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Chorus' price-quality path for the second regulatory period (2025 – 2028) – draft decision

Reasons paper

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Associated documents

Publication date	Reference	Title
31 August 2023	ISBN 978-1-991085-31-3	Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period
16 November 2023	ISBN 978-1-991085-55-9	Chorus' price-quality path for 2025-2028 regulatory period – Consultation on Chorus' proposed expenditure for PQP2
28 February 2023	ISBN 978-1-99-101275-3	Duration of the second regulatory period for Chorus'' price-quality path – Final decision – Reasons paper
18 April 2024	ISBN 978- 1 - 991287 - 04 - 5	Chorus' expenditure allowances for the second regulatory period (2025 – 2028) Draft decisions – reasons paper
28 May 2024	ISBN 978-1-991287-32-8	TAMRP IM Final Decision reasons paper (and accompanying determination)
17 July 2024		PQ related IM amendment draft reasons (and accompanying draft determinations)
18 July 2024		Chorus' PQP2 building block demonstration model – draft decisions
18 July 2024		Section 193(2) Chorus compliance notice

Commerce Commission
Wellington, New Zealand

Contents

List of abbreviations

Abbreviation	Definition
Act	Telecommunications Act 2001
ABAA	Accounting-based allocation approach
BBM	Building blocks methodology
Commission	Commerce Commission
CAGR	Compound annual growth rate
Capex	Capital expenditure
CIP	Crown infrastructure partners
CNO	Customer and network operations
CO	Central office
CPI	Consumer price index
CTO	Chief technology office
DFAS	Direct fibre access service
DWDM	Dense-wave division multiplexing
EDB	Electricity distribution businesses
FAN	Fibre access network
FFLAS	Fibre fixed line access service
FFP	Fibre flexibility point
FLA	Financial loss asset
FSP	Field service provider
FWA	Fixed wireless access
GAAP	Generally accepted accounting practice standards
GPON	Gigabit passive optical network
IAV	Initial asset value
ICP	Individual capex proposal
ID	Information disclosure
IM	Input methodology
Incenta	Incenta Economic Consulting
IT	Information technology
LFC	Local fibre company
Opex	Operating expenditure
ONT	Optical network terminal
NIPA	Network infrastructure project agreement
NZIER	New Zealand Institute of Economic Research
POI	Point of interconnection
PON	Passive optical network
PONFAS	PON fibre access service
PCS	Price path compliance statement
PQ	Price-quality
PQP1	Price-quality path for the first regulatory period (2022-2024)
PQP2	Price-quality path for the second regulatory period (2025-2028)
QoE	Quality of experience
QoS	Quality of service
RAB	Regulatory asset base
Raw BBM	Raw building blocks revenue

Abbreviation	Definition
Regulations	Telecommunications (Regulated Fibre Service Providers) Regulations 2019
RFCM	Real financial capital maintenance
RFI	Request for information
RSP	Retail service provider
TAMRP	Tax-adjusted market risk premium
TCF	Telecommunications forum
UFB	Ultrafast broadband
VoLL	Value of lost load
WACC	Weighted average cost of capital
XGS-PON	Ten gigabit symmetrical passive optical network

Executive summary

Purpose of this paper

X1 This paper outlines our draft decisions on Chorus' quality standards and revenue path for the regulatory period from 1 January 2025 to 31 December 2028 (PQP2).

X2 We are approaching our draft decisions in two stages:

X2.1 we released our draft decisions for Chorus' expenditure allowances for the regulatory period from 1 January 2025 to 31 December 2028 (PQP2) on 18 April 2024. We received submissions on this on 16 May, and cross submissions on 6 June 2024;

X2.2 we are releasing our draft price-quality (PQ) decisions in this paper, which sets out our draft decisions on:

X2.2.1 estimated forecast allowable revenue;

X2.2.2 quality standards; and

X2.2.3 our approach to ensuring Chorus complies with the PQ determination.

X3 We invite submissions on the draft decisions described in this paper by 5pm on **15 August 2024** and cross submissions by 5pm on **5 September 2024**.

Allowable revenue

X4 We have determined an indicative total forecast allowable revenue of $3,301m for Chorus over the four years of PQP2.[1] This forecast allowable revenue amount is composed of:[2]

X4.1 a 'building blocks revenue' amount of $3,061m;[3]

X4.2 a forecast allowance for pass-through costs of $69.8m;[4] and

X4.3 a wash-up amount of $170m.

X5 Estimated forecast allowable revenue is illustrated in Table X1 below.

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1 In present value terms as at 1 January 2025. In nominal sum terms this equates to $3,856m.

2 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(2).

3 In present value terms as at 1 January 2025, including smoothing. In nominal sum terms this would equate to $3,577m.

4 In present value terms as at 1 January 2025. In nominal sum terms this would equate to $81.5m. Consistent with the Fibre IMs and our proposed PQ determination, Chorus will be able to update these forecast values when demonstrating compliance with the revenue path.

Table X1 Summary of out PQ draft decisions

PQ category	2025	2026	2027	2028
Building blocks revenue	839.0	877.8	913.0	947.3
Pass-through costs	19.5	20.1	20.7	21.2
Wash-up amount	49.5	49.5	49.5	49.5
Total	908.0	947.4	983.1	1,017.9

Building blocks revenue

X6 The largest component of forecast allowable revenue is 'building blocks revenue'. Building blocks revenue is an amount specified by the Commission in a PQ determination and is composed of the relevant building blocks components.[5] The building blocks are components that reflect forecasts of Chorus' costs for the regulatory period, and certain regulatory adjustments (such as revenue smoothing over the PQP2 period).

X7 Our methodology for calculating building blocks revenue using various components is set out in Table X2. Key draft decision input parameters and assumptions are set out in Table X3.

Table X2 Key input parameters for the building blocks model

Parameter	Basis	Value
Vanilla WACC	Draft estimate	7.71%
Post-tax WACC	Draft estimate	7.19%
CPI (revaluations)	Draft estimate	2025: 2.2% 2026: 2.0% 2027: 2.0% 2028: 2.0%
Allocated real base capex allowance	Draft decision	$815.0m
Allocated real base connection capex allowance	Draft decision	$170.9m
Allocated real base opex allowance	Draft decision	$607.9m

[5] *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.1.4(2) – definition of 'building blocks revenue'.

Table X3 Draft building blocks revenue components ($m, nominal)

Component	2025	2026	2027	2028
Total return on capital	**249.3**	**267.2**	**266.1**	**263.9**
Return on assets (RAB x WACC)	455.0	454.9	452.8	450.0
Revaluations	-125.7	-113.6	-112.7	-112.0
Ex-ante stranding allowance	5.9	5.9	5.9	5.9
Benefit of Crown finance	-88.5	-82.6	-82.5	-82.4
TCSD allowance	2.6	2.6	2.5	2.5
Opex allowance	**172.5**	**173.9**	**176.2**	**173.5**
Total depreciation	**455.7**	**445.3**	**422.4**	**418.9**
Core fibre assets	303.6	309.2	300.1	308.8
Financial loss assets	152.1	136.1	122.3	110.2
Tax allowance	**0.0**	**0.0**	**0.0**	**84.7**
In-period smoothing	**-38.5**	**-8.6**	**48.3**	**6.1**
Total	**839.0**	**877.8**	**913.0**	**947.3**

X8 We have identified a potential error in the application of the fibre IMs for calculating taxable profit and loss in Chorus' PQP2 model. This relates to the treatment of pass-through costs. We will engage with Chorus to confirm, and if needed correct, this error in its model ahead of the final decision. We have not made any adjustments to the draft decision to account for this potential error, but our current estimate of the impact of the potential error is that it will reduce the allowable revenue for PQP2 by approximately $60m.

Pass-through costs

X9 The specification of price and revenue IMs also require an allowance for the recovery of 'pass-through costs' to be included in forecast allowable revenue. Pass-through costs are costs over which Chorus has little or no control, and that are appropriate to be passed through to end-users.[6]

X10 The IMs specify that pass-through costs are:[7]

X10.1 telecommunications levies under ss 11 and 12 of the Act;

X10.2 telecommunications development levies;

6 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.2.
7 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.2.

X10.3 local authority rates; and

X10.4 a fixed membership fee relating to, or a fixed amount payable as a member of:

X10.4.1 the Utilities Disputes Limited's (UDL) dispute resolution scheme;

X10.4.2 the Telecommunications Dispute Resolution Scheme (TDRS); and

X10.4.3 any other dispute resolution scheme specified in a PQ determination.

X11 In line with PQP1, our draft decision is to not specify any additional dispute resolution scheme costs as pass-through costs for PQP2. This is because we are not aware that Chorus participates in any additional relevant schemes for which a pass-through cost would be required.

Wash-up amount

X12 Our draft decision is that there be an equal drawdown amount in nominal terms of the forecast opening wash-up account balance across the four years of PQP2.[8]

Factors that may change between our draft and final decisions

X13 The draft forecast allowable revenue included here is an indicative estimate based on:

X13.1 our draft PQ policy decisions;

X13.2 our draft expenditure decision; and

X13.3 the most recently available data for other inputs.

X14 All of these are subject to change prior to our final decision. Specifically:

X14.1 after considering submissions and cross submissions on our draft expenditure paper, we may change our decisions on Chorus' opex, base capex, or connection capex baseline allowances in our final expenditure decision;

X14.2 after considering submissions and cross submissions received on this draft PQ decision, we may also change our decisions on the maximum allowable revenue (MAR) or smoothing of the MAR; and

[8] The commission forecast real value of the opening wash-up balance is $170m as at 1 January 2025.

X14.3 though this decision uses a forecast WACC, we determined the final WACC for PQP2 in June 2024, based on the most recently available data, which also involved updating the CPI forecasts used to determine revaluations.[9]

Base year

X15 Our draft decision is to use disclosure year 2022 as the base year for calculating values under the IM that require the use of a base year.[10] We note that we expect to update the base year to 2023 for the final PQ decision to reflect the most up to date data available.

Building blocks components

Draft decisions on building blocks determined by the IMs

X16 Building block components are largely determined by the application of the fibre IMs:[11]

X16.1 the components of the return on capital;

X16.2 the revaluations building block that results from the indexation of the RAB; and

X16.3 the regulatory tax allowance.

X17 Within the return on capital, our draft decision is to specify a negative "annual benefit of Crown finance building block", as we did for PQP1. The decision to include this is a matter of judgement in our PQ path decision. How it is calculated is determined by the IMs.[12]

X18 The regulatory tax allowance is $0m for 2025, 2026 and 2027. This is because Chorus faced tax losses during the pre-implementation period that were not fully recovered in PQP1. These losses are forecast to be fully recovered during PQP2.

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9 While the WACC decision for PQP2 will have been completed by the time this draft decision is published, the figures in this draft decision were determined prior to the WACC determination in order to allow sufficient time for quality assurance prior to publication.

10 See *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.1.4.

11 See *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clauses 3.3.1 (revaluation), 3.4.1 (taxation) and 3.5.1 to 3.5.11 (cost of capital).

12 As set out in the process and approach paper, Chorus is expected to commence the repayment of Crown financing during PQP2. This will reduce the outstanding Crown financing balance, and therefore reduce the size of the benefit of Crown financing. The benefit of Crown financing is recognised as a negative building block in the maximum allowable revenue (MAR) calculation. As this amount represents a reduction in the required revenue, reducing the size of the benefit of Crown financing over PQP2 will have the effect of increasing the MAR.

Draft decisions on building blocks where we have exercised our judgement

Disposed assets

X19 Forecast values of disposed assets are removed from the PQ RAB during the 'roll-forward' illustrated above. Chorus has not forecast any asset disposals during PQP2, so our draft decision is not to include any.

Depreciation

X20 For core fibre assets, our draft decision is to apply tilted annuity depreciation to a subset of these assets[13] in order to backload depreciation. This is the same approach as put forward by Chorus in its proposal.[14] Our draft decision is that where tilted annuity depreciation applies, it will have a tilt rate of +3.5% and there is no change to existing asset lives. This will defer approximately $267 million of depreciation that would otherwise be recovered within the PQP2 period.

X21 For the remaining core fibre assets, our draft decision is to continue using straight-line depreciation under generally accepted accounting practice standards (GAAP) with GAAP-based asset lives, consistent with the default method in clause 3.3.2(3) of the fibre IMs (and the same approach as PQP1).

X22 For the financial loss asset (FLA), our draft decision is to continue to apply the alternative depreciation method that we used for PQP1 involving:

X22.1 an original asset life of 14.2 years; and

X22.2 tilted annuity depreciation with a tilt rate of -13%.

Revenue smoothing within the period

X23 Our draft decision is to smooth Chorus' revenue within the PQP2 period allowing (though not requiring) Chorus to maintain prices at the real level established at the beginning of PQP2. This is the same approach to smoothing that we adopted in PQP1. We have not identified a reason to change.

X24 Our draft decision involves determining building blocks revenue such that revenue increases by:

X24.1 forecasts of weighted average demand growth; and

X24.2 the latest Reserve Bank of New Zealand (RBNZ) CPI forecasts.

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13 The subset of core fibre assets are splitters, poles, ducts, manholes, cabinets, fibre cables and optical fibre distribution frames, which we collectively refer to as 'layer 1 communal assets'.

14 Chorus "Recommendation of approach to MAR smoothing for PQP2" (1 May 2024).

X25 To give effect to our draft decision, we have included an additional 'in-period smoothing' building block, as we did for PQP1. This has the effect of reducing building blocks revenue in the first and second years of the regulatory period by $38.5m and $8.6m while increasing building blocks revenue in the third and fourth years by $48.3m and $6.1m respectively.

X26 Given the forecast rates of change in CPI and quantity, the resulting smoothing changes annual revenues by the percentages set out in Table X4.

Table X4 Forecast rates of change in revenue implemented via in-period smoothing

Value	2025	2026	2027	2028
Forecast CPI	**2.5%**	**2.0%**	**2.0%**	**2.0%**
Demand growth	**0%**	**2.6%**	**2.0%**	**1.7%**
Total	**2.5%**	**4.6%**	**4.0%**	**3.8%**

Revenue smoothing between the periods

X27 Our draft decision is that we do not consider it necessary or desirable to smooth revenue across two or more regulatory periods to minimise any undue financial hardship to Chorus, or to minimise price shocks for end-users. Our draft decision is therefore that revenue smoothing between periods is not required under s 197 given Chorus' proposal to shift collection of some depreciation to future periods.

Approach to the revenue path and wash-up

Revenue cap

X28 Our draft decision is that the revenue cap will require Chorus to set prices such that 'forecast total FFLAS revenue' is less than or equal to 'forecast allowable revenue'. This is required by the fibre IMs and consistent with our decision for PQP1.

X29 For each regulatory year, our draft decision is that Chorus will have to demonstrate that the proposed prices comply with the forecast allowable revenue cap on a forecast (ex-ante) basis prior to first applying those prices for that regulatory year.

Forecast total FFLAS revenue

X30 Our draft decision is to require Chorus to demonstrate how it calculates 'total FFLAS revenue' on the basis of prices, forecast quantities and forecasts of 'other FFLAS income'.

Forecast allowable revenue

X31 In our draft decision for PQP2, we have specified forecast building blocks revenue using a formula to determine the forecast building blocks revenue for each regulatory year of PQP2, which:

X31.1 sets the forecast building blocks revenue as at 1 January 2025 and applies forecast CPI adjustments and forecast quantity adjustment to determine the revenue required for each regulatory year of PQP2;

X31.2 uses updated forecast (consumer price index) inflation for years beyond 2025; and

X31.3 uses specified forecast changes in quantities.

X32 Our draft decision is to require Chorus to update the values of any forecast pass-through costs on an annual basis. This means the costs can be passed through to prices without delay rather than a larger wash-up balance building up over PQP2.

Additional controls on revenue

X33 We have not included any further measures to control revenues.

Compliance with the revenue path

X34 Our draft decision on compliance requirements for the revenue aspects of Chorus' PQ path is to:

X34.1 allow a wash-up of CPI for the first year of the regulatory period (which was the not case for PQP1) and for each subsequent year of the regulatory period (which we did for PQP1). We note that we will set the 'forecast building blocks revenue' for regulatory year 2025 as a nominal smoothed amount as at 1 January 2025 and apply forecast 2025 CPI to determine the nominal revenue value for 2025;

X34.2 retain the forward-looking approach to calculation of the forecast change in CPI for the regulatory year that we used in PQP1;

X34.3 retain the same level of certification requirements as specified for PQP1 and set the due date of compliance reporting dates for the purpose of s 194(2)(e) as follows:

X34.3.1 for regulatory year 2025, the first regulatory year of PQP2, 31 May 2025;[15] and

X34.3.2 for regulatory years 2026 to 2028, 22 November in the preceding year.[16]

X34.4 remove the requirement for the submission of a mid-year price path compliance statement (PCS); and

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15 This differs from our requirement for PQP1, where we required the information by 31 March 2022 for the first regulatory year.

16 This differs from our requirement for PQP1, where we required the information by 30 August of the preceding regulatory year for 2023 and 2024.

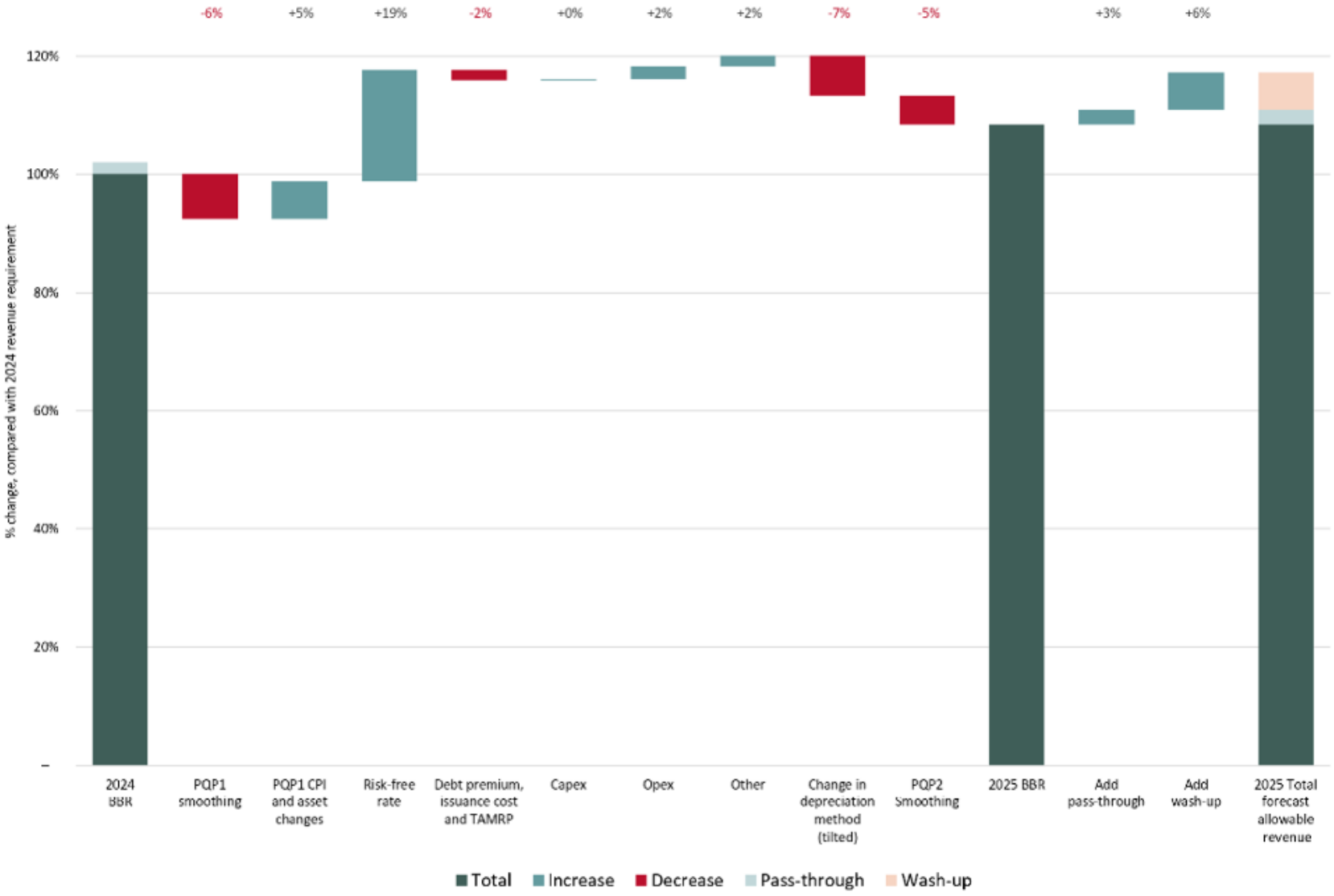
X34.5 retain the same approach to the ex post wash-up information as was used in PQP1.

X35 Chorus must provide a statement of compliance with the revenue path and provide supporting information to demonstrate compliance. This statement and the supporting information Chorus is required to provide must be certified by at least one director of Chorus.

Mechanics of the wash-up

X36 Our approach to the wash-up mechanism is largely set out in the fibre IMs, including the mechanics and scope of the wash-up. The main area where we have applied judgement in relation to the wash-up mechanism is in specifying a forecast CPI value for the first year of the period, providing for revenue to be washed-up using actual CPI for all years of the PQP2 period. We did not wash-up for CPI in year 1 of PQP1. Our acceptance of Chorus' proposed change to use an alternative depreciation method will also avoid a large wash-up balance building over PQP2, but this does not involve any changes to the wash-up mechanism itself.

Figure 1.1 Drivers of change in forecast net allowable revenues between 2024 and 2025



X37 Figure 1.1 shows the change in allowable revenue from 2024 (the last year of PQP1) to forecast allowable revenue for 2025 (the first year of PQP2). The change in allowed revenue reflects the smoothing within each of the periods, changes in the WACC, higher-than-expected CPI inflation during PQP1, and increases in opex and capex.

Quality standards

X38 Our PQP2 quality draft decisions represent a change in approach from PQP1.

X39 We have made these changes based on Chorus' performance and the effectiveness of the quality standards during PQP1. We consider that our draft quality standards are now more focused on systemic issues that are within Chorus' control and reduce the risk of Chorus breaching as a result of random events. We also propose a new provisioning quality standard due to Chorus' performance over PQP1 and concerns raised by stakeholders.

X40 We consider our draft decisions strike a balance between ensuring Chorus is not penalised unduly for its quality performance (and thus creating a high regulatory burden on Chorus) while ensuring Chorus has appropriate incentives to maintain and improve quality during PQP2 to levels that end-users expect for what they are prepared to pay.

Availability quality standards

X41 For PQP2 our draft decision is to set an availability standard for the layer 1 and layer 2 aspects of Chorus' fibre network across each availability POI area. Our draft decision is that Chorus must meet an annual threshold for unplanned downtime (an availability assessment) in each year of the regulatory period. If Chorus exceeds this annual assessment in two consecutive years, this will constitute a breach of the availability assessment for that second regulatory year. We set out the details of this below.

Annual Layer 1 availability assessment

X42 Chorus meets the layer 1 availability assessment for an availability POI area for a regulatory year, if its total average net unplanned downtime does not exceed, for a layer 1 aspect of a fibre network, 80 minutes in that availability POI area in the regulatory year.

Layer 1 availability quality standard

X43 Chorus fails the availability standard for a regulatory year if it fails to comply with the annual assessment in that regulatory year, and it has also failed to comply with the annual assessment in the preceding regulatory year.[17] If there is a further exceedance of the annual assessment in regulatory year 3 for the same availability POI area, Chorus will breach the standard for year 3 as well as year 2.

X44 As Chorus cannot breach the availability standard in the first year (as there will have been no previous qualifier year of exceedance), in the first regulatory year of PQP2 there is no layer 1 availability standard. This means that Chorus could have up to a maximum of three breaches for the layer 1 availability standard for any availability POI area over PQP2.

Annual Layer 2 availability assessment

X45 Chorus meets the layer 2 availability assessment for an availability POI area for a regulatory year, if its total average net unplanned downtime does not exceed, for a layer 2 aspect of a fibre network, 17 minutes in that availability POI area in the regulatory year.

Layer 2 availability quality standard

X46 Chorus fails the availability standard for a regulatory year if it fails to comply with the annual assessment in that regulatory year, and it has also failed to comply with the annual assessment in the preceding regulatory year. If there is a further exceedance of the annual assessment in regulatory year 3 for the same availability POI area, Chorus will breach the standard for year 3 as well as year 2.

X47 As Chorus cannot breach the standard in the first year (as there will have been no previous qualifier year of exceedance), in the first regulatory year of PQP2 there is no layer 2 availability standard. This means that Chorus could have up to a maximum of three breaches for the layer 2 availability standard for any availability POI area over PQP2.

Calculation of the availability quality standards

X48 Our draft decision is to retain the PQP1 methodology to calculate the availability assessment.

X49 'Average unplanned downtime' for a regulatory year in an availability POI area is calculated in accordance with the following formula:

[17] That is, Chorus will fail the availability standard in year 2 if it exceeds the annual assessment for layer 1 in regulatory year 2 and has also exceeded in regulatory year 1 for the same availability POI area (the breach in year 2 being enabled by the exceedance in year 1). This is because the first exceedance is a qualifier for the breach in year 2, resulting in a breach of the availability standard for year 2.

$$\sum_{i=1}^{12} \frac{\sum NUD_i}{ANAC_i}$$

Where:

NUD	means net unplanned downtime for that calendar month in that availability POI area;
ANAC	means average number of connections for that calendar month in that availability POI area; and
i	means the calendar month in the regulatory year, where 1 = January, …, 12 = December.

Exclusions from the standards

X50 Our draft decision is to retain from PQP1 the exclusion of the following from the calculation of 'net unplanned downtime':

X50.1 force majeure events;

X50.2 port utilisation equal to or above 95%; and

X50.3 unplanned downtime caused by faults to non-diverse transport services.

X51 We consider that the port utilisation exclusion set at 95% continues to prevent perceived double jeopardy arising from a separate port utilisation (performance) quality standard.[18]

Annual reporting

X52 Our draft decision is that Chorus must report annually on its performance against downtime levels (thresholds) to allow us to monitor and determine compliance with the availability quality standards.

X53 As set out in our draft s 193 notice, Chorus in PQP2 will be required to include the following information within this annual reporting:

X53.1 a statement confirming any exceedances of the annual downtime targets in each availability POI area;

X53.2 an explanation of any exceedances (including the cause) and any remedial action taken in response;

[18] Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at [7.123].

X53.3 any planned action Chorus intends to take to avoid a consecutive exceedance in the following year with respect to that availability POI area; and

X53.4 whether it has applied any of the exclusions to downtime calculations (eg, force majeure events). If it has, Chorus must separately set out the nature of the exclusions and the values excluded from downtime calculations for availability standard purposes.

X54 Our draft decision also requires Chorus to provide the annual reporting no later than two months after the end of each regulatory year. We consider that more timely reporting compared to PQP1 is appropriate to better monitor compliance with the standards over the longer assessment periods.

X55 Our draft decision is that each annual assessment report must include whether Chorus has complied with the availability quality standards (and any supporting evidence and calculations used to determine compliance).

X56 In addition, the draft determination sets out that where Chorus identifies a breach has occurred, as in PQP1, it must provide a breach report no later than five months after the end of the regulatory year in which the breach occurred.

Availability POI areas

X57 Our draft decision is to retain the availability POI areas as a basis for geographic differentiation for the availability quality standards.

Differentiation by layer

X58 Our draft decision is to retain the separate levels of downtime (and quality standards) for layer 1 and layer 2 required in PQP1. We consider that the differences in these layers continue to justify separate standards. We remain of the view that having separate standards applying for layer 1 and layer 2 recognise that layers of the network perform differently and are susceptible to different levels and types of disruption to end-users.

Implementation date

X59 Our draft decision is that the availability standard should be in force from the start of PQP2.

Performance quality standard

X60 For PQP2 our draft decision is to set a performance standard based on port utilisation. Our draft decision is that Chorus must meet a monthly threshold for port utilisation (performance assessment). If Chorus exceeds this monthly assessment in one month and has also exceeded the assessment in the preceding two months, it will have breached the performance standard in the third month. We set out further details on this below.

Monthly performance assessment

X61 Chorus meets the performance assessment for a port for a calendar month, if the port does not experience port utilisation, upstream or downstream, equal to or exceeding 90% in any five-minute interval in the calendar month.

X62 For the purposes of the performance assessment an instance where port utilisation equals or exceeds 90% must be disregarded if it is attributable to a force majeure event.

Performance quality standard

X63 Our draft decision is that Chorus fails the quality standard in a month if it fails to comply with the assessment in that calendar month and the two previous calendar months.[19] If there is a further exceedance of the monthly performance assessment in month four for the same port, Chorus will breach the standard for month four as well as month three.

X64 In the first two calendar months of the first regulatory year, there is no performance quality standard.

Calculation of the performance quality standard

X65 Our draft decision is to use the same methodology to calculate port utilisation as used in PQP1.[20]

X66 'Port utilisation' is calculated as a percentage figure in accordance with the following formula:

$$\frac{octets \times 8}{5 \times 60\ seconds \times PS} \times 100$$

Where:

octets	means the number of octets at a port, being the greater of the inOctets or the outOctets, measured over the 5-minute interval in accordance with RFC 2863, and includes framing characters, but excludes Ethernet preamble, start from delimiter, and interpacket gaps; and
PS	means port speed and is measured in bps.

[19] That is Chorus will fail the quality standard in month three if it exceeds the monthly performance assessment in month three, two and one for the same port. This is because the first two months of exceedance are qualifiers for the third month, resulting in a breach of the availability standard in month three.

[20] *Fibre Price-Quality Path Determination 2021* [2021] NZCC 27.

X67 As with the PQP1 determination, port utilisation measurement includes all physical, virtual and sub-interfaces within the physical ports that are within the regulated provider's Fibre Access Network (FAN) which excludes User Network Interface (UNI), External Network-to-Network Interface (ENNI) and passive optical network (PON) ports.

X68 Our draft decision retains the following:

X68.1 the Regional Ethernet Network (REN) is not covered in the definition of port utilisation (this is the same as in PQP1 and we do not propose to change this for PQP2).[21] The PQP1 final decision paper outlines the reasons for why the REN network is not included in the definition of the performance standard.[22] We also note that Chorus proposes to shut down the REN on 30 June 2024;[23] and

X68.2 there are not different standards for different geographic areas. The PQP1 final decision paper outlined the reasons for why we have not included a separate standard for different geographic areas in the definition of the performance standard, we consider those reasons still apply.[24]

Force Majeure events

X69 Consistent with the availability and provisioning standard, our draft decision is to exclude force majeure events in the calculation of the draft performance standard. This will mean Chorus can exclude the impact of these events on port utilisation during PQP2.

X70 Similar to the availability and provisioning standards, under s 193 our draft decision is to require Chorus to record and provide information to us on when it has relied on a force majeure event (and the values excluded). This will assist us in monitoring compliance with the performance standard.

Implementation date

X71 Our draft decision is that the performance standard should be in force from the start of PQP2.

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21 Chorus "Notice of Regional Ethernet Network (REN) shutdown proposed for 30 June 2024" (5 April 2023).

22 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at 245-246.

23 Chorus "Notice of Regional Ethernet Network (REN) shutdown proposed for 30 June 2024" (5 April 2023).

24 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021).

Provisioning quality standard

X72 The fibre IMs allows us to set a quality standard for any of the optional quality dimensions, including for the dimension of provisioning.[25] We considered it necessary to respond to the level of concern in this area but in a way that is workable for Chorus.

X73 Our draft decision is to set a quality standard for meeting the agreed connection date for the time to provision metric under the provisioning quality dimension.

Provisioning quality standard

X74 Our draft decision is that Chorus meets the provisioning quality standard for an availability POI area for a regulatory year if:

X74.1 the connections measure for connection requests in respect of which the agreed date is rescheduled is 85% or more; and

X74.2 the connections measure for all other connection requests is 80% or more.

X75 Where:

X75.1 'rescheduled', in relation to an agreed date, means rescheduled by Chorus by the agreed date but does not include rescheduled by Chorus:

X75.1.1 at the end-user's request; or

X75.1.2 because the end-user or a person on the end-user's behalf was not present when an installer attended on Chorus's behalf to carry out work for the connection request at a prearranged date and time.

X75.2 If the connection request is rescheduled after the initial agreed date then it is counted as missing the agreed date.

X76 Connection requests are requests for a new connection of a layer 1 service or layer 2 service where that connection requires the physical attendance of a person on Chorus' behalf or a disconnection from one type of FFLAS service and a connection to another type of FFLAS service where that connection requires the physical attendance of a person on Chorus' behalf;

X76.1 the agreed date is the date agreed with Chorus and the end-user; and

X76.2 the connection measure is set out in the formula in the section 'Calculation of the provisioning standard' below.

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[25] *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.6.2(1).

