmark cost of senior debt.

X30.2 For the other LFCs subject only to ID regulation, we have specified the following finance rates for Crown financing:

X30.2.1 where Crown financing is provided entirely as debt, the benchmark cost of debt;

X30.2.2 where Crown financing is provided entirely as equity, the benchmark cost of equity; and

X30.2.3 where Crown financing is a combination of debt and equity, the benchmark costs of equity and debt are applied to the debt/equity mix of the Crown funding.

[2] Since the decisions set out in this paragraph were included in main final reasons paper they were not reconsidered as part of this paper.

Chapter 1 Introduction

1.1 This chapter introduces this paper (**this paper**) on the input methodology (**IM**) for determining the initial value of the financial loss asset (**FLA**) by setting out:

1.1.1 the purpose and scope of this paper;

1.1.2 how we have structured this paper;

1.1.3 our process for implementing the new regulatory framework for fibre; and

1.1.4 next steps in our process for implementing the fibre regime.

The purpose and scope of this paper

1.2 The Commerce Commission (**Commission**) is required to determine IMs for regulated fibre fixed line access services (**FFLAS**) under Subpart 3 of Part 6 of the Telecommunications Act 2001 (**Act**) by no later than the implementation date (1 January 2022). [3]

1.3 IMs set out key regulatory rules, requirements and processes applying to the regulation of FFLAS. By doing this, the IMs are intended to promote certainty for regulated fibre service providers (**regulated providers**), access seekers and end-users.

1.4 The IMs will underpin two forms of regulatory control for regulated FFLAS, price-quality (**PQ**) paths and information disclosure (**ID**) requirements. These two forms of regulatory control will apply to Chorus Limited (**Chorus**), and only ID will apply to the other local fibre companies (**LFCs**) - Enable Networks (**Enable**); Northpower Fibre Limited and Northpower LFC2 (**Northpower**); and Ultrafast Fibre Limited (**Ultrafast**).

1.5 This paper sets out our final decisions and reasons on the IM for determining the value of the FLA under s 177(2) of the Act. It is the last of the IMs we are determining before setting Chorus' price quality (**PQ**) path and the information disclosure (**ID**) requirements that will apply to Chorus and the LFCs.

1.6 This paper should be read in conjunction with Chapter 2 of our main final reasons paper on the fibre IMs (published on our website on 13 October 2020) which explains the regulatory framework we apply in reaching our final decisions on the IMs for regulated providers.

1.7 The first section of Chapter 2 of this paper also sets out the context and the decision-making framework that is specific to the determination of the FLA IM,

[3] All statutory references in this paper are to the Act unless otherwise specified.

including the requirements in the Act that we must apply when determining the FLA IM.

1.8 This paper is accompanied by an amendment determination which inserts new text into Schedule B, setting out the methodology for determining the initial value of the FLA and making a number of consequential amendments to definitions and cross references. The amendment determination gives legal effect to our decisions on the FLA IM.

How we have structured this paper

1.9 This paper is structured as follows.

1.9.1 **Chapter 2**: sets out our final decisions on the methodology for determining the initial value of the FLA, and the reasons for those decisions; and

1.9.2 **Chapter 3**: provides a detailed explanation of the DCF methodology adopted for determining the initial value of the FLA, and sets out the final decisions on the various components of the DCF methodology.

Process to implement the new regulatory framework for fibre

1.10 We have followed the required process set out in s 179 of the Act to determine the IMs.[4] We would like to thank all those who participated in the process, including the regulated providers, end-users, access seekers, industry groups and other stakeholders. Submissions received were an essential part of our process and have helped us to make our decisions and reasons more robust and legally sound.

How we have treated confidential information

1.11 Protecting confidential and commercially sensitive information is something the Commission takes seriously. Throughout our IM-setting process, stakeholders uploaded submissions via a portal on the Commission's website. This process required stakeholders to provide (if necessary) both a confidential and non-confidential version of submissions and to clearly identify the confidential and non-confidential versions. All public versions were published on our website. Throughout this document, confidential information has been redacted and marked as **[COI]**.

IM papers we have published to date

1.12 We published a number of papers early in the process as we developed our thinking around the framework for our IM determinations, and our consultation process as

[4] See the materials published and future updates on our process to determine the IMs for regulated FFLAS on our website: https://comcom.govt.nz/regulated-industries/telecommunications/projects/fibre-input-methodologies.

outlined below was a critical factor in developing our thinking and conclusions. To commence our process to determine the IMs, we published two documents in November 2018:

1.12.1 **9 November 2018**: an invitation to comment on our proposed approach to the new regulatory regime for fibre (proposed approach paper).

1.12.2 **19 November 2018**: a Notice of Intention for us to begin work on IMs for regulated FFLAS.

1.13 On 20 November 2018 we submitted a request to the Minister of Broadcasting, Communications and Digital Media to defer the implementation date for the new regulatory regime by two years to 1 January 2022.[5] The Minister granted this request on 23 November 2018.[6] Since then, we have undertaken extensive consultation on the IMs, including publishing the following documents.

1.13.1 **10 December 2018**: we hosted a stakeholder workshop to seek feedback on our proposed approach (materials published 19 December 2018).

1.13.2 **21 May 2019**: we published our emerging views on the IMs (**emerging views paper**).

1.13.3 **25 June 2019**: we hosted a workshop on our emerging views (materials published 1 July 2019).

1.13.4 **1 July 2019**: we ran a consumer focus group to seek feedback on our emerging views (summary of session published 16 July 2019).

1.13.5 **19 August 2019**: we published a topic paper for the regulatory processes and rules on IMs.

1.13.6 **19 November 2019**: we published our draft decision reasons paper with expert reports attached from CEPA, Dr Martin Lally, Ingo Vogelsang and Martin Cave; and a weighted average cost of capital (**WACC**) calculations spreadsheet.

1.13.7 **11 December 2019**: we published our draft determination and intended implementation approach.

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5 Commerce Commission "Request for deferral in implementation deadline of fibre regulatory regime" (20 November 2018).

6 Hon Kris Faafoi "Re: Commerce Commission request to extend the implementation date for the new fibre regulatory regime" (23 November 2018).

1.13.8 **12 December 2019**: we hosted a workshop to discuss practical issues linked to the implementation of the Chorus capex IM (materials published 20 December 2019).

1.13.9 **2 April 2020**: we published our draft decision reasons paper and determination for the regulatory processes and rules IMs.

1.13.10 **27 May 2020**: we published an expert report from Dr Martin Lally on further issues concerning the cost of capital for fibre input methodologies (the questions we asked Dr Lally to provide advice on were published on 10 July 2020).

1.13.11 **23 July 2020**: we published our main consultation paper and updated draft determination (excluding financial loss asset) (**further consultation paper**).

1.13.12 **13 August 2020**: we published our further consultation draft (initial value of financial loss asset) (**FLA further consultation paper**).

1.13.13 **13 October 2020**: we published our main final decisions reasons paper and final determination (**main final reasons paper**).

Separate consultation papers and final decision papers

1.14 On 10 July 2020, we advised stakeholders that we had changed our timing for the remaining consultation on the IMs (as reflected in paragraphs 1.13.11-1.13.13 above) and had separated our further consultation into two parts.

1.14.1 Our further consultation paper (published on 23 July 2020) and associated determination relating to changes to the majority of the IMs on which we made final decisions on 13 October 2020.

1.14.2 Our FLA further consultation paper (published on 13 August 2020) relating to clarifications and changes we were considering making to our approach to valuing the FLA (and associated updates to the draft determination provisions) on which we are making final decisions in this paper.[7]

1.15 As a result of separating out issues relating to the determination of the FLA, we indicated our intention to publish our final decisions and reasons paper (and associated determination provisions) on this matter on 3 November 2020.

7 The FLA further consultation paper did not include our approach to key decisions on Crown financing in respect of the FLA which were dealt with in our further consultation paper. It rather set out how those decisions would be implemented in the FLA IM. The FLA further consultation paper also included a drafting change to the definition of "capital contribution" that we inadvertently omitted to make when we published the further consultation paper.

Our approach to consultation and submissions

1.16 As set out above we have published several papers seeking submitters' views during our process of setting the fibre IMs.

1.17 We have consulted more extensively than required by s 179 of the Act, as we considered this desirable for the development of our thinking and to ensure that interested persons had an opportunity to put their views forward.[8]

1.18 We have taken our consultations seriously throughout the process and have carefully considered submissions. In many cases our decisions and reasons evolved in response to them.

1.19 However, during our process we were also conscious of the need to make a decision in the interests of giving market participants certainty and being able to meet our statutory timeframes for implementing PQ and ID regulation. This meant that we needed to limit periods for submissions and cross-submissions and the scope of our consultations, as we approached the deadlines for our decisions.

1.20 The scope of our consultation in the case of our further consultation paper (published on 23 July 2020) and the FLA further consultation paper on the FLA (published on 13 August 2020) were, in each case, limited to certain targeted matters.

1.21 In both consultation papers we explained the scope of the consultation and advised that we did not intend to take account of submissions that were outside the scope.

1.22 We nevertheless received submissions containing views on matters that were clearly out of scope in respect of both consultations. In accordance with the approach signalled in our further consultation paper on the FLA, and in the interests of fairness to other submitters, these views have not been taken into account in making our decisions.

1.23 In deciding to exclude the out of scope views in submissions, we considered the argument that the specific issues we were consulting on could not be looked at in isolation, and that the calculation of the FLA should be looked at in a holistic manner.[9] Given the matters noted above in paragraphs 1.17 to 1.22 we did not consider that there was a reasonable basis to have regard to views in submissions that were out of scope. However, we note that almost all out of scope views are

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8 Section 179(2) only requires the Commission to give interested persons a reasonable opportunity to give their views on its draft IMs; and to have regard to any views received from interested persons.

9 See Chorus "Submission on 'Fibre input methodologies – Further consultation draft (initial value of financial loss asset)'" (10 September 2020) at paragraphs 3, 4 and 21.

already on the record via previous consultation processes (such as submissions on our draft decision) and were therefore considered when we made our FLA decisions.

1.24 We also note that where submissions on the FLA further consultation paper contained contextual and broad statements relating to our proposed approach and FLA decisions these views were only treated as being within scope to the extent they were relevant to matters we were consulting on.[10] Such views were, therefore, disregarded where they related to the matters that we have identified as being out of scope. For the avoidance of doubt, we also note that where a view in a submission was in scope in relation to a specific issue or decision it was only taken into account for purposes of that particular matter.

1.25 The views that we treated as out of scope have been published on our website separately from this paper.

Next steps

1.26 The next step in our process for implementing the fibre regime is to set PQ and ID regulation, which will be underpinned by our IM decisions. On 15 September 2020, we published a paper outlining our proposed process and approach to determining PQ and ID regulation. The purpose of this paper was to set out our early thinking on the major aspects of this regulation, including the type of information providers should publicly disclose and how we would set the amount of revenue Chorus can recover and the quality standards it must meet. The PQ and ID process will not include consultation on other matters within Part 6 or other Parts of the Act.

[10] See for example, Chorus "Submission on 'Fibre input methodologies – Further consultation draft (initial value of financial loss asset)" (10 September 2020) at paragraphs 1 – 44 (main body).

Chapter 2 Final decisions: initial value of the FLA

Table 2.1 Summary of final decisions on the initial value of the FLA

Element	Final decision
Methodology	The FLA IM prescribes a DCF methodology for calculating the initial value of the FLA for each regulated provider. We consider a DCF methodology meets the requirements of s 177 of the Act and is the simplest method to understand and implement.
Key features of methodology	The initial value of the FLA at implementation date is equal to the accumulated unrecovered returns made by each provider under the UFB initiative during the pre-implementation period. • Unrecovered returns are calculated as the present value, at implementation date, of the revenue inflows less expenditure outflows occurring during the pre-implementation period, adjusted for the depreciated value of UFB assets at implementation date. Expenditure shared between UFB and other services during the pre-implementation period is subject to cost allocation rules. • The compounding rate for calculating the present value at implementation date is equal to the post-tax WACC, calculated for each year of the pre-implementation period. Interest and other financing payments are excluded from DCF cash flows as these are implicitly accounted for in the compounding rate. • The actual cost of Crown financing during the pre-implementation period is accounted for by adding back the present value of the costs that the regulated provider avoids because it receives the concessionary funding from the Crown. The rate used to calculate the benefit of the Crown financing (ie, the avoided costs) depends on how financing was advanced (ie, debt or equity, or both).
Single set of requirements	We have prescribed a single set of codified requirements which apply to both Chorus and the other LFCs.
Practicalities of implementation	Certain modifications are made to the DCF method to aid practical implementation. GAAP rules can be applied where consistent with regulatory objectives.
Process for calculation	The process and timeframes for calculating the FLA will be worked through as part of the implementation of PQ and ID regulation.
Pre-2011 assets	The costs of pre-2011 assets which have been employed during the pre-implementation period to provide UFB FFLAS are eligible to be included in the calculations, subject to various measures to address concerns around double recovery or 'windfall' gains.
Post-implementation treatment	The treatment of the FLA from implementation date remains unchanged from that set out in the IM determination and described in the main final reasons paper.
Forecasting initial value	For PQ regulation, a forecast of Chorus' FLA at implementation date will be undertaken for the purposes of Chorus' first PQ path on the basis of relevant accounting rules and the specification of the FLA calculation in Schedule B of the determination.

The purpose and structure of this chapter

2.1 This chapter sets out the final decisions on the initial value of the FLA, and the reasons for those decisions. It is structured as follows:

2.1.1 context and decision-making framework for the FLA IM; and,

2.1.2 our final decision on determining the initial value of FLA:

2.1.2.1 the DCF methodology including:

2.1.2.1.1 a single set of requirements prescribed for Chorus and LFCs;

2.1.2.1.2 modifications made to the DCF methodology, and the applicability of GAAP rules; and

2.1.2.1.3 the practical process for undertaking the DCF calculation;

2.1.2.2 the eligibility of pre-2011 assets for inclusion;

2.1.2.3 treatment of the FLA from implementation date; and

2.1.2.4 forecasting of initial FLA value for Chorus at 1 January 2022.

Context and decision-making framework for the FLA IM

2.2 This section describes the context and the decision-making framework that is specific to the determination of the FLA, including the requirements in the Act that we must apply when determining the FLA.

Financial losses incurred under the UFB initiative

2.3 As explained in the main final reasons paper, the extent of fibre access networks in New Zealand has expanded significantly over the last decade as a result of the Government's Ultra-Fast Broadband Initiative (UFB).[11]

2.4 Under the UFB initiative, the Government awarded fibre contracts to Chorus and the LFCs. Despite the provision of partial funding via concessionary Crown financing, the LFCs were expected to incur financial losses during the initial period of operation, as initial low uptake of UFB services and associated revenues recovered in accordance with the UFB contracts was not expected to be sufficient to cover the costs that the LFCs incurred during that period.

2.5 The Act provides for these accumulated financial losses to be captured for the purposes of the regime. In particular, s 177(2) requires the Commission to determine the amount of the losses for each regulated provider incurred from 2011 through to the implementation date and to treat this as the initial value of an additional asset

11 Commerce Commission "Main final decisions reasons paper" (13 October 2020), paragraphs 1.24-1.35.

(ie, the FLA) included in the regulated asset base (**RAB**) of each regulated provider as at 1 January 2022 (**implementation date**).[12]

2.6 The FLA is relevant to both forms of regulation under Part 6 that must be in place by the implementation date:

2.6.1 PQ regulation applying to Chorus; and

2.6.2 ID regulation applying to both Chorus and the other LFCs.

2.7 Specifically, the inclusion of the FLA in the RAB, together with other assets employed to provide regulated FFLAS, is able to inform profitability assessments under ID and the prices or revenues recovered over time by providers subject to PQ.

Our task under s 177

2.8 Section 177 of the Act requires the Commission to determine an initial value of a FLA for each regulated provider. Section 177 sets out several requirements for calculating the FLA.

2.8.1 Section 177(2) directs us to include a FLA in the RAB "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".

2.8.2 Section 177(3) requires us to:

2.8.2.1 "take into account any accumulated unrecovered returns on investments made by the provider under the UFB initiative"; and

2.8.2.2 "refer to the actual costs of Crown financing incurred by the provider (or a related party)".

2.8.3 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."

[12] 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.

2.9 In the 2016 consultation on a new fibre regulatory regime, the Ministry of Business, Innovation and Employment (**MBIE**) anticipated that deeming initial losses to be a fibre asset on entry to the regime part-way through the life of their existing networks would be appropriate to ensure that regulated providers had the opportunity to earn a normal return over the life of those assets:[13]

> Submitters noted that, to ensure regulated suppliers can earn a normal return over the life of their assets, their initial losses would need to be recovered by way of being capitalised into the RAB. This approach is used in the BBM model adopted for the NBN in Australia. Initial losses are typical for major infrastructure projects where a gradual increase in demand means providers often need to carry forward costs from early years to recover once demand has increased.
>
> Our view is that the regulatory framework should allow UFB providers the opportunity to earn normal returns over the lifetime of their investments (consistent with the concept of financial capital maintenance). However, the issue of how the past recovery of investments should be treated is bound up with the decisions on how to value RAB assets. As such, we do not consider it prudent to direct the Commission as to the approach it should take when accounting for any initial sub-optimal returns.
>
> The Commission's past commitment to financial capital maintenance in the context of Part 4, and the fact that UFB is a recent investment supported by an existing information disclosure regime, indicate that the Commission should be in a position to ensure UFB providers are able to earn a normal return over the lifetime of their investments.

2.10 As noted above, MBIE was reluctant to impose prescriptive rules for calculating capitalised financial losses given that this would be connected to other asset valuation decisions to be made by the Commission in implementing the regime. However, further guidance was included in s 177 as noted above. Given the previous merits review challenges in Part 4 of the Commerce Act over the setting of initial RAB values, it could be argued that these statutory requirements were intended to reduce the scope of contention that might exist over how to apply PQ and ID part way through a network's life.[14]

2.11 Having regard to the context surrounding the enactment of s 177, and subject to the express legislative directions, we consider the overall approach to determine the FLA for an LFC in relation to the pre-implementation period should be to:

2.11.1 determine the shortfall between the costs that could reasonably be expected to have been incurred in the UFB rollout (taking into account the concessionary Crown financing) and the revenues earned by the LFCs during this period; and

[13] MBIE "Telecommunications Act Review: Options Paper" (July 2016), page 35.

[14] See, for instance, *Wellington International Airport Ltd v Commerce Commission* [2013] NZHC 3289, at [368]-[629].

2.11.2 adjust these losses to reflect their present value at the implementation date.

2.12 In carrying out this task, the legislative directions in s 177 are not entirely prescriptive. That is, there are still a number of areas of judgement to be exercised and some key regulatory issues to resolved, as we discuss in the remainder of this paper.

2.13 Lastly, we note that the recognition of financial losses as an asset in the RAB anticipates that providers should have the opportunity to eventually recover them through prices charged to end-users over time. However, the legislation clarifies that such recovery is not guaranteed. Section 177(4) expressly states that "[i]t 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".

Decision-making framework

The promotion of the purpose of IMs: s 174

2.14 The FLA IM, like all other IMs, is intended to promote certainty for regulated providers, access seekers, and end-users in relation to determining the initial value of the FLA for PQ and ID purposes. The FLA IM seeks to achieve this by setting upfront rules, requirements, and processes regarding the way the initial value of the FLA is calculated. The FLA is a key input to determining the rate of return on investment, and without the FLA IM there would be many open questions regarding how to determine the initial value of the FLA and therefore how to determine the return on investment.[15]

The promotion of the purpose of Part 6 in s 162: s 166(2)(a)

2.15 Our FLA IM decisions must be those that we consider will best give, or are likely to best give, effect to the purpose in s 162 of the Act, while complying with the mandatory requirements in the Act setting out how it is to be calculated.

2.16 The FLA IM has a key role in promoting the purpose of Part 6 of the Act. We consider that our decisions for the FLA IM are likely to best give effect to the purpose in s 162 of the Act as they promote the outcomes produced in workably competitive markets. The specific outcomes relevant for the FLA IM are those in s 162(a) and (d).

2.17 In terms of s 162(a), the FLA IM seeks to ensure that regulated providers have incentives to innovate and to invest, including investing in upgrading and replacing existing assets, and purchasing new assets (in line with s 162(a)). In particular, the

15 For example, questions regarding how losses should be valued in present value terms at implementation date, or how the costs of concessionary Crown financing should be referred to in the calculations.

treatment of the losses incurred by LFCs in the pre-implementation period provides an important signal to investors about the treatment of future investments. If the initial value of the FLA does not permit the opportunity to earn a normal return over the life of those assets, then this may weaken incentives for regulated providers to invest going forward.

2.18 The FLA IM also provides rules for determining the value of the FLA included in the initial RAB that limits regulated providers' ability to extract excessive profits (s 162(d)). In particular, the rules contained in the FLA IM assist in limiting regulated providers' ability to earn excessive profits through over-recovery of costs, and promote the long-term benefits of FFLAS end-users by ensuring that:

2.18.1 the FLA accurately reflects the financial losses incurred under the UFB initiative for the pre-implementation period by a regulated provider, reflecting the cost to the provider of those financial losses; and

2.18.2 when applied with respect to PQ regulation, the maximum allowable revenue based on, among other things, the PQ RAB, will apply an overall limit on certain prices that end-users are charged and will thereby facilitate the reflection of the cost of the FLA in the prices set.

2.19 The FLA IM will also assist in providing insights into regulated providers' profitability and performance. Profitability assessments may be undertaken by the Commission or other interested persons using information provided and published under ID regulation. The requirement for regulated providers to be transparent regarding their performance may create incentives for those providers to act in a way that promotes the purposes of Part 6.

2.20 As discussed below, the amendment determination also sets out rules that must be applied over time to ensure that the treatment of the FLA under particular situations limits a regulated provider's ability to extract excessive profits when applied under PQ and ID regulation.

2.21 In addition to promoting the outcomes set out in s 162(a) and s 162(d), the FLA decisions are supportive of the other outcomes set out in s 162. These are the promotion of incentives to improve efficiency (s 162(b)) and ensuring regulated providers allow end-users to benefit from efficiency gains in the supply of FFLAS, including through lower prices (s 162(c)).

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

2.22 In reaching our decisions for the FLA IM, where relevant, we have considered the requirement under s 166(2)(b) to promote workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services. For each of our FLA decisions, we have considered the 'competition screening' considerations set out in the main final reasons paper to help us identify any implications that the decision could have for the current or future competitive conditions in telecommunication markets.[16] We did not identify any reasons why the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services has implications for our final decisions for the FLA IM that would require us to take a different approach from the one which promotes s 162(a)-(d).

We have applied an economic framework to help guide our final decisions

2.23 At its core, our incentive regulation introduces incentives for regulated providers to behave in ways consistent with the purposes described in s 162 of the Act.

2.24 As set out in the main final reasons paper, we developed an economic framework to help guide the decisions we make in developing the new regulatory regime for Part 6 of the Act, including the fibre IMs. The framework helps us make individual decisions that are consistent with each other, and with the requirement to best give effect to the purposes described in s 166(2) of the Act.

2.25 The economic framework includes three components:[17]

2.25.1 **economic principles**, including real financial capital maintenance (**FCM**), allocation of risk, and asymmetric consequences of under/over investment;

2.25.2 **an incentive framework** to help us evaluate how the regime may interact with the incentives faced by regulated providers and assist us in identifying risks to end-users; and

2.25.3 **competition screening questions** to help us assess whether our decisions might be relevant to competitive outcomes in telecommunications markets.

2.26 Where relevant, we applied the economic framework in reaching our final decisions for the calculation of the FLA.

2.27 We received submissions on the relevance of FCM to the calculation of the FLA. Submitters noted the following.

2.27.1 Chorus argued that our decisions for the calculation of the FLA "must, cumulatively, deliver on the Commission's key economic principles of FCM,

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[16] Commerce Commission "Main final decisions reasons paper" (13 October 2020), paragraph 2.384.

[17] Ibid, paragraphs 2.272-2.335 and 2.383-2.399.

efficient risk allocation, and recognising the asymmetric consequences of over-and under-investment".[18]

2.27.2 Vector, in its submission on Dr Lally's report, argued that targeting real FCM should be adopted consistently between the forward-looking setting of the PQ path and establishing the value of the losses incurred in the pre-implementation period.[19] Vector reiterated this argument in its submission on our FLA further consultation paper when commenting on our draft decision to use nominal WACC for the calculation of the FLA.[20]

2.27.3 In its cross-submission on our FLA further consultation paper Vodafone supported Vector's argument noting that it "do[es] not believe it was the policy intent to target nominal FCM in the pre-implementation period" and that "[w]e are unaware of any reasons to depart from real financial capital maintenance".[21] However, in its submission on our draft decisions Vodafone stated that it is unclear "why FCM is a useful principle in the calculation of the losses".[22] Vodafone also noted in its submission on our fibre emerging views paper that it is "unsure how FCM helps determine the correct level of cost allocation" in the valuation of the FLA.[23]

2.28 To reach our decisions for the FLA IM we have applied the requirements of s 177 and the approach we consider will best give effect to the purposes in s 162.

2.29 We have also considered the extent to which the concept of FCM could assist us in determining the value of the FLA.[24] FCM is a forward-looking concept in that it provides, at the beginning of each regulatory period, an *ex-ante* opportunity for efficient regulated providers to earn a normal return on their investments.[25] Allowing a regulated provider the *ex-ante* opportunity to earn a normal return over the lifetime of an investment is an outcome comparable to investors' expectations in workably competitive markets. The forward-looking application of FCM is thus conducive to promoting investment, consistently with the Part 6 purpose at s 162(a).

[18] Chorus "Cross-submission on second consultation paper on financial loss asset" (5 October 2020), paragraph 11.

[19] Vector "Submission on Dr Martin Lally expert report" (20 August 2020), paragraph 9.

[20] Vector "Submission on consultation draft (initial value of financial loss asset)" (11 September 2020), paragraphs 19-23.

[21] Vodafone "Cross-submission on second consultation paper on financial loss asset" (5 October 2020), page 4.

[22] Vodafone "Submission on Fibre input methodologies – Draft Decision" (30 January 2020), page 12.

[23] Vodafone "Fibre emerging views submission" (18 July 2019), page 21.

[24] As a concept FCM can refer to targeting real returns (real FCM) or to targeting nominal returns. The two concepts differ only in the allocation of risk arising from inflation. If FCM is targeting nominal returns, the risk arising from inflation is allocated to investors and end-users.

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

Likewise the general concept of FCM is relevant to the pre-implementation period (ie, the period starting on 1 December 2011 and ending the day prior to the implementation date of the regime, 1 January 2022) as the concept goes to what a reasonable investor would expect to recover over the lifetime of investments.

2.30 In practice, however, the application of FCM *ex-ante* is unlikely to result in a strict NPV=0 outcome and importantly, FCM does not guarantee a normal return *ex-post*.[26] This applies equally in the context of ID regulation, where *ex-post* returns are evaluated against the estimated regulatory WACC which is set *ex-ante*.

2.31 Consequently, while the FCM principle can assist us in promoting the s 162 outcomes and purpose going forward, we consider there are limitations to its use as a tool for the calculation of the FLA in the period prior to implementation. Our reasons are as follows.

2.31.1 The pre-implementation period is not a regulatory period and it is unlikely that in 2011 investors' expectations were framed in terms of what a building blocks model (**BBM**) with a 10-year horizon might have delivered. Part 6 regulation did not apply at the time and was not discussed in detail until several years after the commencement of the UFB initiative. Investments were made based on commercial terms achieved through the competitive UFB tendering process.[27]

2.31.2 We intend to determine the value of the FLA in accordance with the requirements in s 177 and in a way that we consider best gives effect to the purposes in s 162, including by considering the potential effect of our decisions on incentives of regulated providers to invest going forward. However, a strict application of FCM may not be possible in every FLA IM decision given the statutory requirements, the limited information about investor expectations for the pre-implementation period, and the *ex-post* nature of the calculation of the FLA.[28] As noted above, the Act acknowledges at s 177(4) that "It is not the intention […] that regulated fibre service providers should be protected from all risk of not fully recovering those financial losses through prices over time".

[26] See also Commerce Commission "Main final decisions reasons paper" (13 October 2020), paragraphs 2.291-2.294.

[27] See Commerce Commission "Further consultation draft (initial value of financial loss asset) – reasons paper" (13 August 2020), para 3.29.

[28] For a discussion of the status of the key economic principles see also Commerce Commission "Main final decisions reasons paper" (13 October 2020), paragraphs 2.282-2.288.

Final decisions: methodology for determining the initial value of the FLA

2.32 This section sets out our final decisions and reasons for the methodology for determining the initial value of the FLA for all regulated providers.

The DCF methodology

2.33 Our final decision is to adopt a DCF methodology for determining the initial value of the FLA at implementation date for each regulated provider.

2.34 A DCF approach values a project through its discounted cash flows over time. Expenditure outflows and revenue inflows are recorded as they occur and are discounted to arrive at the present value of the whole project over its lifetime. Under this approach, investments made by a provider enter as expenditure cash outflows at the time of those investments (rather than being recouped through depreciation over time under a BBM approach).

2.35 Section 177 requires the present value of the FLA to be established at a point in time occurring after the cash flows during the pre-implementation period have occurred – ie, the implementation date. Accordingly, the DCF method we have adopted *compounds* values forward in time to the implementation date rather than *discounting* future cash flows back to an original investment date. Additionally, given that the calculation is performed for only part of the life of the investment in the network, the method also needs to 'net off' the part of the investment that falls outside the pre-implementation period (ie, treat this residual value equal to the depreciated value of the assets at implementation date as a "terminal" cash inflow).

2.36 In broad terms, the DCF methodology we have adopted involves the following.

2.36.1 For each year (or part year) of the pre-implementation period, determining relevant cash inflows or outflows occurring for a provider under the UFB initiative (eg, revenues, capex, opex, changes in cost allocation and tax costs) and converting these cash flows into net present values as at the implementation date (1 January 2022).[29] Expenditure cash flows shared between UFB and other services are subject to cost allocation rules.

2.36.2 Referring to the actual cost of Crown financing during the pre-implementation period by determining an amount that reflects the present value of the costs that the regulated provider avoids because it receives the concessionary funding from the Crown. The rate applied to calculate the benefit (ie, the avoided costs) depends on whether Crown

[29] 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.

financing was advanced by way of debt or equity, or a combination of both.[30]

2.36.3 Determining the value of UFB assets at the implementation date according to s 177(1) (as mentioned above, this amount is the depreciated value at implementation date and represents a "terminal" cash inflow).

2.36.4 Calculating the "accumulated unrecovered returns on investments" by:

2.36.4.1 summing the net present values of the relevant cash flows;

2.36.4.2 adding back the depreciated terminal value of UFB assets; and

2.36.4.3 adding back the benefit (ie, the avoided costs) of Crown financing.

2.37 The DCF methodology can be expressed algebraically as follows:

Figure 2.1 Calculation of the FLA

FLA at implementation date	=	*PV (UFB revenues cash flows) – PV (UFB costs cash flows)*
		+ UFB asset base closing value at implementation date
		+ PV (benefit of Crown financing)

2.38 The present value calculations for the elements above apply a compounding rate which we have determined as the post-tax regulatory WACC calculated for the year in which the cash flow arises. The present value calculations account for different cash flow timing assumptions for the various cash flow items (as discussed below). Interest and other financing payments are excluded from DCF cash flows as these are implicitly accounted for in the compounding rate.

2.39 We have chosen to use the DCF methodology given we consider it best meets the requirements of s 177 of the Act. 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 refers to the actual costs of Crown financing. 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".[31]

30 The rate used in the calculation of the annual benefit is consistent with the treatment of Crown financing for the post-implementation period for Chorus and the LFCs – see the main final reasons paper.

31 "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".

2.40 We consider the DCF method is the simplest to understand and implement 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 (as discussed below). This in turn promotes transparency of the calculation of the FLA, which is an important part of the regime.