Calculation of the provisioning standard

X77 Our draft decision is that the percentage of connection requests meeting the agreed date for a regulatory year in an availability POI area should be calculated in accordance with the following formula (connection measure) applied for rescheduled connection requests and again for all other connection requests:

$$\sum_{i=1}^{i=12} \frac{PTRC_i}{TRC_i} \text{ X } \frac{100}{M}\%$$

Where:

$PTRC_i$	means the number of connection requests with an agreed date for the calendar month "i" that met the agreed date in the availability POI area; and
TRC_i	means the number of connection requests with an agreed date in the calendar month "i" in the availability POI area; and
M	means the number of calendar months in the regulatory year in which there was one or more connection request in the availability POI area; and
i	means the calendar month, where 1 = January, …, 12 = December, in which there was one or more agreed dates for connection requests in the availability POI area

X78 Note that PTRC will always be less than or equal to TRC.

Geographic differentiation

X79 Our draft decision is to use geographic differentiation by availability POI areas as used for the availability standard.

Force majeure events exclusion

X80 Our draft decision is that Chorus may exclude the impact of force majeure events on provisioning during PQP2.

X81 In terms of compliance, as with the availability and performance standards, under s 193 our draft decision is to require Chorus to record and provide information to us on when it has relied on a force majeure event (and the values excluded) to assist us in monitoring compliance with the provisioning standard.

Implementation date

X82 Our draft decision is that the draft performance standard should be in force from the start of PQP2, but we invite submissions on whether we should allow a transition period.

Other optional dimensions

X83 Our draft decision is not to set standards for the optional dimensions of ordering, switching, faults or customer service.

Anchor services review

X84 Section 208 of the Act provides that the "Commission may, before the start of each regulatory period (including the first regulatory period), review whether, and how effectively, an anchor service meets the purpose of anchor services".

X85 Our final decision is not to conduct this review at this time.

Chapter 1 Introduction

Purpose of this paper

1.1 This paper outlines our draft decisions for Chorus' price-quality path for the second regulatory period from 1 January 2025 to 31 December 2028 (PQP2), and sets out the reasons for our draft decisions on:[26]

1.1.1 estimated forecast allowable revenue;

1.1.2 quality standards; and

1.1.3 our approach to ensuring Chorus complies with the PQ determination.

1.2 This reasons paper is published alongside the draft determination and our draft s 193 notice containing compliance requirements for PQP2.

1.3 This paper also sets out set out our final decision on whether to undertake an anchor services review under s 208 of the Act in Chapter 5.

Structure of this paper

1.4 This paper is structured as follows:

1.4.1 Chapter 1 is an introduction;

1.4.2 Chapter 2 sets out our regulatory framework;

1.4.3 Chapter 3 sets out the estimates of forecast allowable revenue we have proposed for PQP2;

1.4.4 Chapter 4 sets out our draft decisions and reasons on quality standards for PQP2;

1.4.5 Chapter 5 sets out our final decision and reasons on whether to undertake an anchor services review; and

1.4.6 Appendix A sets out our draft decisions on the depreciation of Chorus' regulatory asset base and the smoothing of allowable revenue within and between regulatory periods

1.5 We have described our approach and draft decisions on Chorus' compliance requirements during PQP2 in the respective chapters on the revenue path (Chapter 3) and quality standards (Chapter 4).

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[26] *Determination of the duration of the second regulatory period for Fibre Price-Quality Path Determination 2024* [2023] NZCC 2.

Process we are following

1.6 The timeline for our process is set out in Table 1.1 below.

Table 1.1 Process for PQP2

Date	Milestone	Description
28 February 2023	Chorus PQP2 information request	We issued a notice to supply information under s 221 of the Act, seeking information necessary to set Chorus' expenditure allowances.
31 August 2023	Process and approach paper	A paper setting out our proposed approach to PQ regulation for the second period, and the process for delivering it.
28 September 2023	Process and approach paper submissions	Submissions received on the process and approach paper.
31 October 2023	Chorus PQP2 expenditure proposal	Chorus submitted its expenditure proposal for PQP2.
16 November 2023	Consultation on Chorus' expenditure proposal	We published a consultation paper on Chorus' expenditure proposal.
11 January 2024	Chorus' expenditure proposal submissions	Submissions received on Chorus' expenditure proposal for the second regulatory period.
2 February 2024	Chorus' expenditure proposal cross submissions	Cross submissions received on Chorus' expenditure proposal for the second regulatory period.
5 February 2024	Chorus submitted new information	Chorus submitted new information related to its plans to extend the network during PQP2 (a programme it calls 'fibre frontier').
26 March 2024	Draft decision on TAMRP IM	Draft decision on the tax-adjusted market risk premium input methodology.
18 April 2024	Draft decision on Chorus' expenditure allowance for PQP2	Draft decision on Chorus' capex and opex allowances for PQP2.
16 May 2024	Draft decision on Chorus' expenditure allowance for PQP2	Submissions received on draft decision on Chorus' expenditure allowance for PQP2.
6 June 2024	Draft decision on Chorus' expenditure allowance for PQP2	Cross submissions received on draft decision on Chorus' expenditure allowance for PQP2.
01 July 2024	WACC determination for Chorus PQP2	The determination of the WACC that must be used to set Chorus' allowable revenue for PQP2.
17 July 2024	Draft fibre IM amendments	Draft fibre IM amendments to implement our PQ decisions or correct technical errors.
18 July 2024	Determination of Chorus' PQ path for PQP2 draft decision (this paper)	Draft decision (and accompanying draft determination) on Chorus' revenue path and quality standards for PQP2.
15 August 2024	Determination of Chorus' PQ path for PQP2 draft decision (this paper)	Submissions received on draft decisions on Chorus' PQ path for PQP2.
August 2024	Decision on Chorus' expenditure allowance for PQP2	Final decision on Chorus' capex and opex allowances for PQP2.
5 September 2024	Determination of Chorus' PQ path for PQP2 draft decision (this paper)	Cross submissions received on draft decisions on Chorus' PQ path for PQP2.
Q4 2024	Final fibre IM amendments	Final fibre IM amendments to implement our PQ decisions or correct technical errors.
Q4 2024	Determination of Chorus' PQ path for PQP2 final decision	Final decision (and accompanying determination) on Chorus' revenue path and quality standards for PQP2.

Date	Milestone	Description
1 January 2025	Start of PQP2 regulatory period	PQP2 comes into effect.

1.7 For PQP1 we determined Chorus' expenditure allowances and PQ path at the same time. The process for PQP2 is different. We are approaching our decisions in two stages and are holding separate consultations on each of the following:

1.7.1 Chorus' expenditure allowances for PQP2; and

1.7.2 Chorus' PQ path for PQP2.

1.8 We need to determine expenditure allowances to set allowable revenues for Chorus' PQ path for PQP2. This includes capex and opex allowances.

1.9 We published our draft decisions on Chorus' expenditure allowances for PQP2 on 18 April 2024.[27] Those draft decisions on expenditure have been used in our draft decisions for calculating Chorus' forecast allowable revenue for PQP2 by way of the building block methodology, which is comprised of building blocks revenue, pass-through costs and a wash-up amount.

1.10 Numbers for final decisions on estimated forecast allowable revenue will be updated for our final decisions on expenditure allowances.

Material provided alongside this draft decisions reasons paper

1.11 The following documents have been published alongside this paper:

1.11.1 Chorus' PQP2 building blocks demonstration model - draft decisions; and

1.11.2 a section 193(2) Chorus compliance notice.

1.12 To implement certain aspects of our draft PQ decision, it has also been necessary to consider amendments to the IMs. Our draft decision on these IM amendments was published on 17 July 2024. These draft amendments included changes to the operation of the revenue path wash-up mechanism.

1.13 Our draft decision is to amend the fibre IMs as follows:

1.13.1 to extend the timeframe under clause 3.7.24 of the fibre IMs to assess an individual capex design proposal from 'within one month' to 'within three months' once the Commission has received the proposal;

[27] Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024).

1.13.2 to amend the definition of "outage" under clause 1.1.4 of the fibre IMs to insert an alternative notification mechanism to overcome technological limitations of the systems which make the definition unworkable for certain information disclosure (ID) regulated providers when an outage occurs; and

1.13.3 to amend clauses 2.4.10, 2.4.11 and 3.5.11 to calculate the benefits of Crown financing daily and then sum the daily benefits to arrive at the annual benefit, rather than calculating the benefit annually based on the Crown finance balance on the first day of the disclosure year for ID or on the first day of the regulatory year for PQ. We consider the proposed change will ensure these calculations better reflect the actual benefits of Crown financing.

1.14 Our draft PQ decision must apply the fibre IMs that are in place at the time.

How you can provide your views

Scope of submissions

1.15 We are interested in your views on our draft decisions on Chorus' PQ path for PQP2.

1.16 As part of consultation on our process and approach paper we set out our emerging view on whether to carry out a review of the anchor services under s 208 of the Act.[28] We have now reached a final decision, and this is set out in Chapter 5. We are not seeking further submissions on this decision.

1.17 We have also consulted separately on the draft expenditure allowances for PQP2. Our draft decision was published on 18 April 2024, submissions were received on 16 May, and cross submissions on 6 June 2024. We are currently considering submissions and cross submissions in coming to our final decision on expenditure allowances for PQP2. We will not be accepting any submissions received that relate to the draft expenditure decisions.

Process and timelines for making submissions

1.18 You are invited to provide your written views on our draft decisions on Chorus' PQ path no later than 5pm **15 August 2024** and cross submissions no later than 5pm on **5 September 2024**. Cross submissions should only focus on matters raised in submissions. We strongly discourage stakeholders from raising new matters via cross submissions. You should address your responses to:

1.18.1 Keston Ruxton (Manager, Fibre PQ Regulation)

[28] Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023).

1.18.2 c/o infrastructure.regulation@comcom.govt.nz

1.18.3 Please include “Chorus PQP2 price-quality draft decisions submission” in the subject line. We prefer responses to be provided in searchable PDF file format.

Confidentiality

1.19 Please note that we intend to publish all submissions (and cross submissions) received on this paper.

1.20 The protection of confidential information is something the Commission takes seriously. The process requires you to provide (if necessary) both a confidential and non-confidential/public version of your submission and to clearly identify the confidential and non-confidential/public versions. This also applies to cross submissions.

1.21 When including commercially sensitive or confidential information in your submission (or cross submission):

1.21.1 please provide clearly labelled confidential and public versions. We intend to publish all public versions on our website;

1.21.2 the responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission. Where a confidential version of your submission is provided, please clearly identify and highlight all information you consider to be confidential. This also applies to cross submissions; and

1.21.3 please note that all submissions (and cross submissions) we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we do not publish unless good reason existed under the Official Information Act 1982 to withhold it. We would normally consult with the party that provided the information before any disclosure to a requester is made.

Chapter 2 Regulatory framework

Purpose and structure

2.1 This chapter describes the legal requirements under Part 6 of the Act for determining Chorus' second PQ path and the economic framework we have applied when making our draft decisions.

Legal framework

2.2 This section sets out the legal requirements and regulatory framework which underpin our draft PQ determination and draft decisions for PQP2.

Background

2.3 We determined Chorus' PQ path for PQP1 on 16 December 2021. Before the end of the current regulatory period, we must make a determination under s 170 of the Act specifying how PQ regulation applies to Chorus during the next regulatory period. A draft s 170 determination is published alongside this paper.

2.4 This will be the second regulatory period for Chorus. As detailed in our determination dated 28 February 2023, the second regulatory period will run for four years from 1 January 2025 until 31 December 2028.[29]

2.5 The purpose of PQ regulation is to regulate the price and quality of FFLAS provided by regulated providers.[30] Regulations made under s 226 of the Act set out that Chorus is subject to PQ regulation for all FFLAS "except to the extent that a service is provided in a geographical area where a regulated fibre service provider (other than Chorus Limited) has installed a fibre network as part of the UFB initiative."[31] Chorus is currently the only local fibre company (LFC) subject to PQ regulation under Part 6 of the Act.[32]

2.6 During the second regulatory period (from 1 January 2025), as a regulated provider subject to PQ regulation, Chorus must:[33]

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29 *Determination of the duration of the second regulatory period for Fibre Price-Quality Path Determination 2024* [2023] NZCC 2.

30 Telecommunications Act 2001, s 192; see also Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at Attachment D for discussion on the "scope of FFLAS".

31 Telecommunications (Regulated Fibre Service Providers) Regulations 2019, regulation 6.

32 Telecommunications (Regulated Fibre Service Providers) Regulations 2019, regulation 6. In our reasons paper for PQP1 we set out a framework for the interpretation of regulation 6 and concluded that, from our assessment, we were confident that Chorus interpreted regulation 6 consistently with our interpretation and that Chorus had applied this interpretation correctly in setting their initial RAB - Commerce Commission "Chorus price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), Attachment E.

33 Telecommunications Act 2001, s 193(1).

2.6.1 apply the PQ path set by us in a determination made under s 170 of the Act, which includes:

2.6.1.1 the maximum revenues that Chorus may recover from its PQ FFLAS; and

2.6.1.2 the quality standards that must be met by Chorus; and

2.6.2 provide an anchor service if an anchor service has been declared;[34]

2.6.3 provide a direct fibre access services (DFAS) if a DFAS has been declared;[35]

2.6.4 provide an unbundled fibre service if a point-to-multipoint layer 1 service supplied to end-users' premises or buildings has been declared an unbundled fibre service;[36] and

2.6.5 regardless of the geographic location of the access seeker or end-user, charge the same price for providing FFLAS that are, in all material respects, the same.[37]

2.7 Our second PQ path must also specify:

2.7.1 the regulatory period (1 January 2025 to 31 December 2028);[38]

2.7.2 the date on which the PQ path takes effect (1 January 2025); and

2.7.3 the date or dates by which compliance must be demonstrated.

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34 Telecommunications Act 2001, s 193(1)(b) and s 198. Under s 227(1) of the Act, the Governor-General may, by Order in Council made on the recommendation of the Minister of Broadcasting, Communications and Digital Media, make regulations declaring a FFLAS to be an anchor service. See also, the Telecommunications (Regulated Fibre Services) Regulations 2021 which specify anchor broadband and voice services and one direct fibre access service (DFAS) that Chorus must provide to retail service providers.

35 Telecommunications Act 2001, s 193(1)(b) and s 199. Under s 228(1) of the Act, the Governor-General may, by Order in Council made on the recommendation of the Minister of Broadcasting, Communications and Digital Media, make regulations declaring a FFLAS to be a DFAS. See also, the Telecommunications (Regulated Fibre Services) Regulations 2021 which specify anchor broadband and voice services and one direct fibre access service (DFAS) that Chorus must provide to retail service providers.

36 Telecommunications Act 2001, s 193(1)(b) and s 200. Under s 229(1) of the Act, the Governor-General may, by Order in Council made on the recommendation of the Minister of Broadcasting, Communications and Digital Media, make regulations declaring a point-to-multipoint layer 1 service supplied to end-users' premises or buildings to be an unbundled fibre service.

37 Telecommunications Act 2001, s 193(1)(b) and s 201.

38 *Determination of the duration of the second regulatory period for Fibre Price-Quality Path Determination 2024* [2023] NZCC 2.

Purpose of Part 6 and draft PQ determination and decisions

2.8 When making our PQ determination and decisions that form part of it, we must make decisions which best give, or are likely to best give, effect to the purposes of s 162 and, to the extent relevant, s 166(2)(b). We must also comply with the relevant requirements set out in the fibre IMs.

2.9 In our final reasons paper for PQP1,[39] we made the following observations about the relationship between the two objectives in s 166(2) of the Act, which we consider still apply:[40]

2.9.1 We must make an assessment on what decision will best give effect to the statutory purposes and the outcomes we are required to promote by s 166. This requires an evaluative judgement.

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

2.9.3 We are also required to make decisions that best give effect to the outcome in s 166(2)(b). This is also a mandatory consideration, but only in cases where we consider that it is 'relevant'. In assessing whether the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services is relevant, we will consider whether a decision has the potential to affect the level of competition in one or more telecommunications markets.

2.9.4 Section 166(2) does not establish a hierarchy between the promotion of the two outcomes. Where we consider that the promotion of competition is relevant, we must strive to make the decision that best gives, or is likely to best give effect, to both the promotion of outcomes consistent with workable competition for the benefit of end-users of FFLAS under s 162, and to the promotion of competition in telecommunications markets for the benefit of end-users in those markets under s 166(2)(b).

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39 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at [2.46], see also [2.47].

40 Chorus submitted on our process and approach paper and stated: "where the purpose statement in section 162 and objective in section 166 conflict, the Commission needs to take a position that best promotes outcomes consistent with workably competitive markets, for the long-term benefits of end-users of FFLAS (i.e. section 162 takes priority)". We consider our observations in PQP1 set out here, respond to that submission. Commerce Commission "Notice to supply information to the Commerce Commission under section 221 of the Telecommunications Act 2001 - Requirements for base capital expenditure, connection capex baseline expenditure, and operating expenditure proposals" (16 August 2023); and Chorus "PQP2 Process and Approach" (28 September 2023), at [13]. Note also our discussion of *Wellington International Airport Ltd & Ors v Commerce Commission* [2013] NZHC 3289 in the PQP2 process and approach paper at [3.17].

2.10 While all PQ decisions we make must best give, or be likely to best give, effect to the s 166(2) purposes, in certain cases, rather than requiring us to exercise judgement, some of our decisions may only require:

2.10.1 the application of the fibre IMs (for instance, determining the cost of capital for the regulatory period) which were determined because they best give, or are likely to best give, effect to the s 166(2) purposes; and

2.10.2 the application of mandatory requirements in the Act.

2.11 Where certain PQ draft decisions do not require us to exercise judgement, we have not specifically explained those decisions by reference to the s 166(2) purposes. Rather, we have explained those decisions by referencing our specific obligations under the fibre IMs or the Act.

2.12 Where our PQ draft decisions require us to exercise judgement (for instance, our determination of quality standards that must be met by Chorus), we have explained why those decisions best give, or are likely to best give, effect to the s 166(2) purposes.

Allowable revenues

2.13 As a regulated provider subject to PQ regulation, Chorus must from 1 January 2025 apply the PQ path set by us and must not exceed the maximum revenues specified by us.

2.14 For PQP2, as for PQP1, we must determine a revenue cap for Chorus and not a price cap.[41] While the two forms of control are distinct, the lines between the two forms of control are not absolute. In determining our approach to the revenue cap, we must consider whether particular measures would cause the form of control to take on price cap-like characteristics, contrary to s 195.

2.15 The fibre IMs set out that "maximum revenues" will be specified in a PQ determination as a revenue cap. Under the revenue cap, in each year of the regulatory period, total FFLAS revenue recovered by Chorus must not exceed its "forecast allowable revenue".[42]

2.16 In determining forecast allowable revenues which Chorus may recover from its regulated FFLAS we:

2.16.1 must apply the fibre IMs to determine the key inputs;

2.16.2 must reflect the actual financing costs incurred by Chorus in respect of Crown financing;

41 Telecommunications Act 2001, s 195.

42 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1.

2.16.3 must from this regulatory period onwards (until the regulatory periods that start on or after the reset date) apply a wash-up mechanism;

2.16.4 must (where "necessary or desirable to minimise any undue financial hardship to a regulated fibre service provider or to minimise price shocks to end-users") smooth revenues (see s 197 of the Act); and

2.16.5 may reduce/increase allowable revenues depending on how Chorus has performed against the quality standards[43].

Fibre IMs relevant for maximum revenues

2.17 To determine key inputs for the calculation of maximum revenues under the PQ path, the following fibre IMs must be applied:[44]

2.17.1 cost allocation;[45]

2.17.2 asset valuation (including the FLA);[46]

2.17.3 taxation;[47]

2.17.4 cost of capital;[48]

2.17.5 regulatory processes and rules, specifically the specification and definition of prices;[49] and

2.17.6 the capex IM.[50]

Benefit of Crown financing

2.18 In specifying the forecast allowable revenues that Chorus may recover, we must ensure that they reflect, in respect of any Crown financing, the actual financing costs incurred by Chorus (or a related party) in the regulatory period.[51]

2.19 In order to ensure that forecast allowable revenues reflect, in respect of any Crown financing, the actual financing costs incurred by Chorus in the regulatory period, we include a (negative) building block equal to the benefit of Crown financing, as calculated in accordance with the IMs, as explained in paragraph 3.41.

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43 For example, through revenue linked penalties, rewards or compensation schemes.
44 Under s 175(b)(ii) of the Act, we must apply the IMs in determining the prices applying to FFLAS.
45 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Part 3, Subpart 2.
46 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Part 3, Subpart 3.
47 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Part 3, Subpart 4.
48 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Part 3, Subpart 5.
49 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Part 3, Subpart 1.
50 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Part 3, Subparts 7-8.
51 See s 171 of the Act.

Wash-up mechanism

2.20 Over the course of PQP1, the wash-up mechanism, has accrued balances for any over- or under-recovery of revenue by Chorus. In determining the PQP2 path, we are required to apply a wash-up mechanism that provides for this accrued balance to be drawn down.[52] We have specified the scope of the wash-up mechanism and how it will operate in the fibre IMs.[53] We have explained our approach to the wash-up mechanism in Chapter 3.

2.21 As we did in PQP1, we intend to issue a s 221 notice to Chorus alongside our final decision that specifies the detailed calculations necessary to determine the "wash-up amounts" for each regulatory year of PQP2.

Depreciation

2.22 The treatment of depreciation is generally provided for in Subpart 3 of the fibre IMs, clauses 3.3.2 and 3.3.3. The fibre IMs explicitly provide for the Commission to exercise its judgement about whether to apply a different depreciation to that applied in the previous regulatory period.[54]

2.23 Our draft decision on depreciation is set out in Chapter 3, and in more detail in Appendix A.

Smoothing revenues

2.24 In determining our second PQ path, we must smooth revenues over multiple regulatory periods if we think it necessary or desirable to minimise any undue financial hardship to a regulated provider or to minimise price shocks to end-users.[55]

2.25 As we set out in PQP1, we assess price shocks in terms of the rate of increase in 'allowable revenue' relative to current revenues. This is because 'allowable revenue' is a material determinant of the prices end-users face and this is what we regulate. We have not in general considered the rate of change in any individual tariff or class of tariffs because we are required to set a revenue path for PQP2 which does not include regulating prices themselves. We consider other regulatory tools such as pricing disclosures and the regulations in respect of anchor services and DFAS under ss 227 and 228 are the appropriate tools to manage individual price shocks.

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52 Telecommunications Act 2001, s 196.

53 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Part 3, subpart 1.

54 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clauses 3.3.2(6).

55 Telecommunications Act 2001, s 197.

2.26 In terms of undue financial hardship to Chorus, we note that any temporary under-recovery of revenue will have to be financed by Chorus before it has the opportunity to recover this revenue. This may be financed through retaining earnings or through increasing borrowing. However, both these options have limits, and could have flow-on impacts, particularly on willingness to invest.

2.27 As in PQP1, our approach to considering undue financial hardship is that the burden of proof for claims of financial hardship lies with the regulated provider.

2.28 As set out in Chapter 3, we do not consider Chorus is likely to face undue financial hardship during PQP2 based on our draft decisions and the information Chorus has provided to us to date.

Quality standards

2.29 Section 192 provides that the purpose of PQ regulation is to regulate the price and quality of FFLAS provided by regulated providers.

2.30 Section 194(2)(c) states that a PQ path must specify the quality standards that must be met by a regulated provider. Section 194(4) also states that these quality standards may be prescribed in any way we consider appropriate (such as targets, bands, or formulae) (as long as we apply the relevant fibre IMs).[56]

Matters that may be included in our PQ determination

2.31 A PQ path may include incentives for Chorus to maintain or improve its quality of supply, and those incentives may include (without limitation):

2.31.1 penalties which reduce Chorus' forecast allowable revenues based on whether, or by what amount, it fails to meet the required quality standards;[57]

2.31.2 rewards which increase Chorus' forecast allowable revenues based on whether, or by what amount, it meets or exceeds the required quality standards;[58]

2.31.3 compensation schemes that set minimum standards of performance and require Chorus to pay prescribed amounts of compensation if it fails to meet those standards;[59] and

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56 Under s 175(b)(ii) of the Act, we must apply the IMs in determining the quality standards applying to FFLAS. The quality dimensions IM is specified in *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Subpart 6 of Part 3.

57 Telecommunications Act 2001, s 194(3)(a).

58 Telecommunications Act 2001, s 194(3)(b).

59 Telecommunications Act 2001, s 194(3)(c).

2.31.4 reporting requirements, including special reporting requirements in asset management plans, if Chorus fails to meet the quality standards.[60]

Fibre IMs relevant to quality standards

2.32 In specifying the quality standards that will apply to Chorus, we:

2.32.1 must specify quality standards for the quality dimensions of availability and performance as set out in the fibre IMs; and[61]

2.32.2 may also specify quality standards for one or more of the quality dimensions of ordering, provisioning, switching, faults and customer service as set out in the fibre IMs.[62]

2.33 When specifying quality standards, the fibre IMs also provide for a PQ determination to differentiate by regulated provider, geography, fibre network architecture, PQ FFLAS and class of end-user.[63]

Declared services

2.34 Section 193(1)(b) provides that regulated providers that are subject to PQ regulation must comply with ss 198 to 201. Further, s 215(2)(b) states that failing to comply with ss 198 to 201 constitutes a contravention of a PQ requirement.

2.35 The Act provides for regulations made under ss 227 to 229 to declare certain FFLAS as anchor services (s 227), DFAS (s 228) and unbundled fibre services (s 229) (declared services). Once services are declared, ss 198 to 200 provide that regulated providers that are subject to PQ regulation will have to provide the declared services and comply with any prescribed maximum prices and conditions.

2.36 The Telecommunications (Regulated Fibre Services) Regulations 2021 provides for anchor services and a DFAS. At this time, regulations have not been proposed under s 229 that would declare an unbundled fibre service. When imposed declared services may act as an additional control on the revenues Chorus can earn and the quality of services it provides.

Undertakings under Subpart 2 of Part 4AA

2.37 Subject to any modifications under ss 206 and 230, Chorus' supply of PQ FFLAS must also comply with the undertakings it has given under s 156AD (fibre deeds).[64]

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60 Telecommunications Act 2001, s 194(3)(d).

61 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.6.1.

62 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.6.2.

63 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.6.3.

64 Under s 206, on or after the implementation date, Chorus will not be required to achieve price equivalence in relation to the supply of an unbundled layer 1 service to the extent that the service is an input to a service that is subject to a prescribed maximum price under Part 6 that is not a cost-based price. In addition, under s 230, if services are declared under ss 228 and/or 229, then the Governor-

2.38 The concept of FFLAS is broad enough to cover all of the services supplied under the fibre deeds and therefore Chorus must also supply PQ FFLAS in accordance with the equivalence, non-discrimination and supply obligations under the fibre deeds.

Monitoring compliance with the PQ path, declared services regulations, and geographically consistent pricing

2.39 Section 194 sets out that a PQ path must specify the date or dates by which compliance must be demonstrated in accordance with s 193(2).

2.40 To monitor compliance with the PQ path, declared services regulations, and the geographically consistent pricing requirements, we may issue a written notice to Chorus requiring it to provide any (or all) of the following:

2.40.1 a written statement that states whether it has complied with the PQ path;[65]

2.40.2 a report on the written statement that is signed by an auditor in accordance with any form specified by us;[66]

2.40.3 sufficient information to enable us to properly determine whether a PQ path has been complied with;[67] and

2.40.4 a certificate, in the form specified by us and signed by at least one director, confirming the truth and accuracy of any compliance information provided.[68]

2.41 Our draft decision in respect of compliance requirements for geographically consistent pricing is set out in paragraphs 3.153 to 3.156.

2.42 A draft s 193(2) notice is published alongside this paper.

Enforcement provisions applicable for PQ regulation

2.43 The High Court may on application by us, order a person to pay a pecuniary penalty to the Crown for contravening PQ requirements under s 215, which must not:[69]

2.43.1 in respect of each act or omission, exceed $500,000 in the case of an individual; or

2.43.2 $5,000,000 in the case of a body corporate.

General may make regulations discharging a regulated provider from its obligations to supply a service under a s 156AD undertaking. See also our PQP1 final decision for a description of what the Chorus fibre deeds require.

65 Telecommunications Act 2001, s 193(2)(a).

66 Telecommunications Act 2001, s 193(2)(b).

67 Telecommunications Act 2001, s 193(2)(c).

68 Telecommunications Act 2001, s 193(2)(d).

69 Telecommunications Act 2001, s 215.

2.44 If the High Court orders a person to pay a pecuniary penalty under s 215 in respect of the contravention of a PQ requirement, the Court may in addition, order the person to pay compensation to any person who has suffered, or is likely to suffer, loss or damage as a result of the contravention.[70] An application for this order may be made by us or any "aggrieved person".[71] In proceedings under s 216, the Court may make such orders as to cost as it thinks fit.[72]

2.45 If the High Court is satisfied that FFLAS that are subject to PQ regulation are being provided, or are likely to be provided, in contravention of any PQ requirement applying with respect to those services, the Court may (on application by any person) do one or both of the following:[73]

2.45.1 grant an injunction restraining any provider of those services from providing them in contravention of the PQ requirement; and

2.45.2 make an order requiring the provider to provide the service in accordance with the PQ requirement applying to them.

2.46 A person commits an offence if:[74]

2.46.1 the person, knowing that particular FFLAS are subject to PQ regulation, intentionally contravenes a PQ requirement in respect of the services; or

2.46.2 the person is subject to an order fails to comply with the order.

2.47 Where a person commits an offence under s 217(1), they are liable on conviction to a fine not exceeding $200,000 in the case of an individual, or $1,000,000 in the case of a body corporate.[75]

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70 Telecommunications Act 2001, s 216(1).
71 Telecommunications Act 2001, s 216(2).
72 Telecommunications Act 2001, s 216(5).
73 Telecommunications Act 2001, s 218.
74 Telecommunications Act 2001, s 217(1).
75 Telecommunications Act 2001, s 217(2).

Economic framework

2.48 As part of our fibre IMs decision-making process, we developed an economic framework. We developed the framework to help guide the decisions we made in developing the new regulatory regime for Part 6. We continue to apply this framework. The economic framework relates to all aspects of our economic decision-making in regulating regulated FFLAS.[76] We applied this to our decision-making for PQP1. We referenced this economic framework in our PQP2 process and approach paper.[77]

2.49 The economic framework helps us make individual decisions that are consistent with each other, and that best give effect to the purposes described in s 166(2) of the Act. The economic framework has three components:

2.49.1 economic principles - real financial capital maintenance, allocation of risk, and asymmetric consequences of under- or over-investment;[78]

2.49.2 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;[79] and

2.49.3 an approach to identifying competition issues - to help us assess whether our decisions might be relevant to competitive outcomes in telecommunications markets.[80]

Real financial capital maintenance

2.50 Maintaining real financial capital maintenance (RFCM) is a fundamental goal of our revenue path and wash-up. This is because RFCM is key to maintaining incentives to invest while still limiting excessive profits. We ensure that the combination of decisions we make are consistent with Chorus having the ex-ante expectation of a normal return.

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76 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), Chapter 2; and Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023), Chapter 3.

77 Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023), at [3.47]-[3.81].

78 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), at [2.272]-[2.316].

79 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), at [2.317]-[2.335].

80 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), at [2.385]-[2.395].

2.51 This does not mean, however, that Chorus' allowable revenue in any given year (or even any given regulatory period) needs to perfectly reflect building blocks costs. We have focused on decisions that maintain RFCM on a long-term present value basis. There may be other reasons (such as the need to manage price shocks and undue financial hardship) for us to alter the profile of Chorus' revenue recovery.

Risk allocation

2.52 Ideally, we allocate risks to regulated providers or end-users depending on who is most able to manage that risk, unless doing so would be inconsistent with s 166(2) or with other provisions of the Act.

2.53 For the revenue path and wash-up mechanism, this is relevant to deciding what risks we do and do not provide wash-ups for. For example, it is not appropriate to provide a wash-up for risks that Chorus is largely able to control (such as connection unit costs).

2.54 However, in many cases, risk allocation is not dictated by this principle, as other considerations predominate. In some cases, these are requirements imposed by the Act (such as end-users bearing demand risk via a revenue cap, consistent with s 195).

2.55 In making these assessments, we must also consider what risks Chorus is compensated for via the WACC.

Pricing structures

2.56 In the process and approach paper, in discussing the application of the economic framework to our PQP2 decisions, we highlighted the incentive framework, and within that discussion, that the Act includes requirements that may result in prices that are not necessarily efficient and price structures that benefits some end-users and disadvantage others.

2.57 Examples highlighted in the process and approach paper were that the Act requires that Chorus use geographically consistent pricing, provide an anchor product with a prescribed maximum price, and provide DFAS at a prescribed maximum price.[81]

2.58 Chorus responded to our discussion of the framework in the process and approach paper, suggesting that we provide a more balanced write-up of the framework, noting that we gave greater weight to regulatory interventions and that we consider changing regulations where they result in inefficient prices.[82] We responded to Chorus in the reasons paper for the draft expenditure decision.[83]

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81 Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023), at [3.71]-[3.73].

82 Chorus "PQP2 Process and Approach" (28 September 2023), at [4]-[11].

83 Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at [2.40]-[2.44].

2.59 We also apply this economic framework in our regulation of the supply of services regulated under Part 4 of the Commerce Act of 1986. In applying the economic framework to the telecommunications sector, we are mindful of the fact that Chorus faces competitive pressures that are not faced by suppliers of services regulated under Part 4 of the Commerce Act. Where our draft decisions introduce new regulatory requirements - in the case of the PQP2 draft decision, the introduction of a new quality standard for provisioning - we have considered the non-regulatory incentives that Chorus faces.

Chapter 3 Estimated forecast allowable revenue

Purpose and structure

3.1 This chapter sets out our draft decisions on the maximum revenue Chorus will be allowed to recover during the PQP2 regulatory period. Our draft PQ determination published alongside this paper reflects these draft decisions. The chapter is structured as follows:

3.1.1 estimated forecast allowable revenue for PQP2;

3.1.2 building blocks components;

3.1.3 approach to the revenue path and wash-up;

3.1.4 compliance with the revenue path; and

3.1.5 mechanics of the revenue path.

Application of our regulatory framework

Consideration of s 162/166

3.2 All our individual draft decisions have been made in support of our aim of determining a revenue path and wash-up mechanism that best gives or is likely to best give, effect to the s 166(2) purposes. Each component of our draft decisions and its rationale act in combination to produce an overall revenue path and wash-up that we consider best gives, or is likely to best give, effect to the s 166(2) purposes.

3.3 However, where the promotion of the purpose of Part 6 or workable competition are determinative for individual decisions, we have identified how they are relevant, and discuss how our draft decisions best promote them relative to other realistic alternatives.

3.4 In addition to the s 166(2) matters, there are also specific statutory provisions we must give effect to when making decisions about the revenue path and wash-up, specifically:

3.4.1 the purpose of PQ regulation (s 192);

3.4.2 the requirements for what a PQ path must specify (s 194);

3.4.3 the requirement to specify maximum revenues and not maximum price or prices (s 195);

3.4.4 the requirement to apply a wash-up mechanism for over- or under-recovery during PQP1 (s 196);

3.4.5 the requirement to smooth revenues if, in our opinion, it is necessary or desirable to minimise undue financial hardship to regulated providers or to minimise price shocks to end-users (s 197); and

3.4.6 the requirement to apply the relevant IMs when determining prices (s 175).

3.5 Finally, we need to consider the interactions between our decisions on the revenue path and wash-up and the regulations in respect of anchor services and DFAS under ss 227 and 228.

Relevant limbs of the section 162 purpose

3.6 In considering how to best give effect to the purpose of Part 6 when making decisions about the revenue cap and wash-up, we are concerned with:

3.6.1 Chorus' incentives to invest under s 162(a) – a credible pathway to recovering past and future investments is necessary for Chorus to have ongoing incentives to invest and access to the capital it needs to fund this investment;

3.6.2 Chorus' incentives to improve efficiency under section 162(b) – inclusion of a wash-up for a given component of the revenue path effectively removes Chorus' incentives to manage it, so we need to ensure this does not adversely affect incentives for efficiency; and

3.6.3 limiting excessive profitability under s 162(d) – the revenue path substantially determines profitability over the short term, wash-up does so over the long-term.

3.6.4 Limb (c) of the purpose statement is less directly relevant to the revenue path and wash-up. However, as discussed in Chapter 2, our obligation to best give effect to the purpose applies to our PQ decision as a whole, and we consider that other aspects of the PQ path adequately promote limb (c).

Relevance of the promotion of workable competition in telecommunications markets

3.7 We must also promote workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services where relevant. We consider competition is relevant to our revenue path decisions in three ways:

3.7.1 the risk that the flow-on impact on Chorus' pricing decisions may affect the ability of fixed wireless access (FWA) providers and unbundled layer 2 providers to compete with Chorus in access markets;

3.7.2 the risk of the wash-up mechanism allowing Chorus to artificially lower the prices of its products in the short term, while remaining whole in present value terms via the wash-up, again threatening competition from FWA providers or unbundled layer 2 providers; and

3.7.3 conversely, the revenue recovery profile we determine should, where possible, provide Chorus the opportunity to compete effectively.

3.8 We have not attempted to use the revenue path and wash-up mechanism to eliminate these risks. As a tool that works in the aggregate, the revenue path is not well suited to such a task. Instead, our draft decisions have focused on avoiding the regulation distorting pricing where possible.

3.9 We consider other tools (such as the pricing and contract disclosures in ID, the declared services, or equivalence and non-discrimination obligations under the fibre deeds) are better suited to managing competition risks from pricing.

Economic principles

3.10 Two of our economic principles are relevant to decisions on the revenue cap and wash-up. These are:

3.10.1 RFCM; and

3.10.2 risk allocation.

Real financial capital maintenance

3.11 Maintaining RFCM is a fundamental goal of our revenue path and wash-up. This is because RFCM is key to maintaining incentives to invest while still limiting excessive profits. We ensure that the combination of decisions we make are consistent with Chorus having the ex-ante expectation of a normal return.

3.12 This does not mean, however, that Chorus' allowable revenue in any given year (or even any given regulatory period) needs to perfectly reflect building blocks costs. We have focused on decisions that maintain RFCM on a long-term present value basis. There may be other reasons (such as the need to manage price shocks and undue financial hardship) for us to alter the profile of Chorus' revenue recovery.

Risk allocation

3.13 Ideally, we allocate risks to regulated providers or end-users depending on who is most able to manage that risk, unless doing so would be inconsistent with s 166(2) or with other provisions of the Act.

3.14 For the revenue path and wash-up mechanism, this is relevant to deciding what risks we do and do not provide wash-ups for. For example, it is not appropriate to provide a wash-up for risks that Chorus is largely able to control (such as connection unit costs).

Estimates of allowable revenue for PQP2

3.15 This section discusses our estimates of forecast allowable revenue, our draft decisions on its component parts, and our draft decision on whether it is necessary to smooth revenue over multiple periods under s 197 of the Act.

3.16 These draft decisions are based on the draft expenditure decisions that we published in April 2024.[84] Our final PQ decision will be based on the final expenditure decision.

3.17 We estimate a total forecast allowable revenue of $3,301m for Chorus over the four years of PQP2.[85] This allowable revenue amount is composed of:[86]

3.17.1 A 'building blocks revenue' amount of $3,061m;[87]

3.17.2 a forecast allowance for pass-through costs of $69.8m;[88] and

3.17.3 a forecast wash-up amount of $170m.[89]

3.18 These values are shown on an annual basis in Table 3.1 below and are illustrated in Figure 3.1, along with the forecast allowable revenue of $809m for calendar year 2024.

84 Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024).

85 In present value terms as at 1 January 2025. In nominal sum terms this equates to $3,856m.

86 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(2).

87 In present value terms as at 1 January 2025, including smoothing. In nominal sum terms this would equate to $3,577m.

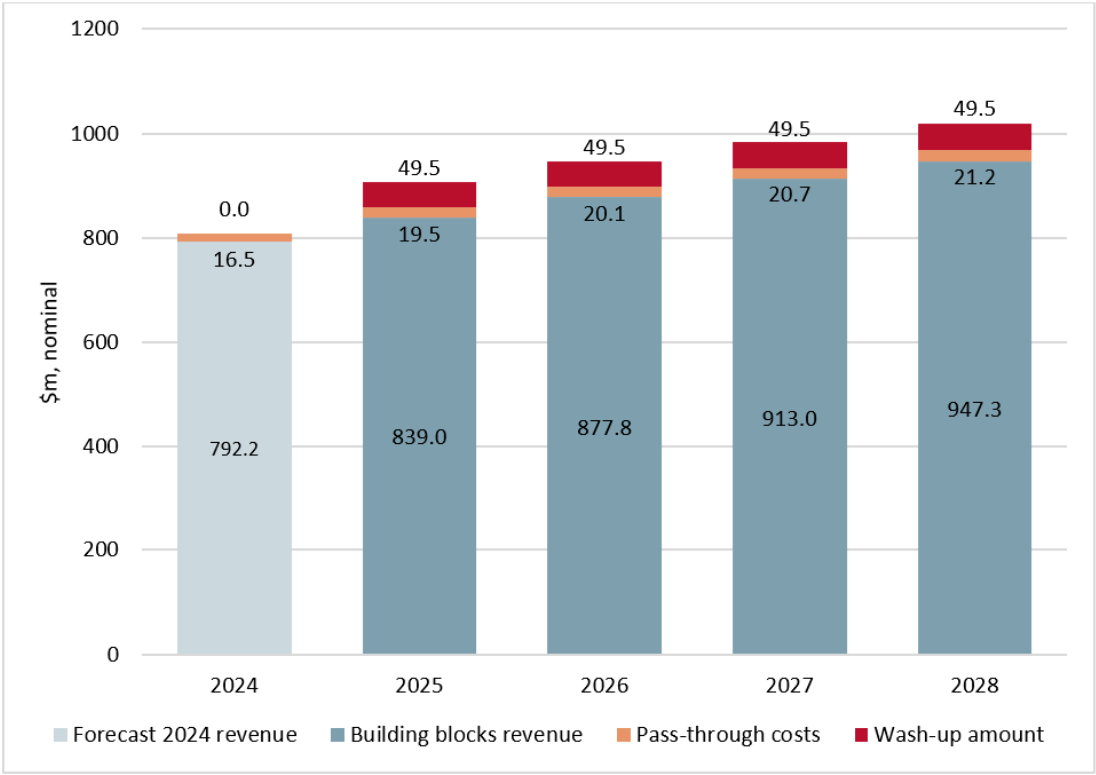
88 In present value terms as at 1 January 2025. In nominal sum terms this would equate to $81.5m. Consistent with the Fibre IMs and our proposed PQ determination, Chorus will be able to update these forecast values when demonstrating compliance with the revenue path.

89 As discussed below, the wash-up amount provided for in clause 3.1.1.(2)(c) has been estimated for the draft decision. This value is the real value as at 1 January 2025. In nominal sum terms this would equate to $198m.

Table 3.1 Components of forecast allowable revenue ($m nominal)

Component	2025	2026	2027	2028	PQP2 PV
Building blocks revenue	839.0	877.8	913.0	947.3	**3,061.0**
Pass-through costs	19.5	20.1	20.7	21.2	**69.8**
Wash-up amount	49.5	49.5	49.5	49.5	**170.0**
Total	**908.0**	**947.4**	**983.1**	**1,017.9**	**3,300.8**

Figure 3.1 Estimated forecast allowable revenue for PQP2[90]



Decisions on components of allowable revenue

Building blocks revenue

3.19 The largest component of forecast allowable revenue is 'building blocks revenue'. Building blocks revenue is an amount specified by the Commission in a PQ determination and is composed of the relevant building blocks components.[91] The building blocks are components that reflect forecasts of Chorus' costs for the regulatory period, and certain regulatory adjustments (such as revenue smoothing over the PQP2 period).

90 The forecast 2024 revenue is based on Chorus' compliance statement figures, and actuals will differ. The PQP2 figures assume current forecast of CPI inflation.

3.20 Our methodology for calculating building blocks revenue using various components is set out in Figure 3.2. Key draft decision input parameters and assumptions are set out in Table 3.2.

Table 3.2 Key input parameters for the building blocks model

Parameter	Basis	Value
Vanilla WACC	Draft estimate	7.71%
Post-tax WACC	Draft estimate	7.19%
CPI (revaluations)	Draft estimate	2025: 2.2% 2026: 2.0% 2027: 2.0% 2028: 2.0%
Allocated real base capex allowance	Draft decision	$815.0m
Allocated real base connection capex allowance	Draft decision	$170.9m
Allocated real base opex allowance	Draft decision	$607.9m

3.21 The building blocks components we have determined for the draft decision, and the specific contributions of each of them to the calculation of forecast allowable revenue, are set out in Table 3.3. The draft decisions we have made in relation to each building block are discussed in more detail in paragraphs 3.40 to 3.57.

3.22 We have identified a potential error in the application of the fibre IMs for calculating taxable profit and loss in Chorus' PQP2 model. This is in relation to the treatment of pass-through costs. We will engage with Chorus to confirm, and if needed correct, this error in its model ahead of the final decision. We have not made any adjustments to the draft decision to account for this potential error, but our current estimate of the impact of the potential error is that it will reduce the allowable revenue for PQP2 by approximately $60m.

[91] *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.1.4(2) – definition of 'building blocks revenue'.

Table 3.3 Draft building blocks revenue components ($m, nominal)

Component	2025	2026	2027	2028
Total return on capital	**249.3**	**267.2**	**266.1**	**263.9**
Return on assets (RAB x WACC)	455.0	454.9	452.8	450.0
Revaluations	-125.7	-113.6	-112.7	-112.0
Ex-ante stranding allowance	5.9	5.9	5.9	5.9
Benefit of Crown finance	-88.5	-82.6	-82.5	-82.4
TCSD allowance	2.6	2.6	2.5	2.5
Opex allowance	**172.5**	**173.9**	**176.2**	**173.5**
Total depreciation	**455.7**	**445.3**	**422.4**	**418.9**
Core fibre assets	303.6	309.2	300.1	308.8
Financial loss assets	152.1	136.1	122.3	110.2
Tax allowance	**0.0**	**0.0**	**0.0**	**84.7**
In-period smoothing	**-38.5**	**-8.6**	**48.3**	**6.1**
Total	**839.0**	**877.8**	**913.0**	**947.3**

Pass-through costs

3.23 The specification of price and revenue IMs also require an allowance for the recovery of 'pass-through costs' to be included in forecast allowable revenue. Pass-through costs are costs over which Chorus has little or no control, and that are appropriate to be passed through to end-users. [92]

3.24 The IMs specify that pass-through costs are: [93]

3.24.1 telecommunications levies under ss 11 and 12 of the Act;

3.24.2 telecommunications development levies;

3.24.3 local authority rates; and

3.24.4 a fixed membership fee relating to, or a fixed amount payable as a member of:

3.24.4.1 the UDL dispute resolution scheme;

92 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.2.

93 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.2.

3.24.4.2 the TDRS; and

3.24.4.3 any other dispute resolution scheme specified in a PQ determination.

3.25 In line with PQP1, our draft decision is to not specify any additional dispute resolution scheme costs as pass-through costs for PQP2. This is because we are not aware that Chorus participates in any additional relevant schemes for which a pass-through cost would be required.

3.26 As discussed further in this chapter, Chorus will be required to update the forecast values for pass-through costs when demonstrating compliance with the revenue path, as it has for PQP1.

Wash-up amount

3.27 Our draft decision is that there be an equal drawdown amount in nominal terms of the forecast opening wash-up account balance across the four years of PQP2.[94]

3.28 The IMs also require the inclusion of a 'wash-up amount' as part of allowable revenue.[95] One purpose of this amount is to allow any accumulated wash-up balances to be added to or subtracted from allowable revenues. There was no wash-up draw down in PQP1, as it was first period of the PQ regime, and wash-up drawdowns are on a period-to-period basis.

3.29 There is a wash-up opening balance for PQP2 of wash-up amounts built up over PQP1, and an equal drawdown of this opening balance across the four years of PQP2 has been factored into the allowable revenue calculation.[96] The wash-up amount used is currently a Commission forecast of the balance at the end of PQP1 and will be updated for the final decision.

3.30 When we determined the IMs, we considered that the wash-up amount could be used for smoothing of revenues within and between periods.[97] As set out in more detail below, our draft decision is to implement within-period smoothing by way of a separate building block (see paragraph 3.125). As discussed below, we do not consider inter-period smoothing necessary under s 197 of the Act.

3.31 Our high-level approach to the wash-up mechanism is discussed in paragraph 3.87 in this chapter. The details of the mechanism in relation to CPI wash-up are discussed in paragraphs 3.162 to 3.169.

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94 The commission forecast real value of the opening wash-up balance is $170m as at 1 January 2025.

95 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(2)(c).

96 We have chosen to apply an equal drawdown amount for simplicity. The smoothing of revenue is accounted for in the calculation of the forecast building blocks revenue.

97 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), at [9.28].

Factors that may change between our draft and final decisions

3.32 The draft forecast allowable revenue included here is an indicative estimate based on:

3.32.1 our draft PQ policy decisions;

3.32.2 our draft expenditure decision; and

3.32.3 the most recently available other input data.

3.33 All of these are subject to change prior to our final decision. Specifically:

3.33.1 based on submissions and cross submissions on our draft expenditure paper, we may change our decisions on Chorus' opex, base capex, or connection capex baseline allowances in our final expenditure decision;

3.33.2 based on submissions and cross submissions received on this draft PQ decision we may also change our decisions on the MAR or smoothing of the MAR; and

3.33.3 though this decision uses a forecast WACC, we determined the final WACC for PQP2 in June 2024, based on the most recently available data, which also involved updating the CPI forecasts used to determine revaluations.[98]

Base year

3.34 Our draft decision is that we have determined disclosure year 2022 as the base year for purpose of calculating relevant values under the IM that require the use of a base year.[99] We note that we expect to update the base year to 2023 for the final PQ decision to reflect the most up to date data available.

Building blocks components

3.35 This section summarises the draft decisions we have made on each of the major building block components that make up 'forecast building blocks revenue'.

3.36 It begins by giving a brief summary of the building blocks methodology. It then discusses the values we have used for each component and finishes by discussing specific building blocks where we have had to exercise our judgement about the values that we consider meet the criteria in s 166(2) of the Act. Finally, it describes how we have implemented this model in practice.

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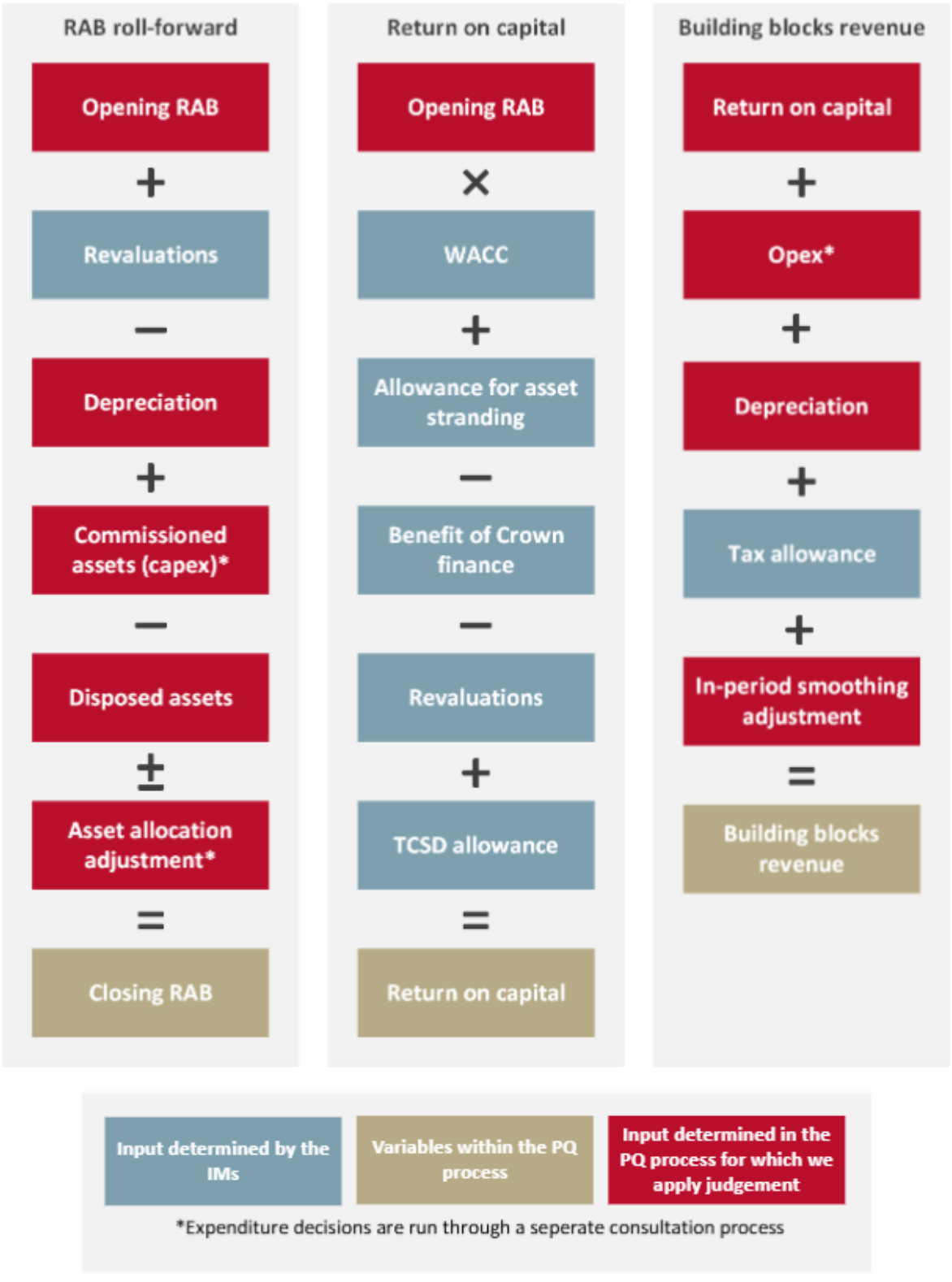
98 While the WACC decision for PQP2 will have been completed by the time the draft decision is published, draft decision figures needed to be determined prior to the WACC determination being published in order to allow sufficient time for quality assurance prior to publication.

99 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.1.4.

Building blocks methodology

3.37 Building blocks are the forecast efficient costs and other components that are added together to form a regulated provider's allowable revenue. A stylised version of the building blocks methodology is shown in Figure 3.2.

Figure 3.2 Stylised key building blocks equations



3.38 The inputs to building blocks revenue highlighted in red are those we must exercise our judgement on as part of the PQ setting process. In determining these values for our draft decisions, we have made decisions that we consider best give effect to the purpose in s 162, consistent with s 166(2)(a), and (where relevant) the promotion of workable competition, consistent with s 166(2)(b).

3.39 The inputs highlighted in blue are largely determined by the IMs, and only require us to apply the relevant input methodologies.

Draft decisions on building blocks determined by the IMs

3.40 As illustrated above, the following building block components are largely determined by the application of the fibre IMs:[100]

3.40.1 the components of the return on capital;

3.40.2 the revaluations building block that results from the indexation of the RAB; and

3.40.3 the regulatory tax allowance.

3.41 Within the return on capital, our draft decision is to specify a negative "annual benefit of Crown finance building block", as we did for PQP1. The decision to include this is a matter of judgement in our PQ path decision, how it is calculated is determined by the IMs.[101]

3.42 The regulatory tax allowance is $0m for 2025, 2026 and 2027. This is because Chorus faced tax losses during the pre-implementation period that were not fully recovered in PQP1. These losses are forecast to be fully recovered during PQP2.

Draft decisions on key building blocks where we have exercised our judgement

3.43 This section discusses our draft decisions on:

3.43.1 disposed assets;

3.43.2 depreciation;

3.43.3 revenue smoothing within the PQP2 period; and

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100 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clauses 3.3.1 (revaluation), 3.4.1 (taxation) and 3.5.1 to 3.5.11 (cost of capital).

101 As set out in the process and approach paper, Chorus is expected to commence the repayment of Crown financing during PQP2. This will reduce the outstanding Crown financing balance, and therefore reduce the size of the benefit of Crown financing. The benefit of Crown financing is recognised as a negative building block in the maximum allowable revenue (MAR) calculation. As this amount represents a reduction in the required revenue, reducing the size of the benefit of Crown financing over PQP2 will have the effect of increasing the MAR.

3.43.4 revenue smoothing between periods under s 197 of the Act

3.44 The section also sets out how we implement the building blocks model.

Draft decision on disposed assets

3.45 Forecast values of disposed assets are removed from the PQ RAB during the 'roll-forward' illustrated above. Chorus has not forecast any asset disposals during PQP2, so our draft decision is not to include any.

Draft decisions on depreciation

3.46 Under the fibre IMs, we have discretion about what depreciation method to apply, including consideration of a different method to the previous regulatory period.[102] The IMs allows that after the first regulatory period we may apply a different depreciation method to that applied in the previous regulatory period where we are satisfied that, for the purpose of the PQ path, the new depreciation method would:[103]

3.46.1 better promote the purpose of Part 6;

3.46.2 where relevant, best gives, or is likely to best give, effect to s 166(2)(b) of the Act; and

3.46.3 where relevant, be consistent with the Commission's smoothing of prices or revenue under s 197 of the Act.

3.47 For core fibre assets, our draft decision is to apply tilted depreciation to a subset of these assets[104] in order to backload depreciation, this is the same approach as put forward by Chorus in its proposal.[105] Our draft decision is that tilted annuity depreciation will have a tilt rate of +3.5% and there is no change to existing asset lives. This will defer approximately $267 million of depreciation that would otherwise be recovered within the PQP2 period.

3.48 For the remaining core fibre assets, our draft decision is to continue using straight-line depreciation under GAAP with GAAP-based asset lives, consistent with the default method in clause 3.3.2(3) of the fibre IMs (and the same approach as PQP1).

3.49 For the FLA, our draft decision is to continue to apply the alternative depreciation method that we used for PQP1 involving:

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102 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.3.2(6).

103 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.3.2(6). In PQP1 we applied an alternative depreciation as provided for in clause 3.3.2(5) of the Fibre IMs for the FLA.

104 The subset of core fibre assets are splitters, poles, ducts, manholes, cabinets, fibre cables and optical fibre distribution frames, which we collectively refer to as 'layer 1 communal assets'.

105 Chorus "Recommendation of approach to MAR smoothing for PQP2" (1 May 2024).

3.49.1 an original asset life of 14.2 years; and

3.49.2 tilted annuity depreciation with a tilt rate of -13%.

3.50 The reasons for our draft decisions on depreciation are set out in Attachment A.

3.51 Chorus is currently recovering the FLA via depreciation and also receives a return on capital related to the value of the FLA that remains in the RAB each year. Over time both amounts are declining. However, for PQP2 the FLA depreciation alone is $521m, more than the amount of depreciation that has been backloaded using tilted annuity depreciation under the draft decision.

3.52 The forecast allowable revenue related to recovery of the FLA is declining over time. As the FLA depreciation reduces it will be possible to recover the backloaded depreciation without an associated material increase in the total allowable revenue, as increased depreciation on core fibre assets will replace FLA depreciation. This will help avoid a potential price shock for end-users. To the extent that future end-users will face price increases from our decision to tilt depreciation on a subset of core fibre assets, there will be an offsetting reduction in prices from reduced FLA depreciation which remains frontloaded.

Draft decision on revenue smoothing within the period

3.53 Our draft decision is to smooth Chorus' revenue within the PQP2 period allowing (though not requiring) Chorus to maintain prices at the real level established at the beginning of PQP2. This is the same approach to smoothing that we adopted in PQP1, as we have not identified a reason to change.

3.54 Our draft decision involves determining building blocks revenue such that revenue increases by:

3.54.1 forecasts of weighted average demand growth; and

3.54.2 the latest RBNZ CPI forecasts.

3.55 Given the forecast rates of change in CPI and quantity, the resulting smoothing changes annual revenues by the percentages set out in Table 3.4.

3.56 To give effect to our draft decision, we have included an additional 'in-period smoothing' building block, as we did for PQP1. This has the effect of reducing building blocks revenue in the first and second years of the regulatory period by $38.5m and $8.6m while increasing building blocks revenue in the third and fourth years by $48.3m and $6.1m respectively.

3.57 We may smooth revenue *within* a regulatory period using an additional building block, under the definition of "building blocks revenue" in the fibre IMs.[106,107] We may smooth within the period on its own, or alongside applying an alternative depreciation method or smoothing revenue between multiple periods.

Table 3.4 Forecast rates of change in revenue implemented via in-period smoothing

Value	2025	2026	2027	2028
Forecast CPI	**2.5%**	**2.0%**	**2.0%**	**2.0%**
Demand growth	**0%**	**2.6%**	**2.0%**	**1.7%**
Total[15]	**2.5%**	**4.6%**	**4.0%**	**3.8%**

Draft decision on revenue smoothing between periods under s 197

3.58 For the purposes of s 197 of the Act, our draft decision is that we do not consider it necessary or desirable to smooth revenue across two or more regulatory periods to minimise any undue financial hardship to Chorus, or to minimise price shocks for end-users. Our draft decision is therefore that revenue smoothing between periods is not required under s 197.

3.59 We assess price shocks in terms of the rate of increase in 'allowable revenue' relative to current revenues. This is because 'allowable revenue' is what we regulate and it is a material determinant of the prices end-users face. We have not in general considered the rate of change in any individual tariff or class of tariffs because we are required to set a revenue path for PQP2 which does not include regulating prices themselves. We consider other regulatory tools such as pricing disclosures and the regulations in respect of anchor services and DFAS under ss 227 and 228 are the appropriate tools to manage individual price shocks.

3.60 Any temporary under-recovery of revenue will have to be financed by Chorus before it has the opportunity to recover this revenue. This may be financed through retaining earnings or through increasing borrowing. However, both these options have limits, and could have flow-on impacts, particularly on willingness to invest.

3.61 We consider our draft decision on depreciation sufficiently manages price shocks to end-users when combined with within-period revenue smoothing.

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106 See definition of "building blocks revenue" in *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.14(2).

107 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at [3.35].

3.62 We also do not consider we need to act to minimise any potential undue financial hardship, given Chorus has proposed the reduction in the MAR for PQP2 that we have included as part of the draft decision. In our approach, the burden of proof for claims of financial hardship lies with the regulated provider. We do not consider Chorus is likely to face undue financial hardship during PQP2 based on our draft decisions and the information Chorus has provided to us to date.

3.63 We do not consider the likely increase in forecast allowable revenue, after application of the draft decision on tilted depreciation to certain core fibre assets, relative to current forecast revenues at the end of PQP1 would be large enough to lead to a price shock.

3.64 While there is a material step-up in allowable revenue for 2025 compared to 2024, any potential impact of this on prices is ameliorated by forecast demand growth, the fact that this is the first price rise after 15 months (rather than the normal 12 month period)[108] and further by the fact that Chorus has indicated it is not guaranteed to be able to fully price up to the allowable revenue.[109] For 2026 to 2028, as allowable revenue is set to increase in line with demand, prices (on a revenue per connection basis) will likely be relatively flat in aggregate after the initial step-up from the end of PQP1.

Implementing the building blocks model

3.65 To implement the calculations set out in Figure 3.2 above, we have used a building blocks model developed for Chorus by consultants Analysys Mason. This model uses the outputs of Chorus' IAV RAB and opex models as inputs.

3.66 The model uses our draft decisions on commissioned assets, operating expenditure, depreciation, and in-period revenue smoothing as inputs to calculate the estimated forecast building blocks revenue values we cite in this paper.

3.67 The Commission has also developed a 'demonstration' model, which applies the same building blocks methodology (except for the application of cost allocation and depreciation, the outputs of which are taken from the Chorus model). We have used this model as a crosscheck on the results from the Chorus model, to test it for accuracy. This model, containing actual values at an aggregate level, has been published on our website.

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108 Chorus says that the gap between forecast total FFLAS revenue and forecast allowable revenue in its calendar year 2024 price compliance statement prevented it from making its annual CPI-related price change to core FFLAS products on 1 October 2024. Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [2].

109 Chorus notes that it is not guaranteed to be able to price to its MAR due to competition constraints, anchor service pricing and other constraints that reduce its ability to meet customer demands (for example geographically consistent pricing) so the proposed smoothing option seeks to match the amount of depreciation it can recover to the prices the market can accommodate (leaving sufficient headroom to incentivise Chorus to seek further growth opportunities). Chorus "Recommendation of approach to MAR smoothing for PQP2" (1 May 2024), at [10(b)].

Approach to the revenue path and wash-up

3.68 This section sets out our draft decisions on the revenue cap and wash-up that will apply during PQP2.

3.69 The regulatory framework chapter (chapter 2) discusses the underlying legal and economic framework for our draft decisions.

Summary of the proposed approach to the revenue cap

3.70 The purpose of the revenue cap is to limit the revenue that Chorus earns under s 192 of the Act (the purpose of PQ regulation). We must determine a revenue path that complies with the requirements of the Act and the fibre IMs, and which best promotes the purpose of Part 6 and workable competition in telecommunications markets for the long-term benefit of end-users (where relevant).

Basis for the revenue cap

3.71 Our draft decision is that the revenue cap will require Chorus to set prices such that 'forecast total FFLAS revenue' is less than or equal to 'forecast allowable revenue'. This is required by the fibre IMs and consistent with our decision for PQP1.[110]

3.72 For each regulatory year, our draft decision is that Chorus will have to demonstrate that the proposed prices comply with the forecast allowable revenue cap on a forecast (ex-ante) basis prior to first applying those prices for that regulatory year.

Forecast total FFLAS revenue

3.73 Our draft decision is to require Chorus to demonstrate how it calculates 'total FFLAS revenue' on the basis of prices, forecast quantities and forecasts of 'other FFLAS income'. This will enable transparent assessment of whether the forecasts used are 'demonstrably reasonable' and allow for calculation of the wash-up balance at the end of PQP2.[111] This is consistent with our decision for PQP1. 'Forecast total FFLAS revenue' is defined by the fibre IMs, so we have not exercised judgement about its definition in this draft decision.

Forecast allowable revenue

3.74 Forecast allowable revenue is defined by the fibre IMs, but there is scope for judgement in how we calculate this in a PQ path in specifying 'building blocks revenue'.

3.75 In our draft decision for PQP2, we have specified forecast building blocks revenue using a formula to determine the forecast building blocks revenue for each regulatory year of PQP2, which:

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110 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(1)

111 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clauses 3.2.1(5)(a); 3.3.1(3)(a); and 3.4.1(3)(a) require that forecasts used are demonstrably reasonable.