Use of a post-tax WACC

2.41 To simplify the DCF approach, we have used a post-tax WACC as the relevant compounding rate. The use of a post-tax WACC rather than a vanilla WACC (which, for example, is applied post-implementation in the setting of Chorus' PQ path) is equivalent where we make a corresponding adjustment to exclude the interest tax shield from our DCF tax calculations. In the event of substantial tax losses during the pre-implementation period, however, we recognise that a correction will be required to account for the difference in the time value of money. This is explained further at paragraph 3.402 below.

Reasons for adopting a DCF methodology vs BBM methodology

2.42 In earlier draft decisions for the FLA, we had proposed that a BBM methodology would be applied to calculate the financial losses, which assumed each year's expenditure was financed at a variable rate WACC with a term to implementation.[32] 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 cash flow decisions occurred. In effect, we allowed the term as well as the WACC to vary over time for each expenditure increment.

2.43 After considering the evidence, expert opinion, and submissions on our draft decision, we concluded that the appropriate treatment is to apply one compounding rate to each expenditure increment for compounding forward in each year of the pre-implementation period leading up to the implementation date. We consider that the use of a single compounding rate as the opportunity cost of capital in each year of the pre-implementation period is the most appropriate.[33] We believe it best preserves investor confidence in the regime, consistent with the purpose in s 162(a),

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32 Commerce Commission "Fibre input methodologies – Draft decision paper "(19 November 2019), paragraph 3.86.4.

33 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

while ensuring regulated providers are limited in their ability to extract excess profits, in line with s 162(d).

2.44 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 pre-implementation period. 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.[34] Instead, and equivalently, we have simply present-valued each expenditure increment in the pre-implementation period at the WACC relevant to that increment.

Other features of the FLA

2.45 Other features of the FLA IM are that we have:

2.45.1 prescribed a single set of codified requirements that apply to regulated providers subject to both PQ and ID regulation, and those subject to ID regulation only; and

2.45.2 certain modifications are made to a traditional DCF approach to aid implementation, and we allow GAAP rules to be applied where they are consistent with relevant regulatory objectives.

2.46 We consider this approach has produced a FLA IM that achieves an appropriate balance between certainty and flexibility, while seeking to reduce compliance costs for regulated providers. We explain this in further detail below.

A single set of requirements

2.47 We have developed a single IM that applies consistently to both Chorus and the other LFCs, and it is contained as a standalone methodology in Schedule B of the IM determination.

2.48 A potential reason for adopting a different FLA IM for different regulated providers (eg, one for Chorus and one for other LFCs) would be to reduce the regulatory burden that the other LFCs face.[35] This could be, for example, because the other LFCs are all significantly smaller entities than Chorus, with fewer potential end-users. However, on balance, we consider that there are very few areas where different approaches would materially reduce the burden faced by smaller LFCs, and that

34 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) (refer to footnote above).

35 For example, requirements could be simplified to minimise the investment required in existing systems to produce new data.

different approaches would not be justified based on differences between the two forms of regulation faced by providers: ie, PQ and ID regulation.

2.49 In addition, we have sought to codify all material aspects of the DCF calculation through a set of comprehensive definitions and requirements contained in Schedule B. We consider the prescriptive nature of these rules will promote certainty to the maximum extent possible, consistent with s 174 of the Act, and is best suited to the task given the DCF calculation relates to a historical period where the particular details of transactions occurring are known.

Modification to conventional DCF method and application of GAAP

2.50 We have considered the extent to which the FLA IM needs to provide for additional or different rules to those that would conventionally apply when undertaking DCF valuations. We have also considered those rules that regulated providers are required to meet as part of their statutory financial reporting obligations.

2.51 Our approach to the FLA IM is:

2.51.1 to make some modifications to a conventional DCF method to aid practical implementation for regulatory purposes; and

2.51.2 to allow GAAP rules to be adopted as part of the FLA IM where they are consistent with relevant regulatory objectives.

2.52 As described in further detail in Chapter 3, we have incorporated several modifications to a conventional DCF method to facilitate its implementation for fibre regulation and ensure an appropriate result. These include:

2.52.1 adopting the “value of commissioned assets” determined under the FLA IM as the measure of cash flows associated with investment in assets (ie, capex) during the pre-implementation period;

2.52.2 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 DCF calculation; and

2.52.3 excluding interest and other financing payments from DCF cash flows (as mentioned above) as these are accounted for in the compounding rate.

2.53 In the FLA IM we also adopt GAAP rules where consistent with regulatory objectives, eg, for determining the quantification and timing of UFB revenues or operating expenditure. This is because statutory financial records that regulated providers are required to maintain are based on GAAP. This means that adopting GAAP can be a cost-effective approach, minimising compliance costs and reducing the complexity for regulated providers, given their finance staff will be familiar with the GAAP rules.

Process for undertaking the DCF calculation

2.54 We intend to work through the practical process for obtaining the necessary information to determine the initial value of the FLA for each regulated provider as part of setting PQ and ID regulation. In particular, information for the final year of the pre-implementation period will not be available in time to determine the value of the FLA prior to the implementation date. For PQ-setting we propose to use a forecast of the FLA for Chorus as discussed further in Chapter 3. For the other LFCs, the process for determining the initial value of the FLA will be considered prior to the first disclosures required under ID regulation.

Final decisions: Inclusion of pre-2011 assets

2.55 In this section we set out our final decisions regarding the eligibility of pre-2011 assets to be included in the FLA calculation, and our associated reasons.

Our final decisions

2.56 One of the key components of our draft decision regarding the calculation of the FLA was that pre-2011 assets are eligible to form part of the FLA calculation.[36] The term "pre-2011 assets" refers to assets that were constructed or acquired prior to 1 December 2011 and therefore pre-date the pre-implementation period, which have been employed in the provision of FFLAS under the UFB initiative for Chorus. If eligible to be included in the FLA calculation, these assets must be valued at their depreciated cost derived from Chorus' general purpose financial statements.[37]

2.57 Our final decision is to maintain our draft decision that pre-2011 assets are eligible to form part of the calculation of the FLA. There is nothing precluding the Commission from taking account of accumulated unrecovered returns on pre-2011 investments provided the unrecovered returns on those investments relate to the period 1 December 2011 to the implementation date (the "pre-implementation period").[38] We discuss the reasons for our decision below, and provide further clarification regarding how pre-2011 assets should be accounted for.

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36 Commerce Commission "Fibre input methodologies – Draft decision paper" (19 November 2019), paragraphs 3.157-3.166.

37 Commerce Commission "Fibre input methodologies – Final Reasons paper" (13 October 2020) at paragraph 3.35.

38 Commerce Commission "Fibre input methodologies – Draft decision paper" (19 November 2019), paragraphs 3.157-3.166. In our Further consultation draft (initial value of financial loss asset) - reasons paper published in August 2020, this period was referred to as the "transition period". In our final reasons paper published on 13 October 2020, we used the term "pre-implementation period" to refer to the same period (in some instances using the term from the draft, of "transition period", interchangeably). In this paper, we use the term "pre-implementation period" to ensure consistency with the final reasons paper. For the avoidance of doubt, this same period is defined in the determination as "financial loss period" (ie, while a different term is used, it refers to the same period).

Submissions received on the interpretation of section 177

2.58 We received a large number of submissions from stakeholders on the issue of whether the costs of pre-2011 assets should be included in the calculation of the FLA.[39] A number of the points raised focussed on cost allocation issues (which we address in Chapter 3), while others concentrated on the interpretation and application of s 177 of the Act.

2.59 The submissions that focussed on s 177 can be grouped as follows:

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

2.59.2 whether s 177(5) excludes pre-2011 assets from the FLA calculation on the basis that the relevant costs were not "incurred as a direct result of meeting specific requirements of the UFB initiative"; and

2.59.3 whether the inclusion of pre-2011 assets promotes the purpose of Part 6 in s 162 of the Act.

Whether s 177(2) and (3) either require or permit the inclusion of pre-2011 assets

2.60 Submitters' views on this issue fell into three categories.

2.60.1 Section 177(2) and (3) exclude the costs of pre-2011 assets from the calculation of the financial losses;

2.60.2 Section 177 can permit the inclusion of pre-2011 asset costs, but it directs an incremental cost approach. Losses should be limited to those incurred as a result of the incremental investments made to meet the requirements of the UFB initiative.

2.60.3 Section 177 *requires* the inclusion of pre-2011 assets in the financial losses calculation.

Section 177(2) and (3) exclude the costs of pre-2011 assets from the calculation of the FLA

2.61 Trustpower submitted that section 177(2) and (3) exclude pre-2011 asset costs from the calculation of the financial losses:[40]

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

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39 Commerce Commission "Fibre regulation emerging views – technical paper" (1 May 2019).

40 Trustpower "Fibre emerging views submission" (18 July 2019), paragraphs 3.5.5 - 3.5.8; supported by 2degrees "Cross submission on Commerce Commission Fibre Regulation Emerging Views Paper" (31 July 2019) at pages 3, 12 and Vector Communications "Cross-submission on Fibre input methodologies draft decision" (18 February 2020).

> 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.

2.62 Trustpower did not accept the Commission's draft view that "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…":[41]

> Investments in pre-2011 assets were not made under the UFB initiative.
>
> … Chorus did not acquire [those] pre-2011 assets as a condition of, and pursuant to, the UFB initiative. They may have participated in the UFB initiative in the expectation of using those pre-2011 assets to deliver on their contractual obligations to the Crown, but that is not the same thing.

2.63 This view had support from Vocus, which submitted:[42]

> 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'.

2.64 Trustpower also submitted that s 177(3) implicitly excludes pre-2011 assets.[43] It considered this is evident through the explicit reference in s 177(3)(a) to post-2011 assets (ie, "the Commission must take into account any accumulated unrecovered returns on investments made by the provider under the UFB initiative"), with no corresponding reference to investments that were *not* made under the UFB initiative.

2.65 Trustpower submitted that the Commission takes an inconsistent approach to interpretation of s 177(3), and that the Commission should give s 177(3)(a) its due weight and exclude pre-2011 assets in its determination of financial losses:[44]

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41 Trustpower "Trustpower Submission: Fibre Input Methodologies: Initial value of the Financial Loss Asset" (9 September 2020), at paragraphs 2.5.1 and 2.5.3.

42 Vocus "Fibre Emerging Views cross-submission" (12 August 2019) paragraphs 7; 55-57.

43 Trustpower "Trustpower Submission: Fibre Input Methodologies: Initial value of the Financial Loss Asset" (9 September 2020), at paragraph 2.3.2.

44 Trustpower "Trustpower Submission: Fibre Input Methodologies: Initial value of the Financial Loss Asset" (9 September 2020), at paragraphs 2.3.3-2.3.4.

> …on the one hand, the Commission does not consider it may take into account other financing costs in its interpretation of s 177(3)(b), but on the other hand, it does consider it may take into account other investments in its interpretation of paragraph (a).

Section 177 directs an incremental cost approach

2.66 A number of RSPs (Spark, Vodafone, Vocus, Trustpower and 2degrees) considered that s 177 directs the Commission to adopt an incremental cost approach, ie, that losses should be limited to those incurred when incremental investment was made to meet the requirements of the UFB initiative.

2.67 Spark agreed that pre-2011 assets could logically contribute to the FLA, provided the assets are consistent with the limits of s 177(2).[45] It submitted that the scheme of s 177 directs the Commission to consider a narrow definition of losses, and that both Chorus' position and the Commission's draft decision to include pre-2011 assets likely went beyond that envisaged by s 177. It considered this narrow definition of losses covers:[46]

> … only losses incurred when incremental investment is made to meet the requirements of the UFB initiative, not losses that may be incurred more broadly or losses that may be incurred as a result of opportunity costs arising from the employment of assets in providing UFF services.

2.68 Spark submitted further:[47]

> Section 177(2) provides specific guidance that losses must have been incurred in the provision of fibre services under the UFB initiative.
>
> Section 177(3) goes on to direct the Commission to take into account only unrecovered returns on investments made under the UFB initiative [our emphasis]. Again, this section points to investments and returns specific to UFB. As an interpretative guide it points further to a narrower approach to losses and supports the argument that the "losses" relate only to losses arising from the incremental costs of employing a service to provide UFB services.
>
> Section 177(4) makes it even clearer that losses should not be considered broadly, stating that it is not the intention that LFCs should be protected from all risk of losses.
>
> Finally, section 177(5) makes it clear that direct cost of meeting the UFB requirements constitute losses for the purpose of this section. While Section 177(5) is framed as an "avoidance of doubt" provision, when read in the broader context of section 177, it helps to demonstrate that the emphasis is on which costs are direct costs to participate in UFB and therefore form part of the legitimate consideration set for the Commission. It does not suggest that direct and indirect losses could all form part of the consideration set.

45 Spark "Submission on consultation draft initial value of financial loss asset" (10 September 2020).
46 ibid, paragraphs 9-12.
47 ibid, paragraphs 17-24.

2.69 Spark considered that the introduction of s 177(1) was:[48]

> …a conscious choice to "draw a line" under asset values avoiding controversial arguments relating to economic value or overall values of wider arrangements. The approach does not seek to calculate the unrecovered costs of existing 2011 assets. There were concerns whether unrecovered costs could even be calculated and, even if they could, whether it be appropriate to do so as that would result in a RAB that either claws back past profits or protects the firm from the adverse consequences of past risks.
>
> Therefore, proposals have the effect of revaluing assets through the FLA on the basis of expectations or to provide a "seamless" transitioning of the prior regulatory framework are concerning. This exercise would likewise require an impossible assessment of what the relevant expectations might have been and degree to which these expectations have been recouped.

2.70 Vodafone submitted that the Act provides the Commission with sufficient discretion to implement an incremental cost approach:[49]

> 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.

2.71 2degrees took the view 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:[50]

> 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

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48 Section 177(1) provides that the initial value of the fibre assets is the cost to construct or acquire the assets or, if the fibre asset was owned by Chorus before 1 December 2011, the value in the financial statements (adjusted for accumulated depreciation or any impairment losses (applying accounting rules). Spark "Submission on consultation draft initial value of financial loss asset" (10 September 2020) at paragraphs 13-16.

49 Vodafone "Fibre emerging views submission" (18 July 2019), at pages 17-19.

50 2degrees "Submission on Fibre input methodologies – Draft decision" (30 January 2020).

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.

2.72 2degrees and Vocus considered the Commission should define what "financial loss" means.[51] 2degrees took the view that the extent to which pre-2011 assets are relevant considerations to the calculation of the financial losses under s 177(2) depends on whether their inclusion is consistent with this definition.[52]

2.73 2degrees considered that "financial loss" means the difference in profits between supplying and not supplying non-exempt FFLAS during the pre-implementation period. [53]

Section 177 *requires* the inclusion of pre-2011 assets in the financial losses calculation

2.74 Chorus disagreed both with those that submitted s 177 does not permit the inclusion of pre-2011 assets in the calculation of financial losses, and those that considered that s 177 requires an incremental cost approach.

2.75 Chorus supported our analysis of the status of pre-2011 assets and our draft decision to take into account accumulated unrecovered returns on pre-2011 investments, provided the returns related to the pre-implementation period:[54]

> We agree with the Commission maintaining its draft decision to include pre-2011 assets in the calculation of the FLA. The acquisition of pre-2011 assets by Chorus was itself undertaken as a condition of, and pursuant to, the UFB initiative. Therefore, investors have an expectation of a return on and of capital for pre-2011 assets.
>
> It is reasonable to assume that FFLAS consumers should contribute to the recovery of their share of the existing assets that are re-used to provide FFLAS. That is, as the consumer transitions from copper to fibre they should continue to pay their share of the cost. This ensures the right outcome is achieved, which is consistent with a workably competitive market. As the Commission notes, an incremental cost approach would not account for customer migrations from copper to FFLAS and lead to under-recovery of shared costs.

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51 2degrees "Submission on consultation draft of initial value of financial loss asset" (10 September 2020), page 2; Vocus "Submission to the Commerce Commission" (10 September 2020), paragraphs 10-12.

52 2degrees "Submission on consultation draft of initial value of financial loss asset" (10 September 2020), page 2.

53 Ibid, page 2.

54 Chorus "Submission on Fibre input methodologies – Further consultation draft (initial value of financial loss asset)" (10 September 2020), paragraphs 112 – 113.

2.76 Chorus disagreed, however, that the inclusion of pre-2011 assets in the calculation of the financial losses is a matter of discretion for the Commission. In Chorus' view, it is *required* by section 177 of the Act:[55]

> A plain reading of section 177 requires the Commission to include in its calculation of the value of the FLA any accumulated unrecovered returns on assets used to meet Chorus' UFB obligations, which includes pre-2011 assets.

2.77 In its submissions in response to our further consultation draft decision, Chorus stated:[56]

> Any submissions suggesting the Commission can ignore the financial losses incurred by LFCs' participation in the UFB initiative are inconsistent with the Act. 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.
>
> 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 therefore disagree with the submissions suggesting that assets constructed or acquired before 1 December 2011 shouldn't be included in the financial loss calculation.

2.78 Chorus also 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:[57]

> 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.

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55 Chorus "Submission on 'Fibre input methodologies – Further consultation draft (initial value of financial loss asset)'" (10 September 2020), paragraphs 24 and 114; Chorus "Cross-submission on the Commerce Commission's fibre input methodologies further consultation draft (initial value of financial loss asset" (1 October 2020), paragraph 32.

56 Chorus "Fibre Emerging Views cross-submissions" (31 July 2019), paragraphs 31-33.

57 Ibid, paragraphs 36-37.

2.79 Enable and Ultrafast also supported the inclusion of pre-2011 assets in the calculation of the FLA, where they have been used between 1 December 2011 and the implementation date to support the UFB initiative. They submitted that this is consistent with s 177 of Part 6 of the Act, and is also consistent with the expectation that Chorus and the other LFCs would leverage existing infrastructure in delivering their obligations under the UFB undertakings.[58] They agreed with Chorus' interpretation of s 177, and said:[59]

> The sole question to be determined is whether the asset in question is used by the regulated fibre service provider in providing fibre fixed line access services under the UFB initiative. Far from excluding pre-2011 assets by implication as Trustpower submits, section 177(1)(a)(ii) makes clear that pre-2011 fibre assets were intended to be included in the calculation of the fibre loss asset (FLA).
>
> Whether existing assets are used, or new assets are created, is irrelevant. There is an opportunity cost associated with using existing assets for FFLAS and therefore an implicit investment which needs to be included in the FLA.

Whether s 177(5) excludes pre-2011 assets from the FLA calculation on the basis that relevant costs were not "incurred as a direct result of meeting specific requirements of the UFB initiative"

2.80 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; and
>
> (b) for both standard connections and non-standard connections.

2.81 Trustpower submitted that if Chorus has unrecovered returns on pre-2011 investments, the associated costs should not be included when calculating the financial losses within the fibre assets:[60]

> 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.

[58] Enable and Ultrafast "Submission on Fibre input methodologies further consultation draft (initial value of financial loss asset) reasons paper 13 August 2020" (10 September 2020), paragraphs 2.1-2.3.

[59] Enable and Ultrafast "Cross-submission on NZCC fibre initial value of financial loss asset – reasons paper (13 August 2020)" (October 2020), paragraphs 3.3-3.5.

[60] Trustpower "Fibre emerging views submission" (18 July 2019), paragraph 3.5.9.

2.82 Trustpower submitted that s 177(5) draws a connection between the costs ("incurred as a direct result") and the "specific requirements of the UFB initiative". In Trustpower's view, this means s 177(5) implicitly excludes certain costs.

2.83 Spark similarly suggested s 177 reinforces that there must be a clear nexus between the financial loss assessment and the provision of FFLAS under the UFB initiative.[61] In relation to subsection (5), Spark pointed to an earlier Cabinet paper which it submitted indicated that financial losses are confined to those incurred meeting specific requirements of the UFB initiative:[62]

> [If] anything, policy decisions point to s 177(5) requiring that financial losses incurred relate to meeting specific requirements, rather than being an enlarging provision as suggested in the draft. Section 177(5) may be better viewed as a reminder that the relevant costs for asset valuation purposes (including past losses) are those incurred as a direct result of meeting specific requirements of the UFB initiative, i.e. ensuring relevant costs are captured, but equally ensuring that care is taken to reject costs that are not specifically incurred to meet specific UFB requirements.

2.84 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*":[63]

> 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

61 Spark "Submission on consultation draft (initial value of financial loss asset)" (10 September 2020), paragraph 21.
62 Spark "Submission on further consultation draft (initial value of financial loss asset)" (10 September 2020), paragraph 30.
63 Vector "Fibre emerging views submission" (18 July 2019), paragraphs 25-27.

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.

2.85 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:[64]

> 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.

Whether the inclusion of pre-2011 assets promotes the purpose of Part 6

2.86 Trustpower submitted that the reuse of pre-2011 assets for the UFB initiative did not promote "incentives to innovate and to invest, including in replacement, upgraded or new assets" in line with s 162(a):[65]

> …the inclusion of the pre-2011 assets did not require innovation or investment. There was no replacement (quite the opposite), no upgrading, and no new assets.
>
> If anything, we believe s 162 supports the conclusion that the financial losses from pre-2011 assets as further investment and innovation was not required by using pre-existing assets.

2.87 Vector was not convinced that our draft decisions for determining costs for the FLA were consistent with s 162:[66]

> … including legacy assets and shared overhead costs within the loss calculation creates the risk of including expenditures in the FLA that were already recovered through the regulation of Chorus' copper network. Therefore, excluding such costs from the FLA would be a more consistent interpretation of the requirement of the Act.

2.88 2degrees submitted that an incremental cost approach is required to avoid the overestimation of losses, an outcome which would be contrary to s 162(d).[67]

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64 Chorus "Fibre Emerging Views cross-submission" (12 August 2019), paragraphs 34-35.

65 Trustpower "Trustpower Submission: Fibre Input Methodologies: Initial value of the Financial Loss Asset" (9 September 2020), paragraph 2.6.2-2.6.3.

66 Vector "Submission on Fibre Input Methodologies – further consultation draft (initial value of Financial Loss Asset)", paragraph 9.

67 2degrees "Submission on consultation draft of initial value of financial loss asset" (10 September 2020), page 2.

Our view on the interpretation of s 177

2.89 In our view, s 177 permits (though does not necessarily require) the costs of pre-2011 assets to be included in the calculation of the FLA. The explanation of our position and our responses to submissions are set out as follows.

Matters to be considered under s 166 and 174

2.90 As with all IM decisions, our determination for the valuation of the FLA under s 177(2) and (3) must be the decision we consider will best give, or be likely to best give, effect to the purpose of Part 6 in s 162 of the Act.[68]

2.91 We consider inclusion of the costs of pre-2011 assets in the FLA calculation best gives, or is likely to best give, effect to the Part 6 purpose (in particular, s 162(a) and s 162(b)). We discuss this further at paragraphs 2.122-2.126 below.

2.92 Where relevant, we must also consider the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services.[69] We have considered the ‘competition screening’ considerations set out in the main final reasons paper to help us identify any implications that the decision could have for the current or future competitive conditions in telecommunication markets.[70] We did not identify any reasons why the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services has implications for our final decisions for the FLA IM that would require us to take a different approach from the one which promotes s 162(a)-(d).[71]

2.93 We are also required to take account of the purpose of IMs in s 174 to promote certainty for regulated fibre service providers, access seekers and end-users.

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

<u>Section 177(2)</u>

2.94 Section 177(2) provides a statutory direction that financial losses are to be included in the FLA. However, s 177(2) provides that financial losses are to be “determined by the Commission”. This discretion must be exercised consistently with the Act, giving proper effect to its policy and objects.[72]

68 Telecommunications Act 2001, s 166(2)(a).
69 Telecommunications Act 2001, s 166(2)(b).
70 Commerce Commission “Main final decisions reasons paper” (13 October 2020), paragraph 2.384.
71 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).
72 *Unison Networks Limited v Commerce Commission* [2007] NZSC 74, [2008] 1 NZLR 42 at [53].

2.95 The only limitations in s 177(2) are that the losses must have been incurred by the provider:

2.95.1 in providing FFLAS;

2.95.2 under the UFB initiative; and

2.95.3 for the pre-implementation period.[73]

2.96 For the avoidance of doubt, the financial losses are limited to those that providers incurred in providing UFB FFLAS, as distinct from any FFLAS that was not provided under the UFB initiative.[74] As Vocus and 2degrees have identified, financial losses incurred in relation to FFLAS that are not UFB FFLAS are outside the scope of s 177(2) and (3).[75] For example, for regulated providers subject to both ID regulation and PQ regulation, financial losses incurred in relation to ID-only FFLAS are excluded from the financial loss calculation.[76]

2.97 There is nothing in the language of s 177(2) that prevents the Commission from taking pre-2011 assets into account in its determination of financial losses. The only temporal element regarding financial losses in s 177(2) is that they must be "incurred … *for* the period starting on 1 December 2011". We note that s 177(2) does not say "incurred…*in* the period". This suggests that the cost of any asset used to provide FFLAS under the UFB initiative for the pre-implementation period should be determined with reference to its expected useful life, rather than the date on which the relevant capital expenditure was made.

2.98 On this approach, the reference to the commencement date of 1 December 2011 is not about the date on which the capital expenditure was incurred (and accordingly, whether assets are "in" or "out" for the purposes of s 177(2)). Rather, it refers to the period in which UFB FFLAS are provided. We consider this approach to s 177(2) (which is in accordance with generally accepted accounting principles (GAAP)), is

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73 As noted at footnote 38 above, the term we used to refer to this period in the draft further consultation reasons paper (and hence certain submissions) was "transition period"; whereas the term from our final reasons paper published on 13 October 2020 was "pre-implementation period". We therefore use the latter term (except where submitters use the term "transition period" in which case we quote directly from the submissions).

74 "UFB FFLAS" is defined in Schedule B of the determination as any FFLAS provided by a regulated provider under the UFB initiative for the financial loss period.

75 Vocus "Submission on consultation draft initial value of financial loss asset" (10 September 2020) at paragraphs 8-9; 2degrees "Submission on consultation draft of initial value of financial loss asset" (10 September 2020), page 2.

76 ID-only FFLAS means, in respect of a regulated provider, all FFLAS provided by that regulated provider that (a) is subject to information disclosure regulation in regulations made under s 226 of the Act, and (b) is not subject to price-quality regulation in regulations made under s 226 of the Act. It refers to Chorus' FFLAS in geographical areas where another LFC has installed a fibre network under the UFB initiative, and which is exempt from PQ regulation under reg 6 of the Telecommunications (Regulated Fibre Service Providers) Regulations 2019.

what was intended, as opposed to a strict temporal requirement. 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.

2.99 If s 177(2) had a strict temporal requirement then while Chorus' pre-2011 assets would be excluded, arguably the *full* actual cost of other assets constructed or acquired after 1 December 2011 and 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 pre-implementation period. We do not consider this could have been the intention of s 177(2). Such an approach would arguably be inconsistent with s 177(4), which makes clear that s 177(2) and (3) are not intended to protect regulated fibre service providers against the risk of not fully recovering those financial losses over time.

<u>Section 177(3)</u>

2.100 Section 177(3) sets out two mandatory considerations for the Commission. We must:

2.100.1 "take into account any accumulated unrecovered returns on investments made under the UFB initiative" (s 177(3)(a)); and

2.100.2 "refer to the actual financing costs" in respect of any Crown financing (s 177(3)(b)).

2.101 In our view, s 177(3) does not prevent us from taking account of pre-2011 assets. The subsection contains no express exclusion of pre-2011 assets, nor is there an implied exclusion when the words are read in their context.

2.102 We consider the intent of s 177(3)(a) is to make it clear that we must take accumulated unrecovered returns on investments made under the UFB initiative into account when determining the financial losses. It does not restrict us from taking any other relevant investments (or other relevant matters more generally) into account when determining the financial losses under s 177(2).

2.103 This interpretation is consistent with the Commission's role in determining 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 (as discussed further at paragraphs 2.122-2.126 below).[77]

2.104 It is also consistent with the legislative history of s 177. Subsection (3) was introduced to make clear that, in determining the financial losses incurred by the

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77 Telecommunications Act 2001, s 166(2)(a).

provider during the pre-implementation period, the Commission was required to take into account “any accumulated unrecovered returns on investments made under the UFB initiative”. There was no suggestion in the SOP that Parliament was intending to limit the matters the Commission could consider in exercising our discretion under subsection (2), or that Parliament intended to exclude consideration of pre-2011 assets in the calculation of financial losses.[78] Additionally, subsection (3) appears to have been in response to a submission from Chorus in which it sought clarification that, if a regulated supplier has not achieved its required return on and of capital invested in fibre services for the period before the implementation date, any such financial losses will be recovered over the lifetime of the regulated assets after 2020.[79]

2.105 While we must consider the matters in s 177(3), we have the discretion to determine the extent to which pre-2011 assets are included in the calculation of financial losses.[80] 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”.[81] Accordingly, if we consider that the pre-2011 assets are relevant to the calculation of the financial losses under s 177(2), we should take them into account.

2.106 We consider this interpretation of s 177(3)(a) is the correct one, even if pre-2011 assets do not qualify as “investments made by the provider under the UFB initiative”.

2.107 In any event, the words “investments made by the provider under the UFB initiative” under s 177(3)(a) could include pre-2011 assets that were redeployed in whole or part to provide FFLAS under the UFB initiative. On this basis, s 177(3) would *require* us to take them into account. 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).

2.108 In this regard, Trustpower made a distinction between Chorus acquiring pre-2011 assets as a condition of and pursuant to, the UFB initiative, and participating in the UFB initiative in the expectation of using those pre-2011 assets to deliver on its contractual obligations (refer to paragraph 2.62 above).

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78 Supplementary Order Paper dated Tuesday, 16 October 2018.

79 Chorus “Submission on the Telecommunications (New Regulatory Framework) Amendment Bill 2017 (2 February 2018), paragraph 72.

80 Subject to the requirement in s 166(2)(a) to do so in the manner which we consider best gives, or is likely to best give, effect to the purpose in s 162.

81 See above at paragraph 2.99.

2.109 In response, we note that it is possible Chorus did in fact acquire certain assets in advance of 1 December 2011 for the purpose of delivering the UFB initiative.[82] In any event, however, we do not consider that our interpretation that s 177 permits inclusion of pre-2011 assets in the financial losses turns on this distinction. The critical point is that Chorus relied on pre-2011 assets (whether repurposed or redeployed) to deliver its obligations under the UFB initiative. It matters not whether it acquired them in advance of 1 December 2011 for the express purpose of the UFB initiative.

2.110 Trustpower has also submitted that s 177(3) implicitly excludes pre-2011 assets on the basis that while it refers to "accumulated unrecovered returns on investments made by the provider under the UFB initiative", it contains no corresponding reference to investments that were *not* made under the UFB initiative (at paragraph 2.64 above). Trustpower's argument is premised on the view that "investments under the UFB initiative" refers exclusively to assets purchased for the express purpose of the UFB initiative (ie, not repurposed assets). For the reasons outlined at paragraph 2.107 above, we consider the better interpretation of s 177(3) is that "investments made by the provider under the UFB initiative" does encompass those assets that were repurposed for UFB.

2.111 Further, the requirement under s 177(3) to take into account "any accumulated unrecovered returns on investments under the UFB initiative" must be read with reference to s 177(2). Subsection (2) refers to financial losses "incurred … *for* the period", and not "incurred … *in* the period". As set out at paragraphs 2.97-2.98 above, this suggests that the relevant cost of any asset used to provide UFB FFLAS for the pre-implementation period should be determined with reference to its expected useful life, rather than the date on which the relevant capital expenditure was made. 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.

2.112 For completeness, we address Trustpower's argument that our approach to interpretation of s 177(3)(a) is inconsistent with our approach to s 177(3)(b) (refer to paragraph 2.65 above). Section 177(3)(b) requires the Commission to take into account the actual financing costs that relate specifically to "Crown financing" (a term defined in s 164 of the Act). The focus of subsection (3)(b) is therefore on *Crown financing*, rather than financing costs more generally. In contrast, the reference in subsection (3)(a) to "accumulated unrecovered returns on investments" is broader. The term, defined in s 177(6) in our view can be reasonably read in the

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[82] The demerger date from Telecom NZ Limited was 30 November 2011 but Chorus Limited had been incorporated prior to that date on 1 July 2011.

manner we outline at paragraphs 2.101-2.107 and 2.110-2.111 above. We therefore do not agree that an issue of inconsistency arises.

2.113 Finally, we address the relevance of s 177(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 fibre assets can be shared assets. The legislation provides for a comparable means of valuing these assets: ie, based on actual/historic costs. We consider this supports our interpretation that pre-2011 assets can also be included in the calculation of the financial losses.

Section 177 does not require an incremental approach to the calculation of financial losses

2.114 We do not consider that s 177 requires an incremental approach to the calculation of financial losses (ie, limiting costs to those incurred when incremental investment was made to meet the requirements of the UFB initiative, and not losses that were incurred more broadly).

2.115 There is nothing in the language of s 177(2) or (3) that indicates such an approach is required. The reasons from an economic perspective for our conclusion that an incremental cost approach is not appropriate and does not best serve the purpose of the Act are discussed further in the cost allocation section of Chapter 3 (refer to paragraphs 3.281 to 3.303).

"Financial losses" is defined in the determination with reference to methodology

2.116 Some submitters suggested the Commission define what is meant by "financial losses" (refer to paragraphs 2.71-2.72 above). In response, we note that this term is defined in the determination with reference to the methodology for determining financial losses in the determination as follows:

> **Financial losses** means the losses incurred by a **regulated provider** in providing **FFLAS** under the **UFB initiative** for the **financial loss period** as specified in accordance with clause B1.1.2(2) of Schedule B.

2.117 Clause B1.1.2(2) of Schedule B sets out the formula for calculating the financial losses. We consider this provides sufficient certainty for regulated providers in determining the financial losses for the purposes of s 177.

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

2.118 Section 177(5) does not impose a restriction on either s 177(1) or (2). Section 177(5) clarifies, 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 paragraph 2.80 above).

2.119 Subsection (5) 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, it was noted:[83]

> 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.

2.120 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).

Why we consider our interpretation of s 177 best meets the Part 6 purpose

2.121 We consider our interpretation of s 177 best meets, or is likely to best meet, the Part 6 purpose under s 162 of the Act. The limbs of s 162 we consider most relevant are s 162(a), (b) and (d), promoting outcomes consistent with those produced in workably competitive markets so that regulated providers:

2.121.1 have incentives to innovate and to invest, including in replacement, upgraded, and new assets (section 162(a)); and

2.121.2 have incentives to improve efficiency and supply FFLAS of a quality that reflects end-user demands (section 162(b)); and

2.121.3 are limited in their ability to extract excessive profits (section 162 (d)).

<u>Section 162(a): providing incentives to innovate and invest, including replacement, upgraded and new assets</u>

2.122 As outlined above, the UFB initiative involved significant repurposing of existing assets. We consider that treating repurposed assets as eligible for inclusion in the financial losses is linked with providing incentives to innovate and invest.

2.123 Trustpower characterises the re-use of existing assets as not requiring investment (we understand their submission to be referring to new investment), and by implication therefore with no relationship to incentives to invest. We do not agree. If a regulated provider makes an investment and it can then be re-used in an

[83] Ministry of Business, Innovation and Employment *Departmental Report: Telecommunications (New Regulatory Framework) Amendment Bill* (20 April 2018).

economically valuable way, but it receives no compensation for that use, that may reduce incentives to invest.

2.124 As we discuss further in Chapter 3, excluding pre-2011 assets could limit the ability of Chorus to earn a return on those assets as demand migrates from copper to fibre-based services. Treating pre-2011 assets as having zero value can therefore be considered as not providing incentives to invest in the future. For this reason, we consider our interpretation best gives effect, or is likely to best give effect to the purpose of s 162(a).

<u>Section 162(b): incentives to improve efficiency and supply FFLAS of a quality that reflects end-user demands</u>

2.125 Linked to s 162(a), compensating regulated providers for re-purposing of assets also improves efficiency which translates into benefits for end-users. The exclusion of pre-2011 assets may reduce incentives to improve efficiency through repurposing of assets in the future.

<u>Section 162(d): limiting excessive profits</u>

2.126 In relation to s 162(d) — limiting regulated providers in their ability to extract excessive profits —in Chapter 3 we discuss how our cost allocation decisions in relation to the FLA mitigate the risk of windfall gains in the treatment of pre-2011 assets (for example, see paragraphs 3.325-3.334 below).

Treatment of FLA from implementation date

2.127 The treatment of the FLA from the implementation date remains unchanged from that prescribed by the IMs in the IM determination and described in the main final reasons paper.

2.127.1 **Inclusion in initial RAB** (paragraphs 3.25 to 3.27 of the main final reasons paper) - the FLA will be included in the Initial RAB at implementation date, together with the core fibre assets employed in the provision of regulated FFLAS.

2.127.2 **FLA asset depreciation** (paragraph 3.288 of the main final reasons paper) – a regulated provider will depreciate the FLA using an asset life that is either:

2.127.2.1 the period equivalent to the weighted average life of the UFB-related core fibre assets in an initial RAB as at the implementation date, where the weights used are the initial RAB values of those UFB-related core fibre assets; or

2.127.2.2 a period adopted by the regulated provider under an alternative method, subject to approval by the Commission for PQ regulated providers.

2.127.3 **Indexation** (paragraph 3.318 of the main final reasons paper) – we provide compensation for inflation through the indexation (ie, revaluation) of both the core fibre asset RAB and the FLA as part of the roll forward process.

2.127.4 **Deregulation** (paragraph 3.367 and 3.388 of the main final reasons paper) – following a deregulation review under s 210 of the Act and a decision by the Minister to deregulate certain FFLAS (either to determine that certain FFLAS should no longer be subject to PQ regulation or to remove certain FFLAS from regulation altogether), the asset valuation IM provides for a reduction in the value of the FLA commensurate with the reduction in the aggregated original UFB asset value remaining in the core fibre asset RAB at the time of deregulation.

2.127.5 **Asset sales** (paragraph 3.388 of the main final reasons paper) – following an asset sale to an entity, the asset valuation IM provides for a reduction in the value of the FLA commensurate with the reduction in the aggregated original UFB asset value remaining in the core fibre asset RAB at the time of the sale.

2.127.6 **Treatment of the FLA for the sale and purchase of assets** (paragraphs 3.443 to 3.462 of the main final reasons paper) – we set out rules for transactions with related parties, and for the transfer of a portion of the FLA for various sale and purchase situations. The related party transaction must be given a value not greater than if that transaction had the terms of an arm's length transaction.

2.127.7 **PQ regulation** (paragraphs 3.68 to 3.69 of the main final reasons paper) - the forward-looking PQ path, will provide an opportunity for a regulated provider to recover a return of (via depreciation) both the RAB and the FLA, together with an appropriate return on capital.

2.127.8 **ID regulation** (paragraph 3.28 of the main final reasons paper) - the FLA, as with the core fibre assets in the RAB, will inform the profitability assessments under ID regulation, and the prices or revenues recovered over time by regulated providers that are subject to PQ regulation. As the FLA is part of the initial RAB, this calculation is within the scope of the asset valuation IM during this transition phase to the new Part 6 regulatory regime.

2.128 For further details please refer to the above paragraphs of the main final reasons paper.

Forecasting of initial FLA value for Chorus at 1 January 2022

2.129 For PQ regulation, a forecast of Chorus' FLA at implementation date is expected to be required to be undertaken for the purposes of setting Chorus' first PQ path prior to implementation date.

2.130 Our final decision is to specify that actual values obtained by the Commission prior to implementation date should be used as the basis for forecasting initial asset values for the first regulatory period, where the data obtained by the Commission is compliant with:

2.130.1 GAAP for core fibre assets per s 177(1) of the Act; and

2.130.2 the specification of financial losses in Schedule B of the determination, in respect of the FLA.

2.131 We note that the forecasts for the calculation of the FLA, under Schedule B of the determination, are to be consistent with the relevant forecasts applied in the calculation of the opening RAB value.

2.132 As a result of changes made to clause 3.3.1(8) of the determination, as outlined in the main final reasons paper, we have made changes to clauses B1.1.5(1)(a) and (b) of Schedule B of the determination. Given results are available for financial loss year 2020 (1 July 2019 to 30 June 2020):

2.132.1 this financial loss year is now included in clause B1.1.5(1)(a), which lists actual values to adopt; and

2.132.2 financial loss year 2020 is removed from clause B1.1.5(1)(b), which lists values to be forecast.

2.133 See paragraphs 3.123 to 3.136 of the main final decision reasons paper for further explanation of this decision.

Chapter 3 Detailed methodology for the FLA IM

Table 3.1: Summary of detailed methodology for calculating the initial value of the FLA

Element	Final decision
Cost of capital	We adopt the post-tax weighted average cost of capital (WACC) to compound the DCF cash flows to implementation date. The WACC is calculated for each year in the pre-implementation period, and we: • apply a risk-free rate based on the 5-year rate at the middle of each year of the pre-implementation period (or middle of each part year for 2012 and 2021); • apply an asset beta, leverage and credit rating for the pre-implementation period at the same values as for the post-implementation period (0.50, 29% and BBB respectively); • apply a TAMRP that is 7.0% for the period until the commencement date of the IMs in October 2020 and 7.5% for the remainder of the pre-implementation period; • use a prevailing debt risk premium with the term equal to 7 years; • do not include a TCSD; and • do not provide a WACC uplift. The WACC parameters apply consistently between regulated providers subject to PQ, and regulated providers subject to ID regulation only.
Asset valuation	The rules for the timing and valuation of asset in the DCF calculation are as follows. • Assets will be eligible to enter the DCF calculation in the year in which assets are employed to provide UFB FFLAS. The value of an asset is its cost, less capital contributions. We will not review the costs of the assets, eg, for efficiency. • Specific valuation rules apply for certain types of assets, such as easements, right of use assets, vested assets, network spares and related party transactions. • Capital contributions deducted from asset values include funding of certain non-standard installations and non-repayable grants by the Crown to UFB partners. • The minimum requirements for recording asset-related information are those consistent with GAAP and good telecommunications industry practice.
Cost allocation	To ensure only those costs associated with regulated FFLAS provided under the UFB initiative are included in the DCF calculation, we have decided the following: • All asset-related values and operating costs that are directly attributable to the provision of UFB FFLAS during the pre-implementation period must be allocated to UFB FFLAS when determining the FLA. Directly attributable costs will be defined as those employed wholly and solely for the provision of UFB FFLAS during the pre-implementation period. • All shared costs (including asset-related values and operating costs) that relate to the provision of UFB FFLAS during the pre-implementation period must be allocated using an accounting-based allocation approach (**ABAA**) using an allocator of our choice. Our default list of allocators is: o number of customers, end-users, or premises (intact, connected or passed); o number of ports;

Element	Final decision
	○ revenue; ○ central office space; ○ peak traffic; ○ average traffic; ○ used length of linear assets; ○ power usage; and ○ number of events. • Shared costs that relate to the provision of UFB FFLAS during the pre-implementation period must be allocated using measures and statistics that are reviewed and updated for each year (or part year) of the pre-implementation period. • A cap on costs allocated to UFB FFLAS based on unavoidable costs will apply for costs that were shared between the provision of UFB FFLAS and other services during the pre-implementation period, including for repurposed assets.
Taxation	• The tax payable approach outlined in our main final reasons paper will be applied from the start of the pre-implementation period. • The initial regulatory tax asset value for UFB assets is determined from the roll forward of tax asset values from the beginning of the pre-implementation period and is proportionately reduced by the amount, if applicable, by which the sum of the adjusted tax values of all UFB assets on the date the regulatory tax asset value is determined exceeds the sum of the UFB unallocated opening asset values on that date. • Any excess of tax losses generated during the pre-implementation period will be carried forward to implementation date and are available for the purposes of PQ regulation or ID regulation from that date.
Treatment of Crown financing	The actual cost of Crown financing during the pre-implementation period is incorporated into the DCF calculation by adding back the present value of the costs that the regulated provider avoids because it receives the concessionary funding from the Crown. As decided in the main final reasons paper: • For Chorus, which is subject to both PQ and ID regulation, the relevant finance rate for calculating the avoided costs uses the 50:50 mix of debt and equity contained in the financing contracts with the Crown. ○ The cost of debt is based on an estimate of senior and subordinated debt with the mix consistent with the contract with the Crown. Senior debt is the benchmark cost of senior debt. Subordinated debt is 41 basis points above the benchmark cost of senior debt. ○ The cost of equity is based on a 75% weighting to the benchmark cost of equity and 25% weighting to the benchmark cost of senior debt. • For the other LFCs subject only to ID regulation, we have specified the following finance rates for Crown financing: ○ where Crown financing is provided entirely as debt, the benchmark cost of debt; ○ where Crown financing is provided entirely as equity, the benchmark cost of equity; and ○ where Crown financing is a combination of debt and equity, the benchmark costs of equity and debt with the debt/equity mix of the Crown funding.

The purpose and structure of this chapter

3.1 This chapter describes, in detail, the DCF methodology for determining the initial value of the FLA and explains our final decisions for the various components of the calculation together with associated reasons for those decisions.

3.2 The chapter is structured as follows:

3.2.1 FLA calculation components final decisions;

3.2.2 cost of capital final decisions;

3.2.3 asset valuation final decisions;

3.2.4 cost allocation final decisions;

3.2.5 taxation final decisions; and

3.2.6 treatment of Crown financing.

3.3 At various points we refer back to, and incorporate the reasoning contained in, the main final reasons paper.

Final decisions: FLA calculation and its components

3.4 As explained in Chapter 2, our final decision is to use a DCF methodology to determine the initial value of the FLA for each regulated provider. The FLA reflects the financial losses at implementation date – being the accumulated unrecovered returns incurred by each provider under the UFB initiative during the pre-implementation period. The losses are calculated in present value terms at the implementation date by compounding the relevant cash flows in the calculation to that date.

3.5 Schedule B of the determination contains the DCF methodology which is set out below.[84]

3.5.1 The present value of UFB 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 pre-

[84] Enable and Ultrafast, and Northpower, submitted that the 30 June "financial loss year" defined in the DCF calculation should be made flexible in order to accommodate different balance dates, eg, 31 March, and reduce compliance costs. Section 5 of the Act, however, defines "financial year" used in s 177(6) as meaning "a period of 12 months beginning on 1 July in any year and ending on 30 June in the following year". See Enable Networks Ltd and Ultrafast Fibre Ltd "Submission on Fibre input methodologies further consultation draft (initial value of financial loss asset) – Reasons Paper" (10 September 2020), paragraph 6.1-6.3; Northpower Fibre Limited and Northpower LFC2 Limited "Submission on Fibre Input Methodologies Further draft (initial value of financial loss asset)" (10 September 2020), paragraph 1.2.

implementation period. Expenditure cash flows shared between UFB and other services are subject to cost allocation rules.

3.5.2 The actual cost of Crown financing during the pre-implementation period is incorporated into the DCF calculation by adding back the present value of the costs that the regulated provider avoids because it receives the concessionary funding from the Crown in each year (or part year). The rate applied to calculate the benefit of Crown financing (ie, the avoided costs) varies depending as to whether Crown financing was advanced by way of debt or equity, or a combination of both.

3.5.3 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 cash flows occur. Interest and other financing payments are excluded from DCF cash flows as these are accounted for in the compounding rate.

3.5.4 The sum of the annual present value cash flow shortfalls for the pre-implementation period will be offset by the depreciated value of the UFB asset base at implementation date (which is effectively treated as a "terminal" cash inflow) and the avoided costs of the Crown financing.

3.5.5 The resulting value is the present value of the financial losses at implementation date for the regulated provider.

3.6 Where the overall value of the financial losses at implementation date is negative – indicating an overall shortfall for the pre-implementation 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 indicates that there is no overall shortfall, and the initial value of the FLA at implementation date is determined as nil.

3.7 In order to arrive at an appropriate regulatory treatment for the various components of the calculation for the pre-implementation period we have drawn on the IMs that otherwise apply to regulated providers from the implementation date onwards. The IMs for cost of capital, asset valuation, cost allocation and taxation are effectively adopted through replicating (and adapting, where relevant) those provisions in Schedule B of the determination.

3.8 In general terms:

3.8.1 a post-tax WACC for each year (or part year) is determined and is applied as the relevant DCF compounding rate;

3.8.2 capital expenditure on assets employed in providing FFLAS under the UFB initiative (including pre-2011 assets) is the cost incurred by the provider;

3.8.3 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 are apportioned with respect to their respective uses;

3.8.4 tax costs are determined on a 'tax payable' basis in respect of taxable income and expenditure arising with respect to the UFB initiative; and

3.8.5 the avoided costs of Crown financing are calculated as the product of (a) the finance rate based on the relevant financial instruments that were used to advance the funding, and (b) the net Crown financing advanced in a particular year (or part year).

3.9 The discussion of the various IM rules that apply to the FLA IM below focuses on:

3.9.1 the key features of the rules with respect to the topic area; and

3.9.2 key differences to the IM rules that apply post-implementation.

3.10 We note that where a regulated provider is subject to both PQ regulation and ID regulation, the initial value of the FLA is expected to be the same for the purposes of each type of regulation. This is because activities under the UFB initiative are expected to be a subset of the activities for each provider under either or both information disclosure and price-quality regulation. As noted at paragraph 3.374 of the main final reasons paper however, the value of the FLA may vary post-implementation if deregulation were to occur (eg, if regulated services are deregulated from PQ but not ID).

Detailed description of the DCF method

3.11 This section provides more detail on how the DCF method is implemented for each of the components of the calculation.

3.12 UFB revenues cash flows comprise all revenue from FFLAS provided under the UFB initiative, excluding any capital contributions to the extent they were accounted for as revenue under GAAP.

3.13 UFB costs cash flows comprise:

3.13.1 investments made in UFB-related assets (referred to in the FLA determination as "UFB value of net commissioned assets cash flow");

3.13.2 a cost allocation adjustment cash flow (referred to in the FLA determination as "UFB cost allocation adjustment cash flow");

3.13.3 operating expenditure cash flows (referred to in the FLA determination as "UFB operating expenditure cash flow"); and

3.13.4 tax costs cash flows (referred to in the FLA determination as "UFB tax costs cash flow").

3.14 For investments in UFB-related assets, the calculations are set out below.

3.14.1 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 any UFB asset disposals in that year.

3.14.2 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. The treatment of capitalised interest during an asset's construction follows GAAP rules.

3.14.3 The costs of assets that pre-date 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.

3.15 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:

3.15.1 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

3.15.2 the adjustment amount is treated as a positive (or negative) cash flow in the year in which it arises.

3.16 Operating expenditure cash flows are operating costs incurred in providing FFLAS under the UFB initiative after cost allocation rules have been applied.[85] Depreciation is excluded as an operating expenditure cash flow since it is a non-cash item. Interest is excluded from operating expenditure cash flows as these are accounted for in the compounding rate.

[85] As discussed at paragraph 9.54 of the main final reasons paper, telecommunications levies incurred prior to implementation date are treated as operating expenditure for accounting purposes, and will therefore be included as "UFB operating expenditure cash flows".

3.17 Tax costs cash flows will be determined under tax IM rules as follows.

3.17.1 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.

3.17.2 Any excess of tax losses generated during the pre-implementation period will be carried forward to implementation date.

3.18 The actual cost of Crown financing during the pre-implementation period is referred to by calculating the net present value of the annual benefits from the Crown financing advanced to the regulated provider in each year (or part year). As discussed below, the benefits are the costs that the regulated provider avoids because it receives the concessionary funding from the Crown. The rate applied to calculate the annual benefit (ie, the avoided costs) varies dependent on whether Crown financing was advanced by way of debt or equity, or a combination of both.

3.19 Under the DCF method, the depreciated value of the UFB asset base at implementation date and the benefit of the Crown financing is added back to the sum of the annual present value cash flow shortfalls. The depreciated value of the UFB asset base at implementation date is therefore effectively treated as a "terminal" cash inflow received by the regulated provider.[86]

3.20 Cash flow timing assumptions will apply throughout the calculation as follows.

3.20.1 UFB revenues are 20th day of the month following the month in which the mid-year date falls.

3.20.2 Eligible UFB-related assets that pre-date the pre-implementation period give rise to a cash flow on the start date of the pre-implementation period (1 December 2011).

3.20.3 For UFB investments made during the pre-implementation period, annual cost allocation adjustments, operating expenditure, and tax costs are mid-year.

3.20.4 Drawdowns and any repayments of Crown financing are assumed to occur mid-year.

3.21 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 any

[86] Depreciation is calculated according to generally accepted accounting practice consistent with s 177 of the Act – see paragraphs 3.33-3.35 of the main final reasons paper.

UFB-related assets that pre-date the pre-implementation period and that are eligible to be included as a cash flow from that date.

3.22 We note that calculations to roll forward the values of any UFB-related assets from year to year within the pre-implementation period are still required to calculate cost allocation adjustment cash flows and for tax calculations as described below.

Final decisions: cost of capital

3.23 This section sets out our final decisions for the cost of capital parameters used in determining the post-tax WACC used to compound the DCF cash flows to implementation date.

Summary of final decisions

3.24 For the parameters used to calculate the WACC for each year in the pre-implementation period we have decided to:

3.24.1 apply a risk-free rate based on the 5-year rate at the middle of each year of the pre-implementation period (or middle of each part year for 2012 and 2021);

3.24.2 apply an asset beta, leverage and credit rating for the pre-implementation period at the same values as for the post-implementation period (0.50, 29% and BBB respectively);

3.24.3 apply a TAMRP that is 7.0% for the period until the commencement date of the IMs in October 2020 and 7.5% for the remainder of the pre-implementation period;

3.24.4 use a prevailing debt risk premium with the term equal to 7 years;

3.24.5 not include a TCSD;

3.24.6 not provide a WACC uplift; and

3.24.7 apply the WACC parameters consistently between regulated providers subject to PQ, and regulated providers subject to ID regulation only.

3.25 The decision on the debt risk premium is different to our position in the further consultation paper, our decision on the risk-free rate is consistent with our further consultation paper, while the other decisions are consistent with our draft decision.

Decision-making framework

The promotion of the purpose of IMs: section 174

3.26 The FLA IM is intended to promote certainty for regulated providers, access seekers, and end-users in relation to the way that assets are to be treated for ID purposes and for PQ (consistent with s 174).

The promotion of the purpose of Part 6: section 162 and section 166(2)(a)

3.27 The FLA IM must also best give, or be likely to best give, effect to the s 166(2) purposes in light of the purpose of the relevant regulatory instruments.

3.28 In determining the WACC parameters used in the calculation of the FLA, we are faced with the same regulatory challenges for determining the cost of capital post-implementation date, as specified in the main final reasons paper. That is, we must determine the cost of capital for the supply of regulated FFLAS consistent with the cost of capital that would be faced by regulated providers in workably competitive markets, i.e. neither too high, nor too low, such that we best give, or are likely to best give, effect to the outcomes in s 162(a)-(d). [87]

3.29 Because the actual cost of capital of regulated providers in workably competitive markets is not observable, we must make an estimate. Our methodology for determining the WACC parameters for the calculation of the FLA, seeks to determine an estimate of a cost of capital that is reasonable and commercially realistic given investors' exposure to risk at the time. This approach ensures that the regulated providers' incentives to invest are preserved going forward, consistent with s 162 and with the concept of FCM – see discussion at paragraphs 2.29-2.31 above.[88]

3.30 We consider that the most relevant outcomes of the s 162 purpose for determining the WACC parameters for the calculation of the FLA are:

3.30.1 section 162(a) – that the WACC needs to reflect the incentives that regulated providers had to innovate and to invest, including in replacement, upgraded, and new assets; and

3.30.2 section 162(d) – that regulated providers are limited in their ability to extract excessive profits.

3.31 The other outcomes specified in the s 162 purpose are:

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[87] The cost of capital faced by regulated providers in workably competitive markets is determined in the capital market which may be closer to a perfectly competitive market.

[88] For more details see Commerce Commission "Main final decisions reasons paper" (13 October 2020), paragraphs 6.6-6.65.

3.31.1 section 162(b) – that regulated providers have incentives to improve efficiency and supply FFLAS of a quality that reflects end-user demands; and

3.31.2 section 162(c) – that regulated providers allow end-users to share the benefits of efficiency gains in the supply of FFLAS, including through lower prices.

3.32 We consider that our WACC parameters for the calculation of the FLA decision do not directly promote the outcomes in s 162(b) and s 162(c). However, we consider that our decisions are still consistent with the outcomes promoted in s 162(b) and s 162(c). As these outcomes are not directly promoted through these decisions, we have not specifically discussed them as part of our reasoning for why these decisions best give, or are likely to best give, effect to the purpose of Part 6 in s 162.

3.33 The methodology for determining the WACC parameters of the FLA should ensure that the expected returns from investing in regulated FFLAS are similar to other investments of comparable risk, so regulated providers have incentives to innovate and invest, and are limited in their ability to extract excessive profits. We recognise that not providing for returns similar to other investment of comparable risks may affect investor sentiment and thereby harm forward looking incentives to invest.

3.34 If a regulated provider's returns are at least those that would be earned from investments of comparable risk, an investor will have had an incentive to innovate and to invest, because any returns resulting from this activity would be expected to be at least the same as what would have been available from those activities in comparable markets. If returns are similar to those earned from investments of comparable risk, those returns would not be expected to be excessive.

3.35 In reaching our decisions on the WACC parameters for the calculation of the FLA, we aim to strike an appropriate balance between s 162(a) and s 162(d).[89] Due to the estimation difficulties described at paragraph 6.14 of the main final reasons paper, determining a cost of capital IM that estimates a cost of capital which is neither too high, nor too low, so that the outcomes in s 162(a) and s 162(d) are balanced appropriately, is a difficult task and one that involves significant amounts of judgement.

3.36 In reaching our decisions on the WACC parameters for the calculation of the FLA, we consider that we have struck an appropriate balance between s 162(a) and s 162(d),

89 We note that this is consistent with our approach to electricity distribution services, gas pipeline services, specified airport services and Transpower New Zealand Limited under Part 4. See Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (December 2010), paragraphs H1.23-H1.25; Commerce Commission "Input Methodologies (Airport Services) Reasons Paper" (December 2010), paragraphs E1.23-E1.24; and Commerce Commission "Input Methodologies (Transpower) Reasons Paper" (December 2010), paragraphs 6.1.1-6.2.6.

which best gives, or is likely to best give, effect to the purpose of Part 6 in s 162. We consider that all of our decisions, together, would produce estimates of the WACC parameters for the calculation of the FLA that are reasonable and commercially realistic given investors' exposure to risk.

3.37 All our individual decisions have been made because we consider they contribute towards our aim of determining the WACCs for the calculation of the FLA that best gives, or is likely to best give, effect to the purpose of Part 6 in s 162. We have not considered it necessary to specifically explain why each individual decision best gives, or is likely to best give, effect to the purpose of Part 6 in s 162. Rather, each decision, and our rationale for each decision, is intended to contribute to our overall determination of the WACCs for calculating the FLA that best give, or are likely to best give, effect to the purpose of Part 6 in s 162.

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

3.38 We consider that the promotion of workable competition in telecommunications markets in s 166(2)(b) is best given effect to by setting WACCs for the calculation of the FLA that are consistent with a workably competitive market. This approach allows alternative suppliers to provide services to the extent that they are more efficient and minimises the potential for a distortionary impact on competition from alternative WACCs.

3.39 We have considered whether the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services under s 166(2)(b) is a relevant consideration in reaching our decisions on the WACC parameters for the calculation of the FLA. We have not identified any reasons why the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services would have implications for the decisions in this section that would require us to take a different approach from the one which promotes s 162(a)-(d).

Risk free rate

3.40 We consider that the 5-year risk-free rate is the most appropriate risk-free rate to be used in the present value calculation. We consider that it best preserves investor confidence while ensuring that suppliers do not earn excessive profits.

3.41 We will calculate separate five-year risk-free rates at the middle of each year of the pre-implementation period (or middle of each part year for 2012 and 2021) and these rates will be used in the WACC formula to compound revenue or expenditure in a particular year to the end of the pre-implementation period.

3.42 Several proposals have emerged from the submissions and expert advice received on the risk-free rate. We have grouped submissions according to these proposals in order to provide our response.

Using the 2011 risk-free rate for the entire pre-implementation period

3.43 Chorus proposed that the risk-free rate should be set for each year of the pre-implementation period at the rate prevailing at the start of the pre-implementation period.[90] Chorus proposed the term of the risk free rate should be 8.7 years, based on the expected length of the pre-implementation period at the time. This position was supported by the other LFCs and by investors.[91]

3.44 The main argument for setting the risk-free rate at the prevailing rate in 2011 was that this was the risk-free rate that is consistent with the decision to invest under the UFB initiative. That investment decision was based on an expectation that prices were fixed to 31 December 2019 and therefore the pre-implementation period should be treated as a single regulatory period with a single risk-free rate applying across the entire period.[92]

3.45 Supporting arguments included:

3.45.1 finance should be aligned with the project term;[93]

3.45.2 regulated providers fixed the costs of debt at the start of the pre-implementation period;[94]

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90 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset)"" (10 September 2020), paragraph 62.

91 Enable Networks Limited and Ultrafast Fibre Limited "Cross-submission on NZCC fibre input methodologies further consultation draft (initial value of financial loss asset" (1 October 2020), paragraph 5.1; Northpower Fibre "Submission on Fibre input methodologies – Draft decision" (30 January 2020), paragraph 11; Coopers Investors (28 January 2020), page 2; Investors Mutual Ltd (9 September 2020), page 2; L1 Capital (28 January 2020), page 24; River Capital "Response to Commerce Commission New Zealand "Further consultation draft (initial value of financial loss asset) – Reasons Paper" (8 September 2020), page 2; Telstra Super "Submission on Fibre input methodologies – Draft decision" (30 January 2020) page 2.

92 See submissions from Chorus "Submission on Fibre input methodologies – Draft decision" (28 January 2020), paragraphs 123 to 126; Sapere "Cost of capital report" (report prepared for Chorus 27 January 2020), paragraphs 26 to 49; 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.

93 Chorus "Chorus cross-submission on the Commerce Commission's fibre input methodologies – further consultation draft (initial value of financial loss asset) reasons paper" (1 October 2020), paragraphs 8.3 and 18.

94 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; Black Crane Investment Management Ltd "Submission on Fibre input methodologies – Draft decision" (30 January 2020), page 2.

3.45.3 investors had a legitimate expectation of earning a return based on rates prevailing when the contracts were signed;[95] and,

3.45.4 using a single cost of capital in the present value calculation of the FLA is consistent with the way the Commission carries forward wash-up balances.[96]

3.46 Sapere also pointed to the description from Crown Fibre Holdings (CFH) of how contracts were negotiated as supporting the view that prices were set with reference to costs and why the pre-implementation period should be treated as a single regulatory period.[97]

3.47 We consider it is unlikely that in 2011 investors' expectations were framed in terms of what a building block model 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.

3.48 We consider that investors – at least until 2018 – were likely to have limited knowledge about regulatory arrangements that would take effect after 2020. As such, there would have been no reason to lock-in financing for the period until 2020.

3.49 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.

3.50 When we consulted on our position to not set the risk free rate at the prevailing rate in 2011, Chorus referred to the opinion of its consultant, Sapere, that it is the risk-free rate relevant to the investment decision that matters, not the risk-free rate used to finance the project.[98] We disagree. Our task is to calculate the value of the FLA, and the relevant costs used in this calculation are the costs that could reasonably be expected to have been incurred in financing the rollout of the UFB project.

3.51 We received advice to this effect from Dr Lally who rejected Chorus' proposal to set the risk-free rate at the prevailing rate in 2011. Dr Lally considered the task to be one of calculating the present value of annual losses, where the discount rate used to

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95 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset)"" (10 September 2020), paragraph 53.

96 Chorus "Chorus cross-submission on the Commerce Commission's fibre input methodologies – further consultation draft (initial value of financial loss asset) reasons paper" (1 October 2020), paragraph 16.