3.75.1 sets the forecast building blocks revenue as at 1 January 2025 and applies forecast CPI adjustments and forecast quantity adjustments to determine the nominal revenue required for each regulatory year of PQP2;

3.75.2 uses updated forecast (consumer price index) inflation for years beyond 2025; and

3.75.3 uses specified forecast changes in quantities.

3.76 Our draft decision is to require Chorus to update the values of any forecast pass-through costs on an annual basis. This means the costs are passed through to prices without delay rather than a larger wash-up balance building up over PQP2.

Additional controls on revenue

3.77 We have considered whether any additional controls on Chorus' revenue are justified in addition to the ordinary revenue path, such as:[112]

3.77.1 a limit on Chorus' ability to accrue a wash-up balance by choosing to under-recover its revenue voluntarily;

3.77.2 a catastrophic demand risk cap in the event of a sudden loss of demand; or

3.77.3 a limit on the rate of increase of Chorus' 'total FFLAS revenue' in addition to the profile implied by the revenue cap.

3.78 Our draft decision is to not apply or introduce any additional controls on Chorus' revenue beyond the conventional revenue path for PQP2, and none of these measures are specified in the fibre IMs.

3.79 Additional controls add complexity and a higher degree of specification. We consider additional controls should only be used where they are necessary because the conventional revenue path does not sufficiently mitigate (or creates) risks to incentives or competition. We consider our draft decision on the revenue path sufficiently mitigates risks to incentives and competition, so applying additional controls on revenue would not better promote the Part 6 purpose or competition in telecommunications markets.

Limit on under-charging

3.80 We do not propose to apply a limit on the wash-up accrual based on potential under-charging to Chorus in PQP2.

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112 Commerce Commission "Fibre price-quality regulation — Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023), at [5.59].

3.81 A limit on under-charging could be appropriate if we considered Chorus was likely to deliberately under-recover revenue to under-price its competitors, as the wash-up of under-recovered revenue in the PQ path could give Chorus an inappropriate advantage. However, a limit on under-charging is not required as it is unlikely that Chorus would seek to voluntarily under-recover even further revenue allowances (given the deferral of some depreciation charges), as it likely faces similar or growing challenges in the future from wireless alternatives to fibre.

3.82 The Act requires us to specify maximum revenue rather than maximum prices for PQP2.[113] We may set additional controls on revenue, but we cannot consider any controls on prices within the PQ path.

3.83 Chorus remains able to compete on price terms with other products such as FWA broadband. However, we are aware of the risks to end-users that might arise from inefficient pricing structures, including potentially anti-competitive pricing, and we will continue to monitor prices using our ID powers.[114]

Catastrophic demand risk

3.84 We do not propose to apply an additional control to re-allocate catastrophic demand risk. Our view is the same as in PQP1, that this risk is already managed by the catastrophic event reopener mechanism.

Limit on increases in revenue

3.85 We do not propose to apply any additional controls on the increases in Chorus' forecast or actual revenue for PQP2, beyond the conventional revenue cap.

3.86 We consider the profile of revenue increases in PQP2 is best managed by the conventional revenue cap, particularly via our draft decisions on depreciation and within-period smoothing of revenue. We consider that deferral of $267m of depreciation beyond PQP2 by using an alternate depreciation approach will significantly reduce the total size of revenue increases within PQP2.

113 Telecommunications Act 2001, s 195.

114 Any interested person can access the information we publish that is disclosed to us by regulated fibre providers, including Chorus, on our website.

Summary of our approach to the wash-up mechanism

3.87 Our approach to the wash-up mechanism is largely set out in the fibre IMs, including the mechanics and scope of the wash-up.[115] How the wash-up is calculated is set out at clause 3.1.1 of the fibre IMs.[116] The main area we have applied judgement about the wash-up mechanism in our PQP2 draft decision is in specifying a forecast CPI value for the first year of the period, providing for revenue to be washed-up using actual CPI for all years of the PQP2 period. We did not wash-up for CPI in year 1 of PQP1. Our acceptance of Chorus' proposed change to use an alternative depreciation method will also avoid a large wash-up balance building over PQP2, but this does not involve any changes to the wash-up mechanism itself.

Draft decision on the structure of the revenue path

3.88 This section covers the fundamental design of the revenue path, and specifically how we have applied the requirements in the fibre IMs.

Draft decision

3.89 As required by the fibre IMs and as required for PQP1, the revenue cap will be based on requiring that in each year of the regulatory period:[117]

3.89.1 'forecast total FFLAS revenue' must be less than or equal to;

3.89.2 'forecast allowable revenue'.

Reasons

3.90 This approach is prescribed by the IMs.

Draft decision on calculating 'forecast allowable revenue'

3.91 As laid out in the fibre IMs, 'forecast allowable revenue' is composed of:[118]

3.91.1 building blocks revenue;

3.91.2 pass-through costs; and

3.91.3 a wash-up amount.

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115 Commerce Commission "Fibre input methodologies main 2021 amendments: final decisions – Final reasons paper" (29 November 2021), Chapter 4; and *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(3)-(12).

116 Section 196 of the Telecommunications Act requires us to apply a wash-up mechanism that provides for any over- or under-recovery of revenue in the previous period. This must be applied in a present value-neutral manner and may be calculated in "the manner that the Commission thinks fit" over one or more future periods.

117 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(1).

118 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1.

3.92 The fibre IMs give the Commission discretion about how these are implemented in particular about how 'building blocks revenue' and the 'wash-up amount' are specified.

Draft decision

3.93 Our draft decision is to retain the approach used for PQP1 to implement the requirements in the fibre IMs, and to support our decisions on pass-through costs, treatment of CPI, and the slope of the revenue path. We:

3.93.1 calculated the Raw building blocks revenue (Raw BBR) for each year of the regulatory period;[119]

3.93.2 solved for the present value of all of the annual Raw BBR as at the start of 2025;

3.93.3 solved for a nominal smoothed amount, $SBBR_0$, as at the start of 2025 (as explained in 3.112 below); and

3.93.4 specified forecast building blocks revenue for each year of the price path by using the following formula:[120]

$$\text{FBBRt} = SBBR_0 \times (1 + \Delta CPI_{0\text{–t}}) \times (1 + \Delta Q_{0\text{-t}})$$

Where:

$FBBR_t$ is 'forecast building blocks revenue' for the regulatory year t;

$SBBR_0$ is $818,900,000, being nominal smoothed building blocks revenue at the start of regulatory year 2025;

$(1+\Delta CPI_{0\text{-t}})$ is the cumulative value of change in CPI between 1 January 2025 and 31 December of regulatory year t;

$(1+\Delta Q_{0\text{-t}})$ is the forecast cumulative value of change in quantities between 1 January 2025 and regulatory year t, using the annual quantities provided for each regulatory year.

3.94 Using this formula allows us to specify the real value of building blocks revenue from the outset of the regulatory period but – consistent with our draft decision below on treatment of CPI – for the path to move in line with forecast inflation.

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119 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1.

120 Under s 164 of the Act, "prices" (which includes revenues) may be specified by reference to a formula by which specific numbers are derived.

3.95 The change in quantities factor is analogous to the "X-factor" used when regulating revenues under Part 4 of the Commerce Act, in that it specifies the real slope of the revenue path. We have labelled it 'change in quantities' as it better reflects the basis of the decision. The values are different for years two to four of the revenue path and reflect our decision on in-period smoothing discussed below. The rates are:

3.95.1 0% in year one (2025);

3.95.2 2.56% in year two (2026);

3.95.3 1.96% in year three (2027); and

3.95.4 1.72% in year four (2028).

Reasons

3.96 This decision, which is aligned to our PQP1 decision, is an implementation one, and is necessary to implement other policy decisions that we consider best give effect to the criteria in s 166(2) of the Act.

Draft decision on treatment of pass-through costs

Draft decision

3.97 As for PQP1, our draft decision is that Chorus must prepare 'demonstrably reasonable' forecasts of pass-through costs for the regulatory year when calculating forecast allowable revenue.

3.98 Differences between these forecasts and the actual costs Chorus faces over the regulatory year are accounted for via the wash-up, as discussed below.

Reasons

3.99 This draft decision is one that we consider best gives effect to the intention of the fibre IMs. This is to ensure that the most up to date values for these costs are passed through to prices as intended.

3.100 Were the values of pass-through costs likely to have a significant impact on allowable revenue, for revenue stability reasons we would consider fixing these values in advance. However, as they are only a minor component of total forecast allowable revenue, we do not consider this necessary in PQP2, and this draft decision is aligned with our PQP1 decision.

Draft decision on treatment of CPI inflation

3.101 The revenue path is required to be specified in nominal terms.[121] As the costs Chorus will face, and the value of the revenue it receives from access seekers will be nominal dollars, we need to make allowance for inflation when specifying the revenue path.

3.102 This use of CPI is distinct from the forecast CPI used to determine revaluations.

Draft decision

3.103 Our draft decision is that, as for PQP1, the revenue path will initially be determined based on RBNZ forecasts of CPI inflation. This (via the smoothing building block discussed below) will determine building blocks revenue in year 1 of the regulatory period.

3.104 The timing of the forecast CPI that is used to smooth the revenue path will match the timing of the forecast CPI that is used to forecast input cost inflation.

3.105 Over the course of the revenue path, building blocks revenue will then increase based on forecast CPI inflation.[122]

Reasons

3.106 This draft decision is the same as our decision for PQP1. In exercising judgement in making this decision we have considered:

3.106.1 the impact of forecast inflation risk on Chorus' incentives and ability to invest, promoting s162(a); and

3.106.2 the impact of inflation risk on profitability, as variations from forecast inflation may create windfall gains, contrary to s 162(b).

3.107 We do not consider the promotion of workable competition relevant to this decision.

3.108 We consider this decision best promotes the purpose of Part 6 per s 166(2)(a) relative to the realistic alternatives we have identified. The choice and timing of the calculation of the forecast CPI that is used to smooth the revenue path within the period is not defined by the IMs, and we consider that the forecast CPI we use, and its timing, should match our forecasts of input cost inflation.[123]

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121 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.1.4.

122 Per Schedule 1 of the draft Chorus Price-quality determination, the specific value of CPI is a four-quarter weighted average of CPI. CPI is defined by reference to the Fibre IMs.

123 Noting that there is a mismatch in the forecast CPI applied for the draft expenditure decision and that used for the draft PQ decision, but the forecasts of input cost inflation will be updated for the final expenditure decision and will be aligned for the final PQ decision.

3.109 Matching the timing of these forecasts means that Chorus' and consumers exposure to forecast inflation risk from the input cost building blocks and smoothing of the revenue path is limited. This allows for expected inflation in the revenue path that is sufficient to cover inflation in input costs, and hedges the inflation forecast risk.

3.110 Conceptually, a 'CPI plus Q' revenue path restricts revenues from increasing each year by more than CPI plus a quantity factor to account for forecast growth on Chorus' network.

3.111 More specifically, in the unsmoothed/smoothed building blocks revenue model we have applied for the draft decision, the 'forecast building blocks revenue' for 2025 is based on a nominal smoothed amount for 2025 as at 1 January 2025. The 'forecast building blocks revenue' for each subsequent year of the regulatory period is defined by reference to the prior year, with a CPI and quantity adjustment.

3.112 RFCM is achieved, according to the simultaneous equations:

$$Smoothed\ BBR_{t+1} = Smoothed\ BBR_t \times (1 + \Delta CPI_t) \times (1 + Q_t)$$

and

$$NPV_{WACC_v}(Smoothed\ BBR_t)_{t=1}^{4} = NPV_{WACC_v}(Raw\ BBR_t)_{t=1}^{4}$$

3.113 This ensures the area under the smoothed revenue path equals the sum of the unsmoothed building block costs, in net present value terms.

3.114 Unlike the Part 4 electricity distribution businesses (EDB) IMs, the fibre IMs do not determine the approach to forecasting inflation when setting a price or revenue path.[124] We must therefore decide which CPI index to use and on what timing basis.

3.115 We have identified two options for the choice of CPI index:

3.115.1 RBNZ inflation forecast for CPI, as we use in Part 4; and

3.115.2 'market based' inflation forecasts.

3.116 As we did for PQP1, we continue to consider that the RBNZ inflation forecast for CPI is a suitable starting point for revenue smoothing given it is:

3.116.1 reliable as it not produced by a private company (unlikely to be biased);

[124] Compare for example the *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, Part 3 Subpart 1 Specification of Price and Revenues (3.1.1) to the *Electricity Distribution Services Input Methodologies Determination 2012*, as amended on 13 December 2023, Part 3 Subpart 1 Specification of price clauses 3.1.1(7)-(8).

3.116.2 an enduring publication (unlikely to be discontinued); and

3.116.3 the same forecast series used in the WACC determination when setting a price or revenue path.

3.117 In practice, our approach is similar to that in the EDB IMs:

3.117.1 We use forecasts based on the RBNZ's forecasts of inflation issued as part of the Monetary Policy Statement, consistent with the forecast CPI we use for input cost inflators.[125]

3.117.2 For the out-years, beyond where RBNZ forecasts are available, we assume a linear reversion to the RBNZ inflation target of 2%.

3.117.3 Then on a yearly basis from year two, and as a partial correction to CPI forecast error, the original CPI forecast value is replaced with an updated CPI forecast. This determines the net allowable revenue for each year.[126]

Draft decision on the real slope of the revenue path

3.118 In addition to having the revenue path move in line with CPI, we also 'slope' the revenue path relative to CPI. This determines the 'real' slope of forecast allowable revenues over the period. The analogous concept in PQ regulation under Part 4 of the Commerce Act is the "X-factor".

Draft decision

3.119 For PQP2, as we did for PQP1, our draft decision is to slope the revenue path in line with forecast aggregate growth in demand for Chorus' services.

3.120 Note that this forecast will not be updated for actual demand for the purposes of determining forecast allowable revenue. To do so would in effect create a price path, as Chorus would be bearing demand risk, contrary to s 196 of the Act.

Reasons

3.121 As was the case for PQP1, where network demand is still forecast to grow, we consider a revenue path that grows in line with demand best promotes the long-term benefit of end-users. This approach means that average revenue per customer will be approximately constant over the regulatory period, allowing (though not requiring) prices to be relatively stable.

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125 Unlike Part 4, however, these would not necessarily be determined at the same time as the determination of the weighted average cost of capital (WACC).

126 This requires Chorus to use the CPI stipulated for each quarter in Statistics New Zealand's 'All Groups Index SE9A' for the relevant year when calculating the revenue wash-up draw down amount.

3.122 Additionally, this is consistent with the price terms of the declared service. As revenue derived from these services will grow as customer numbers grow, revenue growing over the period will account for this.

Draft decision on achieving in-period revenue smoothing

3.123 Given the decisions above about CPI and the real slope of the path, we must consider how to give effect to this in-period smoothing of allowable revenue.

3.124 Note that this is distinct from the between-period revenue smoothing that we must consider where it is necessary to avoid price shocks or undue financial hardship.[127] As discussed in paragraphs 3.58 to 3.64 above, we do not consider either of these are at risk of occurring.

Draft decision

3.125 Our draft decision is to determine an additional 'in-period smoothing' building block, as we did in PQP1. The value of this smoothing building block is determined by the nominal difference between the 'raw' building blocks revenue and the smoothed amounts that result from applying the simultaneous equations in paragraph 3.112 above.

Reasons

3.126 This decision is a pure implementation decision necessary to give effect to other decisions we consider promote the Part 6 purpose.[128] As such, we have chosen this approach as we consider it:

3.126.1 transparent; and

3.126.2 simple to implement.

Compliance with the revenue path

Draft decision on compliance requirements for the revenue path

3.127 Our draft decision on compliance requirements for the revenue aspects of Chorus' PQ path is to:

3.127.1 allow a wash-up of CPI for the first year of the regulatory period (which was the not case for PQP1) and for each subsequent year of the regulatory period (which we did for PQP1). We note that we will set the 'forecast building blocks revenue' figure for regulatory year 2025 based on a nominal smoothed amount as at 1 January 2025 and apply forecast 2025 CPI to determine the nominal revenue value for 2025;

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127 Telecommunications Act 2001, s 197.

128 This "in-period smoothing" building block is not required under the fibre IMs but will operate as a "building block component" under the definition of "building blocks revenue" under the fibre IMs. *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, definition of "building blocks revenue" in clause 1.1.4(2).

3.127.2 retain the forward-looking approach to calculation of the forecast change in CPI for the regulatory year that we used in PQP1;

3.127.3 retain the same level of certification requirements as specified for PQP1 and set the due date of compliance reporting dates for the purpose of s 194(2)(e) as follows:

3.127.3.1 for regulatory year 2025, the first regulatory year of PQP2, 31 May 2025;[129] and

3.127.3.2 for regulatory years 2026 to 2028, 22 November in the preceding year.[130]

3.127.4 remove the requirement for the submission of a mid-year PCS; and

3.127.5 retain the same approach to the ex post wash-up information as was used in PQP1.

Draft decision on demonstrating compliance with the revenue path

Draft decision

3.128 Published alongside this reasons paper is a draft s 193(2) notice setting out compliance requirements as we did in PQP1.

3.129 Our draft decision is that Chorus must provide a statement of compliance with the revenue path and provide supporting information to demonstrate compliance. This statement and the supporting information Chorus is required to provide must be certified by at least one director of Chorus.

3.130 These requirements continue the approach taken for PQP1, which we have found provides sufficient information to support assessment of compliance.

Definition of forecast total FFLAS revenue

3.131 As part of the information necessary to determine whether the price path has been complied with, our draft decision is that we will continue to require that 'forecast total FFLAS revenue' be broken down into its component parts. Specifically, Chorus must provide the information used to calculate forecast total FFLAS revenue in accordance with the formula:

$$\text{FTFR} = \sum_{i} (P_i - D_i) \times FQ_i + \text{FOFI}$$

Where-

[129] This differs from our requirement for PQP1, where we required the information by 31 March 2022 for the first regulatory year.

[130] This differs from our requirement for PQP1, where we required the information by 30 August of the preceding regulatory year for 2023 and 2024.

i is each tariff;

P is the corresponding price for that tariff;

D is any discount to the price;

FQ is the relevant forecast quantity; and

FOFI is forecast other FFLAS income.

3.132 This continues the approach taken for PQP1, which we have found provides sufficient information to demonstrate ex-ante compliance.

Dates when annual pricing compliance statements are due

3.133 As required by s 194(2)(e), our draft determination (published alongside this paper) sets out the dates by which compliance with the PQ path must be demonstrated. We discuss our draft decision on the dates by which compliance must be demonstrated below starting at paragraph 3.135.[131]

3.134 We have specified other compliance requirements in the draft s 193(2) notice published alongside this paper, rather than incorporating them as part of the s 170 PQ determination.

Draft decision

3.135 Our draft decision is that the annual pricing compliance statement is due by 31 May 2025 for regulatory year 2025, and by 22 November for regulatory years 2026-2028. This will allow approximately 20 working days prior to the normal commencement of the holiday period.

Background

3.136 The s 193 notice in PQP1 required Chorus to submit annual price path compliance statements. These statements confirm Chorus' compliance with the price path for the regulatory year in question and due dates are set out in the PQ determination.[132]

3.137 The current requirements for PQP1 are:[133, 134]

3.137.1 in respect of regulatory year 2022, no later than 31 March 2022;

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131 Section 194 of the Act sets out that a price-quality path must specify the date or dates by which compliance must be demonstrated in accordance with s 193(2).

132 See clause 7.2 of the PQ determination. The statements must also include schedules reflecting the prices, forecast quantities, and forecast other FFLAS income used in the calculation of forecast total FFLAS revenue.

133 *Fibre Price-Quality Path Determination 2021* [2021] NZCC 27.

134 Chorus must also provide a compliance statement in respect of quality standards. The due date for this statement is currently no later than six months after the end of regulatory years 2022, 2023, and 2024.

3.137.2 in respect of regulatory years 2023 and 2024, no later than 30 August of the preceding regulatory year; and

3.137.3 except when the information has already been provided under clause 9.1.1(a) or (b), at least 30 working days before the date on which Chorus intends to change the price(s) of an existing FFLAS product, or to introduce a new FFLAS product that is in all material respects the same as an existing FFLAS product.

3.138 Chorus announced on the 10 April 2024 that it is moving from a 1 October date for implementing price changes to 1 January. Chorus noted:[135]

> *"This change reflects Chorus' desire to simplify processes, by aligning future pricing adjustments with the start of the next regulatory period from 1 January 2025, and an expectation that regulated fibre revenues will be constrained by the MAR of about $809 million for calendar year 2024".*

3.139 For the first year of a regulatory period, Chorus proposed that a pricing compliance statement be required within six months of the start of that regulatory year to give sufficient time for Chorus to adjust FFLAS prices to ensure compliance, if necessary, compared to by 31 March in PQP2.[136]

3.140 Alternatively, it has suggested that the Commission would need to make the final PQ decision sufficiently early that Chorus has time to consult with customers and notify a price change for the start of the first regulatory year, or the Commission would need to commit to not requiring Chorus to reduce revenues in the first year of PQP2. This is because, it says, the current plan to determine the price-quality path for Chorus in late calendar year 2024 does not give Chorus enough time to adjust prices to comply with the new MAR in time for the start of PQP2.[137]

3.141 For the following years in PQP2, Chorus requested the due dates of no later than 31 December prior to the regulatory year in question. [138]

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135 See NZX "Chorus Q3 FY24 Connections Update" (10 April 2024).

136 Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [5.3].

137 Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [17].

138 Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [5.3].

Reasons

3.142 We consider Chorus' proposal to change the due date for the compliance statement to be appropriate, given its move from October to January for the implementation of price changes. The current deadline, with a 1 October implementation date, requires submission of the PCS approximately one month prior to that date, on 30 August. Therefore, a similar timeframe (ie, approximately a month prior) now that the implementation date has changed is reasonable.

3.143 Chorus has suggested the revised timeframe for the pricing compliance statement be 31 December for PQP2 regulatory years other than year 1. We do not consider that reasonable or practical. Given the usual Christmas and summer holiday impacts, both Chorus and the Commission are likely to have minimal resources available to prepare and consider the statement at this time of the year. We therefore consider 22 November, which will allow approximately 20 working days prior to the normal commencement of the holiday period, to be a practical deadline.

3.144 In terms of the first year of PQP2, we recognise that some time is required after the finalisation of the price path to allow Chorus to determine and then implement price changes. However, we also consider that Chorus will have some understanding of the potential impacts for the price path in advance of the final decision.

3.145 Given the final price path decision would be expected to be known by mid-December, we consider that requiring Chorus to submit its first pricing compliance statement for the regulatory period by 31 May will provide enough time to prepare the statement when balanced against the need to have the statement available as early as possible in the first regulatory year.

Mid-year pricing compliance statements due to price changes

Draft decision

3.146 Our draft decision is that a mid-year PCS will not be required for PQP2.

Background

3.147 In PQP1 Chorus has been required to demonstrate compliance with the annual revenue cap if FFLAS prices are revised for part of a regulatory year. The PQP1 PQ determination requires submission of a new pricing compliance statement if Chorus intends to:

3.147.1 change the price of an existing FFLAS product; or

3.147.2 introduce a new FFLAS product that is materially the same as an existing FFLAS product. The intention is to demonstrate compliance with the annual revenue cap if FFLAS prices are revised for part of a regulatory year.

3.148 Chorus has indicated that its move to a 1 January cycle for customer pricing purposes, together with the restriction in its customer contracts on increasing prices more than once in any 12-month period, means that annual price increases for PQP2 will be captured in the annual PCS.

3.149 Chorus says that:

3.149.1 material price changes for any product have not occurred outside its annual pricing cycle;

3.149.2 any changes that have occurred have been de minimis and not included any core FFLAS products;

3.149.3 disclosure of prices for all products occurs in advance of prices taking effect so will be transparent to interested persons;

3.149.4 the preparation of a new PCS involves considerable administrative effort and costs, including the re-forecasting of affected product quantities and director certification by Chorus, plus costs incurred by the Commission in receiving the PCS.

3.150 Chorus therefore recommends not requiring a mid-year PCS as it sees no benefits to end-users of demonstrating compliance under a mid-year PCS, and it creates compliance costs.

Reasons

3.151 In terms of Chorus' recommendation to remove the requirement for a mid-year pricing compliance statement, we note that its rationale suggests a requirement for one would be rare and it considers the costs outweigh the benefits. We agree that it would be rarely required, and we do not consider the benefits of requiring a mid-year statement will outweigh the costs.

3.152 Our draft decisions is that we will not require the submission of a mid-year PCS during PQP2.

Compliance with geographically consistent pricing (s 201)

Draft decision

3.153 Our draft decision is to retain the requirements set out in paragraphs 3.155.1 to 3.155.6, but to only require reporting to be submitted annually by 31 January for each regulatory year of the second regulatory period.

Background

3.154 In PQP1, we have required Chorus to provide information to demonstrate it has complied with s 201 of the Act twice per annum. Section 201 requires that Chorus must, regardless of the geographic location of the access seeker or end-user, charge the same price for providing fibre fixed line access services that are, in all material respects, the same.[139] Our approach to s 201 of the Act is laid out in our 2021 guidance.[140]

3.155 For PQP1 Chorus has been required to provide the Commission with the following information for Half-year 1 (1 January to 30 June) by 31 July and in respect of Half-year 2 (1 July to 31 December) by 31 January for each regulatory year of the first regulatory period:

3.155.1 a summary of the incentives Chorus has offered, including which regulated FFLAS the incentives apply to, the design principles, the criteria for, and structure of the incentives;

3.155.2 copies of Chorus offer documents that set out the details of each of the incentives as offered to retail service providers;

3.155.3 a summary of the processes Chorus has taken to ensure that its prices charged for FFLAS, including any incentives, comply with s 201;

3.155.4 a statement on whether Chorus has complied with s 201;

3.155.5 if Chorus has not complied with s 201, the reasons for the non-compliance; and

3.155.6 a certificate in the form specified in the notice, signed by at least one director of Chorus.

3.156 Chorus has indicated in its submission on our process and approach paper that:[141]

> *"The requirement for twice-yearly director certification of information demonstrating compliance with the geographically consistent pricing obligation is entirely disproportionate to the risk of harm to end-users. It should not be carried through into PQP2. Instead, compliance should be monitored using pricing disclosures."*

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139 Commerce Commission "Notice to supply information to the Commerce Commission under section 193(2) of the Telecommunications Act 2001—Compliance statements for the first regulatory period" (16 December 2021).

140 Commerce Commission "Geographically consistent pricing: Guidance on our intended approach to s 201 of the Telecommunications Act 2001" (30 September 2021).

141 Chorus "PQP2 Process and Approach" (28 September 2023).

Reasons

3.157 We have considered three questions in relation to the demonstration of s 201 compliance:

3.157.1 Should we require additional compliance statements beyond the pricing disclosures under ID (ie retain specific requirements outside of ID as we did for PQP1)?

3.157.2 If so, should we maintain the director certification requirement for the compliance statement?

3.157.3 Should we keep it twice-yearly or reduce the frequency to yearly?

3.158 As we stated in our 2021 guidance on s 201, Chorus bears responsibility for ensuring that its pricing decisions comply with the requirements of s 201. We have the power to issue a written notice requiring Chorus to provide a written compliance statement and other relevant information to enable it to monitor Chorus' compliance with s 201.[142]

3.159 With regard to ID, we do not consider that pricing disclosures on their own give enough information for us to sufficiently assess s 201 compliance. We consider the current compliance disclosures as required for PQP1 remain appropriate. The content Chorus is required to produce to demonstrate compliance is not unreasonable and we would expect that Chorus would have this information readily available as part of its normal business operations.

3.160 While director certification of the s 201 compliance disclosures creates a compliance cost, we consider this level of assurance is appropriate and necessary to underpin meaningful and effective compliance requirement. Requiring director certification is consistent with our broader approach to compliance for regulated entities by ensuring that proper governance and oversight underpins statements of regulatory compliance.

3.161 We consider that the benefit from twice-yearly reporting is marginal and comes at material added costs for Chorus (with Chorus' cost ultimately borne by consumers) and the Commission. We therefore consider reducing reporting to annually will be a more efficient approach at an appropriate level for monitoring compliance with this section of the Act. There has not to date been any evidence that the increased reporting is addressing specific risks beyond what can be achieved with annual reporting.

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142 Telecommunications Act 2001, s 193(2).

Mechanics of the revenue path

Extending the CPI wash-up mechanism to include year 1 of a regulatory period

Draft decision

3.162 The fibre IMs set out at clause 3.1.1(11) what actual allowable revenue means for a regulatory year. This includes at 3.1.1(11)(f), the difference between (i) any forecast CPI values referred to in a PQ determination for the purposes of calculating forecast allowable revenue under subclause (2) for that regulatory year; and (ii) the corresponding actual CPI values for that regulatory year.[143]

3.163 The fibre IMs therefore allow for a wash-up of inflation to be included in actual allowable revenues. For this to be implemented, the PQ determination will need to specify the forecast CPI for the relevant regulatory years (including year 1).[144]

3.164 Our draft decision for setting 2025 revenue is to set a smoothed revenue allowance that will allow a wash-up of allowable revenue for the impact of inflation for the first year of a regulatory period when inflation differs from expected inflation by including forecast 2025 inflation in the determination.145

Background

3.165 On 20 December 2023, Chorus wrote to us to "recommend changes to the mechanics of the revenue path that applies to it for PQP2, in order to address some unexpected outcomes and complexities we have experienced in PQP1".[146] One recommendation in the letter was to extend the CPI wash-up mechanism to include year 1 of a regulatory period. [147]

3.166 Implementing a wash-up for year 1 of the regulatory period was an issue that was raised by Chorus in relation to PQP1, as the price path was set with a fixed revenue allowance for regulatory year 2022. It should be noted that the determination calculates the revenue allowances for the other years of PQP1 via the use of a forecast CPI, so the difference between the forecast and actual CPI for those years is already washed-up for.

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143 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(11)(f); and Schedule 1 of *Fibre Price-Quality Path Determination 2021* [2021] NZCC 27.

144 This is different to Part 4 where the IMs are more detailed on how the CPI wash-up is to operate.

145 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(11)(f).

146 Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [1].

147 Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [5].

3.167 Chorus submitted on our Part 4 IM review that the wash-up for actual compared to expected inflation should be applied to the first year of the period, not just the subsequent years.[148] In our final decision on the IM Review for Part 4, we accepted that while the absence of a first year wash-up is not inconsistent with ex-ante RFCM, suppliers face the risk in particular periods where expected inflation may be significantly different to actual inflation. Our final decision on the IM Review for Part 4 was to expand the wash-up of inflation to include the first year of the period for electricity distribution and gas transmission businesses. [149]

Reasons

3.168 We have now considered allowing for a CPI wash-up for the change between forecast and actual for the first year of PQP2, as we already do (and will continue to do) for subsequent years. For the reasons outlined in the IM review, we consider this change is justified. We note that while the fibre IMs allow us to wash-up for inflation for the first year of a regulatory period, they don't direct us to provide a wash-up.

3.169 Our draft decision is that for PQP2, that the first year should be treated the same as the other years in terms of applying an inflation wash-up. This better promotes the Part 6 purpose by washing-up for the impact of actual inflation to ensure that Chorus does not face the risk in year 1 of the period in the same way as the inflation risk is washed-up for across the rest of the period.

3.170 In order to allow for this wash-up in PQP2 our draft decision is to set the MAR for 2025, the first year of PQP2, differently to the way we set it for 2022. For 2022, we set a specific nominal figure (see paragraph 3.174 below).

Retaining a forward-looking measure of CPI in the revenue path

Draft decision

3.171 The Act requires us to wash-up any over-recovery or under-recovery of revenue by Chorus in a present value neutral manner but allows us discretion in how we implement the wash-up mechanism.[150] The specification of price IM of the fibre IMs provides for us to specify whether forecast inflation values will be used in the wash-up, and what forecast values will be used, when we make a PQ determination.[151]

3.172 Our draft decision is to retain a forward-looking CPI calculation for the revenue path, where the numerator is based on the regulatory year in question and the denominator is the preceding regulatory year.

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148 Incenta Economic Consulting "Options to address the gap in CPI inflation correction" (11 July 2022).

149 Commerce Commission "Financing and incentivising efficient expenditure during the energy transition topic paper: Part 4 Input Methodologies Review 2023 – Final decision" (13 December 2023), at [4.111]-[4.116].

150 Telecommunications Act 2001, s 196.

151 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.1.1(11)(f).

Background

3.173 In its December 2020 letter Chorus also suggested adopting a lagged measure of CPI for pricing compliance purposes in PQP2 (using actual CPI for the year ending June in the calendar year in which the PCS is submitted). [152]

3.174 For PQP1 we specified the 'forecast building blocks revenue' for regulatory year 2022 as $676,000,000 in the PQ determination.