97 Sapere "Cost of capital report" (report prepared for Chorus 27 January 2020), paragraphs 46 to 47.

98 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset)"" (10 September 2020), paragraph 68.

compound an annual loss has a term that is the term remaining in the pre-implementation period.[99]

3.52 In addition, Dr Lally considered that comparison to a regulatory period was not valid because the characteristics of a competitive tender differ significantly to those of a regulatory period:[100]

> This is entirely different to the usual regulatory process, in which there is no competition, no competitive tendering, and no formal process by which prices are determined at the commencement of the regulatory period to explicitly reflect (inter alia) contemporaneous risk-free rates.

3.53 This view was supported by Vodafone, which submitted that the concept of a regulatory period does not apply to the exercise of calculating the present value of annual losses:[101]

> The purpose of a regulatory period is to provide the regulated firm an incentive to beat the benchmark and earn additional profits, which are then shared with consumers in the future. Since the FLA relates to costs incurred in the past this incentive mechanism does not apply.

3.54 Chorus considers that we would not adopt our approach if interest rates had increased over the pre-implementation period, and that we are applying an "asymmetric approach to regulation".[102] We have considered this counter-factual and have concluded that we would not have adopted a different approach.

3.55 River Capital submitted they would not have invested had they known how we would calculate the FLA:[103]

> If we were investors in Telecom/Chorus being presented with the same fibre investment case again in 2010 - and we were aware the Commission would apply the interpretations currently proposed for the key components of the loss asset- we would be strongly against investment in the project.

3.56 However, investors in 2011 were not aware that they would be compensated for financial losses at implementation. There are also similarities between the proposal to adopt the 2011 risk-free rate and the earlier proposals by Oxera to apply methods that acknowledge a 'fair-bet' and asymmetric risk. We do not consider those proposals are compatible with a loss-correction regime (as we explain in paragraph

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99 Dr Martin Lally "Further issues concerning the cost of capital for fibre input methodologies" (25 May 2020), page 4.

100 Dr Martin Lally "Further issues concerning the cost of capital for fibre input methodologies" (25 May 2020), page 4.

101 Vodafone "Vodafone New Zealand cross-submission on further consultation draft (initial value of financial loss asset)" (1 October 2020), page 2.

102 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset)"" (10 September 2020), paragraph 56.

103 River Capital "Response to Commerce Commission New Zealand "Further consultation draft (initial value of financial loss asset) – Reasons Paper" (8 September 2020), page 3.

6.1057 to 6.1062 of the main final reasons paper). In particular, the risk investors took in 2011 over the lifetime of the assets had the downside substantially capped by the introduction of the loss-correction regime and a building blocks form of utility regulation with a wash-up mechanism. In addition, the risk investors took cannot be disentangled from the prospect, absent winning the UFB tender, that the residual copper business would be competing with a new government subsidised fibre network. Those investors, who were at that stage investors in Telecom NZ, would not have considered the risk of rolling out fibre in isolation of those wider risks.

3.57 Overall, we consider that our task is to calculate the FLA using the costs that could reasonably be expected to have been incurred in financing the rollout of the UFB project. We do not consider that the proposal by Chorus, the other LFCs or investors, to use the risk-free rate prevailing in 2011, would result in a cost-reflective calculation of the FLA.

The term of the risk-free rate

3.58 When firms issue debt, they do so for a fixed term at which point the debt matures. The longer the time-horizon, typically the higher the interest rate.[104] Whilst firms must redeem such debt on maturity, firms can enter the swap market to change the period of the interest-rate risk. For example, a 10-year bond can be issued and then ‘swapped’ from a 10-year risk to a 5 or 7-year risk.[105]

3.59 In our technical consultation we reached a draft decision that the term of the risk-free rate should reflect observed practice among infrastructure providers, and this supported a term of 5 years.[106]

3.60 Substantive submissions have been received on this issue including from Chorus and its adviser Sapere. Chorus has made the following broad points.

3.60.1 The term used should either be 8.7 years to align with the price-setting period for UFB1 or 10 years based on the long-life of the assets under construction. [107]

3.60.2 A 5-year term is not in line with commercial reality or the views of overseas regulators. [108]

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104 This is not always the case but is most usually the case.

105 The swap will not change the expected value of the interest payments associated with a bond but will change the point when fixed interest rates are reset.

106 Commerce Commission “Fibre input methodologies Further consultation draft (initial value of financial loss asset) – reasons paper” (August 2020) paragraph 3.21.

107 Chorus “Submission on Fibre input methodologies – Further consultation draft (initial value of financial loss asset)” (September 2020), paragraph 60.1 and paragraph 67.

108 Chorus “Submission on Fibre input methodologies – Further consultation draft (initial value of financial loss asset)” (September 2020), paragraph 19.

3.60.3 Were the Commission to update the risk-free rate this should only occur where refinancing might occur using a term in the range of 7-10 years. [109]

3.61 The Chorus submission was broadly supported by Enable/Ultrafast. They submitted that a single-term to implementation is appropriate and that if the Commission continues to use a variable annual WACC, it should use a 10-year term.[110] Enable and Ultrafast consider the use of a fixed 5-year risk free rate is inconsistent with finance theory:[111]

> The FLA Reasons Paper bases the choice of a five-year term on "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." This is not the appropriate reference rate to use in setting the WACC for a DCF approach. The WACC must reflect the term of the cash flows being discounted, not the financing being used. Furthermore, the FLA Reasons Paper refers only to the debt financing and ignores the equity component, for which the term may be expected to be much longer.

3.62 Spark and Vodafone were broadly supportive of a 5-year term although they submitted that the risk-free rate should be adjusted at the end of the 5-years (within the pre-implementation period). Vodafone also submitted that financing which occurs after 23 November 2018 should be aligned to the start of the regulatory regime.[112] Chorus and Enable disagreed with Spark and Vodafone on the basis that the risk-free rate should be set in reference to the investment decision, not the financing decisions. [113]

3.63 We received advice from Dr Lally who proposed that the risk-free rate be set for the remaining term until implementation.[114] In his most recent report advising on his

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109 Chorus "Submission on Fibre input methodologies – Further consultation draft (initial value of financial loss asset)" (September 2020), paragraph 70.

110 Enable Networks Limited and Ultrafast Fibre Limited "Submission on fibre input methodologies further consultation draft (initial value of financial loss asset) – reasons paper 13 August 2020" (10 September 2020), paragraphs 5.2 and 5.10.

111 Enable Networks Limited and Ultrafast Fibre Limited "Cross-submission on NZCC fibre input methodologies further consultation draft (initial value of financial loss asset)" (1 October 2020), paragraph 5.11.

112 Vodafone "submission on further consultation draft (initial value of financial loss asset" (10 September 2020), pages 7 and 8.

113 Chorus "Cross-submission on the Commerce Commission's fibre input methodologies – further consultation draft (initial value of financial loss asset) reasons paper" (1 October 2020), paragraph 18 and Enable Networks Limited and Ultrafast Fibre Limited "Cross-submission on NZCC fibre input methodologies further consultation draft (initial value of financial loss asset)" (1 October 2020), paragraph 5.4.

114 Martin Lally "Further issues concerning the Cost of Capital for Fibre input methodologies" (May 2020), pages 4 and 5.

preferred approach of using the risk-free rate at the time of investment of a term to the implementation date, Dr Lally noted:[115]

> 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.

3.64 We have observed that in practice infrastructure providers rely on financing periods shorter than 10 years. Dr Lally noted that his approach will "produce more favourable results for firms" and for this reason we are concerned that if we adopted his proposal it would not best promote the outcomes set out in s 162(a) and (d).[116]

3.65 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 risk-free rate to apply.

3.66 We also agree with Dr Lally that risk-free rates would not have been locked-in at the outset for capital expenditure occurring throughout the pre-implementation period. Further, we think it would be unrealistic that capital expenditure 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.

3.67 Dr Lally has also noted the use of interest rate swaps to allow for a different risk exposure to interest rate risk than assumed in his preferred approach:[117]

> 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.

3.68 We agree with Dr Lally on the principle that 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.

3.69 In our technical consultation we disagreed with Chorus' proposal to use a 10-year term for these purposes. We agreed it is usual commercial practice among analysts

115 Martin Lally, "Further issues concerning the Cost of Capital for Fibre input methodologies" (May 2020), page 21 and 22.
116 Martin Lally, "Further issues concerning the Cost of Capital for Fibre input methodologies" (May 2020), page 21 and 22.
117 Martin Lally "Further issues concerning the Cost of Capital for Fibre input methodologies" (May 2020).

to adopt an assumption of a 10-year term and a single discount rate for long-lived investments. We noted 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. We did not accept 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 and quoted from Brealey, Myers and Marcus.[118]

3.70 Chorus and Sapere submitted that the Commission has misinterpreted the quote from Brealey, Myers and Marcus. That the quote supports the 10-year term based on the continuation of the quote: "with only rare exceptions firms decide on an appropriate discount rate and then use it to discount all project cashflows." [119] As we noted in the FLA further consultation paper, we agree it is common commercial practice but that does not mean it is correct in these circumstances, the extension of the quote agrees it is common commercial practice.

3.71 Chorus has pointed to our use of a 10-year term in the retail fuel market study.[120] The retail fuel market study assessed the profitability of the retail fuel sector and formed a range of estimates for this purpose.[121] 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 the present value of financial losses.

3.72 Chorus have also pointed to international precedent among European and Australian regulators.[122] We note that there are many areas we differ to other overseas regulators. We do not accept weight can be placed on this especially where practice is quoted without analysis of the reasons for that practice or differences in the legislation underlying those regimes. Here we are considering the relevant financing rate for calculating accumulated losses.

3.73 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

118 Brealey, Myers and Marcus "Fundamentals of Corporate Finance" (2nd 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."

119 Chorus "Submission on Fibre input methodologies – Further consultation draft (initial value of financial loss asset)" (September 2020), paragraph 55 and Sapere "Cost of capital input methodologies – further consultation initial value of financial loss asset: Report to Chorus" (8 September 2020), paragraph 25

120 Chorus "Submission on Fibre input methodologies – Draft decision" (30 January 2020), paragraph 127.

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

122 Chorus "Submission on Fibre input methodologies – Further consultation draft (initial value of financial loss asset)" (September 2020), paragraph 19.

incentives to keep their costs of debt as low as possible to remain competitive. 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 which we detail in the next section.

3.74 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:

3.74.1 have incentives to invest, consistent with s 162(a); and

3.74.2 are limited in their ability to extract excessive profits, consistent with s 162(d).

3.75 In looking at the main choices in front us we believe there is no one correct methodology. However, we note the following.

3.75.1 **If we were to take the approach of valuing future cashflows of long-life assets of a 10-year term**: this would be more consistent with common practice in reaching investment decisions, but we do not agree that is the task before us which is to compound forward losses. It is likely to give rise to over-compensation and therefore does not appropriately balance s 162(a) and s 162(d).

3.75.2 **If we wish to take a theoretical approach**: the approach recommended by Dr Lally of adopting a term to implementation each year is preferable to a 10-year term. However, for the reasons laid out in paragraphs 3.63 to 3.68, we believe this approach to be overly generous to suppliers and therefore does not appropriately balance s 162(a) and (d).

3.76 On balance, our chosen approach is to consider the term of debt that we observe occurs in practice among infrastructure providers. We believe this better reflects the task before us to compound forward losses. Where our task is simply to compound forward losses, the opportunity cost of capital (or likely financing rates) are relevant.

3.77 We have considered whether a different approach should be taken towards the specification of the risk-free rate to reflect equity risk. Atlas Infrastructure submitted that "we see some argument in a changing equity risk profile as the build out progressed".[123] Enable and Ultrafast considered the term of the equity component may be longer than the term of the debt component.[124]

3.78 We consider that equity risk is likely to be more variable than debt risk as the opportunity cost of equity is repriced with changes in the risk-free rate. However, submissions have not provided any evidence that the term of the risk-free rate should differ between debt and equity investments and it is common practice to use the same risk-free rate for the equity and debt components of the WACC. For these reasons we consider the perspective of equity risk is not inconsistent with the use of a five-year risk-free rate to compound revenue or expenditure in a particular year to the end of the pre-implementation period.

The term of the risk-free rate consistent with the evidence on observed practice

3.79 The evidence before us, presented below, supports the use of a 5 to 7-year term. It suggests the commercial debt portfolio of Chorus and the other LFCs has not held an average term of 10 years throughout the pre-implementation 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.

3.80 The evidence on which we have based this decision consists of:

3.80.1 the surveys undertaken by the Commission on debt issuance by infrastructure providers in New Zealand;

3.80.2 the financing undertaken by Chorus and other LFCs during the pre-implementation period; and

3.80.3 submissions received in response to the FLA further consultation paper;

3.81 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 as follows.

3.81.1 The average term of debt taken out by infrastructure providers surveyed was around 7 years.[125] 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.

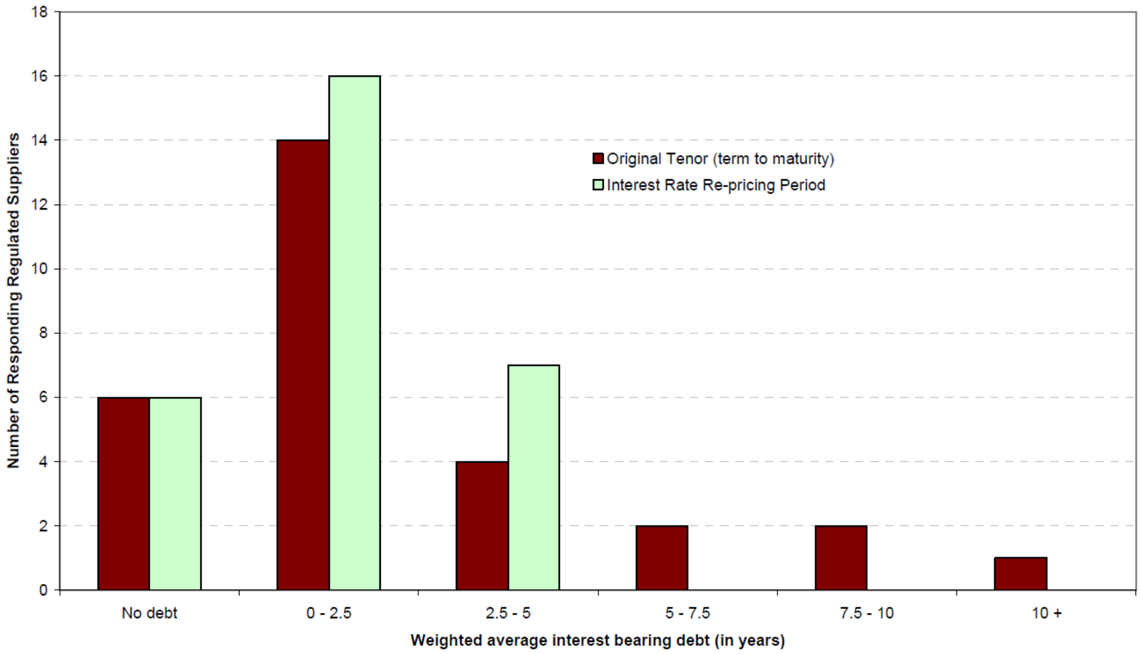
123 Atlas Infrastructure, submission on draft decision (28 January 2020), page 2.

124 Enable Networks Limited and Ultrafast Fibre Limited "Submission on fibre input methodologies further consultation draft (initial value of financial loss asset" (10 September 2020), paragraph 5.11.

125 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.

3.81.2 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). There are some limitations to this data; it is of firms in different sectors and is a snapshot in time. Nonetheless we believe it offers evidence that the use of swaps tends to reduce the effective term of the risk-free rate below the term to maturity of the associated debt.

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



3.82 We have also examined available information on regulated providers' actual financing arrangements and found the following.

3.82.1 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.[126]

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[126] 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.

3.82.2 Chorus' last bond offerings were a 5-year NZ Retail Bond issued in 2016;[127] Euro Medium Term notes issued in 2016 that mature in 2023 (7 years)[128] and 2019 that mature in 2026 (7 years);[129] and a 2018 NZ Retail Bond which matures in 10 years with an interest rate resetting after 5 years. This reset is based on a base rate (defined as a 5-year mid-market rate for a NZD interest rate swap) plus 1.8% issue margin.[130] 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."[131]

3.82.3 Christchurch City Holdings Ltd (CCHL) – Enable – issued a 6-year bond in 2018 and 5-year bond in 2017.[132]

3.82.4 WEL Networks (Ultrafast Fibre) issued a 5-year bond in 2018.[133]

3.82.5 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.

3.83 Sapere submitted that "if entities then make decisions around financing risk that lead them to use derivatives to manage that risk position that is not relevant to determining the opportunity cost of capital in the pre-implementation period."[134]

3.84 We consider there is a difference between the term to maturity and the tenor on the risk-free rate. The use of swaps (derivatives) allows firms to split the two. For example, a firm with variable rate syndicated bank debt can choose to use swaps to convert this to a fixed risk-free rate for an extended tenor. In these circumstances using a risk-free rate of a short tenor would not match the risk-free rate to which the

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

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

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

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

131 Chorus "Annual Report 2019" (26 August 2019), page 45.

132 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.

133 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.

134 Sapere "Cost of capital input methodologies – further consultation initial value of financial loss asset: Report to Chorus" (8 September 2020), paragraph 32.

firm is exposed. Consequently, where the information is available, the market practice on the effective tenor of interest-rate risk is relevant.

3.85 Chorus, drawing upon advice from Sapere, noted that a 7 to 10-year term is better supported by the evidence. In particular Sapere noted: [135]

> a) The 2010 survey of debt issued by infrastructure providers which found an average term of around 7 years.
>
> b) Chorus' actual debt raising behaviour which the Commission describes as shifting to longer term bond issuances of 7 to 10 years.
>
> c) The Commission notes that issuances by LFCs may reflect their other activities, rather than the behaviour of a stand-alone FFLAS provider.

3.86 We do not find this submission persuasive. Whilst we agree that Chorus has shifted away from shorter-term syndicated bank debt, its latest bond offerings are for 5 to 7 years. No new evidence has been presented on this point. Given the greater availability of evidence on internal financing strategy available to Chorus, we would expect that to have been submitted if it supported a shift to 10-year debt across their portfolio.

3.87 Enable also submitted that Enable and Ultrafast were financed by their respective parent companies through a loan of a 10-year maturity.[136]

3.88 No evidence has been provided to substantiate this statement within their cross-submission but we note, in the case of Enable, that the annual report for CCHL notes:[137]

> CCHL has advanced $19.5m (2011: $6m) to subsidiary Enable Services Ltd on a subordinated basis under a $25m facility. The facility matures in October 2014, although it is intended to enter into a revised facility in the 2013 year to accommodate increased borrowing levels resulting from the UFB project. Interest is charged quarterly on a floating rate basis, based on the 90 bank bill bank rate, and includes an agreed margin.
>
> Enable Services Ltd has advanced $16.4m to associated company Enable Networks Ltd in the form of Senior Notes. Of this, $11.4m matures in 2021 and $5m in 2023. The average interest is 6.0% (2013: nil).

3.89 We would draw a distinction between a loan from accessing financial markets and a loan from a parent company which is better presented as a related party transaction. There can be many reasons for the structure of such transactions which do not relate

135 Sapere "Cost of capital input methodologies – further consultation initial value of financial loss asset: Report to Chorus" (8 September 2020), paragraph 31.

136 Enable Networks Limited and Ultrafast Fibre Limited "Cross-submission on NZCC fibre input methodologies further consultation draft (initial value of financial loss asset)" (1 October 2020), paragraph 5.5.

137 Christchurch City Holdings Limited 2012 Annual report page 15 and 2014 annual report page 24.

to market terms. In this example we would also note that the interest-rate that applies does not accord with the maturity of the loan.[138]

3.90 As a further check we have examined all public traded bonds issued by CCHL and WEL Networks on Bloomberg from 2011 to date. For WEL Networks we uncovered no bonds in addition to the 5-year bond issued in 2018. For CCHL there have been regular bond issuance with bonds issued from 2006 captured in this search.[139] Weighted by the value of the bonds we found the weighted average term over this period to be below 6 years. This does not take into account other forms of debt raised.

3.91 We have found that the average term to maturity of debt would be around 7 years based on the 2010 survey. The results of the 2010 survey suggest that the term of risk-free rate exposure is shorter through the use of swaps. We recognise this is a snapshot in time and that other factors may have influenced this, but it is the best evidence we have before us.

3.92 To this consideration we add the evidence of Chorus issuing 5 to 7-year bonds and the bond issuance of the other LFC parent companies which is below 7 years. There are reasons why we should give these less weight including the wider activities financed by these entities. However, we do not believe these should be given zero weight.

3.93 Overall, this evidence provides support for a term of between 5 and 7 years.

Resetting the risk-free rate at the end of each 5-year term

3.94 Vodafone and Spark proposed the use of a 5-year risk-free rate that is adjusted at the end of each 5-year term to account for refinancing at the prevailing rate.[140] For the periods up until when the implementation date was confirmed on 23 November 2018, Vodafone proposed we assume refinancing is at the prevailing 5-year rate. For the periods after 23 November 2018, Vodafone proposed we assume that when refinancing occurs it is for the term remaining until the implementation date.[141]

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138 For example, the evidence from CCHL 2012 annual report suggest the 90-day bank rate is used suggestive of a variable rate rather than fixed term loan.

139 It may be the case that bonds issued in 2006 to 2010 were not captured if they had a short term. This may be the case as our search captured four bonds with an original term to maturity of less than 4 years.

140 Vodafone "Vodafone New Zealand submission on further consultation draft (initial value of financial loss asset)" (10 September 2020), page 8; and Spark "Further consultation draft (initial value of financial loss asset)" (10 September 2020), paragraph 62.

141 Spark did not specify whether the refinancing would be at the prevailing 5-year risk-free rate or at the term remaining until implementation.

3.95 Enable and Ultrafast disagree with this proposal because:[142]

> Such an approach would be inconsistent with commonly accepted principles of corporate finance and DCF analysis. It would contradict the principle of maintaining separation between the investment decision and the financing decision. Investment viability is established separately from analysing how the investment should be financed.

3.96 We consider that this proposal is generally consistent with the evidence of how firms finance their investments, albeit it requires a more complicated financial model to calculate the value of the FLA than if a fixed 5-year risk-free rate is used. However, we consider that the complexity of the financial model is not a factor that should prevent us choosing an option.

3.97 In the draft decision for further consultation, we noted that 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 pre-implementation period.

3.98 Combining our evidence from the market of a term of 5 to 7 years and noting that a 5-year risk-free rate is broadly equivalent to a 7-year term with a reset we have decided to adopt a 5-year risk-free rate throughout the losses period. In reaching this view, we are aware that this task requires the exercise of judgement.

3.99 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 pre-implementation period. It also has the benefit of simplicity in what is already a complicated exercise. We are also aware that whilst the evidence is supportive of a 5 to 7-year term there are caveats in applying this as a benchmark for FFLAS. We do not believe that the evidence should be discarded but believe the use of a constant 5-year term best balances these considerations.

3.100 Consequently, we will estimate the risk-free rate from data one month proceeding the relevant period for a term of 5-years. Given the exercise is retrospective there is no need to widen the estimation window to 3 months as we do in the post-implementation period. In other respects our calculation of the risk-free rate is as per our decisions regarding the post-implementation period.[143]

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142 Enable Networks Limited and Ultrafast Fibre Limited "Cross-submission on NZCC fibre input methodologies further consultation draft (initial value of financial loss asset)" (1 October 2020), paragraphs 5.3 and 5.4.

143 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraphs 6.81 to 6.173.

3.101 We note Chorus' submission that our decision on the risk-free rate will result in a cost of debt over the pre-implementation period that is lower than Chorus' actual cost of debt.[144] However, Chorus' actual cost of debt has been influenced by a range of factors, including funding for its non-fibre business, its hedging strategies to limit exposure to interest rate and exchange rate movements and by debt inherited from Telecom at the time of the demerger.[145] We have not assessed the effectiveness of Chorus' debt management practices, and therefore we have not placed weight on Chorus' actual cost of debt over the pre-implementation period.

Asset beta, credit rating and leverage

3.102 We have decided to use the values of asset beta, leverage and credit rating for the pre-implementation period that are the same as for the post-implementation period (asset beta of 0.50, leverage of 29% and a BBB credit rating).

3.103 In the draft decision we also applied the same values of asset beta, leverage and credit rating to the pre- and post-implementation period.[146] However, as discussed in the section on the cost of debt in the main final reasons paper, we have revised our credit rating position from the draft decision, which was to use a BBB+ credit rating for the pre and post-implementation periods, to instead use a BBB rating.

3.104 In the draft decision we acknowledged submissions stating that a company rolling out a regulated FFLAS network could have a higher WACC than an established FFLAS provider due to:

3.104.1 higher aggregate demand risk;

3.104.2 lower operating leverage (ratio of capital to operating expenditure);

3.104.3 construction risk; and

3.104.4 higher default risk.

3.105 For example, Oxera submitted that the asset beta should be higher in the pre-implementation period because operating leverage (ratio of capital to operating expenditure), construction risk and demand risk were higher.[147] Oxera noted that

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144 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset)" (10 September 2020), paragraph 97.

145 As part of the demerger, Telecom bondholders exchanged £235m (NZ$625 million at hedged rates) of Telecom GBP Euro Medium Term Notes to Chorus in GBP Euro Medium Term Notes with a due date of 2020 and a coupon rate of 6.75%. (Chorus 2012 annual report, note 1 and note 4).

146 In the draft decision we applied a lower credit rating (BBB rather than BBB+) for the purpose of determining the benefit of Crown financing.

147 Oxera for Chorus, "Fibre emerging views submission, Compensation for systematic risk report" (15 July 2019 updated 31 July 2019) page 18.

Ofcom has lowered its asset beta over time for the fibre businesses it regulates.[148] L1 Capital submitted that operating and demand risk are significantly different during the pre- and post-implementation periods. [149] L1 Capital submitted that the pre-implementation period included "construction risk, uncertain demand for fibre services, significant financial penalties and an uncertain regulatory regime".[150]

3.106 On the other hand, Spark submitted that Chorus' copper network provided it with a hedge during the pre-implementation period and that the financing agreement with the Crown mitigated some of its risks.[151]

3.107 In the draft decision we said we would not adjust the asset beta, credit rating and leverage for the pre-implementation period for the following reasons.

3.107.1 The case for a higher asset beta due to aggregate demand risk, lower operating leverage and construction risk is offset by the case for a lower beta due to the compensation for losses.

3.107.2 The companies rolling out the FFLAS networks had long-term contracts, which moderated the systematic risks associated with the roll-out.

3.107.3 The estimates of asset beta and leverage were calculated using data from 2009 to 2019, which is a similar timeframe to the pre-implementation period, and is therefore a reasonable estimate of asset beta and leverage for that time.

3.107.4 It was not clear on what basis we could estimate separate values for the pre-implementation period even if we wanted to.

3.108 The submissions in response to the draft decision generally elaborated on their earlier views as outlined below.

3.108.1 Providers and investors continued to submit that risks were higher during the pre-implementation period and therefore the asset beta, leverage and credit rating need to reflect this.[152]

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148 Ibid, page 3.

149 L1 Capital, Fibre emerging views submission, 16 July 2019, concluding remarks.

150 Ibid, section C.

151 Spark "Fibre regulation emerging views: WACC Cross submission" (9 August 2019) page 5.

152 Black Crane Investment Management Ltd " Submission on Fibre Input Methodologies: Draft Decision Paper" (27 January 2020), page 2; Chorus "Submission on Fibre input methodologies: Draft decision" (28 January 2020), page 42 ; Sapere "The cost of capital input methodologies for fibre" (27 January 2020), page 1; Cooper Investors Pty Ltd (28 January 2020), page 1; Enable Networks Ltd and Ultrafast Fibre Ltd "Submission on NZCC Fibre Input Methodologies: Draft Decision" (28 January 2020), page 10; Investors Mutual Ltd (22 January 2020), page 2; L1 Capital (28 January 2020), page 21; Northpower Fibre and

3.108.2 Based on advice from Sapere, Chorus recommended an asset beta of 0.65 for the pre-implementation period, leverage of 40%, and a BBB credit rating.[153]

3.108.3 Vodafone questioned why the cost of equity is not just the risk free rate due to the loss asset acting as insurance transferring all risk from LFC investors onto consumers.[154] Spark referred to our advice from CEPA and Dr Lally, which Spark considered indicated that a zero asset beta is an option for the pre-implementation period.[155]

3.108.4 L1 Capital rejected our position that the loss correction regime offsets the greater risk during the pre-implementation period. It also said that we should not use an argument that there is a wash-up to lower the WACC, since we would not do this in the more general situation at the end of a regulatory period.[156] Similarly, Chorus and its consultant Sapere submitted that it is not apparent why the loss correction regime would result in a lower leverage during the initial construction period.[157]

3.108.5 Vector submitted that the introduction of the loss correction regime delivered an unexpected benefit in 2018, and that we should consider separating the analysis into the period prior to 2018 and the period after 2018.[158] Vector also submitted that we should make sure we are not 'generous' in calculating the value of the FLA.[159] Similarly, Spark submitted there should be a strong evidence-based case made before we provide a positive FLA.[160]

3.109 After we received submissions on the draft decision, we asked Dr Lally to provide a report responding to the parts of the submissions that referred to his earlier advice.

Northpower LFC2 "Submission on Draft Fibre Input Methodologies Determination 2020 and Fibre input methodologies draft decision – reasons paper" (28 January 2020), para 11.

153 Chorus "Submission on Fibre input methodologies: Draft decision" (28 January 2020), paragraphs 9, 12 and 78.

154 Vodafone "New regulatory framework for fibre, Submission on Fibre Regulation Draft Decision" (28 January 2020), page 12; and Vodafone "New regulatory framework for fibre: Cross Submission on Fibre Regulation Emerging Views – Cost of Capital" (9 August 2019), page 10-11.

155 Spark "Fibre Input Methodologies: draft determination cross submission" (17 February 2020), page 10.

156 L1 Capital (28 January 2020), page 23.

157 Chorus "Submission on Fibre input methodologies: Draft decision" (28 January 2020), page 12; and Sapere "The cost of capital input methodologies for fibre, prepared for Chorus" (27 January 2020), para 76.

158 Vector Communications "Submission to the Commerce Commission Fibre Input Methodologies Project" (28 January 2020), para 15.

159 Vector Communications "Submission to the Commerce Commission Fibre Input Methodologies Project" (28 January 2020), para 14.

160 Spark "Fibre Input Methodologies: draft determination Cross submission" (17 February 2020), para 22.

3.110 On the matter of systematic risk in the pre-implementation period, Dr Lally advised that "the beta is very likely to be positive" during this period and in comparison to using the lower bound of zero it is better to use "the value used if regulation applies".[161] Dr Lally considered that "once the decision was made to reimburse the losses, systematic risk was the same throughout the entire period and therefore the same beta estimate should apply to both subperiods."[162]

3.111 We sought and received submissions on Dr Lally's expert advice.

3.111.1 L1 Capital submitted that the operating leverage during the UFB build increased the asset beta and that we should use the "the upper end of the plausible range of beta estimates derived from the sample set of comparable companies" for the pre-implementation period.[163]

3.111.2 Vodafone submitted that the loss correction regime is different to a wash-up mechanism because a wash-up mechanism only compensates for fluctuations from projected demand whereas the loss correction regime removes all demand risk and also adjusts for costs that are higher than expected.[164]

3.111.3 Vodafone noted Dr Lally's advice that the regulated providers face the risk of converting the losses asset into cash revenues due to possible errors in future WACC calculations, and Vodafone's view is that this is the only systematic risk that should be compensated for in the pre-implementation period. Vodafone considers that a better and more accurate way of estimating this systematic risk than using beta is to consider what value the loss asset would be if it was tradeable, and that this value can be calculated using the concept of value at risk. Specifically, Vodafone proposes setting the asset beta to zero and then inflating the loss asset by the amount from the formula for the value at risk where there is a 95% confidence that the loss asset would be recovered and where the standard error of the WACC is used as the measure of variability. Vodafone proposes that this approach should be used at least for the period after the loss correction regime was announced in 2018.[165]

3.111.4 Spark disagreed with Dr Lally's advice that we should apply the asset beta for the post-implementation period to the pre-implementation period.