3.175 In order to roll forward the 'forecast building blocks revenue' for years after 2022, we specified the following formula in the PQ determination, which defines forecast building blocks revenue for the next year t, $FBBR_t$ as:[153]

$FBBR_t$ x (1+ΔCPI_t)×(1+ΔQ_t)

where—

$FBBR_t$ is 'forecast building blocks revenue' for the previous regulatory year;

ΔCPI_t is the change in CPI calculated in accordance with paragraph 3.176; and

ΔQ_t is the forecast changes in quantities given in the determination for 2023 and 2024

3.176 The calculation of ΔCPI_t is in accordance with the following formula:

$$\Delta CPI_t = \frac{CPI_{Mar,t} + CPI_{Jun,t} + CPI_{Sep,t} + CPI_{Dec,t}}{CPI_{Mar,t-1} + CPI_{Jun,t-1} + CPI_{Sep,t-1} + CPI_{Dec,t-1}} - 1$$

3.177 In this formula:

$CPI_{q,t-n}$	is the **CPI** for the quarter ending in q in the 12-month period n years prior to **regulatory year** t.

3.178 For PQP2, Chorus has requested that we change from a forward-looking CPI calculation, where the numerator is based on the regulatory year in question and the denominator is the preceding regulatory year to a backward-looking calculation. That is, one where the numerator is based on the preceding regulatory year (effectively quarters for ΔCPI_{t-1}) to the one in question and the denominator is two years prior to the regulatory year in question (that is quarters for ΔCPI_{t-2}).

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152 Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [5].

153 For 2023, $FBBRt$-1 was the set amount of $676,000,000. Our draft decision is to change the setting of the 2025 amount to incorporate the impact of forecast 2025 CPI, so for 2025 we will set a defined amount as at 1 January 2025 that is multiplied by forecast 2025 CPI and has a revenue date adjustment factor to determine the $FBBRt$-1 for the 2026 calculation. See further explanation above.

3.179 Chorus contends that the unexpectedly high inflation environment for PQP1 has shown that the inflation forecasts used to update MAR in-period for pricing compliance purposes can become materially out of step with pricing expectations established with its fibre customers and by the market.[154]

3.180 It says this arises because of a mismatch between:

3.180.1 the MAR being updated each regulatory year in the PQ pricing compliance statement using the most recent Reserve Bank forecasts of annual CPI (January - December of the following year); and

3.180.2 commercial fibre prices are generally expected to increase by lagged actual CPI (July – June of the year prior), consistent with the anchor service price cap.

3.181 Chorus contends that while differences between forecast and actual CPI on MAR are eventually washed-up, the in-period MAR changes that rely on Reserve Bank forecasts can be insufficient to accommodate commercial fibre price adjustments calculated using actual lagged CPI – leading to the situation described in Chorus' letter where price increases expected by the market have been deferred.[155]

3.182 This, Chorus indicated, makes fibre pricing less predictable for it and its customers. Chorus also says the inconsistency between a forecast CPI used for updating the MAR in-period, and a lagged CPI used for updating the anchor service price cap creates practical difficulties and unexpected outcomes.

3.183 As an alternative to the change to a backward-looking calculation recommendation, Chorus suggested a mechanism where an in-period draw down of the wash-up balance can be achieved to avoid unnecessary pricing constraints caused by CPI forecasting and to help avoid price shocks (up or down) at the following reset if a large wash-up balance is developed.

Reasons

3.184 As we noted in PQP1, the forward-looking approach reduces complexity and promotes workability without detriment to s162. We do not consider a change to a backward-looking approach would better promote the purpose of Part 6. This is the main reason why our draft decision is to apply the same forward-looking approach in PQP2.

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154 Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [9].

155 Chorus "Recommendation of improvements to price path mechanics for PQP2" (20 December 2023), at [2].

3.185 Our PQP1 draft decision on the MAR specified the ΔCPI_t formula on a backward-looking basis.[156] Chorus submitted on this formula and requested that it be changed to the forward-looking version that was ultimately adopted for the final decision. Chorus explained its reasoning for this change in its submission.[157]

3.186 Chorus said that using the previous year's actual CPI result, which the formula did at that time, would mean that "Chorus will be guaranteed to under-recover the PV of its forecast MAR during PQP1".[158]

3.187 This is because the previous year's inflation is not a good indication of the current year's inflation. Further, as the 2022 MAR was a set figure that incorporated 2022 inflation, and we would then use 2022 inflation to adjust the 2022 MAR to get the allowable 2023 MAR, we essentially use the one figure twice. Chorus then said that this lagged approach would be inconsistent with real FCM.

3.188 In making the change to the formula for the PQP1 final decision we said that:

3.188.1 we agree with Chorus that RFCM requires consistency between the present value of the building blocks model and the PV of smoothed revenues across the regulatory period;

3.188.2 however, we note that the forecast approach is not necessarily the only approach and that other approaches using a lagged rate of inflation for revenue smoothing could also ensure RFCM on a long-term PV basis; and

3.188.3 while RFCM does not require that Chorus' allowable revenue in any given year (or even any given regulatory period) needs to perfectly reflect building blocks costs, the forecast (ie, forward-looking) approach may better align the two as well as reducing complexity and promoting workability without detriment to s162.

3.189 Chorus has not engaged with its previous position advocating the forward-looking approach in the calculation of the CPI delta component and why it now prefers the originally proposed approach in its December 2023 letter.

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156 See *Draft Fibre Price-Quality Path Determination 2021* [2021] NZCC XX, Schedule 1 (noting that the formula was later identified to be in error and requiring the addition of "-1").

157 See Chorus "Submission on price-quality path draft decision" (8 July 2021), sections B, B8 and B9.

158 See Chorus "Submission on price-quality path draft decision" (8 July 2021), section B8.

3.190 We are proposing to reduce the PQP2 MAR below what it otherwise might be, using tilted depreciation. Chorus requested this and following our analysis we consider this best meets the requirements of s 162. In setting the MAR for the draft decision, based on Chorus' pricing and revenue projections, there appears to remain some latitude for expected revenues to increase and remain within the allowable MAR, such that variances between lagged CPI and forward-looking CPI are unlikely to cause a binding constraint on Chorus' ability to lift prices. This suggests that the forward-looking approach is unlikely to pose a problem in terms of where price increases expected by the market need to be deferred in PQP2. This approach to constrain the MAR for PQP2 via depreciation also means that an in-period draw down of the wash-up balance mechanism is not required for PQP2 (see paragraph 3.183).

3.191 Further, the smoothing mechanism will initially act to decouple increases in forecast allowable revenue from CPI, given the revenue change between 2024 and 2025 is not directly linked to lagged CPI. This will mean potential price increases may be out of step with market expectations based solely on the past year's CPI change.

Chapter 4 Quality

Purpose and structure

4.1 This chapter sets out our draft decisions on quality standards for PQP2 and explains the reason for those decisions. Our draft PQ determination published alongside this paper reflects these draft decisions. The chapter is structured as follows:

4.1.1 application of the regulatory framework;

4.1.2 availability quality standards (mandatory dimension);

4.1.3 performance quality standard (mandatory dimension);

4.1.4 provisioning quality standard (optional dimension);

4.1.5 other optional dimensions; and

4.1.6 incentive schemes.

Application of our regulatory framework

4.2 In coming to our draft decisions, we have applied the relevant fibre IMs and requirements under the Act, as well as considering whether the draft decision promotes the purpose of Part 6 of the Act.[159] In principle our decisions promote the Act by incentivising Chorus to provide quality that end-users want and are prepared to pay for under s 162(b).

4.3 Quality standards should ensure that users experience service quality and costs like those that exist in a workably competitive market. This requires that the quality standard should be high enough to satisfy the user quality of experience (QoE) requirement but not so high as to drive costs above what would be expected in a workably competitive market.[160]

4.4 To avoid incurring excessive costs there are two requirements:

4.4.1 the standard must not be too high; and

4.4.2 the definition of a breach must not expose Chorus to an unreasonable risk of an inadvertent breach. To do that, it must be cognisant of the nature (probability distribution) of the quality metrics being managed.

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159 Where judgement is required on any of our draft decisions, we have explained how our decisions best promote s 166 and s 162 of the Act.

160 Quality of experience (QoE) is defined by the ITU-T as "the overall acceptability of an application or service, as perceived subjectively by the end-user" here.

4.5 It is important to consider the drivers of success and failure. Success requires Chorus to operate and invest in the network to maintain the desired level of performance. Failure is not managing the network in this way. Any mandatory mechanism should be designed to detect failures of the management and investment processes, and not to be triggered by random variation.

Availability quality standards

4.6 The fibre IMs requires the Commission to determine quality standards for the mandatory quality dimensions of availability.[161]

4.7 For PQP1, we determined an 'average net unplanned downtime' metric for the mandatory availability dimension with the following quality standards:[162]

4.7.1 the average net unplanned downtime for layer 1 must not exceed 160 minutes in a given availability POI area in a regulatory year; and

4.7.2 the average net unplanned downtime for layer 2 must not exceed 40 minutes in a given availability POI area in a regulatory year.

Draft decision

4.8 For PQP2 our draft decision is to set an availability standard for the layer 1 and layer 2 aspects of Chorus' fibre network across each availability POI area. Our draft decision is that Chorus must meet an annual threshold for unplanned downtime (an availability assessment) in each year of the regulatory period. If Chorus exceeds this annual assessment in two consecutive years, this will constitute a breach of the availability assessment for that second regulatory year. We set out the details of this below.

Annual Layer 1 availability assessment

4.9 Chorus meets the layer 1 availability assessment for an availability POI area for a regulatory year, if its total average net unplanned downtime does not exceed, for a layer 1 aspect of a fibre network, 80 minutes in that availability POI area in the regulatory year.

Layer 1 availability quality standard

4.10 Chorus fails the availability standard for a regulatory year if it fails to comply with the annual assessment in that regulatory year, and it has also failed to comply with the annual assessment in the preceding regulatory year. If there is a further exceedance of the annual assessment in regulatory year 3 for the same availability POI area, Chorus will breach the standard for year 3 as well as year 2.

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161 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 2.5.1.

162 *Fibre Price-Quality Path Determination 2021* [2021] NZCC 27.

4.11 As Chorus cannot breach the availability standard in the first year (as there will have been no previous qualifier year of exceedance), in the first regulatory year of PQP2 there is no layer 1 availability standard. This means that Chorus could have up to a maximum of three breaches for the layer 1 availability standard for any availability POI area over PQP2.

Annual Layer 2 availability assessment

4.12 Chorus meets the layer 2 availability assessment for an availability POI area for a regulatory year, its total average net unplanned downtime does not exceed, for a layer 2 aspect of a fibre network, 17 minutes in that availability POI area in the regulatory year.

Layer 2 availability quality standard

4.13 Chorus fails the availability standard for a regulatory year if it fails to comply with the annual assessment in that regulatory year, and it has also failed to comply with the annual assessment in the preceding regulatory year. If there is a further exceedance of the annual assessment in regulatory year 3 for the same availability POI area, Chorus will breach the standard for year 3 as well as year 2.

4.14 As Chorus cannot breach the standard in the first year (as there will have been no previous qualifier year of exceedance), in the first regulatory year of PQP2 there is no layer 2 availability standard. This means that Chorus could have up to a maximum of three breaches for the layer 2 availability standard for any availability POI area over PQP2.

Calculation of the availability quality standards

4.15 Our draft decision is to retain the PQP1 methodology to calculate the availability assessment.

4.16 'Average unplanned downtime' for a regulatory year in an availability POI area is calculated in accordance with the following formula:

$$\sum_{i=1}^{12} \frac{\sum NUD_i}{ANAC_i}$$

Where:

NUD	means net unplanned downtime for that calendar month in that availability POI area;
ANAC	means average number of connections for that calendar month in that availability POI area; and
i	means the calendar month in the regulatory year, where 1 = January, …, 12 = December.

4.17 We note that our IM reasons paper published on 17 July 2024 sets out a draft decision to amend the definition of "outage" in the fibre IMs.[163] The proposed change to the definition of outage would affect the definition of net unplanned downtime as it refers to a fault which in turn refers to an "outage".

Exclusions from the standards

4.18 Our draft decision is to retain from PQP1 the exclusion of the following from the calculation of 'net unplanned downtime':

4.18.1 force majeure events;

4.18.2 port utilisation equal to or above 95%; and

4.18.3 unplanned downtime caused by faults to non-diverse transport services.

4.19 We consider that the port utilisation exclusion set at 95% continues to prevent perceived double jeopardy arising from a separate port utilisation (performance) quality standard.[164]

4.20 We have not received feedback from Chorus or other stakeholders indicating that these exclusions are no longer fit-for-purpose.

Breach of the availability standards

4.21 We are seeking to identify systemic issues rather than one-off exceedances. Under the draft PQP2 availability standards, if Chorus exceeds the annual assessment in regulatory year 1 and then exceeds it again in year 2 for the same availability POI area, this will constitute a breach for that availability POI in year 2.

4.22 We consider that our draft decision in respect of the availability standards will help identify systemic issues rather than be triggered by one-off events that can occur from time to time. The standard enables us to determine net average downtime thresholds that are at a level that provide a quality that end-users would expect while providing time for Chorus to identify and address any systemic issues.

4.23 Lower annual downtime levels with reporting annually will provide improved incentives for Chorus to provide QoE to end-user expectations while providing time to implement changes if an issue arises. As such, we consider our draft decision will overall better promote the Part 6 purpose by encouraging Chorus to maintain performance at a level that end-users have come to expect and not allow it to deteriorate up to the level of the PQP1 availability standard levels.

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163 Commerce Commission "Proposed expenditure, revenue and quality-related amendments to the fibre input methodologies ahead of the price-quality path for Chorus' second regulatory period (2025-2028): Draft reasons paper" (17 July 2024).

164 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at [7.123].

4.24 Chorus proposed that we adjust aspects of the quality standards to avoid breaches that do not indicate a failure to invest in and manage the network in accordance with good telecommunications industry practice.[165] The draft decision reduces the risk of a one-off breach due to random variations in performance in each regulatory year but provides Chorus with a mechanism to identify and resolve developing systemic issues as they arise, as the preceding year is a qualifier for a breach. We expect it to be able to manage the network in a way that results in fewer exceedances.

4.25 The proposed availability standards mean that if Chorus fails to comply with the annual assessment for three consecutive years this would constitute a breach for the second year and the third year because each regulatory year is itself a breach, and the preceding year is a qualifier.

Annual reporting

4.26 Our draft decision is that Chorus should report annually on its performance against downtime levels (thresholds) to allow us to monitor and determine compliance with the availability quality standards.

4.27 As set out in our draft s 193 notice, Chorus in PQP2 would be required to include the following information within this annual reporting:

4.27.1 a statement confirming any exceedances of the annual downtime targets in each availability POI area;

4.27.2 an explanation of any exceedances (including the cause) and any remedial action taken in response;

4.27.3 any planned action Chorus intends to take to avoid a consecutive exceedance in the following year with respect to that availability POI area; and

4.27.4 whether it has applied any the exclusions to downtime calculations (eg, force majeure events). If it has, Chorus must separately set out the nature of the exclusions and the values excluded from downtime calculations for availability standard purposes.

4.28 Our draft decision also requires Chorus to provide the annual reporting no later than two months after the end of each regulatory year. We consider that more timely reporting compared to PQP1 is appropriate to better monitor compliance with the standards over the longer assessment periods.

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165 Chorus "Our Fibre Plans" (31 October 2023); and Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 17.

4.29 Our draft decision is that each annual assessment report must include whether Chorus has complied with the availability quality standards (and any supporting evidence and calculations used to determine compliance). Chorus will be required to provide an assessment report each year.

4.30 The draft determination sets out that where Chorus identifies a breach has occurred, as in PQP1, it must provide a breach report no later than five months after the end of the regulatory year in which the breach occurred.

Availability POI areas

4.31 Our draft decision is to retain the availability POI areas as a basis for geographic differentiation for the availability quality standards.

4.32 We have considered Chorus' proposal to use its Customer Service Areas (CSAs) as a basis for geographic differentiation for PQP2 instead of availability POI areas and note the Independent Verifier's acceptance of this proposal from Chorus. However, our view is that Chorus has provided insufficient justification that changing to CSAs would overall better promote s 166(2)(b) of the Act compared to availability POI areas defined for PQP1.

4.33 Our analysis and reasons for this can be found in the reasons section below.

Differentiation by layer

4.34 Our draft decision is to retain the separate levels of downtime (and quality standards) for layer 1 and layer 2 required in PQP1. We consider that the differences in these layers continue to justify separate standards.

4.35 Chorus has indicated it supports retaining separate standards for layer 1 and layer 2 in its proposal.[166] We have not received feedback from other stakeholders indicating that availability quality standards should no longer be separated by layer.

Implementation date

4.36 Our draft decision is that availability standard should be in force from the start of PQP2.

Chorus' proposal for PQP2 availability standards

4.37 Chorus' primary submission for PQP2 availability standards was to adopt the use of CSAs instead of availability POI areas as a basis for geographic differentiation.[167] A CSA is a geographic area for which Chorus contracts field service work. Chorus' expenditure proposal indicated that that this change would:[168]

4.37.1 deliver a more consistent end-user experience across the network;

166 Chorus "Our Fibre Plans" (31 October 2023).
167 Chorus "Our Fibre Plans" (31 October 2023).
168 Chorus "Our Fibre Plans" (31 October 2023), at 134.

4.37.2 allow Chorus to better respond to and manage service restoration issues, since each area to which the standard applies would align to a field work management area;

4.37.3 reduce the incentive on it to invest more heavily in network reliability for smaller POI areas to deliver a level of performance over and above what is generally considered good telecommunications industry practice; and

4.37.4 provide more granularity for the greater Auckland area, as it would effectively de-average the Auckland performance by assessing the performance separately for the existing three distinct Auckland CSAs (as opposed to the current approach to treating the greater Auckland area as one).[169]

4.38 Chorus' proposal recommended that the PQP2 availability standards use 11 CSAs, defined as part of its contractual arrangements with its outsourced service companies, rather than the 23 availability POI areas used in PQP1.[170]

4.39 Chorus noted two main disadvantages with the use of the 23 availability POI areas for geographic disaggregation of quality of service (QoS) standards:[171]

4.39.1 there is a significant inequality in the number of connections across the 23 availability POI areas. This creates incentives that are inconsistent with the idea of equality between end-users and that are generally averse to efficient reliability planning and management of field resources; and

4.39.2 the 23 availability POI areas do not align with how Chorus manages fault response on the network. Chorus states that this makes it more difficult to respond to emerging issues with downtime in a particular area, making compliance more resource intensive than it needs to be.[172]

4.40 Chorus' proposal also indicated that the current geographic disaggregation (ie, availability POI areas) prioritises areas that have fewer connections. In doing so, it explained downtime on a service line in a smaller availability POI area has proportionately more impact on the calculation of the net average downtime metric (and subsequently compliance) than a line in an area where there is a disproportionately high number of FFLAS connections (noting the Auckland availability POI area).

4.41 We note that Chorus' proposal supports retaining downtime as a measure of availability and a standard for each service level (layer 1 and layer 2).

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170 Chorus "Our Fibre Plans" (31 October 2023), at 134.
171 Chorus "Our Fibre Plans" (31 October 2023), at 131.

Independent Verifier findings

4.42 The Independent Verifier noted that the following aspects of Chorus' PQP2 availability standards proposal satisfy the Evaluation Criteria and promote Part 6 of the Act:[173]

4.42.1 retention of the current availability mandatory quality standard (including two standards for availability); and

4.42.2 measurement of the availability standards changed from 23 POI areas to 11 CSA areas (ie, basis for geographic differentiation).

4.43 The Independent Verifier also noted that the minutes buffer built into current layer 1 and layer 2 breach thresholds need to be re-calculated using historical data.

4.44 The Independent Verifier's key feedback on PQP2 availability standards was primarily in relation to Chorus' proposed use of CSAs instead of availability POI areas:[174]

4.44.1 six of the 23 POIs have less than 10,000 connections and eight have between 10,000 and 20,000 connections, which it [Chorus] considered created the potential to distort Chorus' investment and maintenance decision-making to avoid it breaching a quality standard;

4.44.2 evidence provided by Chorus indicates that its proposed change in reporting to 11 CSAs will not 'hide' poorly performing geographic areas of the fixed fibre network. Further, more disaggregated availability reporting in the Auckland geographic area will improve transparency of overall reporting; and

4.44.3 Chorus also indicated it will continue to report its performance against the 26 POI areas in its ID reporting, which provides a crosscheck for the outcomes reported using the 11 CSAs.

Stakeholder views

4.45 We received comments on the definitions for the availability standards in submissions on the PQP2 process and approach paper, and as part of our consultation on the contents of Chorus' PQP2 proposal.

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173 Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 4-5.

174 Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 4-5.

4.46 Chorus' submission on the PQP2 process and approach paper indicated the current standards could be improved. It proposed we adjust some aspects of the PQP1 quality standards for PQP2 to better capture how end-users experience network quality, and to avoid breaches that are unlikely to be caused by a failure to invest and manage the network in accordance with good telecommunications industry practice.[175]

4.47 Chorus also noted that the implementation of any materially changed quality standard(s) is delayed by three months into PQP2 to enable Chorus to establish new systems and processes to be able to comply.

4.48 One NZ submitted that the mandatory quality standards must be maintained and would not support any reduction.[176]

Reasons

4.49 We consider that our draft decision on the PQP2 availability standards will provide the following benefits compared to the PQP1 standards:

4.49.1 improve detection of potential system issues as they develop while allowing Chorus time to address;

4.49.2 better encourage Chorus to retain and improve efficiencies; and

4.49.3 better incentivise Chorus to deliver a quality of service that end-users now expect to receive based on historical outage data (by availability POI area).

4.50 The reasons for our draft decisions are set out below in the following sub-sections:

4.50.1 Analysis supporting the draft availability standard;

4.50.1.1 calculation of the levels of the availability standard;

4.50.1.2 determining a breach;

4.50.1.3 assessing our draft decision for PQP2 using historical data;

4.50.1.4 potential consequences of our draft decision;

4.50.1.5 geographic differentiation;

4.50.2 annual reporting;

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175 Chorus "PQP2 Process and Approach" (28 September 2023), at Appendix A QAL 1. We understand that Chorus mean by some aspects those that they propose in Chorus "Our Fibre Plans" (31 October 2023) which include CSA areas for availability and a 95% threshold for Performance among others.

176 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), at [51]-[52].

4.50.3 compliance and expenditure considerations;

4.50.4 other PQP1 availability standard parameters to use in PQP2; and

4.50.5 reasons for the implementation date.

Analysis supporting the draft availability standards

4.51 To determine the annual downtime levels, we considered updated historical data from Chorus (showing the quality end-users currently receive and have come to expect), and the proposed draft decision needing there to be an exceedance of the annual threshold in that year and the preceding year to be a breach in that year.

4.52 We consider that the availability standard levels should detect systemic failure by Chorus to operate and build the network in a way that satisfies user availability expectations and encourage Chorus to retain and improve efficiencies under s162(b).

4.53 Our expectation is that all measurement areas should have similar performance. In determining an availability standard, we considered that the standards should:

4.53.1 incentivise consistency of user experience over all measurement areas;

4.53.2 employ one minimal national standard; and

4.53.3 not distinguish between urban and rural.

4.54 Exceedances of the annual availability assessment are expected to occur with a constant mean rate and independently of the time passed since the previous event. Exceedances not following this pattern (statistical characteristic) are likely to indicate a systemic problem that a prudent and efficient network operator ought to address.

4.55 Downtime levels for PQP1 were based on the UFB contractual arrangements plus a margin. Our PQP2 draft decision uses a statistical basis and historical data from Chorus to reduce the thresholds to a level of downtime that end-users have now come to expect while maintaining a probability of randomly breaching the standard consistent with PQP1 (0.5%).

4.56 We propose that, as for PQP1, the downtime levels are applied to each availability POI area separately and are based on the cumulative average downtime per connection over one calendar year.

4.57 A breach of our draft availability standards will occur in that regulatory year (eg, year 2) where there has been an exceedance of the annual assessment threshold (downtime level) in that year (year 2), and the preceding regulatory year (year 1). We consider the breach in year 2 has the advantage of being less likely to be triggered by a single random measurement (exceedance only in year 2) and much more likely to be symptomatic of a systemic failure on Chorus' part (the assessment threshold being exceeded in year 1 enabling the breach in year 2, due to the further exceedance).

4.58 Each year is considered as a test that yields one of two outcomes. Either:

4.58.1 downtime exceeds a specified threshold ('exceedance'); or

4.58.2 downtime is not greater than the specified threshold.

Calculation of the levels of the availability standards

4.59 The probable number of exceedances was modelled with a binomial test as the appropriate approach for a pass/fail test of this nature.

4.60 The binomial distribution is defined by two parameters:

4.60.1 n is the number of years – in this case n =2;

4.60.2 x is the number of exceedances required – in this case x =2;

4.60.3 p is the probability of an exceedance in a single year – which we need to calculate from the binomial equation:

$$P(x: n, p) = \frac{n!}{x!(n-x)!}\, p^x\, (1-p)^{n-x} = 0.005$$

Where:

$P(x: n, p)$ is the probability of x exceedances in n years when the probability of an exceedance in any year is p.

4.61 The objective is to estimate the probability of an exceedance in one year, given that the probability of two exceedances over two years is required to be 0.005 (or 0.5%). We assume a binomial distribution where n =2, x =2.

4.62 Solving the binomial equation for p where the probability of two exceedances in two years is 0.005 gives:

4.62.1 the probability of exceeding the threshold in a single year must be p = 0.071 (7.1%); and

4.62.2 the probability of no exceedance in a year is 1 – p = 0.929 (92.9%).

4.63 Therefore, if the probability of two exceedances of the annual assessment in two successive years is 0.5%, the probability of an exceedance in any one year is 7.1% and the probability of not exceeding the threshold is 92.9%.

4.64 Based on historical average downtime data obtained from Chorus (using Jul 2021 to Jun 2023 availability POI areas), and applying the probability of not exceeding the threshold of 92.9%, this gives the following thresholds:

4.64.1 layer 1 – 80 minutes per year (99.985% availability); and

4.64.2 layer 2 – 17 minutes per year (99.997% availability).

4.65 We consider that exceeding these thresholds twice in two years is a good indication of a failure to manage the fibre network as it demonstrates a pattern that an efficient network operator ought to address in support of s 162(b).

4.66 The International Telecommunications Union (ITU) provides a worked example of deriving network availability for an unprotected PON, based on published data in research literature over the period 2001 to 2012. The result was 99.988%.[177] The ITU notes that:

> *"…the fibre reliability in many cases is better than that used here and availability would improve accordingly. However, achieving five 9s is very unlikely in an unprotected configuration.*[178]
>
> *'Five 9s', or 99.999% is equivalent to 5.3 minutes downtime."*

4.67 Its worked example shows an availability level for combined layer 1 and layer 2 slightly above the draft decision for the layer 1 threshold.

Breach of the availability standards

4.68 A breach of our draft standards will occur in a regulatory year (eg, year 2) where there has been an exceedance of the annual assessment threshold (downtime level) in that year (year 2), and the preceding regulatory year (year 1). We consider the breach in year 2 has the advantage of being less likely to be triggered by a single random measurement and more likely to be symptomatic of a systemic failure on Chorus' part (the assessment threshold being exceeded in year 1 being a qualifier for the breach in year 2).

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177 International Telecommunication Union (ITU) "Series G: Transmission Systems and Media Digital Systems and Networks: Passive optical network protection considerations" (June 2017), at 12.

178 International Telecommunication Union (ITU) "Series G: Transmission Systems and Media Digital Systems and Networks: Passive optical network protection considerations" (June 2017), at 12.

4.69 Our draft decision requires Chorus to provide annual reporting to us on whether it has exceeded the threshold in the regulatory year, the nature and cause of the exceedance, and any intended action (eg, remedial work) being undertaken (within 2 months of the end of the regulatory year). We consider that this will provide transparency over any developing systemic failures and allow for us to continue to monitor compliance.

4.70 We consider that our draft decision results in improved incentives for Chorus to provide QoE to meet end-user expectations, by increasing the probability that systemic failures are detected and reducing the probability random variations are caught by the mandatory availability standard. As such, we consider the draft availability standards will overall better promote the part 6 purpose s 162(b) and therefore propose this change for PQP2.

4.71 We consider that with the draft standards, if there is a breach it is statistically more likely to be due to systemic failure rather than random variation in performance. We consider that the draft exceedance thresholds (annual assessments) will incentivise Chorus to provide the level of service end-users expect. A breach will occur in year 2 where there has been an exceedance of the annual assessment threshold in year 2 and an exceedance of the annual threshold in year 1. We consider this will allow Chorus to develop efficient solutions to address any issues year to year, all in support of s 162(b).

4.72 Furthermore, we observe that performance over the year can be highly variable month to month and may risk exposing the regulated business to breaches due to random variations (as well systemic failures). Due to this, the PQP1 availability standards carried a generous allowance for random variation, which has resulted in a relatively high threshold.

4.73 We consider that the risk of a breach by random variations created by having only the draft standard thresholds for PQP2 would be mitigated with our draft standard. Chorus would be required to exceed the annual assessment thresholds in year 2 and have also exceeded the assessment in year 1 to constitute a breach.

4.74 Our draft standard will therefore allow us to use a statistical basis to lower the annual downtime level (threshold) to better reflect end-users' current service availability expectations, while further increasing the likelihood of detecting systemic failures.

<u>Assessing the draft standard for PQP2 using historical data</u>

4.75 Based on historical data (using July 2021 to June 2023 availability POI areas) and using the draft standards there would have been no breaches.

Potential consequences of our draft decision on availability standards

4.76 While we consider there are significant benefits to our draft decision, we note there are some potential consequences of adopting such a measure.

4.77 There may be a perception that our draft decision means performance issues will persist for longer. To account for this, our draft decision includes a requirement in the s 193 notice that Chorus provides annual reporting against the downtime thresholds to maintain transparency over Chorus' performance.

4.78 Any breach assessment would consider the Commission's enforcement criteria of seriousness of conduct, extent of detriment (harm), and public interest in the matter. Factors considered within the criteria include the length of time taken for the business to come back into compliance, and any continued harm because of ongoing non-compliance.[179]

4.79 We are aware that a similar two-out-of-three multi-year measure was implemented for EDBs in the past. This was removed in DPP3 because changes the Commission made to the definition and settings for the reliability standards meant an annual standard for DPP3 could still manage the risk of false positives and negatives but enable more timely detection of problems.[180]

4.80 Our draft standard is designed to reduce the probability of false positives resulting in breaches to improve transparency of systemic issues. We consider that our draft decision allows the standards to be set to levels that give the performance that end-users have come to expect and provides Chorus with time to address any emerging systemic issues in support of s 162(b).

4.81 Our draft decision also means that there are equal incentives to maintain quality across all years in the regulatory period.

4.82 We also note that both Chorus' proposal and the Independent Verifier indicated that Chorus has a strong appetite for breach avoidance, as it is driven by its commercial incentives and market competition to maintain a level of FFLAS downtime acceptable to end-users. Reputational impacts of breaching quality standards are also likely to be a consideration for Chorus.

4.83 Based on our analysis of information currently available, we consider the benefits of our draft decision outweigh these potential (and perceived) consequences by setting the level of the standards such that the purpose of s 162(b) is met by providing the level of availability that end-users expect.

179 Commerce Commission "Enforcement criteria".

180 Commerce Commission "Default price-quality paths for electricity distribution businesses from 1 April 2020 – Final decision – Reasons paper" (27 November 2019).

4.84 The regulatory period for PQP2 is four years in length, which could mean there are reduced incentives on Chorus to maintain unplanned downtime at appropriate levels for year four if Chorus had not previously exceeded the annual assessment year three (as there could be no breach in year 4). For Chorus to have the same incentives during year four in this scenario, there would need to be an equivalent quality standard (and annual assessment) that applies in year one of PQP3.

4.85 While we cannot set a quality standard for year 1 in PQP3 in the PQP2 determination, we consider we could set a standard in the PQP3 determination that recognises Chorus' performance against an annual assessment in year 4 of PQP2 and acts as a qualifier to whether Chorus breaches the standard in year one of PQP3. This could retain the same level of incentives on Chorus to maintain appropriate levels of quality for year 4 of PQP2. This is something we will consider ahead of PQP3.

Geographic differentiation

4.86 Our draft decision is to use availability POI areas to geographically differentiate between end-users. It is based on our view that:

4.86.1 insufficient reasons have been provided on the potential merit of replacing availability POI areas with CSAs; and

4.86.2 availability POI areas are most likely to reflect the downtime (availability) end-users in different geographic areas and operating on different FFLAS networks of a regulated fibre provider are experiencing and demand.

4.87 We consider that use of availability POI areas to geographically differentiate between end-users, as we did in PQP1, continues to give a sufficient level of geographic disaggregation that incentivises Chorus to provide service to end-users that reflects their demands and not provide too much aggregation that some communities might not receive a level of service that reflect their demands in line with s 162(b) of the Act.

4.88 We note that the Independent Verifier supported Chorus' CSA proposal. The key reasons provided for this were that CSA areas would better support Chorus' network expenditure and capacity planning (due to alignment with service areas), and that it would help avoid unnecessary breaches of the availability quality standards.

4.89 After considering the Independent Verifiers' report and Chorus' PQP2 proposal, we consider insufficient reasons and evidence were provided to justify the adoption of CSA areas over availability POI areas.

4.90 Chorus' CSA proposal appears to primarily aim to simplify its reporting burden by aligning the regulatory reporting areas for the PQP2 availability standards to its patch management areas.

4.91 Although the boundaries of availability POI areas and CSAs do not align, we note the following general associations:

4.91.1 Auckland availability POI area is split across three CSAs (Auckland North, Auckland Central and Auckland South), with a relatively small number of connections being assigned to the Northland CSA;

4.91.2 the remaining 13 North Island availability POI areas would need be assigned across six CSAs; and

4.91.3 the nine South Island availability POI areas would need to be assigned to two CSAs.

4.92 We consider availability POI areas are a more appropriate basis for geographic differentiation as aggregation of reporting according to Chorus' proposal (from 23 availability POI areas to 11 CSAs) is unlikely to provide overall benefit for end-users. Chorus' CSA proposal aims to address the efficiency and quality aspects of the s 162(b) purpose. However, we consider the averaging of downtime (availability) across the proposed CSAs (eg, nine South Island availability POI areas aggregated to two CSAs) is unlikely to reflect the actual level of downtime end-users demand or experience. Therefore, we consider CSAs are likely to provide lower benefit and will not:

4.92.1 achieve better outcomes consistent with a workably competitive market for the long-term benefits of end-users; or

4.92.2 provide sufficient incentives under s 162(b) of the Act to improve efficiency and supply fibre fixed line access services of a quality that reflects end-user demands.

4.93 In response to Chorus' submissions on the PQP1 draft decision that availability POI areas prioritise areas that have fewer connections when calculating net average downtime, we acknowledged and addressed this feedback when setting the PQP1 availability POI areas by reducing the number of POI areas from 26 to 23.[181] We have not seen evidence to suggest that further aggregating end-user connections by geography would have any significant overall benefit to end-users.

4.94 We note that Chorus could change geographic boundaries in subsequent negotiations with its service companies.

[181] Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at [7.143].

4.95 We note that the Auckland availability POI area accounts for 48% of Chorus' FFLAS connections as at December 2023,[182] which is likely the reason for the perceived inequality in the number of connections across geographic regions. We note that the variance of the number of connections across all other availability POI areas is less than the variation across the CSAs proposed by Chorus.[183] As such, we also consider that Chorus' CSA proposal would not address this point.

4.96 We also considered other potential changes to the PQP1 geographic aggregation. We considered if disaggregation of the Auckland availability POI area would give greater insight into availability issues. We would expect the Auckland area to have similar performance as we consider it is largely homogeneous and would therefore have the same challenges of restoration of faults throughout the area. We do not therefore think this change is likely provide an incentive for Chorus to improve efficiency and supply fibre fixed line access services of a quality that reflects end-user demand in line with s 162(b) of the Act.

4.97 By aggregating the other non-Auckland availability POI areas, availability performance will be subject to an increased degree of averaging. We consider this will mask issues that would otherwise be observed at an availability POI area level to the potential long-term detriment of end-users. For example, by combining the Greymouth availability POI area into the Lower South Island CSA Chorus would have less of an incentive to maintain or improve availability on the west coast of the South Island and therefore supply to them fibre fixed line access services of a quality that reflects end-user demands in line with s 162(b) of the Act.

4.98 We do not consider that any change, either disaggregation or aggregation are required to the availability POI areas prescribed in PQP1 where we amalgamated the three smallest POI areas.[184]

4.99 We consider reliability planning and management of field resources should promote outcomes consistent with those produced in workably competitive markets. As such, consideration of factors beyond the number of connections such as the competitive, demographic, and geographic and network typology characteristics of individual regions, not just the number of connections is required. If each CSA encompassed a similar mix of urban and rural areas, with similar line lengths, we would expect to see similar resourcing requirements and outcomes.

Annual reporting

4.100 To maintain sufficient visibility over Chorus' performance throughout PQP2 our draft decision requires Chorus to report annually on its:

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182 Chorus "Chorus Information Disclosure Requirements Quality Information Templates for Schedule 19" (31 May 2024).

183 Chorus "Our Fibre Plans" (31 October 2023), at 133.

184 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at 230-232.

4.100.1 performance against the annual downtime levels (annual layer 1 and layer 2 assessments), for example any instances of exceedance; and

4.100.2 compliance with the annual downtime levels (annual layer 1 and layer 2 assessments).

4.101 Our draft decision is that annual assessment must be provided within two months of the end of each regulatory year (see the draft s 193 notice). We consider this will assist with monitoring Chorus' performance. Annual reporting requirements as set out in the draft s 193 notice will provide transparency to the Commission over whether the exceedance could indicate a degradation in Chorus' performance, as well as other information such as any plans or remedial work Chorus intends to undertake.

4.102 Our draft decision (set out in the draft determination) is to require a 'Breach report' in the event of a breach of the standard. Chorus will be required to provide a breach report for that regulatory year if Chorus exceeds the annual threshold in that regulatory year, and the preceding regulatory year.

4.103 We consider that the benefits of requiring annual assessment reports outweigh potential compliance burden impacts on Chorus.

4.104 The technical aspects of the draft PQP2 availability standards are fundamentally the same as PQP1 (eg, using an annual downtime target measure, separate standards for layer 1 and layer 2 services, availability POI areas as a basis for geographic differentiation).

4.105 We acknowledge that Chorus is more likely to exceed the annual threshold level compared to the annual downtime level used for the PQP1 standard due to the revised downtime targets. However, we consider that the burden of any additional annual reporting (including exceedances against thresholds in individual availability POI areas) is required to effectively monitor Chorus' compliance with the standard.

Compliance and expenditure considerations

4.106 Our draft decision retains decisions on reporting and compliance from PQP1, including the following:

4.106.1 Chorus must provide an annual assessment report, with more detail than PQP1 as required via a s 193(2) notice. The purpose of the assessment report is to monitor Chorus' compliance with the quality standards set out in the PQ determination; and

4.106.2 where any quality standard is breached, Chorus would be required to publish a breach report in respect of all exceedances of the quality standards within 5 months of the breach. The report must contain an explanation of the breach, including the cause and action taken to remedy the breach.

4.107 In our PQP1 determination, we limited the number of breaches Chorus could be accountable for to one for both the availability and performance quality standards. We note this was primarily due to concerns with regulatory burden. We do not consider the draft new standard will lead to significant regulatory burden. We propose not to limit the number of breaches that Chorus can experience during a year.

4.108 Chorus raised a concern with our approach to determining PQP2 allowances before the PQ quality determination later in 2024.[185] It noted that:

> *"Setting the final quality standard after expenditure allowances are determined creates a risk that the expenditure allowances are either too high or too low to fund the investment needed to meet that quality standard."*

4.109 We have considered this issue for all the draft quality standards for PQP2. While we are proposing changes to the availability standards, we consider the risk of a breach to be similar to PQP1 and we do not consider these changes substantively create additional preparatory work or additional expenditure for Chorus. The methodology for calculating the standard is the same as applies during PQP1.

Other PQP1 availability standard parameters to use in PQP2

4.110 Our draft decision retains all other aspects of the PQP1 availability standards. This includes determination requirements (such as defined terms) relevant to the PQP2 availability standards unless otherwise stated. The full list of defined terms are set out in the draft determination.

4.111 We have not seen anything that makes us think we need to change or amend these parameters.

4.112 In terms of compliance, as with the performance and provisioning standards, under s 193 our draft decision is to require Chorus to record and provide information to us on when it has relied on a force majeure event (and the values excluded) to assist us in monitoring compliance with the standards.

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185 Chorus "PQP2 Process and Approach" (28 September 2023), at [22].

Reasons for the Implementation date

4.113 Our draft decision is that the draft availability standards should apply from the start of PQP2. We consider the draft standard is not materially different to PQP1 and a transition period is therefore not justified. We acknowledge that the levels and compliance for the availability standard have changed but the underlying data collected, and calculation has not changed and while Chorus may require some internal development for monitoring and compliance, we do not believe that a transition period is justified.

4.114 Further, in the first year Chorus cannot breach the standards, but will need to report on whether it has exceeded the annual assessment 2 months into the second regulatory year.

Performance quality standard

4.115 The fibre IMs requires a PQ determination to specify quality standard for the mandatory quality dimension of performance.[186]

4.116 For PQP1, we determined a port utilisation metric for the performance dimension which required that the percentage of Chorus' ports experiencing port utilisation, upstream or downstream, equal to or exceeding 90% in any five-minute interval in one or more calendar months, must not exceed 0.12%.

Draft decision

4.117 Our PQP2 draft decision for the performance quality dimension is to set a 'port utilisation' metric with the following quality standard as set out in in the draft determination published alongside this reasons paper.

4.118 For PQP2 our draft decision is to set a performance standard based on port utilisation. Our draft decision is that Chorus must meet a monthly threshold for port utilisation (performance assessment). If Chorus exceeds this monthly assessment in one month and has also exceeded the assessment in the preceding two months, it will have breached the performance standard in the third month. We set out further details on this below.

Monthly performance assessment

4.119 Chorus meets the performance assessment for a port for a calendar month, if the port does not experience port utilisation, upstream or downstream, equal to or exceeding 90% in any five-minute interval in the calendar month.

4.120 For the purposes of the performance assessment an instance where port utilisation equals or exceeds 90% must be disregarded if it is attributable to a force majeure event.

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186 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.6.1(1).

Performance quality standard

4.121 Our draft decision is that Chorus fails the quality standard in a month if it fails to comply with the assessment in that calendar month and the two previous calendar months.[187] If there is a further exceedance of the monthly performance assessment in month four for the same port, Chorus will breach the standard for month four as well as month three.

4.122 In the first two calendar months of the first regulatory year, there is no performance quality standard.

Calculation of the performance quality standard

4.123 Our draft decision is to use the same methodology to calculate port utilisation as used in PQP1.[188]

4.124 'Port utilisation' is calculated as a percentage figure in accordance with the following formula:

$$\frac{octets \times 8}{5 \times 60\ seconds \times PS} \times 100$$

Where:

octets	means the number of octets at a port, being the greater of the inOctets or the outOctets, measured over the 5-minute interval in accordance with RFC 2863, and includes framing characters, but excludes Ethernet preamble, start from delimiter, and interpacket gaps; and
PS	means port speed and is measured in bps.

4.125 As with the PQP1 determination, port utilisation measurement includes all physical, virtual and sub-interfaces within the physical ports that are within the regulated provider's FAN which excludes UNI, ENNI and PON ports.

4.126 Our draft decision retains the following:

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187 That is Chorus will fail the quality standard in month three if it exceeds the monthly performance assessment in month three, two and one for the same port. This is because the first two months of exceedance are qualifiers for the third month, resulting in a breach of the availability standard in month three.

188 *Fibre Price-Quality Path Determination 2021* [2021] NZCC 27.

4.126.1 the REN is not covered in the definition of port utilisation (this is the same as in PQP1 and we do not propose to change this for PQP2).[189] The PQP1 final decision paper outlines the reasons for why the REN network is not included in the definition of the performance standard.[190] We also note that Chorus proposes to shut down the REN on 30 June 2024[191]; and

4.126.2 there are not different standards for different geographic areas. The PQP1 final decision paper outlined the reasons for why we have not included a separate standard for different geographic areas in the definition of the performance standard, we consider those reasons still apply.[192]

Force majeure events

4.127 Consistent with the availability and provisioning standard, our draft decision is to exclude force majeure events in the calculation of the draft performance standard. This will mean Chorus can exclude the impact of these events on port utilisation during PQP2.

4.128 Our draft decision is to use the definition of force majeure set out in the draft determination published alongside this reasons paper.[193]

4.129 In terms of compliance, as with the availability and provisioning standards, under s 193 our draft decision is to require Chorus to record and provide information to us on when it has relied on a force majeure event (and the values excluded). This will assist us in monitoring compliance with the performance standard.

Implementation date

4.130 Our draft decision is that the draft performance standard should be in force from the start of PQP2.

Chorus' proposed PQP2 performance standards

4.131 In its proposal, Chorus proposed:[194]

4.131.1 removing the impact of unforeseeable and unprecedented demand spikes as it represents an uncapped liability to provide capacity even for the most unforeseeable and unprecedented events;

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189 Chorus "Notice of Regional Ethernet Network (REN) shutdown proposed for 30 June 2024" (5 April 2023).

190 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021).

191 Chorus "Notice of Regional Ethernet Network (REN) shutdown proposed for 30 June 2024" (5 April 2023).

192 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021).

193 *[DRAFT] Fibre Price-Quality Path Determination 2024*.

194 Chorus "Our Fibre Plans" (31 October 2023), at [4.11].

4.131.2 returning the port utilisation threshold back to its previous level under the UFB arrangements of 95% from 90% as evidence suggests a lower threshold does not impact how end-users experience quality but increases the likelihood of further quality standard breaches akin to the one in March 2022;

4.131.3 removing the impact of port utilisation events caused by network failures as Port utilisation above the maximum threshold caused by network failures did not count as a breach under the performance measurement regime for UFB; and

4.131.4 linking its bandwidth capacity planning and associated demand forecast to the setting of the level of utilisation threshold for this quality standard. Chorus suggested a 50% headroom allowance be used as it directly links to its capacity planning thresholds and therefore the way it forecasts network capacity-related capex.

Independent Verifier findings

4.132 The Independent Verifier reviewed Chorus' proposed PQP2 quality standards in its final report.[195] In its final report it indicated:

4.132.1 it did not accept that an all-cause equipment failure exclusion is appropriate given Chorus has control over its equipment and should accept responsibility for its reported performance subject to the occurrence of force majeure events[196]; and

4.132.2 it could not verify that the increase in port utilisation breach threshold to 95% is likely to deliver any better outcomes consistent with good telecommunications industry practice than retaining a 90% threshold. Chorus agreed that additional capex will not be required over time to meet the 90% threshold compared to a 95% threshold.[197]

4.133 It suggested the introduction of a force majeure mechanism that would capture significant adverse exogenous events, particularly weather events.

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195 The Terms of Reference required the Independent Verifier to provide opinions on whether Chorus' proposed quality standards and quality targets (if any) were appropriate in terms of the purpose of Part 6 of the Telecommunications Act 2001.

196 Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at [97].

197 Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at [97].

4.134 It also suggested the introduction of a 'ratcheted peak throughput event' exclusion that it considered could address Chorus' concerns regarding the breach risk it faces in relation to significant atypical demand events.[198]

Stakeholder views

4.135 We received several submissions on the level of the performance standard in response to our PQP2 process and approach paper, and on Chorus' proposal.

4.136 Chorus recommended setting the standard for PQP2 at a level beyond which end-user experience would be impacted which it considers to be at 95% port utilisation.

4.137 Key points raised by stakeholders (other than Chorus) on this topic were as follows:

4.137.1 One NZ submitted there is no reasonable basis for the Commission to change its position on retaining the 90% port utilisation threshold. This proposal is also not supported by the Independent Verifier[199];

4.137.2 2degrees supported One NZ's concern in its cross submission and did not consider there to be justification for a change from a 90% port utilisation threshold[200]; and

4.137.3 One NZ agreed with the Independent Verifier's assessment that 'an all-cause equipment failure exclusion could potentially capture failure events that are reasonably withing Chorus' control and hence should not be an exclusion from reported data'. [201]

Reasons

4.138 We consider our draft decisions will provide for a definition of a mandatory performance standard for PQP2 in a way that promotes the Part 6 purpose (s 166 and s 162).

4.139 The reasons for our draft decisions are set out below in the following sub-sections:

4.139.1 Analysis supporting the draft performance standard:

4.139.1.1 reasons for the 90% port utilisation threshold;

4.139.1.2 determining a breach;

4.139.1.3 force majeure events exclusion in the standard;

198 Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at [100].

199 One NZ "One NZ submission on Chorus' proposed expenditure for PQP2" (14 December 2023), at [28].

200 2degrees "Chorus' proposed expenditure for PQP2: 2degrees Cross-Submission in response to Commerce Commission consultation" (2 February 2024), at [4].

201 One NZ "One NZ submission on Chorus' proposed expenditure for PQP2" (14 December 2023), at [29].

4.139.2 consideration of alternatives to the draft decision;

4.139.3 consideration of an extraneous events exclusion;

4.139.4 compliance and expenditure considerations;

4.139.5 other PQP1 performance standard parameters to use in PQP2; and

4.139.6 reasons for the implementation date.

Analysis supporting the draft performance standard

Reasons for the 90% port utilisation threshold

4.140 Our draft decision is to retain the 90% port utilisation threshold from the performance standard used in PQP1. We consider 90% port utilisation to be the right measure as it will capture deteriorating performance before consumers are adversely affected.

4.141 Chorus has proposed changes to the port utilisation standard to:[202]

> *"increase the port utilisation threshold back to its pre-PQP1 CIP contract rate of 95%, as evidence suggests a lower threshold does not impact on how end-users experience quality, but increases the likelihood of quality standard breaches, triggering compliance cost for Chorus and investigation cost for the Commission."*

4.142 We consider that Chorus has not provided sufficient evidence to show that user experience would not be affected if port utilisation was consistently greater than 90% or that end-users would be better off with a 95% threshold. We agree with the Independent Verifier that Chorus has not shown how end-users would receive any better outcomes consistent with good telecommunications industry practice and that a key driver of Chorus' proposal is to reduce the risk of breaching the performance standard.

4.143 It is challenging to determine exactly at which level of port utilisation end-users experience a loss in QoE. Packet loss is a widely used measure for determining a loss in QoE and packet loss has been traditionally experienced when port utilisation is high.

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202 Chorus "Our Fibre Plans" (31 October 2023), at 130.

4.144 Analysis suggests port utilisation levels above 90% or 95% for certain ports would lead to very low packet loss. As Transmission Control Protocol congestion control algorithms improve, the level of packet loss should fall and becomes less effective as an indication of end-user QoE. However, there is reason to believe that user experience is still affected in the absence of high packet loss. In absence of evidence to support a change to a 95% threshold, we consider a cautious approach to increasing port utilisation is required.

4.145 In our PQP1 final decision, we indicated that:

4.145.1 90% port utilisation will capture deteriorating performance before end-users are adversely affected;

4.145.2 Chorus itself applies 90% port utilisation as a standard to plan for augmenting capacity and its investment decisions;

4.145.3 RSPs had submitted that customers would experience some degradation at over 80%; and

4.145.4 we considered a 90% threshold created a meaningful incentive for Chorus to continue investing in network capacity, consistent with s 162(a), in addition to promoting incentives for Chorus to continue to deliver service at a level of quality that meets end-user demand (s 162 (b)).[203]

4.146 We consider these reasons remain valid for PQP2.

4.147 Chorus has indicated that changing the port utilisation threshold to 95% would prevent 'false positive' breaches where it technically breaches the standard, but no harm is caused to consumers.[204] We consider this issue is addressed by defining a breach to mean Chorus exceeds in any three consecutive months the 90% threshold in any port. This is discussed further below.

4.148 While there are limited international examples of telecommunications regulators imposing similar performance standards, Singapore has set a standard that monitors individual ports that are persistently equal or over 90% port utilisation threshold.

4.149 For these reasons, we do not believe raising the threshold to 95% would best promote the purposes of Part 6 of the Act.

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203 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021).

204 Chorus "Our Fibre Plans" (31 October 2023), at 18.

Breach of the performance standard

4.150 In our view a single five-minute period with an average utilisation above 90% is unlikely to have a noticeable impact on most applications if it is a single random data event (ie, a spike in traffic). However, a sequence of months exhibiting that behaviour is more likely to indicate a port with inadequate capacity in need of augmentation and a systemic issue in adequate capacity planning.

4.151 Chorus has indicated that large unforeseen spikes in demand and the impact that these events have on its compliance are a key concern with the PQP1 performance standard. The Independent Verifier also raise this concern it its final report.

4.152 Our draft performance standard that any port must not exceed 90% in any five-minute interval over a calendar month, and the preceding two months, would filter out the rare one-off events that drive occasional spikes in traffic such as the Fortnite updates and some other external events. We therefore consider requiring Chorus to not exceed the threshold in one month and the two preceding months means that Chorus will be required to focus on issues that would drive consistent systemic poor performance rather than random events. We consider this is more in keeping with promoting the Part 6 purpose.

4.153 We consider a breach occurs when there has been a failure to meet the monthly assessment in that month and the two preceding months. We consider this provides an appropriate amount for time to enable Chorus to focus on rectifying poor port utilisation performance. Chorus has stated that the time lag between observing the need for additional capacity and being able to implement additional capacity is three months on average but can be up to two years in extreme cases.[205] We consider that two months is adequate to implement an emergency remedial upgrade. In the context of the capacity management scheme that Chorus has described these events should be very rare.

4.154 We consider that setting the standard to apply to only one port is appropriate when the definition for a breach means that one port must experience port utilisation greater than 90% in any five-minute period in one month for three consecutive months. Every occasion where a port exceeds 90% should be a cause for review by Chorus and if required, an upgrade.

[205] Chorus "Our Fibre Plans" (31 October 2023), at 140.

4.155 The current standard was breached in 2022 due to an increase in peak demand caused by an upgrade to an online computer game called Fortnite where six ports exceeded the 90% threshold. However, data from Chorus shows that one port has exceeded 90% in 15 separate months and 95% in 12 months. This was not captured as a breach under the proposed standard. The new draft standard would capture these events as if in one month there was an exceedance, and there had also been in the two preceding months for that same port, this would be a breach in the third month. We consider this appropriate as it would be indicative of systemic planning failure and more likely to indicate consumer harm.

4.156 Our draft decision is similar to the scheme used by the Singapore regulator (IMDA) where local bandwidth utilisation is not to exceed 90% for three or more consecutive months.[206]

Force Majeure events exclusion in the standard

4.157 We consider that it is reasonable and consistent with the availability standard to exclude force majeure events if they cause a breach of the performance standard.

4.158 The Independent Verifier supported the inclusion of a force majeure mechanism in the performance standard to capture the severe weather events (and therefore also equipment failure) Chorus is concerned would have caused it to breach the standard.

4.159 Chorus agreed with the initial proposals included in our PQP2 process and approach paper that force majeure events should be excluded from the calculation. However, it submitted that 'excluding asset failure due to force majeure events from our performance against the quality standard would not go far enough' and proposed that all events caused by network failure are excluded as it creates an element of double jeopardy.[207]

4.160 A force majeure event may contribute to an exceedance of the threshold for a port. We do not consider that it is appropriate to consider force majeure event as instances of exceedance as these are not indicators of any systemic issues and could therefore contribute to a false positive breach. As with Chorus' example of asset failure it may take several months to overcome an event to re-balance traffic, depending on the resilience of the affected part of the network.

4.161 In terms of compliance, as with the availability and provisioning standards, under s 193 our draft decision is to require Chorus to record and provide information to us on when it has relied on a force majeure event (and the values excluded) to assist us in monitoring compliance with the performance standard.

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206 Infocomm Media Development Authority (IMDA) "Quality of Service Framework for Retail Fixed-Line Broadband Internet Access Services (Fibre Broadband Services)".

207 Chorus "PQP2 Process and Approach" (28 September 2023), at [87].

Consideration of alternatives to the draft standard

4.162 We also considered having a second performance standard to complement our draft decision, as we consider it could be reasonable to continue the current breach mechanism based on the number of ports in breach in any month. We considered setting this threshold at 1%, which would be low enough to capture significant planning failures and high enough to avoid being triggered by random variations.

4.163 The additional standard we considered was no more than 1% of ports shall experience port utilisation equal to or exceeding 90% in any five-minute interval in any single calendar month.

4.164 However, for our draft decision we have opted not to include this complementary standard for the percentage of ports over a threshold on the basis that it:

4.164.1 is unnecessary as the new PQP2 standard is likely to addresses issues with unforeseen random variations in demand and potential systemic issues in Chorus network planning more effectively than the PQP1 standard; and

4.164.2 could still suffer from issues where one-off unforeseen spikes drive non-compliance and potentially perverse investment incentives.

4.165 In addition, Chorus has suggested establishing a link between its forecast network capacity-related expenditure and outcomes under the Port Utilisation Quality Standard.[208] Under this approach, Chorus would make a 50% headroom allowance when undertaking bandwidth planning such that, for example, a 90% threshold would require capacity to be augmented if a port reached 60% utilisation consistently.

4.166 While this would provide an allowance for the high variability in monthly peaks on each link there is no certainty that it would be the right allowance.

4.167 We also considered the option of taking into account all exceedances within the month as is done by NBN. However, we do not consider this option feasible as a single external event could trigger a cluster of exceedances simply by lasting more than five minutes. Furthermore, in our view there is no need to allow for a margin of error whereby a small number of port breaches are acceptable in each month.

Consideration of an extraneous events exclusion

4.168 Chorus has indicated that the risk of one-off events is a key issue with the current PQP1 performance standard and with managing its network. We have considered Chorus' proposal to include a change in the definition of the performance standard to exclude extraneous (one-off) events that lead Chorus to breach the performance standard.

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[208] Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 94.

4.169 Chorus has proposed changes to the port utilisation standard to:[209]

> *"remove the impact of unforeseeable and unprecedented demand spikes from our performance against the quality standard, as we are not funded to build a network that could accommodate these spikes and it would not be economic to do so."*

4.170 It has cited the following example:[210]

> *"An update to the popular video game 'Fortnite' was pushed globally by the developers at a time which coincided with daily peak demand in Aotearoa. This produced an unforeseeable and unprecedented 25% spike in peak demand, that caused three links in the fibre aggregation network (comprising six ports) to experience utilisation over 90%."*

4.171 Chorus proposed changes to the performance standard to:

> *"remove the impact of port utilisation events caused by network failures from our performance against the quality standard, as currently the standard measures reliability for which the Commerce Commission has put in place separate availability standards. This creates an element of 'double jeopardy', where we can be penalised for network failure driven port utilisation events under the quality standards set for both the availability and performance quality dimensions."*

4.172 We define an extraneous event as any one-off unscheduled event that is outside Chorus' reasonable control that cause spikes in demand at peak times. We consider if these extraneous one-off congestion events occurred, they would not constitute a breach of our proposed performance standard and therefore make an additional exclusion unnecessary.

4.173 We also question the extent to which major game release updates are unforeseeable. These are a normal part of the data environment, and are a regular feature of most game platforms, anticipated by users, and often scheduled in advance. The problem is not forecasting the demand but assessing whether it is prudent for Chorus to provide capacity for such short duration events, when to do so could significantly reduce the overall utilisation of the network. To include an exclusion for them it would also be necessary to consider the threshold at which the number of demand spikes has a material impact on user experience, and it is no longer appropriate to exclude them.

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209 Chorus "Our Fibre Plans" (31 October 2023), at 130.

210 Chorus "Our Fibre Plans" (31 October 2023), at 123.

4.174 The Independent Verifier did not accept that an all-cause equipment failure exclusion was appropriate given Chorus has control over its equipment and should accept responsibility for its reported performance subject to the occurrence of force majeure events.

4.175 We support the Independent Verifier's view that an all-cause equipment failure exclusion would be inconsistent with good telecommunications industry practice. With the exclusion of force majeure events this removes Chorus' concern over a breach of the performance standard due to congestion caused by to equipment failure from extreme events such as Cyclone Gabrielle in 2023.

Compliance and expenditure considerations

4.176 Our draft decision retains decisions on reporting and compliance from PQP1, including the following:

4.176.1 Chorus must provide an annual assessment report for each month of the regulatory year as required via a s 193(2) notice. The purpose of the assessment report is to monitor Chorus' compliance with the quality standards set out in the PQ determination; and

4.176.2 Where any quality standard is breached, Chorus would be required to publish a breach report in respect of all exceedances of the quality standards within 5 months of the breach. The report must contain an explanation of the breach, including the cause and action taken to remedy the breach.

4.177 If Chorus breaches the draft performance standard, the breach can occur only when Chorus has exceeded the 90% threshold in any five-minute period for that month and the two preceding months. If Chorus exceeded the threshold in the fourth consecutive month, this would constitute an additional breach.

4.178 In our PQP1 determination, we limited the number of breaches Chorus could be accountable for to one for both the availability and performance quality standards. We note this was primarily due to concerns with regulatory burden. As noted earlier, Chorus has only breached the performance standard once and we do not consider the draft new standard will lead to significant regulatory burden. Additionally, if multiple breaches occurred for a single port, we consider this would indicate significant concern from a network planning perspective and risk of severe consumer harm. We therefore propose not to limit the number of breaches that Chorus can experience during a year.

4.179 Chorus raised a concern with our approach to determining PQP2 allowances before the PQ quality determination later in 2024.[211] It noted that:

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211 Chorus "PQP2 Process and Approach" (28 September 2023), at [22].

> *"Setting the final quality standard after expenditure allowances are determined creates a risk that the expenditure allowances are either too high or too low to fund the investment needed to meet that quality standard."*

4.180 We have considered this issue for all the draft quality standards for PQP2. While we are proposing changes to the performance and availability standards, we do not consider these changes substantively create additional preparatory work for Chorus. The methodology for calculating the standard is the same it was for PQP1.

4.181 Chorus states that its expenditure allowances were developed to meet a quality standard of 95% port utilisation.[212] We have seen no evidence this is the case in its proposal and Chorus has not specifically cite the change from 90% to 95% port utilisation as a key driver of spend in its proposal. Chorus and the Independent Verifier have both noted that the impact on capex is negligible.[213]

Other PQP1 performance standard parameters to use in PQP2

4.182 Our draft decision retains all other aspects of the PQP1 performance standards. This includes determination requirements (such as defined terms) relevant to the PQP2 availability standards unless otherwise stated. The full list of defined terms is set out in the draft determination.

4.183 We have not seen anything that makes us think we need to change or amend these parameters.

Reasons for the Implementation date

4.184 Our draft decision is that the draft performance standard comes into force from the start of PQP2 as the draft standard is not materially different to PQP1 to justify a transition period.

4.185 We do not consider the draft change in standards from PQP1 will substantially increase Chorus' reporting and regulatory burden. Chorus is required to currently monitor performance on all its ports and report where there has been a breach of the standard.

4.186 We acknowledge that the levels and compliance for the performance standard have changed but the underlying data collected, and calculation has not changed and while some development would be required for monitoring and compliance, we do not believe that a transition period is justified.

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212 Chorus "PQP2 Process and Approach" (28 September 2023).

213 Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 6.

Provisioning quality standard

4.187 The fibre IMs allows us to set a quality standard for any of the optional quality dimensions, including for the dimension of provisioning.[214]

4.188 For PQP1, we decided not to set a quality standard for any of the optional quality dimensions. In our PQP2 process and approach paper we stated that we intended to reassess optional dimensions for quality standards, and in particular, highlighted that we would consider implementing a quality standard for the dimension of provisioning for PQP2.[215]

Draft decision

4.189 Our draft decision is to set a quality standard for meeting the agreed connection date for the time to provision metric under the provisioning quality dimension as set out in in the draft determination published alongside this reasons paper. [216]

Provisioning quality standard

4.190 Chorus meets the provisioning quality standard for an availability POI area for a regulatory year if:

4.190.1 the connections measure for connection requests in respect of which the agreed date is rescheduled is 85% or more; and

4.190.2 the connections measure for all other connection requests is 80% or more.

4.191 Where:

4.191.1 'rescheduled', in relation to an agreed date, means rescheduled by Chorus by the agreed date but does not include rescheduled by Chorus:

4.191.1.1 at the end-user's request; or

4.191.1.2 because the end-user or a person on the end-user's behalf was not present when an installer attended on Chorus's behalf to carry out work for the connection request at a prearranged date and time.

4.191.2 if the connection request is rescheduled after the initial agreed date, then it is counted as missing the agreed date.

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214 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.6.2(1).

215 Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023), at [7.30]-[7.31].

216 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.6.2(1).

4.191.3 connection requests are requests for a new connection of a layer 1 service or layer 2 service that requires a connection that requires the physical attendance of a person on Chorus behalf or a disconnection from one type of FFLAS service and a connection to another type of FFLAS service that requires a connection that requires the physical attendance of a person on Chorus behalf;

4.191.4 the agreed date is the date agreed with Chorus and the end-user; and

4.191.5 the connection measure is set out in the formula in the section 'Calculation of the provisioning standard' below.

Calculation of the provisioning standard

4.192 Our draft decision is that the percentage of connection requests meeting the agreed date for a regulatory year in an availability POI area should be calculated in accordance with the following formula (connection measure) applied for rescheduled connection requests and again for all other connection requests:

$$\sum_{i=1}^{i=12} \frac{PTRC_i}{TRC_i} \text{ X } \frac{100}{M}\%$$

Where:

$PTRC_i$	means the number of connection requests with an agreed date for the calendar month "i" that met the agreed date in the availability POI area; and
TRC_i	means the number of connection requests with an agreed date in the calendar month "i" in the availability POI area; and
M	means the number of calendar months in the regulatory year in which there was one or more connection request in the availability POI area; and
i	means the calendar month, where 1 = January, …, 12 = December, in which there was one or more agreed dates for connection requests in the availability POI area

4.193 Note that PTRC will always be less than or equal to TRC.

4.194 An example of a monthly calculation is given below for the scenario where in January there were 120 connections completed of which 20 were rescheduled.

4.194.1 If the 20 rescheduled connections 15 were completed by the agreed rescheduled date then;

4.194.1.1 Rescheduled connections agreed date calculation = 15/20 = 0.75; and

4.194.2 Of the remaining 100 connections, 90 were completed by the agreed date then:

4.194.2.1 All other connections calculation = 90/100 = 0.90.

4.195 We note that our draft provisioning standard states that if a connection request is rescheduled after the agreed date, then any future agreed date (or reschedule) for that request is excluded from the calculation method. This will prevent a connection being counted twice in the calculation.