161 Dr Martin Lally "Further issues concerning the cost of capital for fibre input methodologies (25 May 2020), page 8.
162 Dr Martin Lally "Further issues concerning the cost of capital for fibre input methodologies (25 May 2020), page 8.
163 L1 Capital (20 August 2020), page 3.
164 Vodafone "Submission on further expert advice from Dr Martin Lally" (20 August 2020), page 2.
165 Vodafone "Submission on further expert advice from Dr Martin Lally" (20 August 2020), pages 4 to 10.

Spark's concern is that "there is no information to suggest that the regulatory situation – which itself is based on comparators discarded as an acceptable approach for the past losses period – is a reliable estimate of past losses risk."[166] Spark proposed we consider alternative approaches, such as by considering the risk relating to the future recovery of the loss asset using a value at risk approach or by considering the asset beta of firms with long-dated customer contracts (such as Crown Castle International Corporation, which owns and leases towers in the United States). They also suggested using other alternatives, such as government backed bonds and RAB multiples.[167]

3.112 The threshold issue for estimating systematic risk in the pre-implementation period is whether we estimate values of asset beta, credit rating and leverage from the comparator sample and/or use alternative methods that attempt to identify the effect the loss correction regime had on systematic risk. We consider each of these factors in turn.

Information from the comparator sample

3.113 The standard method for quantifying systematic risks involves forming a sample of comparator firms and coming to a view on whether that sample provides relevant information that can be used to inform the asset beta, leverage and credit rating of the regulated fibre provider. We explain the method we use in detail in the main final reasons paper, and the resulting values of asset beta, leverage and credit rating (0.50, 29% and BBB respectively).[168]

3.114 The comparator sample uses data from a similar timeframe to the pre-implementation period and, therefore, the values of asset beta and leverage and evidence on credit rating that are obtained from this sample are directly relevant and appropriate for assessing systematic risk in the pre-implementation period.

3.115 The comparator sample approach is an attempt to quantify systematic risks of a sector-wide efficient provider of wholesale regulated FFLAS, not the WACC parameters of a specific company. The relevant risks that are quantified using the comparator sample approach include aggregate demand, operating leverage, the specification of price and potential for growth opportunities.

166 Spark "Dr Martin Lally report: further issues concerning the cost of capital" (20 August 2020), paragraph 20.

167 Spark "Dr Martin Lally report: further issues concerning the cost of capital" (20 August 2020), paragraph 24.

168 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraphs 5.411 to 6.520, 6.595 to 6.629 and 6.344 to 6.396.

3.116 Other risks are noted in submissions that are not generally systematic risks, including competition and asset stranding risks associated with technological change. The comparator sample approach is not intended to quantify these risks. Nevertheless, as we are concerned that investment incentives may be affected by the possible truncation of future returns, we have provided ex-ante compensation to address stranding risk (see section on asymmetric risk in the main final reasons paper).[169] We do not consider it appropriate to compensate for stranding risk ex-post when there has not been an explicit arrangement put in place ex-ante for this to happen.

3.117 Based on its assessment of information from what Chorus considered to be the relevant comparator sample (a larger sample than we have used), and other information, Chorus proposed we set the asset beta at 0.65 for the pre-implementation period and 0.60 for the post-implementation period. We responded to Chorus' proposal for the post-implementation period in the main final reasons paper, where we provided our reasons for why we have decided to set the asset beta at 0.50 for the post-implementation period.[170]

3.118 We acknowledge that systematic risks of a company in the early stages of rolling-out a new technology may be higher than when the roll-out is largely completed. Aggregate demand risk and potential for growth opportunities may be higher. Operating leverage may be higher when capital costs make up a proportionally greater share of costs. Projects at an early stage have greater uncertainty about future earnings. Credit rating companies may also be more concerned about the default risk of a company rolling out a new technology than they are about a company utilising an established technology.

3.119 However, we also note that the comparator sample uses data from a similar timeframe to the pre-implementation period and, therefore, the comparator sample is directly relevant and appropriate for assessing the asset beta, leverage and credit rating in the pre-implementation period.

The loss correction regime

3.120 In the draft decision we considered that the loss correction regime was a factor that offset the higher systematic risk in the pre-implementation period.

3.121 As indicated above, L1 Capital and Chorus submitted we should not use the presence of the loss-correction regime as an argument for reducing the WACC in the pre-implementation period, because to do so would be inconsistent with how we treat the wash-up mechanism in a regulatory decision involving revenue caps. Vodafone provided reasons for why the loss correction regime removed more risk

[169] Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraphs 6.981 to 6.1251.

[170] Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraphs 6.411 to 6.520.

than a wash-up mechanism (as noted in paragraph 3.111.2 above). Vector submitted that we should consider the loss calculation separately for the periods before and after the announcement of the loss correction regime.

3.122 We consider that the case for using the loss correction regime as an argument for reducing the WACC before the announcement in 2018 is weaker than the case for using it as an argument to reduce the WACC after 2018. From 2018, investors knew that for the period until implementation, any further losses made by a regulated provider would be capitalised into the opening asset value. While it is difficult to know the effect this had on the systematic risk of investing in a regulated provider, it is likely to be significant and some stakeholders proposed options and methods for quantifying this effect.

3.123 Spark initially suggested that the loss correction regime could have caused the beta to be zero. Dr Lally notes that Spark said he thinks a zero beta is a viable option.[171] However, Dr Lally says Spark misrepresented his view and that the beta is very likely to be positive in the pre-implementation period.

3.124 Spark and Vodafone, after considering the advice from Dr Lally, submitted that we should attempt to quantify the effect the loss correction regime had on systematic risk by considering information from value at risk, firms with long dated customer contracts, government bonds and RAB multiples.

3.125 Under Vodafone's proposed value at risk method, the FLA is calculated by assuming equity investors earn the risk-free rate and then are compensated for the uncertainty associated with the future recovery of the FLA.

3.126 Specifically, Vodafone proposed we calculate the WACC using an asset beta of zero to calculate a baseline value of the FLA and then add to this a value calculated using their recommended formula for value at risk. Vodafone recommended that this approach be considered at least for the post 2018 part of the pre-implementation period.

3.127 Vodafone calculated that the baseline value described in the previous paragraph would be inflated by 8.3% under this method, which is based on a 95% confidence level that the FLA would be recovered, and a standard error of the WACC of 0.0124, which is the standard error we reported in our draft decision.[172]

3.128 Our analysis indicates that under plausible assumptions, the value at risk adjustment as proposed by Vodafone results in a higher value of the FLA for the three years after 2018 than is calculated by using the standard asset beta approach. This result occurs

[171] Dr Martin Lally "Further Issues Concerning the Cost of Capital for Fibre Input Methodologies" (25 May 2020), page 8.

[172] In the final decision the standard error of the WACC was updated to 0.0131.

because the 8.3% adjustment is greater than the cumulative effect of the equity beta on the cost of capital.

3.129 However, over the entire pre-implementation period, the value at risk method results in a lower value of the FLA than using the standard asset beta approach. The sensitivity of the calculation to the period over which it is applied gives us cause for concern about the reliability of this method.

3.130 More importantly, however, we do not regard the value at risk method as a suitable basis for calculating the FLA for the period up until 2018 when equity investors were uncertain about whether a loss correction regime would be implemented.

3.131 Spark suggested we consider information from firms with long dated customer contracts, such as Crown Castle International Corporation, as an indicator of firms with systematic risks that may be like those of regulated providers operating under a loss correction regime. Crown Castle has an asset beta of 0.46 using our preferred method (as discussed in the section on asset beta in the main final reasons paper).[173] This value is higher than the average asset beta of tower and satellite companies in our sample, which is 0.40. We consider the beta of the group of tower and satellite companies may be a useful indication of the lower systematic risks of regulated providers between 2018 and the implementation date.

3.132 However, we are also aware that there was no noticeable change in the Chorus share price at the time of the announcement in 2018. This either means that the loss correction regime was already built into the share price, or the loss correction regime had little effect on the risk appetite of investors.

3.133 Spark suggested we consider government bonds and RAB multiples as indicators of systematic risk in the presence of a loss correction regime. We have decided to not use government bonds for this process because it assumes a beta and debt risk premium of zero, and we do not consider the loss correction regime removed all systematic risk. If we were to use government bonds, we would use them in combination with the value at risk method. However, for the reasons stated above we do not consider the value at risk method is any more useful than the asset beta method. Spark did not provide any reason for using RAB multiples and we have therefore not considered that proposal.

3.134 Overall, we consider the introduction of the loss correction regime is a significant factor that offsets systematic risk in the pre-implementation period, particularly for the period between 2018 and the implementation date. However, we are not aware

[173] Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraphs 6.411 to 6.520.

of any reliable methods that enable us to quantify the effect the losses correction regime had on systematic risk in the pre-implementation period.

Conclusion

3.135 In making the decision about the level of systematic risk to apply to the WACC for the calculation of the FLA, we have considered information from the comparator sample and the role the loss correction regime played in affecting systematic risk in the pre-implementation period.

3.136 While we acknowledge the submissions that argued for a higher systematic risk during the pre-implementation period, we also acknowledge arguments that systematic risk was lowered as a result of the loss correction regime. We have also considered alternatives to the comparator sample method that were proposed to help us with the difficult task of trying to establish the systematic risk for the pre-implementation period, and consequently, the recovery of the FLA.

3.137 Overall, we have used our judgement to base the WACC calculations for the calculation of the FLA on values of asset beta, leverage and credit rating of 0.50, 29% and BBB, which are the same values that we will use for the post-implementation period. We consider that this decision best balances the information before us. [

] **[COI]**[174]

Tax adjusted market risk premium

3.138 Our decision is to use a 7.0% TAMRP for the period until the commencement date when the main IMs were determined in October 2020 and a 7.5% TAMRP for the remainder of the pre-implementation period.175 This is the same position as in the draft decision.

3.139 The TAMRP is an economy-wide parameter which should not vary by sector, service or company. As discussed in the main final decisions reasons paper, we applied a TAMRP of 7% in IMs for other sectors in our energy decisions of 2010, our airport services decision of 2010, our telecommunications decision of 2015 and our review of the Part 4 IMs in 2016.[176]

174 [

]**[COI]**

175 As the commencement date of the IM determination occurred part way through a regulated provider's financial year, our draft decision is to split the return on assets for that year into two parts, with the applicable TAMRP used to calculate the return on assets for each part of the year. In doing so, we will assume that capital expenditure is spent evenly throughout the year.

176 See paragraph 6.532 of the main final decision reasons paper.

3.140 For the financial loss year in which the TAMRP changes from 7.0% to 7.5% (loss year from 1 July 2020 to 30 June 2021) the TAMRP will be a weighted average between 7.0% and 7.5% from when the main IMs are determined, that is, the commencement date. This gives a weighted average of 7.4% for the loss year.

3.141 In response to the draft decision, Chorus proposed a pre-implementation estimate of 7.25% from 2017 to 2019 (rather than 7% that was applied in the 2016 IM review).

3.142 Sapere (for Chorus) states that since there have been no exceptional economic events between the previous estimate (in 2015) and the latest estimate (2019) that would have significantly affected the TAMRP, it can be argued that the TAMRP is unlikely to have instantaneously shifted from 7.0% to 7.5% just before the re-estimation in 2019.

3.143 We note our latest estimate of TAMRP was decided in October 2020. This is not a mechanical decision to adopt Dr Lally's advice from 2019, but was made in 2020 using wider evidence.

3.144 We are concerned that the glide path proposed by Chorus could introduce bias as this is the only time that we could retrospectively make a change like this. Under normal circumstances, changes to the TAMRP only occur every IM review and do not change during a given period or have an intermediate step between changes.

3.145 Using our rounding rule, unders and overs would be expected over the course of a number of regulatory periods, but these are expected to cancel out over the lives of assets. Making a single adjustment (that is biased in one direction) can distort the expectation of errors cancelling out.

3.146 We also note that there was no evidence provided as to why the TAMRP should be increased from 7.0% prior to our final decision in 2020. The TAMRP is a forward-looking parameter, and our estimation as part of the 2016 IM review of 7.0% is our best estimate prior to 2020 re-estimation.

3.147 Dr Lally noted that the estimates available for the TAMRP are for terms up to 5 years.[177] He advised that if we are using a term greater than 5 years for the risk free rate, we could assume the term is set at 5 years and then reset for the remaining term until implementation. As we are assuming the risk free rate is fixed at the 5 year rate for the remaining term, and that the evidence provides support for a term of the risk free rate of between 5 and 7 years, we consider that the estimate of the TAMRP is appropriate.

177 Dr Martin Lally "Further issues concerning the cost of capital for fibre input methodologies" (25 May 2020), page 21.

3.148 We have decided to retain our position in the draft determination, which is a TAMRP of 7% until the IMs are determined in 2020 and 7.5% for the remainder of the pre-implementation period.

Debt risk premium and Term Credit Spread Differential

3.149 Our decision is to use an annual calculation of the debt risk premium for the pre-implementation period, based on the debt risk premium prevailing at the beginning of the year in which the median loss is incurred, with the term equal to 7 years. We do not consider that a TCSD allowance is necessary.

3.150 The draft decision was to use the debt risk premium prevailing at the beginning of the year in which the median loss is incurred, with the term equal to the remaining years until the implementation date. Our further consultation then adopted a term of 5-years consistent with our treatment of the risk-free rate.

3.151 Regulated providers are not able to hedge the debt risk premium and instead generally manage refinancing risk by forming a staggered portfolio of debt instruments.

3.152 HoustonKemp suggested that it is inappropriate to assume Chorus could have formed a portfolio of debt immediately and, therefore, that it would be inappropriate to calculate the WACC using debt risk premiums for the five years up to 2011. [178] Instead, HoustonKemp suggested that we should calculate the debt risk premium for each year of the pre-implementation period by gradually forming a 5-year trailing average of debt risk premiums over the first five years and then rolling this 5-year trailing average forward over each of the remaining years of the pre-implementation period.

3.153 Following consideration of HoustonKemp's proposal, Dr Lally considers that, where the Commission is using a 5-year average for the debt premium, the ideal approach is to form a five-year portfolio of debt for each year of investment by assuming the portfolio is gradually implemented over the five years following each investment.[179]

3.154 We consider that the debt premium prevailing in the one-month window preceding the start of the relevant period is sufficient and simpler. We have considered the alternative of a 5-year average, and do not consider it necessarily provides a more accurate representation of financing for the purpose of compounding forward losses whilst it would add to complexity.

178 Houston Kemp "Risk free rate, debt premium and TAMRP - A report for Chorus" (9 July 2019).

179 Dr Martin Lally, Capital Financial Consultants Ltd, Review of submissions on the cost of capital for fibre network losses, 12 November 2019, page 7.

3.155 Historical debt risk premiums can be calculated using data available from Bloomberg. However, the ACCC simplified this calculation in their regulation of the national fibre network in Australia by applying a set premium above the risk-free rate for the losses period.[180] We have considered whether there is a simplified approach for estimating the debt risk premium.

3.156 Dr Lally has advised that a simplification would be to estimate the year corresponding to the median loss over the pre-implementation period (assuming the losses reduce over time) and use the debt risk premium prevailing at the beginning of that year, with the term equal to the remaining years until the implementation date.[181] Dr Lally has considered illustrative data of annual losses, as well as debt risk premiums for each year of the pre-implementation period, and has concluded that the simplified approach may be a reasonable approximation of the debt risk premium for the pre-implementation period.

3.157 Our draft decision was to use the simplified method rather than the complex alternative of calculating debt risk premiums for each year of the pre-implementation period in a manner that is consistent with a staggered debt portfolio.

3.158 In response to the draft decision, Chorus submitted that the debt premium for the pre-implementation period should be based on the simple historical average of annual debt premium estimates for 5-year bonds with BBB credit rating as at May 2011, with a TCSD allowance that assumes Chorus issues 50% of its debt for a 10-year term.[182] Enable Networks and Ultrafast Fibre supported Chorus' position on the debt premium.[183]

3.159 Chorus also considers that our draft position is based on the opportunity cost of funds rather than the estimate of the annual recovered returns on investment; uses an unnecessary approximation because the actual calculation can be made with relatively low effort; is circular because the choice of the relevant loss year is dependent on the debt premium as an input to the return on assets; and that the

[180] ACCC, NBN Co Special Access Undertaking, Final Decision, 13 December 2013. Available at https://www.accc.gov.au/system/files/ACCC%20Final%20Decision%20on%20the%20Special%20Access%20Undertaking%20lodged%20by%20NBN%20Co%20on%2019%20November%202013.pdf.

[181] Dr Martin Lally "Capital Financial Consultants Ltd, Review of submissions on the cost of capital for fibre network losses" (12 November 2019) page 8.

[182] Chorus "Submission on Fibre input methodologies – Draft decision" (28 January 2020), paragraph 18.5 and Sapere "The cost of capital input methodologies for fibre, prepared for Chorus" (27 January 2020), paragraph 59.

[183] Enable Networks Ltd and Ultrafast Fibre Ltd "Cross submission on NZCC Fibre Input Methodologies: Draft Decision" (17 February 2020), paragraph 5.3.

year in which the annual loss year occurs is not related to the debt premium that should be applied.[184]

3.160 Chorus submitted in response to our further technical consultation that “the appropriate credit rating for the debt risk premium in the pre-implementation period is BBB, based on a 7-year term… Further, we don’t support the approach of adopting a single debt risk premium based on the median loss year. The Commission should instead use a debt risk premium relevant to the cost of capital estimation date.”[185]

3.161 In response to the submissions by Chorus and Enable Networks and Ultrafast Fibre, we explain earlier in this document why we do not consider it appropriate to calculate the risk free rate as at 2011, and the same reasoning applies to the calculation of the debt premium. Chorus’ concern that the calculation of the debt premium is circular is no longer relevant because the discounted cash flow method that we are applying does not use the return on assets to calculate the annual unrecovered returns.

3.162 After considering submissions, Dr Lally maintained his view that the approximation used in the draft decision for calculating the debt premium, to use the year in which the median loss is incurred, is appropriate because it avoids unnecessary complexity.[186]

3.163 Since Dr Lally’s advice Chorus, supported by Sapere, have submitted further evidence on why they believe the median loss year is more prone to error and should be replaced by a year by year assessment.[187]

3.164 We consider that where we can estimate the debt premium on an annual basis there is little reason why we should proxy it, and the complexity of calculation under a prevailing rate approach is not excessive. Consequently, we shall calculate the debt premium for each year of the pre-implementation period using the one-month window prior to the WACC estimation date.

3.165 We generally provide for a TCSD allowance if regulated providers can demonstrate they have issued debt for a term longer than we assume. While we consider this is appropriate for the post-implementation period, we did not propose a TCSD allowance for the pre-implementation period in either the draft decision or further consultation draft.

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184 Chorus “Submission on Fibre input methodologies – Draft decision” (28 January 2020), paragraph 133.

185 Chorus “Submission on Fibre input methodologies – Further consultation draft (initial value of financial loss asset” (10 September 2020), paragraph 60.4

186 Dr Martin Lally “Further Issues Concerning the Cost of Capital for Fibre Input Methodologies” (25 May 2020), page 6.

187 Chorus “Submission on Fibre input methodologies – Further consultation draft (initial value of financial loss asset)” (September 2020), paragraphs 75 to 77.

3.166 We did not propose a TCSD allowance because we considered the 5-year term of the risk-free rate, applied for the remaining years until implementation, balances:

3.166.1 the risk that a 5-year term may underestimate the length of time for which financing should initially be locked in (because we have evidence that average term of debt issuance is around 7 years); and

3.166.2 the risk that a 5-year term over-compensates towards the end of the pre-implementation period given the fall in interest rates over that period (for example, the 5-year rate that is used to calculate the present value of capital expenditure incurred in 2012 would be expected to be reset at lower rates in 2017. However, we have not assumed it is reset).

3.167 We consider that if we had included a TCSD allowance for the pre-implementation period, it would be inconsistent with our financing assumption for the risk-free rate.

3.168 We do not support Chorus' proposal to assume it issues 50% of its debt for 10 years. Evidence has not been provided that Chorus has issued 50% of its debt for a term of 10 years over the pre-implementation period. Where the information is supportive of an average term of 7-years as a relevant benchmark it is far more straight-forward to estimate a debt premium of that term rather than for a 5-year term plus an assumed TCSD. Given the debt premium cannot be effectively hedged the evidence from the 2010 survey is supportive of a 7-year term.

3.169 Consistent with this decision we also adjust debt issuance costs to represent a term of 7-years of 14 bps.

3.170 All other elements of estimation of debt premium remain consistent with our approach for the post-implementation period.

WACC uplift and asset stranding adjustment

3.171 Our decision is to not have a WACC uplift or an adjustment for asset stranding risk in the pre-implementation period, which is consistent with our draft decision. We gave reasons for this decision in our main final reasons paper.[188]

Consistency between regulated providers subject to PQ regulation or ID regulation

3.172 Our decision is that the WACC parameters will be applied consistently between regulated providers subject to PQ and regulated providers subject only to ID regulation during the pre-implementation period.

[188] Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraphs 6.800 to 6.805 and 6.1141 to 6.1160.

3.173 Our draft decision was there should be no difference between the WACC that applies to Chorus and the other LFCs in the pre-implementation period.

3.174 WIK Consult, Castalia for Enable Networks and UltraFast and Northpower Fibre submitted that the regulated providers subject only to ID regulation warrant a higher asset beta than Chorus. [189, 190] Chapter 6 of the main final reasons paper on the asset beta responds to these submissions and concludes that the submissions were not able to identify a robust basis on which to estimate any additional systematic risk that might apply to the regulated providers subject only to ID regulation.

3.175 There were no additional points raised in submissions that give us reason to apply different WACC parameters in the pre-implementation period to regulated providers subject to PQ and regulated providers subject only to ID regulation.

Why we do not adjust for actual inflation

3.176 Vector has submitted that to be consistent with real FCM the pre-implementation period WACC should be adjusted to account for actual inflation:

> [U]sing a historical discount rate without adjusting the embedded historical expected inflation in the discount rate for the FLA for Chorus and LFCs will provide a windfall gain. Vector notes that other regulated businesses such as gas pipeline businesses (GPBs) and electricity distribution businesses (EDBs) were explicitly denied compensation for expected inflation over this period and, instead, were only compensated for actual inflation in price setting processes discharged by the Commission.[191]

3.177 Several cross-submitters either supported this approach or supported exploring this issue further.[192]

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189 WIK-Consult, Report for Enable Networks and Ultrafast Fibre, In response to the Commerce Commission's fibre regulation emerging views: technical paper, 21 May 2019, page 2; and Enable Networks and Ultrafast Fibre "Submission on NZCC Fibre Input Methodologies: Draft Decision" (28 January 2020), para 10.2(b); and Northpower Fibre Limited and Northpower LFC2 Limited "Submission on Draft Fibre Input Methodologies Determination 2020 and Fibre Input Methodologies Draft Decision – Reasons Paper" (28 January 2020), para 11(b)(ii).

190 Castalia Strategic Advisors, Report to Ultrafast Fibre Limited and Enable Networks Limited, Rate of return for information disclosure profitability monitoring for local fibre companies, August 2019, page 1.

191 Vector "Submission on Fibre Input Methodologies – Further Consultation Draft (Initial Value of Financial Loss Asset)" (10 September 2020) page 8.

192 2Degrees "Further consultation draft Initial Value of Financial Loss Asst (Reasons Paper) cross-submission" (1 October 2020), page 3, Vodafone"Cross-submission on further consultation draft (initial value of financial loss asset)" (1 October 2020) page 3, Spark "Further consultation draft (initial value of financial loss asset) Cross submission" (1 October 2020), page 5.

3.178 Chorus submitted that whilst it agreed decisions need to be consistent with real FCM it is not appropriate to adjust for actual inflation as UFB prices were fixed in nominal terms and noted that its RAB is not indexed for the pre-implementation period.[193]

3.179 Vector's submission raises the issue of where we are compounding losses forward, whether actual inflation should be used through adjusting the financing rate to be consistent with real FCM. However, we note the following.

3.179.1 As we discuss at paragraphs 2.29 - 2.31, we consider that the principle of real FCM, which is forward-looking, is less useful as a tool that can assist us in determining the value of the FLA.

3.179.2 We cannot retrospectively reallocate risk and the contract with the Crown does appear to leave inflation risk with the supplier where prices were not linked explicitly to either costs or inflation.[194] Chorus has made a similar point where it has pointed to the nominal nature of the prices it was contracted to sell wholesale services at during this period. We consider that the pre-implementation period was not a regulatory period but governed under a different arrangement – contracts between LFCs and the Crown, awarded under a competitive tender. LFCs negotiated and signed those contracts, agreed to take on those risks and to go ahead with the rollout. In return, they received Crown financing.

3.180 Given this, on balance we do not believe we should attempt to adjust the compounding rate to reflect actual inflation. This is consistent with our position on asset stranding where we are also not adjusting the compounding rate to provide additional compensation.

Final decisions: asset valuation

3.181 This section sets out the final decisions for the asset valuation components of the FLA IM.

Summary of final decision

3.182 For the asset valuation components used to calculate the FLA, we have decided the following.

3.182.1 Assets will be eligible to enter the DCF calculation in the year in which assets are employed to provide UFB FFLAS. The value of an asset will be its

[193] Chorus "Cross-submission on the Commerce Commission's fibre input methodologies – further consultation draft (initial value of financial loss asset) reasons paper" (1 October 2020), paragraph 21.

[194] Under Chorus' NIPA we note that there are provisions for relief for extraordinary costs including an "Excess CPI Period" which includes consecutive 12 quarters where cumulative CPI exceeds 18% or a cumulative increase in CPI since commencement date exceeding 2.5% per annum. This is consistent with inflation risk residing with Chorus where the extent of risk is capped.

cost, less capital contributions. We will not undertake any review of the costs of the assets, eg, for efficiency.

3.182.2 Specific valuation rules apply for certain types of assets, such as easements, right of use assets, vested assets, network spares and related party transactions. Capitalised interest during an asset's construction follows GAAP rules.

3.182.3 The capital contributions to be deducted from asset values include funding of certain non-standard installations and non-repayable grants by the Crown to UFB partners.

3.182.4 The minimum specificity requirements for recording asset-related information are those consistent with GAAP and good telecommunications industry practice.

Context for the asset valuation IM

3.183 The asset valuation chapter of the main final decision reasons paper sets out the context for the asset valuation IM.

3.183.1 The commencement of BBM regulation on 1 January 2022 will use a collection of assets referred to as the RAB. The RAB has a specific purpose, which is to represent the value of a regulated provider's investment in capital assets. The RAB records the assets that are employed by a regulated provider to provide regulated services and the values of those assets (in the eyes of the regulator) at each point in time.

3.183.2 In addition to the physical core fibre assets employed in the provision of FFLAS, the initial RAB on 1 January 2022 will include a FLA that captures unrecovered returns that have accumulated up to implementation date. The FLA will be part of the initial RAB, but separately identifiable for transparency. This is a feature of the Part 6 regime that is distinct from utility regulation under Part 4 of the Commerce Act 1986.

3.184 Consistent with the overall requirements in s 177, our DCF methodology requires asset valuation rules to be applied to determine the value of assets for the pre-implementation period. The values are required for the three following distinct, but related, purposes.

3.184.1 To calculate the net investment cash flow for each year (or part year) of the pre-implementation period. As mentioned in Chapter 2, a modification we have made to a conventional DCF methodology for practical reasons is to adopt the "value of commissioned assets" as the measure of the cash flows associated with investment (ie, capex). The asset valuation rules calculate the value of commissioned assets used to provide UFB services.

3.184.2 To provide the cost-allocated 'roll forward' value of UFB assets for each year (or part year) of the pre-implementation period, in order to calculate the annual cost allocation adjustment. This calculation requires asset values to be calculated for each year (or part year) to ensure that changes in the proportion of asset sharing occurring in that year are appropriately brought into the DCF calculation.

3.184.3 To determine the closing UFB asset base values as at 31 December 2021. These values are added back to the calculation of total net cash flows during the pre-implementation period in order to net off the part of the overall investment in assets that falls outside the pre-implementation period (ie, treat this residual value at the end of the pre-implementation period as a "terminal" cash inflow).

Recap of key concepts particularly relevant to this discussion

3.185 **The regulated asset base or RAB:** This is the collection of assets that the regulated fibre service provider employs to provide regulated services. These assets may be wholly or partly employed to provide regulated services. If they are only partly employed to provide regulated services, then cost allocation will be required to identify the portion of the cost applicable to regulated FFLAS.

3.186 **Unallocated and allocated RABs:** When an asset is first employed to provide regulated services, it enters the unallocated RAB, which holds the total value of assets that are wholly or partly employed to provide regulated FFLAS. The cost allocation IM is applied to the unallocated asset value whenever it is necessary to determine a specifically attributable (ie, 'allocated') portion of the asset value for regulated activities.

Asset valuation rules for determining the FLA

3.187 We set out below the following key decisions that apply to calculating asset values for the purposes of the FLA:

3.187.1 establishing the timing and valuation of eligible assets;

3.187.2 specific valuation rules for types of assets;

3.187.3 treatment of capital contributions; and

3.187.4 level of asset specificity for the pre-implementation period.

3.188 As discussed below, the reasons for many of these decisions relevant to the valuation of assets are set out in the main final decision reasons paper.[195]

Establishing the timing and valuation of eligible assets

Final decision: timing of commissioned assets

3.189 Our final decision is that an asset value will be eligible to enter the DCF calculation as a cash flow in the year in which the asset is first employed (ie, the year in which the asset is 'commissioned' by that regulated provider in the provision of UFB services). This decision is also applicable to the entry of assets to the UFB RAB as part of the UFB RAB roll forward.

3.190 The rule is that an asset is eligible to be included at the time it is:

3.190.1 constructed or acquired by a regulated provider;[196] and

3.190.2 employed in the provision of UFB FFLAS (whether or not the asset is also employed in the provision of other services).[197] [198] An asset is eligible to be included in the DCF calculation from the year it is first employed in the provision of UFB FFLAS.

3.191 In response to submissions received on our draft decisions, we have defined the term "employ" to mean "available for use" to provide clarity.

3.192 We note that pre-2011 assets should only be included in the FLA calculation 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 enter the initial RAB and the calculation of financial losses during the pre-implementation period. These filters relate to the geographic footprint of the UFB networks, usability, timing and allocation of costs between services – some of which are discussed in more detail in the cost allocation section of this paper.

3.193 Pre-2011 assets will not be considered "available for use" to provide UFB FFLAS until they are in a state where the communal or customer lead-in infrastructure is actually

[195] Fibre Input Methodologies main final decision reasons paper, figure 3.1 summarises issues that are considered when establishing the initial RAB value.

[196] Telecommunications Act 2001, s 177(1)(a).

[197] In keeping with the definition of "fibre asset" in s 177(6) of the Act.

[198] We note that NZ IAS 16 at paragraph 55 says "(d)epreciation of an asset begins when it is available for use, ie, when it is in the location and condition necessary for it to be capable of operating in the manner intended by management."

capable of connecting a customer.[199] [200] This will not be from 1 December 2011. Any cost allowed into the RAB will be subject to cost allocation. The same treatment will also apply to repurposed assets commissioned after the commencement of the UFB rollout.

3.194 The application of the test that infrastructure commissioned pre-2011 can only enter the RAB when it is actually capable of connecting a customer will prevent reused assets from being defined as "available for use" from 1 December 2011. For example, a fibre cable that existed prior to 1 December 2011 and which is then subsequently used as part of communal infrastructure will only be considered "available for use" when the communal infrastructure is ready as a complete working entity and passes commissioning tests to reach a stage where end-users can be connected to a service. On its own, the fibre asset is not capable of providing UFB services and will require the deployment of further elements, such as fibre flexibility points and layer 2 equipment.

3.195 See paragraphs 3.76 to 3.110 of the main final decision reasons paper for further explanation of this decision.

Final decision: initial regulatory value

3.196 Our final decision for the valuation of the initial fibre asset, consistent with s 177, is that the initial regulatory value of an asset will be determined based on the cost of that asset, net of specified capital contributions which are defined in s 177(6).

3.197 We have made some changes to the final determination Schedule B to ensure that there is a clear distinction between the date an asset is first commissioned to provide any service and first commissioned for UFB FFLAS.[201] In order to determine the adjustment for any accumulated depreciation and impairment losses (if any) at the time the asset is commissioned for UFB FFLAS, the original commissioning date of the asset is required. The adjustment then deducts accumulated depreciation and any impairment losses from the cost of the asset when it was originally commissioned to arrive at its initial value when first commissioned for UFB FFLAS.[202]

3.198 See paragraphs 3.111 to 3.117 of the main final decision reasons paper for further explanation of this decision.

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199 UFB FFLAS is any FFLAS provided by a regulated provider under the UFB initiative for the financial loss period.

200 For example, we note testing will be undertaken as part of commissioning the asset and that user acceptance testing is undertaken by CIP. These tests will provide proof of when the asset was available for use.

201 See Schedule B clause B1.1.3.

202 To be clear, if the two dates are the same, then no adjustment is necessary.

Final decision: No review of costs for assets constructed prior to the implementation date

3.199 Our final decision is that we will not:

3.199.1 undertake any review of costs for assets constructed prior to the implementation date; or

3.199.2 revise the base cost of any asset after these assets enter the DCF calculation (which will also apply to assets entering the RAB as part of the RAB roll forward process).

3.200 We do not consider it appropriate to have regard to efficiency in this valuation exercise. We consider that to do so would involve second-guessing the contractual arrangements between UFB partners (Chorus or another LFC on the one hand and the Crown on the other).

3.201 See paragraphs 3.137 to 3.148 of the main final decision reasons paper for further explanation of this decision.

Refinement to the definition of "UFB FFLAS"

3.202 We have refined the definition of "UFB FFLAS" in the amendment determination to remove an inadvertent typographical error. In our further consultation determination for the FLA, "any **FFLAS** that is regulated **FFLAS**" was excluded from the definition. In its submission on our second further consultation paper, Chorus submitted that the exclusion of "regulated FFLAS" is incorrect as "UFB FFLAS will in most instances also fall within the definition of regulated FFLAS".[203] We agree and have refined the definition so that it now reads "means any **FFLAS** provided by a **regulated provider** under the **UFB initiative** during the **financial loss period**;".

3.203 In its submission on this consultation paper, Chorus submitted that the definition of "UFB FFLAS" should also include "FFLAS provided under a contract during the UFB initiative where the provisions of that contract have been preserved under Schedule 1AA of the Telecommunications Act."[204] We do not consider that this additional change is needed as the definition covers all FFLAS that is referred to in s 177(2).

Valuation rules for specific types of commissioned assets

3.204 We set out valuation rules for various assets as part of the main final reasons paper. The rules for these types of assets are also applicable for the calculation of the FLA, but are restricted to UFB assets.

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[203] Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset): Appendix A"" (10 September 2020), page 10.

[204] Ibid.

3.205 The reasons for the treatment of the following assets are explained in the main final reasons paper:

3.205.1 easements (see paragraphs C22 to C30 in Attachment C);

3.205.2 right-of-use assets (see paragraphs C31 to C52 in Attachment C);

3.205.3 vested assets (see paragraphs 3.463 to 3.465);

3.205.4 network spares (see Attachment D); and

3.205.5 sale and purchase of assets, including related party transactions (see paragraphs 3.443 to 3.462).

3.206 It should be noted that, while we will not specify exactly which assets are to be included in the calculations as employed in the provision of UFB FFLAS, there are certain categories of assets that will be specifically excluded for regulatory purposes.[205]

3.207 As discussed in our main final reasons paper, the treatment of capitalised interest during construction follows GAAP rules.[206]

Capital contributions

3.208 Our final decision is that for the purposes of the determination, “capital contribution” is a defined term which encapsulates all amounts that regulated providers received from third parties for the construction, acquisition or enhancement of an asset.[207]

3.209 Our definition of capital contribution is based on the definition of “capital contribution” from the electricity distribution businesses (EDB) IMs under Part 4. It is modified to prescribe the parties from whom a regulated provider may receive a capital contribution. It also excludes Crown financing, in order to incorporate the definition of “specified capital contribution” from s 177(6) of the Act.

3.210 Our final decision is that for the calculation of the initial RAB (including the FLA) for both the pre- and post-implementation periods, capital contributions must be deducted from asset values, as required by s 177(1)(a)(i) of the Act (referred to as the “net approach”). In relation to the pre-implementation period, this decision involves us reverting to our draft decision. We have adopted this decision as we have identified that to do otherwise would:

205 For example, refer to the main final decision reasons paper section on the treatment of intangibles.
206 See paragraphs C18-C21 of our main final reasons paper.
207 Crown financing is explicitly excluded from the definition of “specified capital contribution” under s 177(6).

3.210.1 be contrary to the requirements of s 177(1)(a)(i) going forward; and

3.210.2 for the pre-implementation period, it would require an additional present value adjustment.

3.211 We are mindful that Chorus has accounted for capital contributions in the pre-implementation period in line with GAAP requirements, and that the net approach required by s 177(1)(a)(i) represents a departure from GAAP in some cases. We will therefore work flexibly to ensure the calculation can be undertaken in a way that avoids unnecessary complexity and compliance costs. We will put in place a practical process under the PQ and ID determinations to accommodate any compliance difficulties.

3.212 See paragraphs 3.149 to 3.167 of the main final reasons paper for further explanation of this decision.

Final decision: treatment of the funding of certain non-standard connections

3.213 In its submission in response to the emerging views paper, Spark submitted that the funding of "non-standard connections" should be treated as a capital contribution. The basis for this argument was that the funding of these connections was the result of a commercial arrangement between Chorus and the Crown:[208]

> Where an asset has been created and a contribution made, in part, in lieu of contractual penalty or an in-kind contribution, this should be treated as a contribution and deducted from the cost of the asset. For example, Chorus' approach to non-standard lead-ins was the result of commercial agreement with the Crown and that contribution should be deducted from the lead-in asset.

3.214 The UFB contract uses the terms "standard install' and "non-standard install", whereas the Act refers to "standard connection" and "non-standard connection". "Standard lead-in" and "non-standard lead-in" are other terms that refer to the same things. The terms are used interchangeably in this chapter (noting that the parameters of a non-standard installation have changed over time).

3.215 The UFB1 contract defined the parameters of a "standard install" for particular fibre services with reference to the maximum distance of a fibre lead-in from the Fibre Access Point to external termination point (ETP) for either open trench, aerial drop, or buried lead-in. Chorus was required to fund standard installs for residential premises, ie, there was no connection fee charged to an RSP. Where the installation requirements at an end-user's premises exceeded these limits, however, and therefore amounted to a "non-standard install', Chorus could charge the RSP a fee for this service.

208 Spark "Fibre regulation emerging views: technical paper" (16 July 2019), page 19.

3.216 In 2012, Chorus agreed to extend the maximum distance of a "standard install", and the time period over which it would fund these connections, for the period ending in December 2016. The period was subsequently extended to the end of UFB1 (ie, to December 2019). Under the UFB2 contracts, the definition of "standard installation" was extended to distances of up to 200 metres from the boundary. The agreement to extend the distance for standard installs was achieved without any funding from the Crown.[209]

3.217 In our draft decision, we disagreed with Spark's submission that certain non-standard connections should be treated as capital contributions on the basis that they had been funded through a commercial arrangement with the Crown. We stated that the commercial arrangements between the Crown and LFCs towards the building of network assets constituted "Crown financing" under s 164 (taking a broad view of the definition, and focussing on the component that provides for funding of the UFB initiative, within which "non-standard installations" are included).[210] We noted that this would mean they could not be a capital contribution, as Crown financing is specifically excluded from the definition of capital contribution under s 177(6). However, in its submission on our draft decision, Spark provided further evidence to support its position.[211] We acknowledge that our draft position was incorrect (see below for detail).

3.218 In its submissions in response to the draft decision, Spark provided further detail on the commercial arrangements to which it had referred in its earlier submission. Spark submitted that liquidated damages owed by LFCs to the Crown were applied as grants to providers for additional network assets, and as such, should be treated as capital contributions. In making this submission, Spark pointed to a report from the Office of the Auditor General (OAG) published in June 2016.[212] The report stated that the Crown had applied liquidated damages as grants to LFCs for additional network assets in two cases involving contractual breaches:[213]

> When Crown Fibre enforced penalties in these two instances, rather than retaining the payments, it directed that the payments be reinvested in parts of the network that were

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209 Refer to the CIP's 2012 and 2016 press releases: www.crowninfrastructure.govt.nz/2012/11/01/free-ultra-fast-broadband-connections/ www.crowninfrastructure.govt.nz/2016/10/18/free-ufb-connections-continued/.

210 The UFB initiative is defined in s 5 of the Act as the competitive tender programme, known as the Ultra-fast Broadband Initiative, to develop fibre-to-the-premises broadband networks connecting 75% of New Zealand households, with the support of $1.5 billion of Crown investment funding; and includes UFB 2 and any other extension to the programme.

211 Spark "Submission on Fibre input methodologies – Draft decision" (30 January 2020), paragraph 50.

212 Office of the Auditor General "Crown Fibre Holdings Limited: Managing the first phase of rolling out ultrafast broadband" (June 2016).

213 Ibid, paragraphs 3.36-3.38.

additional to what those commercial partners had been contracted to build. This resulted in enhancements to the network.

This approach meant that the two commercial partners would build and eventually own a better network than that the contract initially required. However, the commercial partners did not necessarily see it this way. One told us that, irrespective of the outcome, "it still cost us financially". In our view, Crown Fibre's approach resulted in enhancements to the network sooner than might otherwise have occurred.

3.219 Spark submitted that the Crown's application of these liquidated damages as grants to LFCs should be treated as capital contributions.[214] In its submission, Spark stated:[215]

Our concern was that other Crown funding through these other mechanisms may not be considered for the purposes of the BBM model, and that this would have a material adverse impact for end user prices. The draft clarified that Crown funding and capital contributions are defined terms in the Act, and that funding through these other mechanisms is unlikely to be considered Crown Financing for the purpose of the Act (it not being debt or equity financing for the purposes of UFB).

We agree with the Commission's approach. The process should ensure that Crown contributions to assets that fall outside the s 164(1) definition of equity and debt financing are captured. This means that Crown use of liquidated damages, implicitly applied by CIP as a grant to UFB partners, and grants through the RBI programme and fibre lead-ins should be treated as capital contributions for BBM purposes.

3.220 In its summary, Spark stated:[216]

We agree with the Commission's approach to capital contributions. Crown UFB funding relates to specific equity and debt funding, and this does not limit recognition of other Crown grants and concessions. The Commission should be alive to adjusting for RBI and other Crown grants (liquidated damages) in PQ determinations.

3.221 We reviewed our draft decision, with the benefit of Spark's submissions and the further detail provided in the OAG's report. We agree with Spark that the funding of certain non-standard installations constitutes a "capital contribution" and have revised our decision accordingly.

3.222 Spark's submission highlighted an error in our draft decision. We acknowledge that our earlier view that the funding of these non-standard installations was "Crown financing" is not correct: it cannot be characterised as "either debt or equity financing provided by the Crown to a regulated provider" in terms of s 164.

214 Spark "Submission on Fibre input methodologies – Draft decision" (30 January 2020), paragraphs 49-53.
215 Ibid, paragraphs 52-53.
216 Spark "Submission on Fibre input methodologies – Draft decision" (30 January 2020), page 10.

3.223 We will now treat certain funding of non-standard installations as capital contributions, which changes the approach taken in the draft decision of treating the funding as Crown financing.

Final decision: non-repayable grants to UFB partners are capital contributions

3.224 We agree with Spark's submission that the commercial arrangement between the Crown and Chorus (in particular, CIP's use of liquidated damages, implicitly applied as a grant to UFB partners) should be treated as a capital contribution.

3.225 We acknowledge that the Crown's surrendering of its liquidated damages claim constitutes consideration, therefore bringing it within the definition of a "capital contribution" for the purposes of the determination:

> A **capital contribution** (a) means money or the monetary value of other considerations charged to or received in relation to the construction, acquisition or enhancement of a **core fibre asset** or **UFB asset** by a regulated provider from 1 or more of the following:
>
> ….
>
> (iii) any other party; … but
>
> (b) does not include any Crown financing.

3.226 Based on the $20 million fund that Chorus established for non-standard installations, the Commission assumes that the value of the liquidated damages that could have been claimed by the Crown against Chorus and was surrendered, was no more than $20 million.[217] If Chorus was required to pay liquidated damages instead, it is likely that Chorus would not have established the fund to the same extent. We will therefore treat this sum of $20 million as a capital contribution.

Submissions on the treatment of the NSI fund as a capital contribution

3.227 Chorus disagreed with our proposal to treat the non-standard installation fund as a capital contribution, which is a change from our draft decision. In its submissions in response to our further consultation update paper, it submitted:[218]

> The Commission has decided that the non-standard installation (**NSI**) fund should be netted off the RAB as a capital contribution, which it assumes is up to $20m. The NSI fund was established to provide free installations for non-standard connections. We disagree on the facts assumed by the Commission in its treatment of the NSI fund but propose to engage further with the Commission during the determination process. In order to account for the

[217] Chorus stock exchange announcement "Chorus provides $20m fund for free UFB residential Installs" (1 November 2012).

[218] Chorus – Submission on consultation draft (initial value of financial loss asset) – 10 September 2020, paragraph 136.

value of the NSI fund that could be treated as a capital contribution we are proposing to remove reference to the $20m value.

3.228 Chorus, while proposing to engage with the Commission as part of the PQ process, has not provided any explanation or evidence to support its claim that the facts on which the Commission has based its decision are incorrect. It was open to Chorus to provide analysis or evidence to the Commission regarding the facts assumed by the Commission in its treatment of the NSI, including via a confidential submission, but it has chosen not to do so.

3.229 We also note that, as part of its suggested change to the IM determination for the definition of capital contribution, Chorus says:[219]

> Where we are able to identify the value of the obligations assumed by Chorus under the settlement agreement between Chorus and CIP dated 29 June 2012, we will net it off the asset value.

3.230 The statement "where we are able to identity the value of the obligations" suggests that Chorus is uncertain whether it will be able to quantify the value of the obligations. In our view, Chorus' suggestion that the Commission removes reference to the $20m value, in circumstances where it is unclear whether Chorus will be able to quantify the value of the obligations, does not improve certainty. Making the suggested change would introduce the need for further work as part of PQ process in relation to the capital contribution, without any evidence having been presented that it will produce a better outcome.

3.231 Vodafone and Vocus support the Commission's approach.[220,221]

3.232 In its submission, Spark agreed with the Commission's approach to capital contributions and also noted:[222]

> Crown UFB funding relates to the specific UFB equity and debt funding arrangements, and this does not limit recognition of other Crown grants and concessions. The Commission should be alive to adjusting for RBI and other Crown grants (liquidated damages) in PQ determinations.

219 Chorus – Submission on consultation draft (initial value of financial loss asset) – Appendix 2 – 10 September 2020, pages 1 and 2.

220 Vodafone submitted that it supports "the decision to treat consumer payments for non-standard installs as a capital contribution". We understand this to be support for the treatment of the non-standard installation fund, as outlined above, as a capital contribution. Vodafone New Zealand "Submission on Fibre Input Methodologies Further Consultation Paper", (13 August 2020), page 7.

221 Vocus "Further Consultation: Fibre Input Methodologies Determination 2020" (13 August 2020), page 3.

222 Spark – Submission on consultation draft (initial value of financial loss asset) – 10 September 2020, paragraphs 65 and 67.

3.233 However, in its cross submission, Spark revised its position relating to the specific reference to the settlement and agreed with Chorus that Crown contributions could be considered as part of the PQ process:[223]

> On reflection, the Commission could delete the specific reference to the settlement agreement and, instead, consider the Crown contribution through the settlement agreement along with other Crown contributions as part of the PQR process as we have proposed.

3.234 We note that all capital contributions (including those provided by the Crown) that meet the definition in the Act and in the determination will be treated as the legislation and determination require. The determination already provides that contributions from the Crown which are not Crown financing are a capital contribution:

> (a) money or the monetary value of other consideration charged to or received in relation to the construction, acquisition or enhancement of a **core fibre asset** or **UFB asset** by a **regulated provider** from 1 or more of the following:
>
> …
>
> (i) any other party.

3.235 On balance, we consider that including the $20 million figure to be deducted as part of the determination offers certainty and is therefore preferable to attempting to quantify the figure as part of the PQ process. If Chorus were able to provide the specific figure, we expect it would have submitted that evidence. For the avoidance of doubt, we note that any non-repayable contribution from the Crown (a grant) provided to fund the UFB rollout will be treated as a capital contribution.[224]

Final decision: level of asset specificity in the RAB for the pre-implementation period

3.236 Our final decisions with regards to the level of asset specificity are as follows.

3.236.1 To prescribe a minimum level of asset specificity that regulated providers must satisfy when recording values for the DCF calculation, in respect of the pre-implementation period (during which the FLA is determined). The level of specificity is that required under GAAP and with such additional records as are necessary to satisfy the minimum level of asset specificity consistent with good telecommunications industry practice.

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223 Spark NZ – Cross-submission on second consultation paper on financial loss asset – 1 October 2020, paragraphs 17 to 21.

224 Noting Spark's reference to RBI funding, while RBI assets normally fall outside of the Part 6 regulatory regime for FFLAS, if the circumstance arises that these assets are employed or partly employed to provide FFLAS, we will require appropriate adjustments to be made to ensure that the relevant proportion of the funding is treated in accordance with the requirements of the legislation and Determination.

3.236.2 To require regulated providers to capture relevant information to allow decisions on cost allocation to be made. The asset granularity requirements will be aligned across asset valuation and cost allocation IMs.

3.236.3 That while we have prescribed a minimum level of asset specificity, this sets a starting point and will not preclude the Commission requiring further granularity.

3.237 See paragraphs 3.396 to 3.436 of our main final reasons paper for further explanation of this decision.

Final decisions: cost allocation

3.238 This section sets out our final decisions for the cost allocation components of the FLA IM. In this section, we cover the following:

3.238.1 a summary of our key decisions on the cost allocation rules to apply in the determination of the FLA;

3.238.2 why cost allocation is important in determining the FLA;

3.238.3 the treatment of pre-2011 assets in the determination of the FLA;

3.238.4 mitigating the risk of over-allocation of pre-2011 assets;

3.238.5 cost allocation and UFB expenditure over the pre-implementation period; and

3.238.6 mitigating the risk of double recovery between copper and fibre services.

Summary of final decision

3.239 For the cost allocation components used to calculate the FLA, we have decided the following:

3.239.1 All asset-related values and operating costs that are directly attributable to the provision of UFB FFLAS during the pre-implementation period must be allocated to UFB FFLAS when determining the FLA.

3.239.2 For the FLA, directly attributable costs will be defined as those incurred, and directly attributable assets will be defined as those employed wholly and solely in the provision of UFB FFLAS during the pre-implementation period.

3.239.3 All shared costs (including asset values and operating costs) that relate to the provision of UFB FFLAS during the pre-implementation period must be allocated using ABAA using an allocator of our choice. Our default list of allocators is:

3.239.3.1 number of customers, end-users, or premises (intact, connected or passed);

3.239.3.2 number of ports;

3.239.3.3 revenue;

3.239.3.4 central office space;

3.239.3.5 peak traffic;

3.239.3.6 average traffic;

3.239.3.7 used length of linear assets;

3.239.3.8 power usage; and

3.239.3.9 number of events.

3.239.4 Shared costs that relate to the provision of UFB FFLAS during the pre-implementation period must be allocated using measures and statistics that are reviewed and updated for each year (or part year) of the pre-implementation period.

3.239.5 A cap on costs allocated to UFB FFLAS based on unavoidable costs will apply for costs that were shared between the provision of UFB FFLAS and other services during the pre-implementation period, including for repurposed assets.[225]

Why cost allocation is important in determining the FLA

3.240 The approach to cost allocation is important to determining the FLA for a number of reasons. The areas where cost allocation arises in the calculation of the FLA are:

3.240.1 the allocation of costs relating to pre-2011 assets used to deliver UFB FFLAS during the pre-implementation period; and

225 We have added two subclauses to the Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020, to give effect to this cap. We consulted on our proposed use of a cap for the calculation of the FLA in our draft decision (see "Fibre input methodologies: Draft decision – reasons paper" (19 November 2019), paragraph 3.488), but had omitted to include the proposed cap in the draft determination.

3.240.2 the allocation of costs incurred during the pre-implementation period (from 1 December 2011 to the implementation date of 2022) to deliver UFB FFLAS.

3.241 Each of these is summarised below.

Cost allocation and the treatment of pre-2011 assets in determining the FLA

3.242 In considering how to treat pre-2011 assets in the determination of the FLA, the appropriate cost standard is a key issue.

3.242.1 At one extreme, a pure incremental cost standard could be used, which would allocate any pre-2011 assets that are used to supply both existing services (eg, copper) and new services (eg, UFB FFLAS) fully to the existing service. The new service would only have to recover the additional or incremental costs of supplying that service.

3.242.2 At the other extreme, a standalone cost standard would require the new service to bear the costs as if it were being supplied as a standalone service, with no other services being supplied. As a result, all the shared costs would be borne by the new service.

3.243 Between these two extremes, the shared costs could be allocated to the various services that are supplied using the shared asset.

3.244 There have been divergent views expressed by submitters throughout the IMs consultation and development process.

3.244.1 RSPs have generally supported the use of an incremental cost standard, where UFB FFLAS is treated as the incremental service. Under an incremental cost approach, any shared costs that would have been incurred in the absence of the UFB deployment would be fully allocated to non-UFB services. Examples of such services include copper-based services in the case of Chorus, and electricity distribution services in the case of the other LFCs.

3.244.2 Chorus and the LFCs have supported the use of an allocated cost standard, where any shared costs (including those that would have been incurred in the absence of the UFB) are allocated between those services that utilise the shared asset. The allocations would be based on the use of a causal or proxy allocator that reflects the utilisation or causal driver of the shared asset.

3.245 The range of views expressed by submitters in part reflects differing legal interpretations of s 177, which governs the determination of the FLA. We address these views at paragraphs 2.55 to 2.126 above.

3.246 The cost allocation approach relating to pre-2011 assets will therefore depend on the cost standard that is used to determine the FLA.

Cost allocation and UFB expenditure over the pre-implementation period

3.247 In addition to the treatment of pre-2011 assets, cost allocation will also be relevant to the FLA where costs incurred in relation to the deployment of the UFB over the pre-implementation period (from 1 December 2011 to 2022) also support the delivery of services other than UFB FFLAS.

3.248 For example, where Chorus installs a new duct-line as part of the UFB deployment, the new duct may be utilised to deliver other services. In that case, the FLA will depend on the allocation of the costs of that duct between UFB FFLAS and other services utilising the duct.

3.249 In both of the above cases, the greater the allocation of shared costs (whether relating to pre-2011 assets employed to deliver UFB or relating to costs incurred during the pre-implementation period) to UFB FFLAS, the larger will be the expected FLA over the pre-implementation period.

The treatment of pre-2011 assets in the determination of the FLA

3.250 Our final decision is to allow for the inclusion of a share of the costs of pre-2011 assets employed to deliver UFB when determining the FLA.

What we said in our FLA further consultation paper

3.251 Our FLA further consultation paper covered the treatment of pre-2011 assets in the determination of the FLA.[226]

3.252 We noted that the inclusion of the FLA in the initial value of the RAB as of the implementation date is to recognise that in deploying and operating the UFB networks, both Chorus and the other LFCs were expected to incur financial losses.[227] This is because UFB partners made investments ahead of demand, and low initial end-user uptake of UFB services and the associated revenues recovered in accordance with the UFB contracts were not sufficient to cover the costs that the UFB partners incurred during the early stages of the UFB deployment.

3.253 We noted that s 177(2) and (3) of the Act provide for any resulting financial losses to be capitalised and included as the FLA in the initial value of the RAB, and this allows for their recovery through prices charged to end-users over time.

226 Commerce Commission "Fibre input methodologies: Further consultation draft (initial value of financial loss asset)- reasons paper" (13 August 2020).

227 Ibid, paragraph 2.4.

3.254 We acknowledged that we had received a large number of submissions on the treatment of pre-2011 assets in response to our emerging views paper and our draft decision.[228] We summarised and discussed those submissions, and provided further explanation of why we proposed to include pre-2011 assets when calculating the FLA. This was based on our interpretation of s 177, which we concluded allows for (but does not require) the inclusion of pre-2011 assets in the calculation of the FLA.[229]

3.255 Having concluded that the inclusion of a share of pre-2011 assets in the calculation of the FLA is permitted by the legislation, we then considered whether the inclusion of such a share is justified. We came to the following view:[230]

> 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.
>
> We therefore reject submissions that a pure incremental approach, which would exclude pre-2011 assets, is justified.

3.256 We also acknowledged however that Chorus will have incentives to allocate as high a proportion as possible to the FLA. We emphasised the importance of ensuring that cost allocation of pre-2011 assets is appropriate. In this regard, we noted the following.

3.256.1 While our view was that pre-2011 assets can 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 come into the initial RAB and the calculation of financial losses during the pre-implementation period. These filters relate to the geographic footprint of the UFB networks, usability, timing and allocation of costs between services.[231]

3.256.2 We recognised the concerns around the potential for double recovery or windfall gains in the treatment of pre-2011 assets when determining the FLA value. However, we said it is important to view these concerns against the tools available to address 'windfall gains', which were set out in the

[228] Ibid, paragraph 2.8.
[229] Ibid, paragraph 2.22.
[230] Ibid, paragraphs 2.82-2.83.
[231] Ibid, paragraph 2.88.

draft decision reasons paper (assets only come into the FLA and RAB when employed in provision of FFLAS; use of proportionate cost allocation (ABAA); use of updated cost allocation data; inclusion of a cap on costs of reused assets; use of default allocators; requirement for consistent application of allocators etc).[232]

3.257 We sought views on whether additional tools or safeguards might be required, such as increasing the downside risk for a regulated provider from gaming; only allowing an asset to be allocated to FFLAS when it is used primarily for FFLAS; and capping the maximum copper asset values transferred to fibre.[233]

Submissions on our FLA further consultation paper

3.258 We received a range of views on the treatment of pre-2011 assets when determining the FLA.

3.259 Chorus agreed with our proposed treatment of pre-2011 assets, although submitted that we have no choice but to include pre-2011 assets when determining the FLA, ie, we have no discretion on this (refer to paragraphs 2.76-2.77 above).[234]

3.260 Chorus argued that an incremental cost approach would not account for customer migration from copper to fibre, and would lead to under-recovery of shared costs:[235]

> It is reasonable for FFLAS consumers to contribute to the recovery of their portion of shared costs, including those from the existing assets that are re-used to provide FFLAS. … This ensures the right outcome is achieved, which is consistent with a workably competitive market.

3.261 Chorus also argued that RSPs have failed to explain why it would be appropriate to take an incremental cost approach during the pre-implementation period, and then use an ABAA approach in the post-implementation period. According to Chorus:[236]

> It doesn't make sense that the regulatory regime would mandate pre-2011 assets are part of the RAB (and so be treated as part of the cost of providing FFLAS from the implementation date onwards) but not part of the cost of providing UFB in the pre-implementation period.

3.262 Chorus disagreed with RSP submissions that s 177 of the Act does not permit the inclusion of pre-2011 assets. Chorus argued that "RSPs have not raised any new

232 Ibid, paragraph 2.96.
233 Ibid, paragraph 2.98.
234 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset)"" (10 September 2020), paragraphs 24, 112-114.
235 Chorus "Chorus cross-submission on the Commerce Commission's fibre input methodologies – further consultation draft (initial value of financial loss asset) reasons paper" (1 October 2020), paragraph 37.
236 Ibid, paragraph 38.

arguments in the FLA submissions – all their arguments on the interpretation of section 177 have already been comprehensively addressed by the Commission.” [237]

3.263 In their cross-submission, Enable and UFF agreed with Chorus’ view:[238]

> The sole question to be determined is whether the asset in question is used by the regulated fibre service provider in providing fibre fixed line access services under the UFB initiative. Far from excluding pre-2011 assets by implication as Trustpower submits, section 177(1)(a)(ii) makes clear that pre-2011 fibre assets were intended to be included in the calculation of the fibre loss asset (FLA).

3.264 Enable and Ultrafast submitted that there is an opportunity cost associated with using existing assets for FFLAS, and therefore an implicit investment which should be included.[239]

3.265 Spark accepted that the inclusion of pre-2011 assets is permitted by s 177, although questioned whether such assets should be included. [240] Spark submitted that:[241]

> … while the draft reasons paper outlines strong reasons why pre-2011 assets could be considered for the purposes of the FLA, it does not address RSP concerns that the Commission’s proposed approach recognises costs that are not consistent with the s177(2) limits. Vodafone, Trustpower and 2Degrees all submit that s177(2) directs the Commission to adopt an incremental to UFB basis.

3.266 Vodafone agreed that the Commission has discretion on whether or not to include pre-2011 assets in the calculation of the FLA. Vodafone repeated its previous position that such discretion needs to be exercised in the long-term interests of consumers, not the short-term interests of LFCs and their investors (refer to paragraph 2.69 above).[242]

3.267 Vocus submitted that the FLA should be determined on the basis of the incremental/avoidable cost of fibre, rather than to allow fibre to contribute to the cost of shared assets such as ducts.[243] According to Vocus, ACAM is consistent with “orthodox definitions and measures of losses”, while ABAA would overstate financial losses and result in wealth transfers from end-users to Chorus.[244]

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237 Ibid, paragraph 33.

238 Enable/UFF “Cross-submission on NZCC Fibre Input Methodologies Further Consultation Draft (Initial Value of Financial Loss Asset) – Reasons Paper” (1 October 2020), paragraph 3.4.

239 Ibid, paragraph 3.5.

240 Spark “Further consultation draft (initial value of financial loss asset)” (10 September 2020), paragraphs 32 and 33.

241 Ibid, paragraph 34.

242 Vodafone “Vodafone submission on further consultation draft (initial value of financial loss asset)” (10 September 2020), page 3.

243 Vocus “Vocus submission on Further Consultation Draft (initial value of financial loss asset) – Reasons Paper” (10 September 2020), paragraph 13.

244 Ibid, paragraph 2.

3.268 Vocus submitted that the Commission should determine financial losses (if any) on an incremental or avoidable cost basis. Vocus said this would be consistent with previous Telecommunications Service Obligations (**TSO**) net cost determination requirements, as well as with the approach the Commission has previously taken in investigations into anti-competitive conduct, predatory pricing, and cross-subsidisation in the context of the restrictive trade practice provisions of the Commerce Act.[245] Vocus also referred to the Telecommunications Act definitions of 'actual costs saved' and 'avoided costs saved', arguing that the concept of financial loss is conceptually and definitionally similar to these terms.[246]

3.269 In support of its view that the FLA should be determined on the basis of incremental cost, Vocus also cited the definition of TSLRIC set out in the Telecommunications Act:[247]

> The definition of Total Service Long Run Incremental Cost (TSLRIC), an incremental cost methodology, in the Telecommunications Act also provides useful guidance. The TSLRIC/incremental cost definition states that it includes costs "that are directly attributable to, or reasonably identifiable as incremental to, the service, taking into account the service provider's provision of other telecommunications services".