Geographic differentiation

4.196 Our draft decision is to use geographic differentiation by availability POI areas as used for the availability standard.

Force Majeure events exclusion

4.197 Our draft decision is that Chorus will exclude the impact of force majeure events on provisioning during PQP2. Our draft decision is to use the definition of force majeure set out in the draft determination published alongside this reasons paper.[217]

4.198 In terms of compliance, as with the availability and performance standards, under s 193 our draft decision is to require Chorus to record and provide information to us on when it has relied on a force majeure event (and the values excluded) to assist us in monitoring compliance with the provisioning standard.

Implementation date

4.199 Our draft decision is that the draft performance standard should be in force from the start of PQP2 but invite submissions on whether we should allow a transition period.

Stakeholder views

4.200 We received submissions from Chorus, Spark, Vector and One NZ in response to our emerging view to consider introducing additional quality standards for PQP2, as set out in the PQP2 process and approach paper.[218]

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217 *[DRAFT] Fibre Price-Quality Path Determination 2024*.

218 Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023).

4.201 Chorus opposed introducing a quality standard for provisioning as it considered it was not necessary or appropriate. Chorus submitted it already has strong incentives to connect end-users in a timely manner and it would be difficult to set a provisioning standard that would enhance existing incentives.[219]

4.202 Chorus also questioned what we would be trying to achieve through a provisioning standard. It stated that the purpose of quality standards is to ensure regulated providers have incentives to appropriately maintain and replace assets, support service levels, connect access seekers and end-users in a timely manner.[220]

4.203 However, other submitters considered that there could be grounds for imposing a provisioning standard.

4.204 One NZ strongly advocated for a provisioning standard for PQP1, and in submissions on the PQP2 process and approach paper reiterated this position for PQP2.[221] It noted that Chorus' reports on transitional quality show that provisioning timeframes increased significantly in 2022. It also noted the median time to provision simple FFLAS in the Auckland region; increased from 42 to 102 days over 2022; 27 to 97 days in the Christchurch region and 10 to 106 days in Whangarei.[222] One NZ consider this is an indicator that service quality offered by Chorus is highly variable and that the Commission needs to address this through a mandatory provisioning standard.[223]

4.205 One NZ also noted that its experience as an access seeker to Chorus' network reflects the need for a mandatory provisioning standard. Installation delays and missed appointments by Chorus are a 'continuous pain point' for its customers – both business and consumer customers. It submitted that these customers are placed at the back of the queue for the next visit due to no process to prioritise those customers and Chorus faces no consequences.[224]

4.206 Spark noted that UFB ID (transitional ID reporting) indicated long provisioning lead times and noted performance varies across LFCs.[225] Spark also noted the specific long lead time for simple FFLAS in Auckland from 42 to 102 days and in other regions. It submitted that some customers are waiting a significant period for installation and likely facing multiple reschedules.

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219 Chorus "PQP2 Process and Approach" (28 September 2023), at [89].

220 Chorus "PQP2 Process and Approach" (28 September 2023), at [91].

221 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023).

222 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023).

223 See Chorus "Price quality and information disclosures".

224 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), at [56].

225 Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period" (28 September 2023).

4.207 Spark's submission further noted that ID data is not yet available to interested persons so it is challenging to know what would be the most effective response from the Commission.[226] It stated it is keen to engage once again when the additional information is available.

4.208 Vector submitted on the PQP2 process and approach paper that Chorus' approach to provisioning layer 1 FFLAS during PQP1 has unacceptably advantaged its layer 2 business to the detriment of access seekers and that it is preventing workable competition from developing in downstream markets. It submitted that customers are being deprived of access to new and innovative services that could be provided as alternatives to Chorus' fibre services, contrary to the objectives of Chorus' obligation to provide unbundled layer 1 services. Vector indicated its experience is that Chorus provisions layer 1 services to its own downstream layer 2 business much faster than it provisions to access seekers. While Chorus provisions layer 1 inputs necessary for its downstream business to provide layer 2 services to customers in a 30 working-day timeframe, it has provisioned the same inputs to access seekers in a 95 working-day timeframe giving Chorus a material competitive advantage. Vector submitted additional regulation of provisioning is therefore needed to prevent this conduct and to promote the long-term benefit of end-users.[227]

4.209 Vector submitted that the Commission may wish to consider whether to amend the ID requirements to require the disclosure of information by Chorus that will demonstrate whether it is complying with any provisioning standards. However, it submitted, this may not be required to encourage compliance with new provisioning quality standards given that Chorus is required to provide an annual compliance statement in relation to the quality standards. It therefore considered that new quality standards alone could be sufficient. It proposed a counterargument that it may even be unnecessary given the obligations under the Fibre Deed are sufficient.[228]

Current access seeker agreements for provisioning service level standards

4.210 We understand from a high-level review of Chorus' UFB agreements with access seekers that Chorus is subject to provisioning service levels, some of which are outlined below.[229]

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226 Chorus has since published its ID reporting for disclosure year 2023. We note that this is the first reporting assessment period where Chorus is subject to the 'full' ID quality reporting requirements, as its previous annual disclosure included reporting against the transitional requirements.

227 Vector Fibre "Vector Fibre submission on the Process and approach paper for the 2025-2028 regulatory period" (28 September 2023), at [9].

228 Vector Fibre "Vector Fibre submission on the Process and approach paper for the 2025-2028 regulatory period" (28 September 2023), at [19].

229 See Chorus "UFB service agreements". Documents under the heading 'Chorus UFB agreement service level terms'

4.211 The bitstream service level terms specify the following service levels targets for residential and business layer 2 service provisioning: [230]

4.211.1 90% of the residential layer 2 intact remote activations are to be provisioned within four business hours;

4.211.2 100% of residential layer 2 intact remote activations are to be provisioned within one business day; and

4.211.3 residential layer 2 connections requiring a truck roll are to be provisioned within five business days of receipt of a properly completed order (or such later date as agreed between the service provider and the relevant end-user and requested of the LFC).

4.212 The bitstream service level terms require Chorus to use reasonable efforts to ensure that the median cycle time between the Order Date and completion of the installation of a layer 2 bitstream service in each POI area shall be:

4.212.1 30 days for Qualifying (ie, Simple) layer 2 Orders; and

4.212.2 65 days for Complex Orders.

4.213 With respect to layer 1 services, the fibre access service level terms says all requests for layer 1 fibre access services are treated as Complex Orders and are combined with the bitstream Service Complex Orders for the purpose of measuring cycle time for calculation of service levels.[231]

4.214 Appendix 2 of these agreements for service level terms set out that a rebate of one month's rental fee for the relevant service(s) is payable each time the service level is not achieved and what clauses of the agreements apply for a rebate.

4.215 We note that under the fibre IMs Chorus may net off any rebates it pays in a regulatory year when calculating its forecast total FFLAS revenues for compliance reporting purposes. We propose to consider the treatment of rebates in the next fibre IM review.

Reasons

4.216 We consider our draft decisions for a PQP2 provisioning standard has been set in a way that promotes the Part 6 purpose (s 166 and s 162).

4.217 The reasons for our draft decisions are set out below in the following sub-sections:

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230 Chorus "Chorus UFB Services Agreement Fibre Access Services (layer 1): Service Level Terms for Fibre Access Services (layer 1)" (October 2020), at [9].

231 Chorus "Chorus UFB Services Agreement Fibre Access Services (layer 1): Service Level Terms for Fibre Access Services (layer 1)" (October 2020), at [6.1(a)]

4.217.1 Analysis supporting the draft provisioning standard;

4.217.1.1 other potential provisioning standard considered;

4.217.2 analysis of historical data;

4.217.2.1 recent Chorus Fibre ID data for 2023;[232]

4.217.2.2 chorus transitional ID data for the first three quarters of 2022;

4.217.2.3 chorus Fibre ID data for the fourth quarter of 2022;

4.217.2.4 telecommunications dispute resolution (TDR) data;

4.217.3 reasons for geographic differentiation;

4.217.4 comparisons with other jurisdictions;

4.217.5 compliance and expenditure considerations; and

4.217.6 reasons for the implementation date.

Analysis supporting the draft provisioning standard

4.218 Our analysis indicates that issues with Chorus' provisioning performance primarily relates to where a 'truck roll' (ie, a connection that requires the physical attendance of a person on Chorus behalf) is required. Our draft decision is to set a provisioning standard that targets the provisioning issue that in our view is causing the greatest consumer harm. The standard supports s 162(b) of the Act by encouraging Chorus to provide a level of service that end-users expect by having the service provisioned on the date agreed with Chorus.

4.219 We note points raised in submissions from Spark, One NZ and Vector indicate a level of discomfort with Chorus' current provisioning performance. One NZ and Vector encourage additional regulation through a provisioning quality standard. The submissions suggested that there may be grounds to further investigate options for setting a potential new quality standard for provisioning. However, submitters did not provide detail on how such a standard should or could be implemented.

4.220 We are concerned that the service levels in the UFB Agreements and the NZ Telecommunications Forum (TCF) Installation code are not providing sufficient incentives for Chorus to improve its provisioning performance and even as it continues to pay rebates for missed core provisioning service levels.[233]

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232 Chorus is required to be disclose this information by 31 May each year.

233 NZ Telecommunications Forum INC (TCF) "Fibre Installation code".

4.221 We consider that our draft decision will enhance existing service levels rather than replace them and note that there is no rebate for missing an agreed date and the TCF target focuses on the percentage of installations completed within the agreed appointment.

4.222 Our draft decision includes two tiers for the standard:

4.222.1 provisioning date initially agreed; and

4.222.2 any rescheduled date.

4.223 This mechanism is included within NBN's standards for connection appointments.[234] The intention is to reduce the ability for Chorus to get around provisioning performance standards by rescheduling delayed connections.

4.224 In setting a standard, we must specify the percentage of connection requests that meet the agreed date to achieve compliance. NBN standards are focused on appointments and require that 90% or more actual connection appointments are kept, and actual appointments previously rescheduled are kept 95% of the time.

4.225 However, compared to breaching a service level target within contractual arrangements, we note that non-compliance with a quality standard can result in enforcement consequences which can be much more significant. As such, we consider that the level set for our draft decision quality standard is appropriate to meet the purpose of s 162(b). Setting the standard at this level is reasonable and proportionate in the current circumstances, specifically, the with data currently available and that it is only the second regulatory period.

4.226 We do note the following:

4.226.1 our draft decision still likely involves implementation costs. Although the exact costs are unknown, as Chorus is already required to monitor the percentage of connections that meet the agreed date under ID and report on these monthly, we do not anticipate that implementation costs would be large;

4.226.2 Chorus could avoid breaching the provisioning standard by setting longer agreed dates in the first instance, but we consider that the lead time service levels under the current service agreements will limit Chorus' ability to do this. We also note that it is in Chorus' commercial interests to offer and promote good quality services and this would be aided by increased incentives to improve performance;

234 NBN "Service Levels Schedule: Ethernet Product Module Wholesale Broadband Agreement" (1 December 2023).

4.226.3 It is difficult to detect long-term trends including whether Chorus' provisioning performance is improving or declining with only a partial series of fibre ID data. However, the data we currently have available for analysis infers that while Chorus' performance may have recently improved, we consider there is an ongoing risk that Chorus continues to experience issues with provisioning. The data shows provisioning indicators (time to provision, met appointments and provisioning delays) are typically worse for Chorus than other regulated providers; and

4.226.4 Chorus' ID reporting for its disclosure year ending 31 December 2023 is publicly available on its website. This information includes Reports on Quality that contain Chorus' performance against ID requirements for provisioning.[235] Our preliminary review undertaken for the purposes of this draft decision suggests that there are not significant improvements that would remove the concerns that we are trying to address. We encourage stakeholders to consider this information and submit any new concerns or implications of this recent provisioning data.

4.227 We acknowledge that there is little stable historical data on which to base our draft decision on the level of the provisioning standard. We believe that the level of the proposed standard would not give rise to unreasonable implementation costs given the existing level of resource required to achieve Chorus' agreed dates and contractual obligations.

Other potential provisioning standard considered

4.228 We also considered if a time to provision standard should be proposed in addition to or instead of the met agreed date standard.

4.229 The time to provision standard that we considered would specify the median number of days by which different categories of connections would need to be delivered.

4.230 Median lead times are specified for different services in Chorus' UFB Service Level Agreements, but based on our data analysis set out above, we consider these may still not be being met on a regular basis for a connection that requires the physical attendance of a person on Chorus behalf.

4.231 We considered setting the time to provision standard with one national level for all connections where Chorus must provision simple FFLAS within an average median 80 working days in each availability POI area across a year, with exclusions for exceptional circumstances (eg, force majeure, agreement between end-users, Chorus and RSPs).

235 See Chorus "Price quality and information disclosures".

4.232 Based on information currently available, we considered that the level of the time to provision standard should be 80 business days. In January 2024, one of 26 of Chorus' POI areas had median connection times that reached 30+ days for simple connections, (and 13 out of 26 median connection times for complex connections reached this same period). It is possible that individual lead times could have taken much longer, so we consider the 80-day requirement would likely be exceeded for some connections. We have limited data to inform a robust level for this standard and our consideration of an 80 median day level was based on our best judgement.

4.233 Introduction of such a proposed standard would have the advantage of imposing one visible standard for total connection time for all connections, and we do not consider it would be too onerous to implement, as Chorus is already reporting monthly on other similar service-based standards.

4.234 Our draft decision is not to impose a time to provision standard as:

4.234.1 we consider that the met agreed date provisioning standard is sufficient to drive Chorus behaviour to achieve the Part 6 purpose; and

4.234.2 we are not comfortable we could set the standard at the appropriate level for desired outcomes pursuant to s 162(b) with current information.

Analysis of historical data

4.235 We consider that COVID, adverse weather events and the shortage of field technicians in 2022 and 2023 were likely reasons behind the longer lead times for installations, and the increase in missed end-user appointments over the period covered by the Chorus Transition and fibre ID data

4.236 These factors may have largely been outside of Chorus' control. Chorus has provided details of a series of initiatives that it implemented from November 2022 to June 2023 to improve build, installation, and maintenance quality and lead times. We understand Chorus' service providers have largely brought technician numbers back within desired levels.

4.237 However, differences in provisioning performance between Chorus' and LFCs indicate adverse weather events and technician shortages may not be the only factor behind relative performances and may also be relevant to Chorus' business practices.

4.238 Our detailed analysis of the data is set out in the remainder of this section.

Recent Chorus' fibre ID data for 2023

4.239 Initial views of newer fibre ID data published by Chorus for the year 2023 indicates that while figures have improved since 2022 there could still be areas of concern where a truck roll is required to provision a new connection request.[236]

4.240 Data for the percentage of met agreed dates for simple new connection requests show an overall trend of improvement but lag Enable and Northpower's performance which is largely over 90%.

Chorus' transitional ID data for 2022

4.241 Chorus transitional ID data between January and September 2022 indicates that the median time to provision simple FFLAS for Chorus varied significantly as follows:[237]

4.241.1 Auckland region: median of 42 days to a peak median of 102 days;

4.241.2 Christchurch region: median of 27 days to a peak median of 97 days; and

4.241.3 Whangarei: median of 10 days to a peak median of 106 days.

4.242 For simple FFLAS connections the data shows that:

4.242.1 54% of installations were completed in 20 working days or less; and

4.242.2 less than 5% of installations took longer than 100 days.

4.243 We note:

4.243.1 we only have the median time to provision and not the number of installations that occurred in each of the POI areas;

4.243.2 it is possible that some of the longer times evident in the data are the result of a few installations that took a significantly the long time to provision but we do not have visibility of the underlying data to confirm that; and

4.243.3 that complex FFLAS transitional ID data is insufficient to predict trends.

Chorus' fibre ID data for 2022

4.244 Analysis of Chorus Fibre ID disclosures indicates that the majority (up to 83%) of Chorus' provisioning requests for the three months ending 31 December 2022 were remote activations of a layer 2 service on an intact fibre connection, and the median time to provision this service was typically two to four days.

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236 See Chorus "Price quality and information disclosures".

237 See Chorus "Price quality and information disclosures".

4.245 Although layer 1 services accounted for less than 0.5% of provisioning requests typically completed by Chorus each month, it was not unusual for Chorus to report median provisioning times of up to 100 days to complete layer 1 simple, layer 1 complex, and layer 2 complex services in 2022.

4.246 We have analysed the percentage of orders that met the agreed provisioning date and found that this is significantly lower for orders that required a truck roll (Intacts (truck roll required), Simple and Complex new connections) compared to intact connections that only required a remote activation. We expect requests that only require an automated activation to continue to become the dominant provisioning activity as the fibre networks mature and as more end-user's premises become connected, which will result in proportionally fewer new connections.

4.247 Intact connections that only required a remote activation take from 2 to 4 days to provision and with over 99% of orders met the date agreed with the end-user or access seeker. Orders that require a truck roll vary from as low as 30% in some POI areas which indicates a possible systemic problem meeting agreed dates.

4.248 Missed appointments could be a contributing factor to orders not meeting the agreed date. Chorus' met provisioning appointments performance in relation to layer 1 and 2 services were also lower than the other regulated providers, such as Northpower, Tuatahi and Enable. Table 4.1 shows the median for regulated providers and specific level from October to December 2022.

Table 4.1 Regulated providers' met provisioning appointment ID data from October 2022 – December 2022

Regulated Further Provider	October 2022	November 2022	December 2022
Chorus	57%	58%	59%
Tuatahi	87%	86%	83%
Enable	95%	91%	95%
Northpower	98%	92%	91%

Source: ID data October – December 2022

4.249 Chorus' transitional ID data for January to September 2022 also shows it had low median met commitment dates for layer 1 installs across New Zealand:

4.249.1 55.6% met provisioning appointments in June 2022; and

4.249.2 62.1% met provisioning appointments in September 2022.

4.250 Further analysis of ID data from October to December 2022 shows Chorus had an average monthly missed appointment rate of 45 per 100 installations which was approximately twice that of Tuatahi and approximately three times that of Northpower's rates over the same period.

Telecommunications Dispute Resolution data

4.251 Complaints about wholesale service providers reported to the Commission and to TDR relate to issues of installation delays, ONT location/replacement, and approach to integrated wiring. The greatest number of reported complaints to TDR is for installation delays.

4.252 We consider Chorus' relative provisioning performance is likely reflected in the number of provisioning complaints made to TDR during 2022. Installation delays were highlighted in TDR's 2021-22 annual report (for the period 1 July 2021 to 30 June 2022). The TDR noted a significant year-on-year increase in the number of registered complaints for installation delays (7 cases previously to 187 cases).

4.253 Additional data we obtained from TDR for 2023 indicates an increase in complaints that may in part be due to an advertising campaign by the TDR, but still reveal an underlying issue.

Reasons for geographic differentiation

4.254 We consider that use of availability POI areas to geographically differentiate between end-users gives a sufficient level of geographic disaggregation that incentivises to Chorus to provide service to end-users that reflects their demands while avoiding so much aggregation that some communities might not receive a level of service that reflect their demands in line with s 162(b) of the Act.

Comparisons with other jurisdictions

4.255 We also looked at comparable standards that similar network owners are subject to in other jurisdictions. We identified the service level standards NBN is subject to in Australia as part of its Wholesale Broadband Agreement 2023.[238] The met appointment and lead time standards NBN is subject to for its Ethernet provisioning services are as follows:

4.255.1 met commitment performance objectives require 90% or more actual connections appointments are kept, initial actual appointments are rescheduled 5% or less of the time, and actual appointments previously rescheduled are kept 95% of the time; and

4.255.2 lead time service levels for service class 1 and 2 connections require that urban installations are completed within nine to 14 days.

238 NBN "Service Levels Schedule: Ethernet Product Module Wholesale Broadband Agreement" (1 December 2023).

4.256 Chorus and NBN service level standards calculations are subject to force majeure and other exemption carve-outs.

Compliance and expenditure considerations

4.257 Our draft decision is to have reporting and compliance requirements including the following:

4.257.1 Chorus must provide an annual assessment report as required via a s 193(2) notice. The purpose of the assessment report is to monitor Chorus' compliance with the quality standards set out in the PQ determination; and

4.257.2 Where any quality standard is breached, Chorus would be required to publish a breach report in respect of all exceedances of the quality standards within 5 months of the breach. The report must contain an explanation of the breach, including the cause and action taken to remedy the breach.

Reasons for the Implementation date

4.258 Our draft decision is that the draft provisioning standard should be in force from the start of PQP2. We would consider submissions for a transition period in making our final decision as the draft standard is new and may require some development to meet.

4.259 Our draft standard aggregates the measure of meeting the agreed provisioning dates each month, over a 12-month period (calculating the yearly average of the monthly results). We consider that using the yearly average of the monthly results (both of which are already recorded) would not add unnecessary additional regulatory burden as:

4.259.1 provisioning quality reporting for the percentage of connections meeting the agreed date under ID is required to be completed for each month of the disclosure year (disclosed annually); and

4.259.2 the existing reporting requirements for Chorus under service level agreements are monthly.

Use of information disclosure

4.260 The purpose of ID regulation is to ensure that sufficient information is readily available to interested persons to assess whether the purpose of Part 6 of the Act is being met.[239] By shining a light on performance, ID can also incentivise improvements in Chorus' performance to better achieve the Part 6 purpose.

[239] Telecommunication Act 2001, ss 162 and 166.

4.261 The fibre ID requirements relating to the quality dimension of provisioning have not changed since being determined prior to PQP1.[240] In the accompanying final reasons paper, we noted that 'we expect to refine the ID requirements over time as the performance of regulated providers is better understood and to capture industry changes.'

4.262 Spark recommended that the Commission initially focus on making wholesale service quality information available to providers as its unclear where the key concerns lie and what initiatives would be most effective in promoting wholesale service.[241] It suggested that areas we may want to consider focusing on are service company rescheduling and provisioning lead times.

4.263 As set out in PQP1, refinements could be made to the ID requirements as the performance of regulated providers is better understood and to capture industry changes. If in the future we were to consider amending ID requirements, any potential amendments would be to help ensure that sufficient information is readily available to interested persons to assess whether the purpose of Part 6 of the Act is being met. Such amendments could also enable more effective monitoring of Chorus' quality performance in PQP2 to determine whether additional or different quality measures are required as part of our PQP3 reset.

4.264 During our analysis of ID data, we identified that additional and timely ID reporting requirements could be beneficial in any future ID amendments to improve interested parties understanding of Chorus' provisioning performance alongside our draft provisioning standard.

Other optional dimensions

4.265 The fibre IMs allows us to set a quality standard for any of the optional quality dimensions of ordering, provisioning, switching, faults, or customer service.[242]

4.266 For PQP1, we decided not to set a quality standard for any of the optional quality dimensions. In our PQP2 process and approach paper we stated that we intended to reassess optional dimensions for quality standards.

Draft decision

4.267 Our draft decision is not to set standards for the optional dimensions of ordering, switching, faults or customer service.

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240 Commerce Commission "Fibre Information Disclosure: Final Decisions – Reasons Paper" (30 November 2021).

241 Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period" (28 September 2023), at 9.

242 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 2.52.

Stakeholder views

4.268 No comments were made in submissions on the setting of quality standards for faults, ordering, or switching.

4.269 One NZ reiterated its view from PQP1 (in submissions on the PQP2 process and approach paper) that the Commission should set a customer service standard.[243]

4.270 One NZ indicated that during the development of the quality standards for PQP1, it had (jointly with other access seekers) called for making determinations mandatory for the customer service dimension, including responsiveness to access seekers which has a direct link to outcomes for end-users. It cited complaints to the TDR, relating to the quality of installation, delays in service restoration and equipment failure as evidence of the need for a customer service standard. However, it did not propose what a standard might look like.[244]

4.271 Chorus submitted that for the metric of customer satisfaction, access seekers play a significant role in end-users' experience of provisioning.[245]

Reasons

Ordering and switching and faults

4.272 Our draft decision is to not introduce any further optional standards for the following reasons:

4.272.1 ordering and switching - there are currently no ID requirements for these dimensions and our analysis does not suggest that a quality standard is warranted. As set out in the PQP2 process and approach paper, these are largely automated; and

4.272.2 faults - although we have limited usable data, our analysis of Chorus' faults performance generally under ID did not reveal any major concerns (ie, Chorus' performance seems consistent with industry, aside from concerns we were already aware of in the Northland region).

4.273 Submissions received on the PQP2 process and approach paper did not suggest or recommend that the Commission should set standards in any of these areas.

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243 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), at [55].

244 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), at [58].

245 Chorus "PQP2 Process and Approach" (28 September 2023), at [107].

4.274 We remain of the view that, for PQP2, quality standards for the optional quality dimensions of ordering, switching, faults or customer service are not warranted at this stage, and the range of other regulatory tools, in particular ID regulation, and external factors such as FWA competition, are sufficient to produce outcomes in the long-term benefit of end-users.

Customer service

4.275 Based on customer service data reported under ID, Chorus' performance was consistent with industry aside from its performance around the installation process. In that regard, we note:

4.275.1 Chorus' customer satisfaction score for the installation process was 78% on average. The TCF fibre installation code contains a target of 80% for a similar measure; and

4.275.2 Chorus had the highest number of missed appointments per 100 connections.

4.276 We consider that these results show customers are less satisfied with Chorus' provisioning process than the quality of its installations or other aspects of customer service.

4.277 However, we note that potential changes to the customer satisfaction ID requirements may allow for better transparency of Chorus' customer service and will consider whether to propose changes. For example, we may consider proposing:

4.277.1 more detailed customer satisfaction questions; and

4.277.2 disclosure of the distribution of the 1 – 10 scoring of end-users' customer satisfaction for better analysis and cross-sector comparability.

4.278 Chorus noted that for the metric of customer satisfaction in the customer service dimension, access seekers play a significant role in end-users' experience of provisioning. We consider it would not be possible to set a customer installation satisfaction standard that was solely reliant on Chorus performance although analysis of ID customer satisfaction could be an indicator of provisioning performance together with the draft provisioning standard.

Incentive scheme

4.279 In our PQP2 process and approach paper we consulted on whether to introduce an incentive or compensation scheme for PQP2 to help us formulate a draft decision.

Draft decision

4.280 Our draft decision is not to introduce a pilot quality incentive scheme or a compensation scheme for PQP2, and that we should instead continue to consider the need for, approach and design of any such schemes for future PQP resets.

Stakeholder views

4.281 Chorus submitted on the PQP2 process and approach paper that it already has strong commercial incentives to provide a good quality of service to its customers and end-users so the Commission should consider the extent to which a quality incentive is needed to drive end-user service outcomes.[246]

4.282 One NZ cautioned that any quality incentive scheme would need to be tightly limited in application.[247] Spark stated, 'it is unclear where the concerns lie and what initiatives would be most effective'.[248]

4.283 Chorus submitted on the PQP2 process and approach paper that introducing a quality incentive scheme would create some implementation challenges that need to be considered. It noted the same definitions should apply as the current PQ and ID regulations apply different definitions causing confusion and complexity. It cautioned against a third measure through an incentive scheme. It also submitted that it should be considered that an incentive scheme would be an additional compliance reporting requirement on top of an already extremely large set of disclosures and compliance reports that apply to Chorus.

4.284 Submissions received on the PQP2 process and approach paper did not therefore indicate that there is a problem that warrants implementing a quality incentive scheme or compensation scheme. Instead, they indicated that there may be a risk of driving negative outcomes if regulation is made in this area without due consideration.

Reasons

4.285 We have reached our draft decisions for the following reasons:

4.285.1 further analysis required on the benefits of an incentive scheme or compensation scheme; and

4.285.2 limited relevant data and information is available to assess the need for, and to design and implement, a quality incentive scheme or compensation scheme.

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246 Chorus "PQP2 Process and Approach" (28 September 2023), at [111].

247 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), at 17.

248 Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period" (28 September 2023), at [34].

4.286 Further analysis of each reason is provided below.

Further analysis required on the benefits of an incentive or compensation scheme

4.287 A quality incentive scheme would potentially impose costs and administrative burden on both Chorus and others in the sector. We would therefore not seek to impose regulation without further analysis of the benefits from an incentive scheme.

4.288 While some stakeholders supported the principle of a quality incentive scheme, stakeholders identified some of the key challenges with implementing a scheme. In particular, we agree with Spark that greater clarify is needed on the areas a scheme would target and the effectiveness of specific interventions.

4.289 We consider quality incentive or compensation schemes could have a role in future resets. However, we consider further work is required to determine the value from such schemes and ensure they are worth the investment.

Limited relevant data and information to support design of an incentive or compensation scheme

4.290 We consider setting a quality incentive scheme or compensation scheme without sufficient relevant information at this time could result in unintended outcomes.

4.291 To design and implement a quality incentive scheme to incentivise Chorus to operate at a quality that reflects its costs and meet end-user demands (including the WTP), we require sufficient and relevant data through ID reporting and other sources.

4.292 Limited data is currently available through ID reporting in the fibre ID determination and other sources on end-user demands. We currently have only three months of relevant ID data and a lack of targeted information on current end-user demands for quality services. Gathering additional data and evidence (including end-user information through customer surveys) may assist to ensure any future response is workable and will drive the right behaviours from suppliers. It would take time to gather more information to assist with the design and implementation of a scheme.

4.293 We have no measure of the Value of Lost Service (VoLS) on which to base an incentive scheme at this time. VoLS is one way to determine the willingness to pay for end-users to avoid an outage. Customer surveys are used to estimate the Value of Lost Load (VoLL) in the electricity sector and could be employed in a similar manner for fibre. The estimation of VoLL is a substantial undertaking - it is not necessarily a single number but can have many dimensions, such as the length of the outage, day of the week, time of day, customer type, and the consumption level of the customer.

4.294 In submissions on the PQP2 process and approach paper:

4.294.1 Spark recommended that, "the Commission initially focus on making wholesale service quality information available to providers as it is unclear where the key concerns lie and what initiatives would be most effective in promoting wholesale services";[249] and

4.294.2 Chorus favoured a "low-powered or shadow scheme" to reduce the impact of any issues caused by data quality and reflecting data limitations.[250]

4.295 We therefore consider we need to source additional relevant data and information to underpin the policy design of a quality incentive scheme (or compensation scheme). If such a scheme is not well-designed and evidence-based, it may be unworkable. It is not desirable to cause perverse outcomes or unintended consequences.

Contractual compensation incentive schemes are already in place

4.296 In the PQP2 process and approach paper, we noted an alternative to an incentive scheme would be a compensation scheme. The compensation scheme would set minimum standards of performance and require Chorus to pay prescribed amounts of compensation if it fails to meet those standards. Chorus could be required to pay compensation to access seekers and/or end-users for failing to meet a target quality level. As above, it will be useful to have the additional data and information to ensure we progress and develop workable regulation that aligns with sections 162 and 166 of the Act.

4.297 We note Chorus' view in its submission on the PQP2 process and approach paper that creating a compensation scheme would duplicate the arrangements already in place contractually and could effectively create a double penalty for the same or similar service failures. Chorus' Service Agreement Service Level Terms have core service rebates where there is one month's rental fee each time a service level is not achieved.[251]

4.298 Given the other issues outlined above with implementing an incentive scheme at this time, we think that further work would need to be done to investigate the implications of current Chorus arrangements, and do not consider that this could be done in time for our PQP2 decision.

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249 Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period" (28 September 2023), at 3.

250 Chorus "PQP2 Process and Approach" (28 September 2023), at 30-31.

251 Chorus "PQP2 Process and Approach" (28 September 2023), at [122]. Also see Chorus "Chorus UFB Services Agreement: UFB Services Agreement Bitstream Services: Service Level Terms for Bitstream Services" (October 2020), at 19-20.

Chapter 5 Anchor service review

Purpose and outline of this attachment

5.1 This chapter sets out our final decision on whether to review anchor services at this time, and sets out:

5.1.1 Our final decision;

5.1.2 Legal framework;

5.1.3 Anchor services developments;

5.1.4 Our emerging view;

5.1.5 Stakeholder views; and

5.1.6 Reasons for our final decision.

Our final decision on whether to review anchor services

5.2 Our final decision is not to review whether, and how effectively, an anchor service meets the purpose of anchor services set out in s 208(7) of the Act.[252] We have retained the same decision as outlined in our emerging view published as part of our PQP2 process and approach paper.[253] Nothing raised in submissions or that we have considered suggests to us that we should undertake a review under s 208 of the Act ahead of PQP2. We consider our decision not to undertake a review is consistent with s 166(2).

5.3 We intend to maintain a watching brief during PQP2 on whether the current anchor services remain appropriate.

Legal framework

5.4 As set out in Chapter 2, we must make decisions which best give, or are likely to best give, effect to the purposes of s 162 and, to the extent relevant, s 166(2)(b).

5.5 Section 198 sets out that a regulated fibre service provider who is subject to PQ regulation must provide an anchor service if an anchor service has been declared.[254]

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252 Telecommunications Act 2001, s 208.

253 Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023).

254 Under s198 of the Telecommunications Act 2001, an anchor service must be provided:
(a) in accordance with any prescribed description of the service; and
(b) in accordance with any prescribed conditions; and
(c) during any prescribed period for the service; and
(d) at a price that is no greater than any prescribed maximum price.