3.270 Vocus also referred to the stylised example that we used in the FLA further consultation paper, showing the relationship between incremental cost, shared cost, and standalone cost.[248] According to Vocus, the Commission's concern – that under an incremental cost approach, common costs would be carried by a declining number of copper services, and a growing number of FFLAS connections would contribute nothing to the cost of shared assets used by FFLAS – reflects a simplification, showing the invariance of shared costs.[249] Vocus provided what it considered to be a more sophisticated example, used by the Commission in the IMs merits appeal, showing that common costs may to some extent vary with the services supplied. As a result, under ACAM, less than 100% of the common costs may be allocated to the existing service.

3.271 Vocus noted the agreement among RSPs that the Commission should explicitly define financial losses and adopt an allocation methodology that is consistent with that definition. According to Vocus, an incremental or avoidable cost allocation methodology is consistent with an orthodox definition of losses, and that the use of

245 Ibid, paragraphs 13-16.
246 Ibid, paragraph 19.
247 Ibid, paragraph 20.
248 Ibid, paragraph 21.
249 Ibid, paragraph 23.

ABAA would overstate financial losses and result in wealth transfers from end-users to Chorus.[250]

3.272 Vocus said that if the Commission were to maintain its view that ABAA is an option, the Commission should estimate the impact of using ABAA rather than an incremental cost approach on end-user prices to help determine whether ABAA would best satisfy the s 162 purpose.[251]

3.273 Trustpower disagreed with the Commission's view that s 177 permits (though does not require) pre-2011 assets to be included in the calculation of the FLA.[252] Trustpower submitted that pre-2011 assets were not constructed or acquired by Chorus to provide FFLAS under the UFB initiative. These assets were pre-existing assets, many of which are likely to have been fibre-to-the-node (**FTTN**) assets committed to by Telecom under its operational separation undertakings with the Crown in 2008.[253]

3.274 Trustpower submitted that in bidding for UFB contracts, Telecom/Chorus made use of a mix of pre-2011 and new build assets, and re-use of existing assets allowed Chorus to reduce overall capex and to reach deployment milestones more quickly.[254]

3.275 According to Trustpower, the inclusion of pre-2011 assets in the FLA would represent a "windfall of sorts" for Chorus, who would not have expected to be able to recover these costs from the FLA at the time of those earlier investments.[255]

3.276 2degrees repeated its submission on the November 2019 draft, that deviating from an incremental or avoidable cost approach would be in violation of any reasonable definition of "financial losses" and would overcompensate Chorus which would be inconsistent with FCM and s 162(d).[256]

3.277 2degrees disagreed with the use of the ABAA approach to determine the FLA. 2degrees supported the use of an incremental cost approach, as per 2degrees' previous submissions on the emerging views paper and the November 2019 draft

250 Vocus "Vocus Cross-submission on Further Consultation Draft (initial value of financial loss asset) – Reasons Paper" (29 September 2020), paragraphs 3-4.
251 Ibid, paragraph 6.
252 Trustpower "Trustpower Submission: Fibre Input Methodologies: Initial value of the Financial Loss Asset" (9 September 2020), paragraphs 2.1.2-2.1.3.
253 Ibid, paragraph 2.2.1.
254 Ibid, paragraph 2.2.3.
255 Trustpower "Trustpower Submission: Fibre Input Methodologies: Initial value of the Financial Loss Asset" (9 September 2020), paragraph 2.2.5.
256 2degrees "Submission on consultation draft of initial value of financial loss asset" (10 September 2020), page 2.

decision. 2degrees claimed that the Commission has not engaged with these previous submissions.[257]

3.278 Vector was not convinced that including pre-2011 assets is consistent with s 162. According to Vector, this creates a risk of including costs in the FLA that have already been recovered through the regulation of copper services. Hence, in Vector's view, excluding such assets from the FLA would be more consistent with s 162.[258]

3.279 According to Vector an approach to the FLA which only takes into account direct actual expenditure over the pre-implementation period would ensure there is no double recovery.[259]

3.280 Vector also submitted that the inclusion of the FLA for the UFB over the pre-implementation period has:[260]

> … provided Chorus with a perverse opportunity to game the volume of losses for UFB by virtue of its ownership of the existing copper customer access network. The extent to which customer migration from its copper network could have been managed to accrue losses over the Pre-Implementation Period would result in future higher UFB prices which would undermine the objectives of section 162 of the Act.

Our decision is to include pre-2011 assets in the calculation of the FLA

3.281 Our decision is to include pre-2011 assets used to provide UFB services in the calculation of the FLA. In coming to this decision, we have considered the views expressed in submissions, and respond to them below (in addition to the discussion at paragraphs 2.55 to 2.126 above).

3.282 We note that Chorus agreed with our view that pre-2011 assets should be included in the calculation of the FLA, although Chorus claimed that a plain reading of s 177 requires us to do so. We respond to submissions on this matter in Chapter 2 (from paragraph 2.89 above).

3.283 As noted above, RSPs support the use of an incremental cost approach to the calculation of the FLA. Under an incremental cost approach, the assessment of the FLA would not include any contribution by UFB services to costs that are shared with other services, including costs associated with pre-2011 assets. Only the incremental costs incurred as a result of UFB would be included.

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257 Ibid, pages 2-3.

258 Vector "Vector Submission on Fibre Input Methodologies - Further Consultation Draft (Initial Value of Financial Loss Asset)" (10 September 2020), paragraph 9.

259 Ibid, paragraph 10.

260 Ibid, paragraph 13.

3.284 For example, take the case of a pre-2011 duct which houses copper cables used to supply DSL services, but has some empty space available for re-use to supply fibre services as part of UFB.

3.285 Under the RSPs' approach, in determining the FLA, only the incremental costs of supplying UFB services would be included. For example, such costs would include:

3.285.1 the cost of materials (ie, the fibre cable used to supply UFB);

3.285.2 the cost of installing the fibre cable into the duct; and

3.285.3 any costs of refurbishing the duct to be able to accommodate the fibre cable (eg removing any blockages, etc).

3.286 However, the undepreciated (unrecovered) value of the duct itself would be excluded from the FLA calculation. In effect, the unrecovered cost of the duct would be allocated to non-UFB services using the duct (i.e. DSL services). This would in effect be applying the ACAM approach where UFB is treated as the new service (so that the allocation of the duct costs to copper would be based on the proportion of the duct costs that could not be avoided if FFLAS were no longer to be supplied).

3.287 Under this approach, as we noted in the FLA further consultation paper and in our November 2019 draft decision, even as fibre services displace DSL services, the duct cost would continue to be borne by DSL.

3.288 Were FFLAS to fully displace DSL services at some point during the pre-implementation period (for example, in 2015), the value of the duct would still be excluded from the FLA calculation. For the remainder of the pre-implementation period (ie, from 2015-2022), Chorus would be limited from earning a return on the unrecovered value of the duct.

3.289 This displacement of demand between services is omitted from the example referred to by Vocus, where the two services – electricity lines and fibre – are independent from each other on the demand side. In other words, supplying one additional electricity line service does not influence demand for fibre services.

3.290 As discussed above, in the case of the FLA, we are mainly talking about the legacy services (copper services) being gradually replaced by the new services (fibre). As this transition occurs, an incremental cost approach proposed by Vocus and the other RSPs would result in the common or shared costs being carried by a declining number of copper services, with no contribution being made from an increasing number of fibre services.

3.291 With respect to Vocus' reference to terms such as 'actual costs saved' and 'avoided costs saved' defined in Schedule 1 of the Telecommunications Act, these relate specifically to the determination of retail-minus prices for certain regulated services in Schedule 1 of the Act. These defined terms are not referred to in Part 6. There is no reference to these terms in Part 6 of the Act generally, or in s 177 specifically, meaning there is no legislative requirement for these terms to be taken into account when considering the approach to be taken in determining the FLA.

3.292 In contrast, there is a clear reference to the inclusion of pre-2011 assets in s 177(1) when determining the initial value of the fibre asset as of the implementation date. While this section does not require us to include pre-2011 assets in the calculation of the FLA, in our view it suggests that these assets are eligible to be included in the calculation of the financial losses (refer to paragraph 2.113 above).

3.293 We also note that Vocus has only included a partial definition of TSLRIC. The full definition of TSLRIC in the Act (see Schedule 1, Part 1, clause 1 Interpretation) is:

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

3.294 In other words, there is a 'directly attributable' element (subsection (a)), as well as a contribution to common or shared costs (subsection (b)). In only referring to the former, Vocus' submission does not, in our view, support an incremental cost approach.

3.295 As was discussed in our November 2019 draft decision, and in our FLA further consultation paper, in determining a TSLRIC price, the Commission took into account the efficient costs of deploying a fixed network using the modern equivalent asset. In the case of the Unbundled Copper Local Loop (**UCLL**) Final Pricing Principle (**FPP**) determination, this was a new fibre network (with some wireless in more remote areas). The modelled network was dimensioned to serve the entire demand for fixed services (including aggregate demand for copper and fibre services). This was to allow for the transition in demand from copper to fibre, and the re-allocation of shared costs between these services as this transition took place. The effect of this is to allow the costs of shared infrastructure (ducts etc) to be spread across copper and fibre services, rather than being borne by one service (which is what Vocus and the other RSPs propose we do when determining the FLA).

3.296 We also note Vocus' submission that if an ABAA approach is adopted for the calculation of the FLA, we should consider the consequential impact on end-user prices to see whether ABAA would best satisfy the purpose set out in s 162. In this regard, s 162 has a number of considerations. Adopting an approach solely on the basis of the impact on end-user prices may not promote the long-term benefit of end-users if it were to have adverse consequences for the other limbs. In this case, we consider the following.

3.296.1 Section 162(a) is relevant where UFB services displace copper services over the pre-implementation period, as the exclusion of pre-2011 assets could restrict the ability of Chorus to recover such costs during the period (see the example of FFLAS displacing DSL discussed at paragraph 3.288 above). In our view, this could discourage future innovation and investment to deliver new services using pre-existing assets.

3.296.2 Section 162(b) is relevant, where the exclusion of pre-2011 assets may reduce incentives to improve efficiency through repurposing of assets in the future.

3.297 As Trustpower submitted, some of the pre-2011 assets are likely to have been FTTN assets committed to by Telecom under its operational separation undertakings with the Crown in 2008.[261] We note that Chorus would have expected to recover those earlier investments through FTTN-based services (eg VDSL services). Following the commencement of UFB, some of that demand for VDSL services has migrated to UFB services. As that demand migrated, it is reasonable that the unrecovered cost of those earlier investments – to the extent that the underlying assets are re-used to support the roll-out of UFB services – be re-allocated between these services, with the re-allocation reflecting the transition in demand from the pre-existing services (such as VDSL) to the new UFB services.

3.298 In respect of Vector's submission that the inclusion of the FLA has provided Chorus with an incentive to manage migration from copper to fibre in order to accrue losses, we note the following.

3.298.1 The uptake of UFB services has generally been higher than initially anticipated. For example, Chorus has reported strong growth in UFB uptake, reaching 60% in June 2020.[262] This compares to expectations towards the start of the UFB initiative that uptake may reach around 30% by 2019.[263]

[261] Trustpower "Trustpower Submission: Fibre Input Methodologies: Initial value of the Financial Loss Asset" (9 September 2020), paragraph 2.2.1.

[262] Chorus Annual Report 2020, page 1.

[263] See for example, https://www.nzherald.co.nz/business/ultrafast-broadband-uptake-still-under-3pc/GCQCK3HGMGD2U5GN77YJQGXNZY/

3.298.2 If Chorus were to slow UFB uptake by trying to keep customers on copper-based services, this would increase the risk that Chorus would lose customers to competing networks, such as fixed-wireless.

3.298.3 By migrating customers onto fibre, while this would be expected to result in a faster allocation of shared costs to fibre services (which would have the effect of increasing any financial losses), it would also generate more revenues from fibre services (lowering losses).

3.299 As a result, it is not clear that Vector's concern has transpired.

3.300 Having considered submissions on the treatment of pre-2011 assets when determining the FLA, we remain of the view that a pure incremental cost approach – which would exclude pre-2011 assets – is not justified.

3.301 Assigning a value of zero to all pre-2011 assets used to provide UFB services is likely to raise concerns under s 162(b) in terms of adverse effects on incentives to improve efficiency (by discouraging future re-purposing and sharing of assets in the future). We also consider that a pure incremental cost approach to the calculation of the FLA 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 copper services to the new fibre services.

3.302 In exercising our discretion on the treatment of pre-2011 assets in the calculation of the FLA, these considerations support the inclusion of a share of pre-2011 assets where they have been used to provide UFB services during the pre-implementation period.

3.303 Our decision is to allow for the inclusion of a share of the costs of pre-2011 assets employed to deliver UFB when determining the FLA.

Mitigating the risk of over-allocation of pre-2011 assets

3.304 We have decided to implement a number of tools to mitigate the risk of windfall gains in the treatment of pre-2011 assets when determining the value of the FLA. These are:

3.304.1 assets only come into the FLA, and post-implementation, into the RAB, when they are employed in the provision of FFLAS;

3.304.2 proportionate cost allocation using ABAA;

3.304.3 cost allocation data is to be updated annually;

3.304.4 the inclusion of a cost cap to limit the amount of costs for reused assets to those which cannot be avoided in providing the UFB services;

3.304.5 the use of a list of default allocators; and

3.304.6 the requirement that cost allocators are applied consistently across like costs and between years.

3.305 The Commission also retains the final decision in determining the value of the FLA and the cost allocation decisions behind it.

3.306 We do not consider that additional safeguards are required.

What we said in our FLA further consultation paper

3.307 In our FLA further consultation paper, we noted that although a share of the costs of pre-2011 assets used to provide UFB services should be included in the calculation of the FLA, Chorus has strong incentives to allocate as high a volume and value as possible to pre-2011 assets. We said that the risk of potential 'gaming' is heightened for the determination under s 177(2) for a number of reasons.[264]

3.307.1 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.

3.307.2 There is the potential 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.

3.307.3 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.

3.307.4 Regulated providers may expect little potential downside from engaging in potential 'gaming'.

3.308 We noted that we wanted 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 said this was a potentially material risk to end-users.[265]

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264 Commerce Commission "Fibre input methodologies: Further consultation draft (initial value of financial loss asset)- reasons paper" (13 August 2020), paragraph 2.85.

265 Commerce Commission "Fibre input methodologies: Further consultation draft (initial value of financial loss asset)- reasons paper" (13 August 2020), paragraph 2.86.

3.309 To help ensure that pre-2011 assets are only included in the FLA to the extent that they have been employed to provide UFB services, we discussed the use of a number of filters to be applied when determining the value of pre-2011 assets that come into the initial RAB and the calculation of financial losses during the pre-implementation period. These filters relate to the geographic footprint of the UFB networks, usability, timing and allocation of costs between services.[266]

3.310 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' UFB fibre network coverage will represent approximately 65% of its nationwide copper network coverage.

3.311 Secondly, not all pre-2011 assets are capable of actually being re-used to provide UFB FFLAS. 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).[267] 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.[268]

3.312 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 pre-implementation 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, scrutiny will be applied to determine the appropriateness of the chosen allocator.

3.313 A result of applying 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

266 Ibid, paragraphs 2.88-2.92.

267 Chorus "Share in two journeys: Your opportunity to own interests in two leading New Zealand telecommunications companies – Demerger of Chorus Limited by Telecom Corporation of New Zealand Limited" (13 September 2011), pages 97-98.

268 We understand that the types of assets that may be reused include ducts and manholes, poles, some layer 2 equipment, property, and existing fibre cables.

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).

3.314 We also raised several additional potential safeguards that might be considered to ensure an appropriate level of cost allocation is applied to pre-2011 assets in the FLA calculation. These were:[269]

3.314.1 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;

3.314.2 to only allow costs of an asset to be allocated to FFLAS when it is used primarily for FFLAS; and

3.314.3 to set a cap on the maximum copper asset values transferred to fibre.

Submissions on our FLA further consultation paper

3.315 Spark agreed with the Commission that Chorus has strong incentives to maximise the allocation of costs of existing assets to the financial loss calculation. Spark said this is a significant concern, and that applying filters (eg relating to the footprint of the UFB networks, usability of existing assets, timing etc) to shared assets and costs will reduce the scope of these concerns.[270] Spark said that the further tools raised by the Commission in our FLA further consultation paper should also be considered.[271]

3.316 Spark submitted that there is likely to be significant excess capacity associated with pre-2011 assets, and that this excess capacity should not be allocated to the fibre RAB. Spark noted that although there has been a concern that the Commission not assess UFB deployed assets for efficiency (which may have been constrained due to UFB requirements), this does not extend to the efficiency of assets that were not deployed to meet the UFB initiative requirements: “The Commission should ensure that assets are not inefficiently allocated into the fibre RAB.” [272]

3.317 Spark submitted that the Commission could consider applying an overall cap on the share of pre-2011 assets allocated to FFLAS. “For example, the maximum allocation of shared costs to the fibre network is the percent of actual demand it reflects of Chorus’ overall demand.” [273]

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[269] Commerce Commission “Fibre input methodologies: Further consultation draft (initial value of financial loss asset)- reasons paper” (13 August 2020), paragraph 2.98.

[270] Spark “Further consultation draft (initial value of financial loss asset)” (10 September 2020), paragraphs 50-51.

[271] Ibid, paragraph 52.

[272] Ibid, paragraph 57.

[273] Ibid, paragraph 58.

3.318 2degrees also shared the Commission's concerns over the risk of potential gaming in the s 177(2) determination. 2degrees referred to previous examples relating to the TSO and TSLRIC determinations and supported the use of the additional tools that were canvassed in the FLA further consultation paper to address appropriate cost allocation of pre-2011 assets. 2degrees supported using an incremental cost approach, as well as prescriptive rules that limit Chorus' discretion, and only allowing pre-2011 assets to be included when they are employed in the provision of UFB FFLAS.[274]

3.319 Vodafone also supported the options flagged by the Commission in the FLA further consultation paper. Vodafone supported these options being applied not just in respect of pre-2011 assets but also in respect of the allocation of shared costs commissioned throughout the pre-implementation period.[275]

3.320 Specifically, Vodafone submitted the following.[276]

3.320.1 A downside risk (such as entirely excluding any assets found to have been over-allocated to fibre) should be created to deter gaming. However, Vodafone submitted that due to information asymmetries, it is unlikely that any downside risk will eventuate, and so such a measure will not be sufficient by itself.

3.320.2 The introduction of a threshold before shared costs are included (such as where assets are primarily used to provide FFLAS). Vodafone submitted that one way to implement this would be to use a time-based threshold, for example that no shared costs are allocated to FFLAS for the first 3 years of the UFB build (Chorus was granted a 3-year transition from retail-minus to cost-based pricing for the Unbundled Bitstream Access (**UBA**) service).

3.320.3 A cap on the allocation of pre-2011 assets, based on the counterfactual of Chorus not being a regulated provider.

3.320.4 A cap on the allocation of post-2011 shared costs, based on the proportion of volumes connected.

3.321 Chorus submitted that the additional safeguards proposed in our FLA further consultation paper – such as excluding 'over-allocated' assets in their entirety and having a threshold before any allocation to FFLAS – are unnecessary, given the

274 2degrees "Submission on consultation draft of initial value of financial loss asset" (10 September 2020), pages 3-4.

275 Vodafone "Vodafone submission on further consultation draft (initial value of financial loss asset)" (10 September 2020), page 3.

276 Ibid, pages 4-7.

existing safeguards proposed by the Commission.[277] Chorus argued that the Commission's logic around pre-2011 assets – that excluding them may discourage future asset sharing, contrary to s 162(b) – can be extended to measures that seek to artificially lower the allocation of shared costs.[278]

3.322 Chorus also disagreed with the use of a cap on shared costs relating to pre-2011 assets. According to Chorus, any cap should only be applied to new services (to assess whether the new service will at least cover its incremental cost), and that if a cap were to be applied retrospectively, it would not provide any additional incentives to reduce costs. Chorus also expressed concerns over the workability of such a cap applied to the pre-implementation period.[279]

3.323 Chorus agreed with the Commission's proposed use of filters for assets that support UFB services, but indicated that some filters applied to pre-2011 assets will be challenging to implement due to information constraints. Chorus gave the examples of its Fixed Asset Register (FAR) and network records, neither of which allow Chorus to identify specific services supported by an asset.[280]

3.324 Chorus noted that RSPs generally supported the additional tools flagged by the Commission to reduce the likelihood of over-allocation of pre-2011 assets. However, Chorus submitted that RSPs have provided no additional argument to justify any of the tools. According to Chorus, the existing safeguards are more than adequate.[281]

Our decision is to retain a number of tools to mitigate the risk of windfall gains in the treatment of pre-2011 assets

3.325 We have decided to retain a number of tools to mitigate the risk of windfall gains from the inclusion of pre-2011 assets in the calculation of the FLA. In doing so, these tools, which are discussed below, help to achieve the purpose of s 162(d) to limit the ability of regulated providers to extract excessive profits.

3.326 In the case of asset values and operating costs that are directly attributable to the provision of UFB FFLAS during the pre-implementation period, such values and costs should be allocated to UFB FFLAS when determining the FLA. Asset values and operating costs that are directly attributable to services that are not UFB FFLAS should not be allocated to UFB FFLAS.

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277 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset)"" (10 September 2020), paragraphs 116, 122.
278 Ibid, paragraph 124.
279 Ibid, paragraphs 133-134.
280 Ibid, paragraphs 120-121.
281 Chorus "Chorus cross-submission on the Commerce Commission's fibre input methodologies – further consultation draft (initial value of financial loss asset) reasons paper" (1 October 2020), paragraph 46.

3.327 Shared assets should only come into the FLA, and post-implementation, into the RAB, when they are employed in the provision of UFB FFLAS. This addresses the potential harm of allocating the costs of a pre-2011 asset to UFB FFLAS before it is employed to provide UFB services.[282]

3.328 In considering the extent to which a pre-2011 asset has been employed to provide UFB FFLAS, we intend to have regard to the filters that we discussed in our FLA further consultation paper. The use of such filters were generally supported in submissions. We note the comment by Chorus that it may be challenging to apply some filters to pre-2011 assets due to information constraints, for example where it is difficult to identify specific services supported by an asset. However, in such cases, it may be difficult to justify the allocation of shared costs on the basis of causality or transparency (ie the extent to which the provision of a specific service causes a cost to be incurred), which may suggest that such costs should be excluded (or a relatively low share be allocated to the FLA).

3.329 The costs of assets that are shared between UFB FFLAS and other services are to be allocated using ABAA, in proportion 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 in our FLA further consultation paper, 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).[283] 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

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[282] In the determination, the term “commissioned for UFB FFLAS” means “employed by the regulated provider in providing UFB FFLAS (whether or not the UFB asset is also employed in providing other services)” (see clause B1.1.1 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 pre-implementation period).

[283] Commerce Commission “Fibre input methodologies – Draft decision paper” (19 November 2019), paragraph 3.528.1; and Commerce Commission “Fibre input methodologies: Further consultation draft (initial value of financial loss asset) - reasons paper” (13 August 2010), paragraphs 2.80 and 2.96.2.

from copper to fibre, Chorus loses the revenues associated with the copper service. This provides some protection against over-recovery.

3.330 We also consider that the cost allocation data should be updated annually, to capture the dynamics of the shift to fibre.

3.331 We have also included a cost cap for the calculation of the FLA, which seeks to limit the amount of costs for reused assets to those which cannot be avoided in providing the UFB FFLAS. We consider that our reasoning for placing a cap on costs allocated to regulated FFLAS based on unavoidable costs applies equally to the calculation of the past FLA.[284] This reflects that the relevant issues around sharing and repurposed assets apply both before and after the implementation date. The use of such a cap also 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.

3.332 While Chorus notes that the use of such a cap in determining the FLA will not affect incentives to reduce costs, the intention of the cap is to mitigate the risk that excessive costs are transferred into the initial value of the fibre RAB. Spark recognised this risk in its submission. The use of such a cap should address Spark's concern that excess capacity associated with pre-2011 assets not be allocated to fibre. The use of a cap based on the unavoidable costs that would not be incurred if non-UFB services were no longer supplied should limit the extent that Chorus could bring excess capacity (such as vacant space in exchanges) into the fibre RAB.

3.333 In allocating costs to the FLA, we will use a list of default allocators to allocate shared costs to simplify the calculations. We expect to use this default list for most cost allocations related to the FLA. We may use additional allocators if there is a cost category for which none of the default allocators applies or where there is a lack of suitable data.

3.334 We consider that having a limited number of allocators from which we can choose can provide a degree of consistency in the cost allocation for the FLA and will reduce compliance costs for the regulated providers. This is because the same allocator may be used across related cost types, and hence reduce the potential for picking and choosing in a manner that systematically leads to over (or under) recovery at an aggregate level. Limiting the range of allocators can also reduce the scope and incentives for gaming which can occur if the process allows for a broader range of allocators.

3.335 The list of default allocators is as follows:

[284] Commerce Commission "Main final decisions reasons paper" (13 October 2020), from paragraph 4.97.

3.335.1 number of customers, end-users, or premises (intact, connected or passed);

3.335.2 number of ports;

3.335.3 revenue;

3.335.4 central office space;

3.335.5 peak traffic;

3.335.6 average traffic;

3.335.7 used length of linear assets;

3.335.8 power usage; and

3.335.9 number of events.

3.336 We developed this list after considering information we received in submissions, under current ID, our past modelling work for the FPP determinations, the accounting separation of Telecom and in response to information requests under s 98 of the Commerce Act.

3.337 Chorus proposed that we include the linear distance, number of events and power usage allocators.[285] These are credible, quantifiable and can be shown as likely cost drivers for some cost types (eg, we have used them in our past TSLRIC models). These allocators are based on data that fibre providers are likely to collect and which can be verified.

3.338 We have retained average traffic as a default allocator. This may be applicable where services could be regarded as having a 'free ride' on a network dimensioned for a peak demand usage for another service. This does not preclude the use of peak traffic. If peak traffic is used, it needs to match planning methods (eg, weekly or monthly peaks) and not reflect the peak for some unusual event.

3.339 We have declined to adopt a submission proposing that we use equally proportionate mark-up (**EPMU**) as a default allocator. Chorus advocated for this as it allows for the mark-up of overhead or common costs over other relevant costs by pro-rating costs based on costs allocated in other relevant cost categories.[286] It risks seeing disproportionate costs loaded onto one service (for example, having sales overheads all loaded onto a service that has peak load). This risks the scenario where a proxy allocator results in an over or under allocation. EPMU worsens the effect of

285 Chorus "Submission on Fibre input methodologies – Draft Decision" (28 January 2020), paragraph 167.
286 Ibid, paragraph 167.5.

over or under allocation. In practice, this approach would see overheads allocated by a two-step mechanism. The decision should be more transparent as proxy allocators, based on observable metrics, are the standard BBM approach for solving the allocation of overheads.

3.340 We consider this list offers a range of allocators to provide a suitable allocator for the material cost categories, while at the same time drawing on existing and/or obtainable data about the likely allocators. For example, the regulated providers already provide us with data about end-users and revenue under current ID.

3.341 We consider that the use of a limited number of allocators is particularly suited to the calculation of the FLA, as this calculation relates to what will be known circumstances. Hence it does not need to be robust to future changes in market circumstances or to the scope of regulated services, both of which may justify the introduction of additional allocators.

3.342 We have included revenue in the list of default allocators as it can be used in situations where there is little or no cost-volume relationship or there is a lack of data. Revenue can be a robust proxy allocator in that it allocates costs to revenues that do not involve end-user connections or premises. For example, revenue could be used to allocate corporate overheads.

3.343 We have also included the ability for “any other allocator types as approved by the Commission” to be applied.[287] This is because there may be some situations where the default allocators may not be appropriate for allocating costs to the FLA. This may include situations where an alternative allocator is available and provides a materially better proxy for causality.

3.344 Another situation may be when it is impractical to apply the relevant default allocator due to issues with the availability, completeness or quality of the data. In this situation, the alternative allocator’s data would act as a substitute for the missing or inadequate data, and in doing so allow for the cost allocation for the FLA to be completed in a more timely and cost-efficient manner (eg, avoiding the need to undertake data cleansing).

3.345 We also consider that there should be a requirement that cost allocators are applied consistently across like costs and between years.

3.346 Finally, we note that we will have the final decision in determining the value of the FLA and the cost allocation decisions behind it.

[287] See clause B1.1.6(1)-(2) of Schedule B of the IM determination.

3.347 We have also considered whether the additional safeguards outlined in our FLA further consultation paper should be included, in light of submissions. We have concluded that no further safeguards are required, for the following reasons.

3.348 Increasing the downside for a regulated provider where it attempts to allocate an excessive share to UFB FFLAS is likely to be a contentious way of mitigating the risk of such gaming. Furthermore, as Vodafone noted, information asymmetries are likely to make it difficult to identify such gaming, reducing the downside risk for the regulated provider.[288]

3.349 The introduction of a threshold that has to be reached before any costs are allocated to FFLAS would result in no costs being allocated prior to the threshold, and a step_up in allocation once the threshold is reached. In our view, the use of an allocator (which can be periodically updated over time) – such as when demand transitions from copper to fibre – is preferable, as this is likely to result in a more dynamic allocation that reflects the changing utilisation of the shared asset.

3.350 Earlier in its submission on the FLA further consultation paper, Spark appears to recognise the implications of changes in utilisation of shared assets between services over time:[289]

> … if 100% of an asset is used to provide UFB services and the costs to deploy or acquire that asset is not recovered through UFB revenues through to the implementation date then a loss can be recorded. If however the asset is shared between UFB and other services and that shared use changes over time, only the losses that can be attributed to that portion of the asset used for providing FFLAS forms part of the losses provided for in section 177.

3.351 We have decided to implement a cap on the allocation of shared costs, based on the unavoidable costs that would arise if the services other than UFB FFLAS were no longer provided. The intention is to limit the extent to which avoidable costs (such as space vacated in a central office during the transition from copper to fibre) are carried by UFB FFLAS.

3.352 In this regard, we agree with Chorus that the existing safeguards, which we discuss in paragraphs 3.326 to 3.346 above, are likely to be adequate.[290]

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[288] Vodafone "Vodafone submission on further consultation draft (initial value of financial loss asset)" (10 September 2020), page 4.

[289] Spark "Further consultation draft (initial value of financial loss asset)" (10 September 2020), paragraph 19.

[290] Chorus "Chorus cross-submission on the Commerce Commission's fibre input methodologies – further consultation draft (initial value of financial loss asset) reasons paper" (1 October 2020), paragraph 46.

Cost allocation and UFB expenditure during the pre-implementation period

What we said in our FLA further consultation paper

3.353 Our FLA further consultation paper focussed on the treatment of pre-2011 assets. However, as we noted in our draft decision, for the purposes of determining the FLA, cost allocation will also apply to UFB initiative and non-UFB initiative expenditure.[291]

Submissions on our FLA further consultation paper

3.354 Spark submitted that cost allocation between FFLAS and other services will be required, irrespective of whether pre-2011 assets are included. For example, where Chorus invests in assets for the purposes of the UFB initiative, and these assets are employed to provide UFB and other services. These shared costs will need to be allocated between regulated and other services.[292]

Our decision is to allocate shared costs using ABAA during the pre-implementation period

3.355 For the reasons given above in relation to the treatment of pre-2011 assets that are employed to provide UFB FFLAS, we remain of the view that it is appropriate to allow for the allocation of costs that are shared between UFB FFLAS and services that are not UFB FFLAS.

3.356 Our decisions relating to the allocation of pre-2011 assets that are employed to provide UFB FFLAS also apply to the allocation of costs that are shared between UFB FFLAS and services that are not UFB FFLAS during the pre-implementation period.

Mitigating the risk of double-recovery between copper and fibre

What we said in our FLA further consultation paper

3.357 In our FLA further consultation paper, we noted that 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.

3.358 However, we noted that there have been differing views on the approach that should be taken to mitigate the risk of double recovery of shared costs between copper and fibre.

3.358.1 RSPs and Vector supported minimising the potential for double recovery of shared costs between copper and fibre to avoid or mitigate excess returns. These submissions generally supported the calculation of past losses on an incremental cost basis to ensure that shared costs are not inappropriately

[291] Commerce Commission "Fibre input methodologies – Draft decision paper" (19 November 2019), paragraph 3.473.

[292] Spark "Further consultation draft (initial value of financial loss asset)" (10 September 2020), paragraph 35.

loaded onto fibre services. These submissions also supported consideration of a cross-check proposed by TERA in an earlier submission on behalf of Spark.

3.358.1.1 TERA had claimed that under the FPP decision, shared costs had been fully allocated to copper services, and that any subsequent allocation of these costs to fibre under the BBM would represent double recovery.

3.358.1.2 TERA proposed a cross-check that would apply the costing methodology in the fibre IMs to both fibre and copper services to determine the 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.

3.358.2 Chorus and Analysys Mason Limited (Analysys Mason) had 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, 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.

3.359 We discussed the potential for double recovery of costs that are shared between several services, with the example of Chorus supplying both copper and fibre services. In that case, 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 that house both copper and fibre cables, and the costs of buildings that house both copper and fibre equipment.

3.360 We noted that Chorus' copper-based services have been subject to the UCLL and UBA FPP decisions (which fall outside the scope of fibre regulation). Over the pre-implementation period, connections to Chorus' copper-based services have declined, such as where they have been replaced by FFLAS provided by Chorus within Chorus' UFB areas or by FFLAS provided by other LFCs. In each case, shared costs remain as they support both FFLAS and non-FFLAS services.

3.361 We discussed the submissions from RSPs in which an incremental cost approach had been proposed to address the potential for double recovery. Under such an approach, all common and joint costs would be 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 that are employed in the supply of FFLAS.

3.362 We said that TERA had mischaracterised the approach that was taken in the final pricing review determination for Chorus' UCLL service (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, 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 was made clear in Attachment A of the FPP decision:[293]

> … 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.

3.363 We noted that TERA were the consultants that assisted the Commission in building the TSLRIC cost models, and TERA's model documentation also makes this point.[294]

3.364 In other words, both copper and UFB demand were included in the TSLRIC 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.

3.365 We expressed our view that 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.

3.366 We then considered TERA's proposed cross-check, which has been supported by a number of RSPs, and outlined a number of difficulties with the cross-check.

3.367 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, where it documented some of the key differences between the TSLRIC and BBM standards.[295] For example:

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293 [2015] NZCC 37 (15 December 2015), paragraph A4.2.

294 TERA "TSLRIC price review determination for the Unbundled Copper Local Loop and Unbundled Bitstream Access Services Model Reference Paper" (December 2015), section 2.5.

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

3.367.1 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;

3.367.2 the TSLRIC model assumes a greater proportion of aerial deployment than has been achieved with the UFB deployment; and

3.367.3 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.

3.368 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.

3.369 We agreed 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 continued to have reservations regarding 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 copper tariffs to costs determined using a BBM approach may result in under- or over-recovery.

3.370 We concluded 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). 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.

Submissions on our FLA further consultation paper

3.371 Spark submitted that there appears to be agreement that there should be no double recovery of shared costs between fibre and copper, and that there are differing views on how to control for this risk.[296]

[296] Spark "Further consultation draft (initial value of financial loss asset)" (10 September 2020), paragraph 36.

3.372 Spark referred to TERA's previous submission that where regulation applies to two services that share costs, the inconsistencies between cost models raises the potential for a misstatement of costs. Spark submitted that "the Commission should seek to align the model parameters or apply a cross-check across both copper and fibre services".[297]

3.373 Spark noted the Commission's concerns with TERA's proposed approach – namely that TERA had incorrectly characterised the FPP model as fully allocating shared costs to copper, that TERA had failed to account for differences in the cost standards for copper and fibre, and that TERA's approach appears to have the effect of revisiting the TSLRIC price, clawing back some of the revenues earned by Chorus from copper).[298] However, Spark did not read TERA's approach as suggesting that any shared cost allocation to fibre would be a double recovery. Rather, TERA's key insight is that the use of two fundamentally different cost models gives rise to the potential misstatement of costs (under- or over-recovery).[299]

3.374 While acknowledging the Commission's reservations about TERA's approach, Spark said that without a cross-check, there is no way of being satisfied that under- or over-recovery of shared costs had been addressed.[300]

3.375 Vector also noted the agreement among all parties that double recovery of costs through separate regulated pricing processes would not be in the long-term benefit of end users.[301] Vector submitted that the proposed cross-check put forward by Spark and TERA has merit.[302]

3.376 Vocus noted that the Commission had rejected the approach proposed by TERA but had not provided any alternative approach to avoid or mitigate double recovery.[303] Vocus submitted that the way in which costs were shared across copper and fibre demand in the FPP model needs to be taken into account to avoid double recovery.[304]

3.377 Vodafone supported further measures to minimise double recovery, such as those outlined in our further consultation on the financial loss asset (see paragraphs 3.319 and 3.320 above).

297 Ibid, paragraph 37.
298 Ibid, paragraph 38.
299 Ibid, paragraph 40.
300 Ibid, paragraph 43.
301 Vector "Vector Submission on Fibre Input Met5hodologies - Further Consultation Draft (Initial Value of Financial Loss Asset)" (10 September 2020), paragraph 12.
302 Ibid, paragraph 14.
303 Vocus "Vocus submission on Further Consultation Draft (initial value of financial loss asset) – Reasons Paper" (10 September 2020), paragraph 45.
304 Ibid, paragraph 48.

3.378 Vodafone also submitted that some of the default allocators proposed by the Commission are inappropriate, arguing that if the FPP allocated costs between copper and fibre using active connections, the same allocator should be used during the pre-implementation period.[305]

3.379 Chorus said that RSPs had not explained why an incremental cost approach should be taken in the pre-implementation period and then an ABAA-based approach should be used in the post-implementation period.[306] According to Chorus, the same cost allocation approach should be taken during the pre-implementation period and after the implementation date. Chorus noted the "The Commission has already highlighted that a consistent cost allocation process across pre- and post-implementation periods is preferred to prevent double recovery and to ensure dynamic allocation is recognised in the pre-implementation period." [307]

Our decision is to retain a number of measures to mitigate the risk of double-recovery between copper and fibre services

3.380 Spark's submission appears to recognise the concerns expressed by the Commission on TERA's proposed approach, but does not provide any new evidence or arguments to allay those concerns. Spark does not offer an alternative approach, but does state that due to the differences in the regulation of copper and fibre services, there remains a risk of under- or over-recovery of costs that are shared between these services.

3.381 We remain of the view that it would be impractical to fully ensure there is no double or under-recovery between the UFB past losses and copper services, due to the different methodologies that apply for the FPP (TSLRIC) and for Part 6 (actual costs). However, for the reasons given earlier, we do not consider that the solution proposed by the RSPs – that the value of the financial loss asset be determined on the basis of pure incremental costs – would best give effect to the purpose set out in s 162. In our view, a pure incremental cost approach to the calculation of the financial loss asset 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 copper services to the new fibre services.

3.382 We have however implemented a number of steps to mitigate the risk of double recovery between copper and fibre services (discussed from paragraph 3.326 above).

3.383 On Vodafone's comment that some of the default allocators are inappropriate (such as premises passed), we will consider which allocators are appropriate as part of our

305 Vodafone "Vodafone submission on further consultation draft (initial value of financial loss asset)" (10 September 2020), page 7.

306 Chorus "Chorus cross-submission on the Commerce Commission's fibre input methodologies – further consultation draft (initial value of financial loss asset) reasons paper" (1 October 2020), paragraph 38.

307 Ibid, paragraph 39.

decision on the initial value of the fibre RAB. This will include the extent to which a choice between allocators such as premises passed or actual connections may have implications for double recovery, and whether it may be appropriate to apply different allocators to different types of costs.

Final decisions: taxation

3.384 The tax chapter of the main final reasons paper sets out the context for the tax IM. The tax IM is relevant to the calculation of financial losses over the pre-implementation period (from 1 December 2011 to 31 December 2021). This is because, all other things being equal, to the extent that the regulatory tax costs cash flows from 1 December 2011 to implementation date are higher (lower), the financial losses at implementation date will be higher (lower).

Taxation methodology for financial losses

3.385 Our final decision is to use the tax payable approach as it is more reflective of the tax obligations matching the costs and revenues attributable to that period, and the cash tax costs imposed by the Inland Revenue Department (IRD) for the period.

3.386 This decision is consistent with our final decision for the post-implementation period.[308] We have made this decision for the same reasons as our final decision for the post-implementation period.[309] Our draft decision to apply the tax payable methodology to the pre-implementation period was supported by Chorus and Enable and Ultrafast, with no opposing views. [310]

3.387 In respect of the calculation of the value of the financial losses that have been incurred by regulated providers, the tax payable methodology outlined in our main final reasons paper is to be applied from the start of the UFB initiative rollout (ie, from 1 December 2011) to determine the value of the financial losses incurred by the regulated providers as at implementation date. That is, the tax payable methodology that is to be applied to regulated provider cash flows ex-ante is also to be applied to the determination of losses up to the start of the regime.

308 Commerce Commission “Fibre input methodologies: Main final decisions – reasons paper” (13 October 2020), paragraphs 8.28-8.30.

309 Commerce Commission “Fibre input methodologies: Main final decisions – reasons paper” (13 October 2020), paragraphs 8.29-8.60.

310 Enable and Ultrafast Fibre “Submission on NZCC Fibre Input Methodologies: Draft Decision – Reasons Paper and Draft Fibre Input Methodologies Determination” (30 January 2020), page 15; Chorus “Submission on Fibre input methodologies: Draft decision – reasons paper” dated 19 November 2019 and Draft fibre input methodologies determination 2020 dated 11 December 2019” (30 January 2020), page 46.

Establishing the initial regulatory tax asset value of UFB assets

3.388 The tax asset values for assets employed in the provision of UFB FFLAS (UFB assets) are determined in the same way as regulatory tax asset values from the implementation date by the interaction of the asset valuation IM and the cost allocation IM in the pre-implementation period.[311] The asset valuation IM sets the values at which the UFB tax asset values are capped.[312]

3.389 The establishment of the initial regulatory tax asset value for UFB assets is comparable to the establishment of the UFB asset base. Both decisions have an effect on the profits that will be earned in the future on investments made in the past. We must be careful to avoid creating windfall gains or losses when setting the initial tax asset values for the UFB initiative period, as doing so could be inconsistent with s 162(d) and (a) respectively.

3.390 Changes in initial regulatory tax asset values have similar effects to changes in regulatory asset values. In the case of the regulatory tax asset value, however, lower values are more beneficial to regulated providers. This is because a lower value implies that deductions for tax depreciation will be lower in future and would therefore result in a higher estimate of a regulated provider's tax costs.

3.391 We consider it reasonable to adjust regulatory tax asset values downward where the sum of the UFB unallocated opening asset values is lower than the equivalent sum of adjusted tax values for the same assets recognised under tax rules. This treatment ensures that there is not an obvious difference between the way regulatory tax asset values are established initially and the way that they will be treated during future transactions. Eliminating obvious differences also means that we do not have to look at any transactions prior to the start of the UFB initiative rollout (1 December 2011).

3.392 As we noted in our draft decisions paper, we recognise that under the Tax Administration Act 1994, businesses are only required to keep information for reporting purposes for seven years. [313] [314] However, given that regulated providers have supported the approach to roll forward the asset values from 1 December 2011, we assume that this information is available.

3.393 Our draft decision was that:

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311 Our final decision for fibre assets is explained in our main final reasons paper, paragraphs 8.121-8.139.

312 The asset valuation provisions are at clause B1.1.2(9)(g)-(i) of Schedule B of the Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020.

313 Commerce Commission "Fibre input methodologies – Draft decision paper" (19 November 2019), paragraph 3.1973.

314 Section 22(2B) subject to s 22(5).

3.393.1 the initial regulatory tax asset value is to be set at implementation date;[315]and,

3.393.2 the initial regulatory tax asset value may be determined from the roll forward of the tax asset value of the asset from the beginning of the UFB initiative on 1 December 2011 and should not exceed the RAB value as at 1 December 2011 used to establish the initial RAB as at the implementation date.[316]

3.394 In our second further consultation draft paper we clarified that asset values are also determined in respect of UFB assets during the pre-implementation period, not just fibre assets from 1 January 2022.[317]

Treatment of tax position in the wider tax group and tax losses relating to financial losses

3.395 Consistent with our final decision for the post-implementation period on the treatment of losses, the tax position across a regulated provider's wider tax group should be ignored when estimating tax costs cashflows.[318] Any tax losses generated by a regulated provider in the provision of UFB FFLAS should not be set-off immediately against profits from other activities but should be notionally carried forward to the following financial loss year.

3.396 We have made this decision for the same reasons as our final decision for the post-implementation period.[319]

Specific rules for the pre-implementation period

3.397 In accordance with the application of the DCF method of calculating financial losses and the tax payable method, tax costs cash flows will be determined under the tax IM rules as follows.

3.397.1 Tax rules as defined in clause B1.1.4(2) of the FLA determination are to be applied to UFB taxable income to determine tax costs cash flows, subject to making appropriate adjustments where the tax legislation underlying the tax rules has changed during a financial loss year.[320] We consider this

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315 Commerce Commission "Fibre input methodologies – Draft decision paper" (19 November 2019), paragraph 3.1963.

316 Ibid.

317 Commerce Commission "[Further consultation – initial value of financial loss asset] reasons paper, 2020, paragraph 4.16, Commerce Commission "[Further consultation – initial value of financial loss asset] Fibre Input Methodologies Determination 2020", clause 1.1.8(1)-(3) of Schedule B.

318 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraph 8.90.

319 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraphs 8.91-8.110.

320 We have amended the definition of 'tax rules' to make it clear that the tax rules applicable for each financial loss year are the tax rules applicable for that financial loss year, not the rules that apply when the financial losses are determined.

will provide the best estimate of the cash tax costs imposed by the Inland Revenue Department (IRD) on UFB taxable income for the pre-implementation period, consistent with standard accounting practice in calculating tax on net profits. It therefore, also limits regulated provider's ability to earn excessive profits, consistent with s 162(d) of the Act.

3.397.2 Consistent with our final decision for the post-implementation period to apply the cost allocation IM to asset values and for the same reasons, any tax deduction for depreciation is only available in respect of a UFB asset and must be calculated by applying the tax depreciation rules to the regulatory tax asset value of the UFB asset in question. [321] [322]

3.397.3 The value of any tax losses produced from the provision of UFB FFLAS over the period from the start of the UFB initiative (ie, from 1 December 2011) to implementation date should be recognised by the regulated provider in the financial loss year they occur. Any excess of tax losses generated during the pre-implementation period will be carried forward to implementation date.[323]

3.397.4 The UFB opening tax losses on 1 December 2011 are nil.[324]

3.397.5 The initial regulatory tax asset value may be determined from the roll forward of the tax asset value of the asset from the beginning of the UFB initiative on 1 December 2011 and should be proportionately reduced by the amount, if applicable, by which the sum of the adjusted tax values of all UFB assets on the date the regulatory tax asset value is determined exceeds the UFB unallocated opening asset values as of that date.[325]

3.397.6 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.[326]

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321 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), paragraphs 8.82-8.85.

322 Commerce Commission "Fibre Input Methodologies (Initial value of financial loss asset) Amendment Determination 2020", clause B1.1.7(4)(b)(i) of Schedule B.

323 Ibid, clause B1.1.9 of Schedule B.

324 Ibid, clause B1.1.9(3)(a) of Schedule B.

325 To the extent that tax rules allow a choice in the roll forward of the tax asset value (or in any tax other matter), a regulated provider should apply the approach that was actually used in practice, or, where required to make a forecast, the approach they intend to use. See Commerce Commission "Fibre Input Methodologies (Initial value of financial loss asset) Amendment Determination 2020", clause B1.1.8(2)(a)(i) and B1.1.8(3) of Schedule B.

326 We note that Enable and UltraFast's submission on our draft decision suggested that notional deductible interest should be based only on the UFB asset, and not the unrecovered returns asset. Enable Networks

Submissions received

Application of tax payable methodology to pre-implementation period

3.398 Chorus agreed with our draft decision, to apply the tax methodology outlined in the tax IM from 1 December 2011 when calculating the value of initial financial losses.[327]

3.399 Enable and Ultrafast supported applying the same regulatory tax methodology to the financial loss asset as that to be used on a forward-looking basis.[328] There were no opposing views.

Inclusion of unrecovered return asset in calculating notional deductible interest

3.400 In response to our draft decision to use a building blocks calculation to calculate the value of the initial losses, Enable and Ultrafast submitted that the unrecovered return asset should not be included for calculating notional deductible interest during the pre-implementation period because at that time the asset did not exist, and it could not have been included in the gearing calculation. They also noted that s 177(2) of the Act indicates that the financial loss asset is only established at implementation date.[329]

3.401 Because our final decision is to use a post-tax WACC to discount pre-implementation date cash flows under the DCF method, the tax effect of notional deductible interest is no longer modelled in the tax costs cash flows using leverage that includes an unrecovered return asset balance. Instead, the DCF method using a post-tax WACC includes an interest tax shield adjustment based on the notional leverage in the WACC. As discussed in paragraph 3.24.2 we have adopted an estimate of leverage of 29%. The notional interest costs are therefore compensated for by the post-tax WACC that is used to compound the cash flows to the implementation date.

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

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Ltd and Ultrafast Fibre Ltd – Submission on Fibre input methodologies – Draft decision – 30 January 2020, paragraph 14.1-14.2.

327 Chorus "Submission on Fibre input methodologies: Draft decision – reasons paper dated 19 November 2019 and Draft fibre input methodologies determination 2020 dated 11 December 2019" (30 January 2020), page 46.

328 Enable Networks Ltd and Ultrafast Fibre Ltd "Submission on Fibre input methodologies – Draft decision" 30 January 2020, paragraph 11.5

329 Ibid, paragraph 11.7.

submitted on the need to make an adjustment in relation to tax losses due to the use of a post-tax WACC and proposed a potential method to use.[330]

Depreciation of unrecovered return asset

3.403 In the illustrative workbook published with the draft determination on 17 December 2019, the opening balance of the unrecovered returns in the building blocks worksheet was depreciated in each financial loss year.[331] The draft determination included an adjustment at clause 2.3.4(5) to specify this depreciation amount. [332]

3.404 Chorus submitted that this clause appeared to go beyond what we had foreshadowed and lacked clarity around what it was trying to achieve. Chorus proposed removing the adjustment.[333]

3.405 Our final decision to apply a DCF approach to the valuation of the financial loss asset means this depreciation adjustment has not been included in our FLA determination.

Opening UFB asset base value

3.406 Clause 2.3.4 of our draft determination (opening balance of unrecovered returns on investment for notional deductible Interest) prescribed the "adjusted UFB asset initial values" for financial loss year 2012 to be "nil". [334]

3.407 Chorus submitted that the "Opening UFB asset base value" for financial year 2012 will not be "nil", as it will include the UFB assets owned by Chorus prior to 1 December 2011.[335] Chorus considers it more accurate and appropriate to describe the "adjustment to the Opening UFB asset base value" to be "nil".

3.408 As a result of our final decision to apply a DCF approach to the valuation of the financial loss asset, we have not included the term "adjusted UFB asset initial values" in our amendment determination. Assets owned by Chorus prior to 1 December 2011 are dealt with in the asset valuation IM.[336] Chorus submitted that the "opening

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330 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset)"" (10 September 2020), paragraphs 137-144. In the event that an adjustment is required, the proposed method submitted by Chorus will be taken into consideration.

331 See https://comcom.govt.nz/__data/assets/excel_doc/0029/196724/Financial-loss-asset-Draft-determination-illustration-workbook-17-December-2019.XLSX

332 Commerce Commission "[DRAFT] Fibre Input Methodologies Determination 2020" (11 December 2019), clause 2.3.4(5).

333 Chorus "Appendix C: Chorus Proposed Amendments to the Draft IM Determination" (28 January), page 17.

334 Commerce Commission "[DRAFT] Fibre Input Methodologies Determination 2020" (11 December 2019), clause 2.3.4(3)(a).

335 Chorus "Appendix C: Chorus Proposed Amendments to the Draft IM Determination" (28 January), page 17.

336 Commerce Commission "Fibre Input Methodologies (Initial value of financial loss asset) Amendment Determination 2020", clause B1.1.2(4)(d)(i) of Schedule B.

UFB asset base value" for our draft determination was defined differently from the term, as specified in clause 2.2.3(27) of our draft determination.[337] As a result of our final decision to apply a DCF approach to the valuation of the financial loss asset, we have now introduced the term "UFB value of net commissioned assets cash flow" instead.[338]

Notional tax asset value

3.409 In its submission on our second further consultation paper, Chorus submitted that:

> In clause 1.1.8(2)(a) of Schedule B, the words "the value of the UFB asset determined by applying the tax depreciation rules to" are not needed. The Commission's "notional tax asset value" rules limit the tax net book value to be at most the accounting net book value. As the Chorus FAR does not fully depreciate tax assets in the last year of their accounting lifetime, Chorus' FAR does have some assets (and hence some asset classes) where the tax net book value is greater than the accounting net book value.[339]

3.410 Chorus stated that "if it were to follow the Commission's approach, the tax net book value and the tax depreciation would diverge from the accounts." Chorus observes that "this appears to be an unintended result of the Commission's proposed drafting", and so has suggested amendments.[340]

3.411 As explained in paragraph 3.391, we consider it reasonable to adjust regulatory tax asset values downward where the sum of UFB unallocated opening asset values is lower than the equivalent sum of the adjusted tax values for the same assets recognised under tax rules. This treatment ensures that there is not an obvious difference between the way regulatory tax asset values are established initially and the way that they will be treated during future transactions.

3.412 In its submission on our draft decision, Chorus supported determining the initial tax asset value at implementation date by rolling forward the value of the asset as at 1 December 2011, capping the initial tax asset value at the RAB value as at 1 December 2011 and requiring the same level of assurance or audit as for the setting of the RAB.[341]

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337 Chorus "Appendix C: Chorus Proposed Amendments to the Draft IM Determination" (28 January 2020), page 17.

338 Commerce Commission "Fibre Input Methodologies (Initial value of financial loss asset) Amendment Determination 2020", clause B1.1.2(4)(d) of Schedule B.

339 Chorus "Chorus submission on "Fibre input methodologies – Further consultation draft (initial value of financial loss asset): Appendix A"" (10 September 2020), page 13.

340 Chorus, Submission (Drafting Changes) on the Commerce Commission's Further consultation – initial value of financial loss asset - Fibre Input Methodologies Determination 2020 (13 August 2020), page 13.

341 Chorus "Submission on Fibre input methodologies: Draft decision – reasons paper dated 19 November 2019 and Draft fibre input methodologies determination 2020 dated 11 December 2019" (30 January 2020), page 46.

3.413 Applying the capping at 1 December 2011 for the rolling forward of tax asset values will give rise to regulatory tax asset values that diverge from their adjusted tax values as recorded in fixed asset registers if the capping adjustment is triggered.[342] We considered this outcome in making our final decision to implement a capping adjustment, and do not consider it outweighs the reasons as set out in paragraphs 3.389-3.392, for applying an adjustment.

3.414 Our notional tax asset rules in clause B1.1.8(2)-(3) of Schedule B implement the capping of the sum of the regulatory tax asset values at no more than the sum of the unallocated opening UFB asset values during the pre-implementation period. This capping is applied at an aggregate level so it is unlikely that it will operate to adjust the values of individual UFB assets unless the tax value for IRD purposes has been reset at a materially higher value as a consequence of a past transaction.

3.415 This is because, generally speaking, tax assets depreciate faster than regulatory assets. While there may be some assets with tax adjusted values that are greater than their matching UFB asset values in the last year of their accounting lifetime, at the same time there will be many UFB assets whose values in the earlier years of their regulatory lifetimes are significantly greater than their equivalent adjusted tax values.

3.416 We therefore consider that the sum of the unallocated values of UFB assets will, in the absence of significant historical transactions, be unlikely to be greater than the sum of the equivalent adjusted tax values. Therefore, no tax asset adjustment should arise from clause B1.1.8(2)-(3) of Schedule B other than in the situation where significant historical tax transactions have occurred.

Reference to "GAAP" in tax costs methodology

3.417 In its submission on our draft decisions, Chorus suggested that clause 2.3.4 of our draft determination should "refer to tax/IRD depreciation, not GAAP". Chorus indicated that clause 2.3.4(1) uses GAAP depreciation, but the model uses tax depreciation. Chorus suggested that we should replace the reference to regulatory tax calculation with a formula which reads:[343]

Regulatory taxable incomeUFB = Revenue (ignoring revaluation gains)UFB – Notional interestUFB – Tax DepreciationUFB – OpexUFB

[342] We recognise that as drafted this will give rise to a continuous operation of the capping adjustment from 1 December 2011 to the implementation date, but for the reasons explained below consider that adjustments will only arise where there are significant transactions giving rise to a resetting of tax asset values.

[343] Chorus "Appendix C: Chorus Proposed Amendments to the Draft IM Determination" (28 January 2020), page 17.

3.418 Clause 2.3.4 of our draft determination has since been refined into clause B1.1.7(3) of Schedule B which specifies that the tax rules must be applied to UFB revenues cash flows, minus depreciation under GAAP in respect of UFB assets and UFB operating expenditure cash flow.[344] We consider that the drafting in clause B1.1.7(3) of Schedule B better approximates actual tax costs than the formula proposed by Chorus.

3.419 In applying the tax rules, GAAP depreciation is replaced by tax depreciation and revaluation gains are excluded. This reflects standard practice when calculating taxable income for accounting purposes, whereby GAAP depreciation is added back to net profit then tax depreciation is deducted, with further adjustments for permanent and temporary differences where relevant.

3.420 Applying the tax rules also means that all permanent and temporary differences are recognised, subject to materiality considerations.

Final decisions: avoided costs of Crown financing

3.421 This section set out our final decisions for the treatment of Crown financing in the calculation of the FLA IM.

Summary of decisions

3.422 As explained in the main final reasons paper, we have decided the following.

3.422.1 The actual cost of Crown financing during the pre-implementation period will be incorporated into the DCF calculation by adding back the present value of the costs that the regulated provider avoids because it receives the concessionary funding from the Crown. The avoided costs can be calculated as the net present value of the annual benefits from the Crown financing advanced to the regulated provider.

3.422.2 The annual benefit of Crown financing (ie, the avoided costs) is calculated as the product of (a) the finance rate based on the relevant financial instruments that were used to advance the funding, and (b) the net Crown financing advanced.

3.422.3 The present value calculation is achieved by compounding the annual benefits with respect to the post-tax regulatory WACC determined for the year (or part year) in which the benefit arises.

3.423 The reasons for this are contained in paragraphs 3.168 to 3.252 of the main final reasons paper.

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[344] Commerce Commission "Fibre Input Methodologies (Initial value of financial loss asset) Amendment Determination 2020", clause B1.1.7(3) of Schedule B.

3.424 The post-implementation treatment under the BBM methodology is to multiply the relevant finance rate by the *balance of the Crown financing outstanding at the commencement of a particular year* (or part year). Under the DCF methodology however, the compounding rate (the post-tax WACC) differs from the finance rate applied to calculate the annual benefits (specified below). Accordingly, the DCF methodology calculates the annual benefits with respect to *net Crown financing drawdowns advanced in a particular year* (or part year), and compounds those annual benefits to implementation date using the post-tax WACC applying in the year in which the drawdown (or repayment) of Crown financing is made.[345]

Difference in treatment between regulated providers

3.425 As explained in the main final reasons paper, the key difference in the treatment between regulated providers subject to PQ and ID regulation, and those providers subject only to ID regulation is the finance rate applied to calculate the annual benefits (ie, the avoided costs):

3.425.1 For Chorus, which is subject to both PQ and ID regulation, the finance rate is calculated using the 50:50 mix of debt and equity contained in the financing contracts with the Crown.

3.425.1.1 The cost of debt is based on an estimate of senior and subordinated debt with the mix consistent with the contract with the Crown. Senior debt is the benchmark cost of senior debt. Subordinated debt is 41 basis points above the benchmark cost of senior debt.

3.425.1.2 The cost of equity is based on a 75% weighting to the benchmark cost of equity and 25% weighting to the benchmark cost of senior debt.

3.425.2 For the other LFCs subject only to ID regulation, we have specified the following benchmark finance rates:

3.425.2.1 where Crown financing is provided entirely as debt, the benchmark cost of debt;

3.425.2.2 where Crown financing is provided entirely as equity, the benchmark cost of equity; and

[345] Effectively, for every year's net drawdowns this produces a stream of annual benefits which are compounded to implementation date using the same compounding rate. This is consistent with the approach to other DCF cash flows, ie, applying the same compounding rate to each cash flow increment for the purposes of compounding forward in each year of the pre-implementation period leading up to the implementation date – see paragraphs 2.42-2.44 above.

3.425.2.3 where Crown financing is a combination of debt and equity, the benchmark costs of equity and debt with the debt/equity mix of the Crown funding.

3.426 The reasons for adopting these finance rates and the difference in treatment between regulated providers are contained in paragraphs 3.197 to 3.233 of the main final reasons paper.

Repayments of Crown financing during the pre-implementation period

3.427 As mentioned above, the amount of the Crown financing to which the calculation applies in any particular year of the pre-implementation period is specified as the net drawdowns, ie, the amount of funding advanced during that year less the amount of funding repaid during that year. Enable and Ultrafast, and Northpower, submitted that this method overstates the benefits of Crown financing where financing has subsequently been repaid during the pre-implementation period and the WACC has declined during that period.[346] Those parties observed that the benefits of the drawdown will effectively be compounded at the post-tax WACC prevailing at the time of the drawdown, whereas the subsequent repayment attracts a compounding rate equal to the post-tax WACC prevailing at the later time of repayment.

3.428 We consider the result described by these submitters is consistent with the general financing assumptions underpinning the DCF method. Under that approach, the consequences of a decision to drawdown financing is made in the financing environment faced by the regulated provider at the time of the decision – which is reflected by compounding using the opportunity cost of capital at that time. Subsequent decisions (eg, to repay) should reflect the financing environment and opportunity cost of capital at that subsequent time. Accordingly, we do not consider there is any reason to change the DCF method to accommodate the situation referred to. There was no evidence provided by the submitters that the decisions to draw down Crown financing, and the decision to subsequently repay, occurred in the same year, and should therefore attract the same post-tax WACC compounding rate.

Cash flow timing assumptions applied to drawdowns and repayment

3.429 Cash flow timing assumptions will apply to the calculation of the annual benefit of Crown financing, where drawdowns and any repayments of Crown financing are assumed to occur mid-year. This is equivalent to assuming that drawdowns and

[346] Enable Networks Ltd and Ultrafast Fibre Ltd "Submission on fibre input methodologies further consultation draft (initial value of financial loss asset) – Reasons Paper" (10 September 2020), paragraphs 4.1-4.5; Northpower Fibre Limited and Northpower LFC2 Limited "Submission on Fibre Input Methodologies Further draft - initial value of financial loss asset" (10 September 2020), paragraphs 2.1-2.6.

repayments occur evenly during the year. Adopting this assumption avoids the need to determine the actual timing of drawdowns or repayments within a year.

3.430 Enable and Ultrafast submitted that the average of the opening and closing balances of Crown financing should be used rather than subtracting repayments from drawdowns in a particular year of the pre-implementation period to arrive at the net drawdowns for the year.[347] They submitted this would provide a better approximation of the timing of drawdowns and repayments in a particular year.

3.431 We acknowledge that drawdowns and repayments could occur at markedly different times during a year, but it is not clear to us that Enable and Ultrafast's proposal leads to a better outcome in the absence of information about the actual dates. The submission appears to relate to averaging the balances of the total amount of Crown financing outstanding. However, as discussed above, it is only the net amount of Crown financing that is drawn down by a provider in the particular year that is relevant to the calculation because the finance rate and the DCF compounding rate differ. Accordingly, we have not changed our decision.

[347] Enable Networks Ltd and Ultrafast Fibre Ltd "Submission on fibre input methodologies further consultation draft (initial value of financial loss asset) – Reasons Paper" (10 September 2020), paragraph 4.6.