5.6 The Telecommunications (Regulated Fibre Services) Regulations 2021 were initially made on 13 September 2021 and took effect from 1 January 2022.[255] They were further revised as of 29 March 2023. The Regulations specify anchor broadband and voice services.[256]

5.7 Section 208 of the Act provides that the "Commission may, before the start of each regulatory period (including the first regulatory period), review whether, and how effectively, an anchor service meets the purpose of anchor services".[257] It is therefore open to the Commission to not conduct an anchor services review.

5.8 The purpose of the anchor services is set out at s 208(7) as:[258]

5.8.1 to ensure that baseband equivalent voice and basic broadband services are available to end-users at reasonable prices; and

5.8.2 to act as an appropriate constraint on the price and quality of other fibre fixed line access services.

5.9 As we are not conducting the review, we do not consider we need to determine whether and how effectively the purpose of anchor services is being met by the current anchor service. However, we have had regard to s 208(7) of the Act in reaching our final decision.

5.10 If the Commission decides to carry out a review:

5.10.1 A review must consider the following in respect of an anchor service:

5.10.1.1 any prescribed description of the service;

5.10.1.2 any prescribed conditions that apply to the service;

5.10.1.3 any prescribed period for the service; and

5.10.1.4 any prescribed maximum price for the service.[259]

5.11 If the Commission carries out a review, it is also required to give interested parties a reasonable opportunity to give their views on the matters subject to review, and must have regard to any views received.[260]

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255 In December 2022, the High Court found certain aspects of the Regulations relating to material incorporated by reference to be unlawful. This resulted in an order to sever the offending aspects of the Regulations. *Chorus Ltd v Minister for the Digital Economy and Communications* [2023] NZHC 662.

256 Telecommunications (Regulated Fibre Services) Regulations 2021.

257 Telecommunications Act 2001, s 208.

258 Telecommunications Act 2001, s 208(7).

259 Telecommunications Act 2001, s 208(2).

260 Telecommunications Act 2001, s 208(3).

5.12 If an anchor services review is conducted, s 208 sets out that at the conclusion of the review, the Commission is required to make a recommendation to the Minister on matters such as whether the description of the service should change or whether the maximum price should be altered.

Background and recent developments to the anchor services

5.13 The current anchor services, as specified by Telecommunications (Regulated Fibre Services) Regulations 2021, regulation 6, include:

5.13.1 a broadband Internet access service with a minimum download speed of 100 megabits per second and a minimum upload speed of 20 megabits per second; and

5.13.2 a voice-only communication service provided using an ultrafast broadband Internet connection.

5.14 Each anchor service specifies only a monthly maximum price that increases or decreases (as appropriate) by an annual CPI adjustment on 1 July each year.

5.15 In choosing the anchor services, the Minister explained that:[261]

> *"it is important to clarify the policy intent behind anchor products. Broadband anchor products should be clearly designed to ensure that an entry-level broadband service is available at a reasonable price, rather than to directly control the price of the most popular product. An entry-level service will still function as a price and quality 'anchor' for a more popular midmarket product. I think it likely that, by 2020, a 100/20Mbps product will be an entry-level product."*

5.16 In December 2021, Chorus and the other LFCs boosted the bitstream 100/20 plans to have a download speed of 300 Mbps and an upload speed of 100 Mbps at the same price.

5.17 All access seekers flowed through this change to end-users. Chorus called this the 'Big Fibre Boost' and intend to keep price increases to CPI for PQP1.

Our emerging view and stakeholder views

5.18 In our PQP2 process and approach paper, we set out our emerging view that we would not undertake a review of the anchor services before the start of PQP2.[262]

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261 Cabinet "Review of the Telecommunications Act 2001: Final Decisions on Fixed Line Services, Mobile Regulation and Consumer Protection" (22 May 2017), at [29].

262 Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023).

Summary of stakeholder views

5.19 Spark and One NZ supported the Commission undertaking an anchor services review now, while Chorus did not support such a review.[263]

5.20 One NZ proposed that the Commission should consider making the 300/100 product the new anchor service product, replacing the 100/20 product. This was also supported by Spark. Alternatively, One NZ submitted that the Commission should require Chorus to commit to continuing to align the price of the 300/100 product to the anchor service for PQP2.

5.21 One NZ stated that the current anchor service, Chorus's UFB services agreement, ID, market based competition from FWA and the PQ quality standards under the regulatory regime do not provide sufficient constraint on the price of services provided by Chorus.[264]

5.22 Spark and One NZ stated that LFCs do not currently offer the current anchor service which would make it difficult for RSPs to re-introduce a 100/20 product to the market.[265,266] Spark stated that the price of the 300/100 bitstream service would need to increase markedly relative to the 100/20 service for customers to revert back to the current anchor service product (100/20).

5.23 One NZ considered FWA only provides sufficient competition to constrain price of the lower speed, fibre starter products and that the 300/100 bitstream service offers a different level of service that consumers now consider to be the standard indicator of broadband quality.[267]

5.24 Spark considered that the effectiveness of the anchor product will degrade in PQP2 when Chorus' commitment to align the price of the 300/100 bitstream service to the anchor service ends in PQP1.[268] One NZ also considered that initiating a review during PQP2 if Chorus implemented price rises that resulted in significant bill shocks would be too late.[269]

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263 Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period" (28 September 2023); One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September); and Chorus "PQP2 Process and Approach" (28 September 2023).

264 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), at [67].

265 Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period" (28 September 2023).

266 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023).

267 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), at [70].

268 Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period" (28 September 2023).

269 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023).

5.25 Chorus considered that an anchor service review is unwarranted and that the current prescribed anchor service is unnecessary because:[270]

5.25.1 it offers and promotes sub-anchor services at sub-anchor prices (Home Fibre Starter) ensuring the availability of "basic services at reasonable prices".

5.25.2 it offers a service with substantially higher performance at the same price as the anchor service.

5.25.3 The other LFCs, unconstrained by the anchor service regulation but facing similar competition from wireless networks, offer comparable fibre portfolios further reinforcing the adequacy of market forces to constrain fibre portfolios.

5.26 In Chorus' view the requirement in s 208(1) "before the start of each regulatory period" indicates that the Commission could only undertake an anchor services review prior to the start of a PQ regulatory period not at any time during the regulatory period.[271] It also noted that "any material change to the anchor service regulations at a time other than the start of a new regulatory period has the potential to be highly disruptive to Chorus, our RSP customers and end-users."[272]

Reasons

5.27 Our final decision is not to review whether, and how effectively, an anchor service meets the purpose of anchor services as set out in s 208(7) of the Act.[273] Nothing raised in submissions or that we have considered suggests to us that we should undertake a review under s 208 of the Act ahead of PQP2. As we are not conducting a review, we do not need to determine whether, and how effectively an anchor service is meeting the purpose of anchor services. However, we have had regard to s 208(7) of the Act in reaching our final decision.

5.28 We set out our reasons in further detail below. We consider our decision not to undertake a review is consistent with s 166(2) of the Act.

Service description of the anchor service and its ability to constrain quality

5.29 The description of the broadband anchor service requires a minimum download speed of 100 megabits per second and a minimum upload speed of 20 megabits per second (100/20).[274]

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270 Chorus "PQP2 Process and Approach" (28 September 2023), at [130].
271 Chorus "PQP2 Process and Approach" (28 September 2023), at [133].
272 Chorus "PQP2 Process and Approach" (28 September 2023), at [135]
273 Telecommunications Act 2001, s 208.
274 Telecommunications (Regulated Fibre Services) Regulations 2021, Regulation 6.

5.30 This simplified specification for the declared services resulting from the Court's decision means there are no service level terms to maintain a minimum quality of service.[275] Despite this, we consider:

5.30.1 consultation through the TCF UFB Product Forum, performance against ID measures, contractual relationships between Chorus and access seekers, and any breaches of PQ standards can be relied upon for maintaining quality levels; and

5.30.2 contractual disclosures under ID will highlight any changes to quality.

5.31 We consider that the current anchor service works alongside Chorus' UFB services agreement. Further, we consider monitoring and publication of information under ID regulation, market based competition from wireless broadband and our quality standards are likely to provide sufficient incentives to maintain and improve quality over the next regulatory period. However, we intend to monitor this issue closely over PQP2.

5.32 As set out above, in December 2021, Chorus and the other LFCs boosted the bitstream 100/20 plans to have a download speed of 300 Mbps and an upload speed of 100 Mbps for the same price (ie, the 300/100 service was priced at the anchor service price).

5.33 All access seekers flowed through this change to end-users. Chorus called this the 'Big Fibre Boost' and stated it would keep price increases to CPI for PQP1.

5.34 We acknowledge One NZ's submission that the current FWA offerings do not provide sufficient competition to Chorus' 300/100 product. However, competition from FWA is not the only constraint on Chorus' ability to offer quality of services at a lower standard than end-users want. Additionally, the current broadband anchor service is a 100/20 service, and this is the service that should be considered when assessing whether competition with FWA is constraining the quality of services.

5.35 Both Spark[276] and One NZ[277] submitted that the broadband anchor service should be specified to have a 300/100 speed profile.[278] We do not consider that One NZ has provided sufficient evidence that the 300/100 service represents the standard level of quality or in this instance 'speed profile' that end-users want or that should represent a basic broadband service.

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[275] *Chorus Ltd v Minister for the Digital Economy and Communication*s [2023] NZHC 662.

5.36 If we were to undertake a review of the anchor service, s 208 of the Act requires us to consider the prescribed maximum price component of the anchor service alongside any consideration of a change in prescribed description of the service. This means we could not simply specify the anchor service to be a 300/100 service without considering whether the recommended maximum price is a cost-based price. We do not consider that in principle the anchor service must be set at the level of the most popular service to be achieving its purpose (s 208(7)).

5.37 Chorus could set the 300/100 product at the same price as the current broadband anchor service for PQP2 without regulatory change. It has elected to offer a commercial 300/100 variant at the same price as the broadband anchor service until 2025 which has left access seekers uncertain what pricing will apply to the 300/100 variant when that commitment expires.[279] However, while Chorus could increase the price of the 300/100 product during PQP2 greater than CPI (under the current regulations), Chorus is required to offer the 100/20 product to access seekers at the price prescribed by the Regulations.

Impact on available services and pricing

5.38 Chorus and other LFCs all increased consumer bitstream 100/20 plans to 300/100 in December 2021 at the same monthly charge as the anchor broadband service. To serve smaller households who have light demand, Chorus offers a lower priced Home Fibre Starter product at 50/10. The analogue telephone adapter voice service is offered by Chorus at the same price as the anchor voice service.

5.39 Spark submitted that as Chorus offered the 300/100 service at the same price as the anchor service it is difficult to infer any ongoing effect of the anchor service.[280] Spark does not believe the 100/20 broadband anchor service is a viable alternative in the market as it is difficult for national RSPs to support as it is not offered by the other LFCs.

5.40 Chorus' commitment was to link pricing of the boosted bitstream 300/100 service to the anchor service throughout PQP1. This has the effect of limiting the maximum increase in price of the 300/100 service to changes in CPI. Chorus' undertaking to link the 300/100 service to the 100/20 service ends on 31 December 2024. Following that date, Chorus has not set out that it will continue the link between the 300/100 and 100/20 service and end-users with the 300/100 service could face a larger price rise. This could happen if, for example, the MAR determined for Chorus' PQ path for PQP2 was set at a level that would not be recoverable at the current AS price (assuming CPI increases).

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279 One NZ "One NZ submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), at [65].

280 Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period" (28 September 2023), at [21].

5.41 The price of the broadband anchor service will provide a constraint on popular services especially as Chorus has linked it to the most popular 300/100 plan. This may change in the future if this constraint is removed and there is a move to higher speed plans. However, as previously noted, we do not consider the anchor service needs to be the most popular service for it to be achieving its purpose.

5.42 We have also considered our draft decision on the price path and the impact of the forecast building blocks revenue on possible pricing of different products, particularly the 300/100 bitstream product. The approach we have taken to design the draft price path for PQP2, including the approach to smoothing and alternative depreciation mean potential price increases during PQP2 could be less than without these measures.

5.43 Even where this is the case, the existence of the anchor service means that end-users may move back to the 100 service. We consider this acts as a constraint on the price Chorus charges for higher speed services.

5.44 Section 208 sets out that we may, before the start of each regulatory period, review whether, and how effectively, an anchor service meets the purpose of anchor services in subsection (7). It is open to us to consider whether to review ahead of each regulatory period, and significant price increases may demonstrate a review should be conducted. We may also consider whether it was viable for consumers to switch back to the current anchor service (a 100/20 product).[281]

5.45 While we acknowledge Spark and One NZ's submission point on the challenge of RSPs offering national wide 100/20 products, we consider the anchor services relate to services that Chorus provides and that Chorus still offers and is required to offer the current anchor services. We encourage RSPs to offer services that end-users want.

"before the start of each regulatory period"

5.46 The Act sets out that we may before the start of each regulatory period review whether and how effectively an anchor services meets the purpose set out in s 208(7). We acknowledge Chorus' submission that the Act directs us to consider a review before the start of the subsequent regulatory period and not at any time during a regulatory period (refer to paragraph 5.26).[282]

5.47 We agree with Chorus that the review of anchor services would be best timed to align with when the PQ path is reset given the potential implications on allowable revenues and expected quality standards (refer to paragraph 5.26).

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281 Note that the majority of RSPs do not currently offer a 100/20 plan. However, Chorus must continue to make the 100/20 product available under the current Anchor service regulations.

282 Chorus "PQP2 Process and Approach" (28 September 2023).

5.48 We note however, that this does not mean an anchor service review must start at the same time as we begin our work on an upcoming PQ reset. It may be prudent to being any review earlier to ensure sufficient consideration of the requirements of s 208. We also note that this does not prevent us from monitoring anchor and non-anchor service prices during the regulatory period to monitor whether to undertake a review.

Attachment A Depreciation and smoothing revenue

Purpose and structure of this attachment

A1 This attachment sets out our draft decisions on the depreciation of Chorus' regulatory asset base and the smoothing of allowable revenue within and between regulatory periods.

A2 This attachment covers the detail of:

A2.1 our draft decision to change the depreciation method applied to some of Chorus' core fibre assets;[283]

A2.2 our draft decision to continue using straight-line depreciation under GAAP with GAAP-based asset lives for the remaining core fibre assets; and

A2.3 our draft decision for the FLA to apply the same alternative depreciation method that we applied in PQP1.

Legal framework

A3 The treatment of depreciation for PQ purposes is generally provided for in Subpart 3 of the fibre IMs, clauses 3.3.2 and 3.3.3. However, the fibre IMs explicitly provide for the Commission to exercise its judgement about whether to apply a different depreciation method for some or all fibre assets when determining a PQ path.

A4 In PQP1 we maintained the default GAAP depreciation for the core fibre assets (in accordance with clause 3.3.2(3) of the fibre IMs) and applied an alternative depreciation method and asset life for the FLA (consistent with clause 3.3.2(5) of the fibre IMs).

A5 Clause 3.3.2(6) of the fibre IMs sets out that we may apply a different depreciation method to that applied to the previous regulatory period if we are satisfied, for the purposes of the PQ path, that the new depreciation method would:

A5.1 better promote the purpose of Part 6 of the Act;

A5.2 where relevant, best give, or be likely to best give, effect to s 166(2)(b) of the Act; and

A5.3 where relevant, be consistent with the Commission's smoothing of prices or revenue under s 197 of the Act.[284]

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283 We also explain how our decision on depreciation for a subset of core fibre assets interacts with our revenue smoothing decisions discussed in Chapter 3.

284 See *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.3.2.

Draft decision to change the depreciation method for a subset of core fibre assets

A6 Our draft decision is to change the depreciation method for a subset of core fibre assets to tilted annuity depreciation with a tilt rate of +3.5% and asset lives consistent with GAAP. The relevant assets are splitters, poles, ducts, manholes, cabinets, fibre cables and optical fibre distribution frames, which we collectively refer to as 'layer 1 communal assets'.[285]

A7 The depreciation method determines the amount of the RAB that Chorus can recover each year through regulated revenue. This is a material input to the forecast allowable revenue we set for Chorus' PQ path. Our draft depreciation decision defers $267 million of depreciation that would otherwise be recovered within PQP2.

A8 We consider our draft decision to change the depreciation method for some core fibre assets to defer revenue beyond PQP2 better promotes the Part 6 purpose than the alternative of continuing to use straight-line depreciation and allowing a large wash-up balance to build up over PQP2.[286] The relevant assets are splitters, poles, ducts, manholes, cabinets, fibre cables and optical fibre distribution frames, which we collectively refer to as 'layer 1 communal assets'. Applying a different depreciation method to that applied in PQP1 for these specific core fibre assets better promotes incentives to invest under s 162(a) and best gives, or is likely to best give, effect to s 166(2)(b) of the Act as it is not inconsistent with what we would expect in a workably competitive market.

A9 In PQP1 all core fibre assets were depreciated using straight-line depreciation, which reduces the asset value by the same amount each period. The alternative tilted approach varies annual depreciation over time, while maintaining the existing asset life. Our draft decision to apply tilted depreciation to a subset of core fibre assets will lower depreciation in PQP2 below that which is currently applied under a straight-line approach, and depreciation in future years will be gradually increased, becoming higher than a straight-line approach over time, so that the asset is fully depreciated over its existing life.

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285 Chorus "Recommendation of approach to MAR smoothing for PQP2" (1 May 2024), at appendix 1.

286 Clause 3.3.2(6) of the fibre IMs allows, after the first regulatory period, a different depreciation method to be applied for a regulatory period to that applied in the previous regulatory period if the Commission is satisfied, for the purposes of a price-quality path, that the new depreciation method- (a) better promotes the purpose of Part 6 of the Act; (b) where relevant, best gives, or is likely to best give, effect to s 166(2)(b) of the Act; and (c) where relevant, is consistent with the Commission's smoothing of prices or revenue under s 197 of the Act.

A10 Depreciation reduces the RAB value of assets and deferring depreciation in the way set out in our draft decision (ie, the titled annuity approach) will slow down the decline in the overall RAB value of subset of existing assets that the tilted annuity approach is applied to. Our draft decision will mean that the RAB value (under the tilted depreciation approach) will be higher than it would have been under a straight-line approach by the amount of deferred depreciation. The slower recovery of the assets under the tilted approach avoids the need for a higher MAR and stores the unrecovered value in the RAB against the specific assets that titled depreciation is applied to.

A11 Continuing to apply straight-line depreciation across all core fibre assets would mean reliance is placed totally on the wash-up balance to deal with any material under-recovery of the MAR, which will build up if Chorus does not achieve its full allowable revenue in a regulatory year, and which Chorus forecasts is likely under this depreciation approach. We consider our draft decision to apply tilted depreciation for certain core assets is better aligned to a competitive market approach, where a "wash-up" account balance is not available to capture under-recovered amounts of revenue. Any wash-up built up in PQP2 is then recovered over a future regulatory period, as only the pre-existing wash-up balance at the start of the PQP2 period is available for draw down during this period.

A12 Allowing a large wash-up balance to accrue would lead to greater uncertainty about future pricing/revenue profiles. If the wash-up balance is used to provide for a significant and foreseeable gap between the revenue Chorus can realistically earn (achievable revenue) and the MAR, it is likely to build up to a material amount that may become increasing difficult to manage the recovery of, over the future periods. A higher depreciation balance will help facilitate a more orderly future recovery.

Our reasons for our draft decision to change the depreciation method

Better meets the purpose of part 6

A13 Our draft decision is to tilt the depreciation on a specific subset of core fibre assets. The assets suggested are splitters, poles, ducts, manholes, cabinets, fibre cables and optical fibre distribution frames, which are collectively referred to as 'layer 1 communal assets'.

A14 We consider changing the depreciation method for some core fibre assets under clause 3.3.2(6) better meets the Part 6 purpose than continuing to apply the depreciation method used in PQP1.[287] We consider the most relevant limb of the purpose of Part 6 is s162(a) (incentives to invest), particularly regarding the impact of how asset stranding risk is managed.

A15 The likelihood that an investment in an asset will be recovered is directly linked to the depreciation approach chosen for that asset. Investment in assets with a higher stranding risk will be encouraged by a shorter asset life for depreciation and potentially front-loading of depreciation to reduce the risk over time that stranding will cause a financial loss. This was part of the rationale we applied to the change to the FLA depreciation method in PQP1.[288]

A16 If Chorus significantly under-recovers its MAR in PQP2, the wash-up balance will contain a mix of unrecovered costs, such as opex, depreciation and return on capital. This balance will be an undifferentiated 'lump' of unrecovered costs, similar to the FLA. Assets would continue to depreciate in value in the RAB while the corresponding revenue accumulates in the wash-up balance and is not yet recovered.

A17 Our understanding of Chorus' perspective is that the impact of any future potential deregulation on the wash-up balance is uncertain and that uncertainty may disincentivise investment.[289] The retention of the unrecovered value of assets in the RAB rather than in a wash-up also ensures the stranding allowance will be calculated based on the unrecovered value.

A18 Further disincentives to invest, if we adopt the capture of material amounts of unrecovered MAR in the wash-up account, are:

A18.1 the current lack of determinative rules around the treatment of a wash-up balance if deregulation were to occur;

A18.2 a lower ability to adopt further risk mitigation strategies, such as increasing the depreciation of specific higher stranding risk assets while slowing the depreciation of lower stranding risk assets; and

A18.3 the effective deferral of a recovery of depreciation across all assets, regardless of their level of stranding risk, when unrecovered returns are captured in the wash-up account.[290]

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287 *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.3.2(6)(a)

288 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at [6.42]-[6.47].

289 Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), at [9.39.1].

290 For example, the wash-up will on average contain a portion of the FLA depreciation allowance for the period in question.

A19 Our draft decision is consistent with the proposed alternative depreciation method put forward by Chorus. With its proposed alternative method, Chorus provided a report from Incenta.[291] In setting out why the alternative method should be applied to the layer 1 communal assets, Incenta says that this subset of core fibre assets face significantly lower stranding risk than other core fibre assets or the FLA. In support of the alternative depreciation method, Incenta therefore proposes, for consistency, retaining the same depreciation settings for the assets that are exposed to more material stranding risk (ie, a negative tilt for the FLA and straight-line depreciation for other, non-communal core fibre assets), and so focusing the adjustment to depreciation (ie, deferral) on the remainder of the assets.[292]

A20 We agree that the subset of core fibre assets targeted for adjusted depreciation are of lower stranding risk, and that targeting a slowing of recovery of these assets therefore provides better incentives to invest under s 162(a) and is not inconsistent with what we would expect in a workably competitive market.

A21 While this decision is finely balanced, we consider that changing the depreciation method for a subset of core fibre assets better promotes incentives to invest under s 162(a) of the Act, than maintaining our depreciation approach from PQP1 and allowing a large wash-up balance to build up. We consider the two options have an equivalent effect in promoting the other limbs of the purpose of Part 6, as they are present value-equivalent, and neither is expected to influence Chorus' pricing decisions during PQP2.

A22 Where relevant, best gives, or is likely to best give, effect to s 166(2)(b) of the Act; We consider the promotion of workable competition under s 166(2)(b) of the Act is a relevant consideration in our assessment of depreciation methods. Competition between Chorus and other market participants could be impacted if an alternative depreciation method influences Chorus' pricing, depending on the level of revenue Chorus is likely to be able to achieve in PQP2.

A23 Our draft decisions result in a MAR that is consistent with the approach to revenue that Chorus has requested.[293] We consider our draft decision does not negatively impact competition in the telecommunications market and that Chorus will be able to appropriately apply prices to target achievement of its MAR as a result of our draft decision. This means we are not concerned that our draft decision would cause Chorus to have an inappropriate advantage in the market by under-cutting its competitors' prices and recovering the difference in revenue in the future.[294]

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291 Incenta Economic Consulting "Smoothing of revenue for RP2" (April 2024).

292 Incenta Economic Consulting "Smoothing of revenue for RP2" (April 2024), at [75(b)].

293 Chorus "Recommendation of approach to MAR smoothing for PQP2" (1 May 2024), at [10(b)].

294 We note that Chorus has been able to set prices in PQP1 that it believes are appropriate to meet competition from FWA at the entry level end of the market, and we expect it will be able to do this in PQP2, with or without the application of tilted depreciation to a subset of core fibre assets.

A24 Chorus' estimate of achievable revenue is the best estimate available to us. If this estimate is unbiased or overstated, then our recommended change to the depreciation method will not constrain Chorus' pricing and is not likely to impact competition in the market. If the estimate of achievable revenue is understated, our recommended change to the depreciation method could negatively impact competition in the short term by allowing Chorus to undercut its competitors, but this would balance out in future periods as the alternative depreciation method is present value neutral.

A25 Chorus knows its business best and are in the best position to forecast future demand and the associated revenue it can achieve. We consider Chorus has incentives to provide us an unbiased best estimate and not understate its achievable revenue. Chorus faces strong disincentives for over-recovering revenue from penalties, and little to no incentive to deliberately under-recover revenue given the risk of asset stranding from slower RAB recovery. An under forecast of potential revenue would mean Chorus would be unable to fully exploit its current ability to earn a reasonable return and may lead to un-forecast costs from increased demand that it may not recover.

A26 Incenta has noted that the revenue constraint that is used to calibrate Chorus' depreciation will be a forecast, and actual revenue may be higher or lower than that forecast. This leads to a risk, when the PQP2 MAR is reduced by tilting depreciation, that Chorus in fact does better than forecast and the reduced MAR then constrains Chorus' actual revenue. Constraining Chorus' revenue to a level below what the market will bear may disincentivise future investment from reduced current returns, at a time when possibly demand is higher than forecast.[295]

A27 Without the depreciation adjustment, any actual revenue above current forecasts is unlikely to be an issue, as it would simply reduce the currently expected increase in the wash-up balance. However, if the MAR was to be reduced to such an extent that it left little room for error in Chorus' current revenue forecasts, then it could cap revenues that otherwise were available to Chorus.

A28 Capping revenues that are otherwise available and that would have been below the level of an unadjusted PQP2 MAR would not meet the requirement to best give or be likely to best give effect to s 166(2) - the promotion of workable competition in telecommunications markets for the long-term benefit of end-users of telecommunications services. This is because it will artificially constrain the current recovery of Chorus' investment to below that which is available from existing customers. This in turn would be likely to artificially lower current market prices, while raising them in the future.

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[295] For example, the higher than forecast revenues may be the result of higher than forecast uptake of fibre.

A29 Incenta has suggested, and we agree, that any tilt should still allow a reasonable degree of "headroom". That is, the reduction in the MAR, after smoothing is applied, still leaves a reasonable amount of potential revenue above Chorus' current forecast.[296]

A30 We have adopted this approach in coming to our draft decision and consider that the smoothed MAR is consistent with allowing Chorus to appropriately manage its pricing to obtain its full revenue potential for PQP2, including if demand growth is higher than it forecast, or inflation is higher than forecast.

A31 Our draft decision to adopt tilted depreciation for a subset of core fibre assets also helps to reduce the step change in allowable revenue between 2024 and 2025. The reduction in the PQP2 MAR as a result of backloading depreciation decreases the smoothed allowable revenue for 2025 compared to the alternative of continuing to use straight-line depreciation for all core fibre assets.

A32 A further risk raised by Incenta is that of locking in a tilt rate decision at the draft decision prior to the determination of final MAR inputs. For example, if the PQP1 wash-up balance or the expenditure inputs change prior to the final decision, this may mean a change to the tilt rate is required.[297] We note that the draft decision is in two parts. Firstly, the draft decision to adopt tilted depreciation, secondly the draft decision on the degree of the tilt. The degree of the tilt may change for the final based, based on any revised MAR inputs.

Where relevant, is consistent with the Commission's smoothing of prices or revenue under s 197 of the Act

A33 As set out in Chapter 3, we do not consider it necessary or desirable to smooth revenues to minimise any undue financial hardship to Chorus, or to minimise price shocks to end-users under s 197 of the Act. We discuss this further at paragraphs 3.58 to 3.62.

A34 Accordingly, clause 3.3.2(6)(c) of the fibre IMs is not a relevant consideration for us in assessing whether to apply a different depreciation approach for PQP2. In any event, we consider our approach to adopt a different depreciation method is consistent with our decision not to smooth under s 197 of the Act.

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296 Incenta Economic Consulting "Smoothing of revenue for RP2" (April 2024), at [75(a)].

297 Incenta Economic Consulting "Smoothing of revenue for RP2" (April 2024), at [75(b)].

Why Chorus has applied for an alternative depreciation method

A35 Chorus applied for and we adopted an alternative depreciation method for the FLA in PQP1. In seeking an alternative depreciation method for the FLA in PQP1, Chorus raised concerns that forecast allowable revenue might curtail its revenue growth in PQP1 without the alternative depreciation approach. The alternative method frontloaded depreciation for the FLA in PQP1 and sought to ensure forecast allowable revenue for PQP1 did not curtail revenue growth driven by FFLAS uptake, maintaining flat real revenue per end-user. In adopting this approach, we considered it maintained incentives to invest, while helping to mitigate stranding risk.[298]

A36 Chorus has raised concerns ahead of PQP2 that it is constrained in its ability to increase prices and is concerned it will not be able to achieve revenue close to the PQP2 MAR, based on the latest available forecasts and assuming the same settings we applied PQP1.[299] Available forecasts for inflation and the cost of capital, combined with the expected exhaustion of Chorus' historic tax losses and the accelerated depreciation of the FLA, mean that multiple building blocks components of revenue may see an upward step change at the beginning of PQP2.

A37 Alongside its request for a different depreciation method for some core fibre assets, Chorus provided a report from Incenta. In that report, Incenta has discussed the reasons for Chorus' concern that it cannot achieve revenue close to a higher MAR in PQP2. In summary these are that:[300]

A37.1 the anchor products directly constrain Chorus' prices, where the anchor products are substitutes for other products;

A37.2 other constraints under the Act constrain Chorus' pricing, such as the requirement for it to set geographically consistent prices; and

A37.3 competitive constraints also exist, such as fixed wireless services and other technologies (eg, low earth orbit satellite-based services).[301]

A38 We have reviewed Chorus' high-level forecasts of the revenue it currently believes it can achieve in each year of PQP2. Its forecasts indicate a significant expected shortfall against PQP2 MAR, under the approach we took in PQP1.[302]

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298 Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at [6.89.3].

299 Incenta Economic Consulting "Smoothing of revenue for RP2" (April 2024), at [3].

300 Incenta Economic Consulting "Smoothing of revenue for RP2" (April 2024), at [3].

301 Incenta also point to increasing fibre deployment by non-LFCs as a competitive constraint. See Incenta Economic Consulting "Smoothing of revenue for RP2" (April 2024), at 1.

302 Noting that while smoothing can help shape expected recovery to be better aligned with the pattern of revenue recovery Chorus forecasts for PQP2, smoothing alone will not address the risk of significant underachievement of the total MAR for the period.

A39 We consider that Chorus has incentives to provide the best forecasts it can of its achievable revenue in PQP2. Artificially under-forecasting achievable revenue and constraining its pricing is unlikely to offer Chorus any advantage, in terms of addressing competitive constraints.

A40 In both PQP1 and PQP2 we are required to set a revenue path rather than a price path, so Chorus would not gain any additional ability to change prices by under-forecasting achievable revenue.[303] For example, Chorus can currently set prices for its entry-level products to compete against FWA, while still targeting total revenue close to the MAR.

A41 Incenta's paper sets out four options that it says could deal with the forecast under-recovery. These are:[304]

A41.1 maintain the same approach as PQP1 and allow under-recovery to flow to the wash-up account for recovery in future periods;

A41.2 change the depreciation method of a portion of Chorus' core fibre assets to reduce the MAR to a level that is more likely achievable (Chorus' preferred option);

A41.3 change the depreciation method of the FLA to reduce the MAR to a level that is more likely achievable; and

A41.4 defer an amount of revenue to a future period via the creation of a new regulatory (financial) asset that will be treated as a RAB asset that tracks the deferred amount.

A42 We have explored the first two options of maintaining the PQP1 approach and changing the depreciation method of a subset of core fibre assets.

A43 We consider the third option proposed would worsen the promotion of the Part 6 purpose because it poorly allocates the stranding risk of the FLA, in contradiction to our PQP1 decision. Making adjustments to the FLA depreciation to reduce the MAR would require moving from the current front-loading of depreciation to a backloading approach. This would be contrary to the reasons we explained for adopting tilted depreciation for PQP1 and it is does not align with the purposes of the Act to use the FLA in this way.

303 Section 195(1). This form of control applies to Chorus' second PQ path by virtue of the operation of s 195, s 209 and s 225.

304 Incenta Economic Consulting "Smoothing of revenue for RP2" (April 2024), at [9] and [31].

A44 The fourth option of creating a new regulatory asset to manage deferred revenue creates more complexity without sufficient benefit. Compared to option two, it is present value neutral but requires input methodology changes. Using depreciation to achieve the same outcome is simpler and maintains greater certainty. We consider the fourth option would not better promote the Part 6 purpose compared to option two.

Draft decision for the remaining core fibre assets

A45 For the remaining core fibre assets, our draft decision is to continue using straight-line depreciation under GAAP with GAAP-based asset lives, consistent with the default method in clause 3.3.2(3) of the fibre IMs. No alternative approach has been applied for under clause 3.3.2(6).

Draft decision for the financial loss asset

A46 For the FLA, our draft decision is to apply the same alternative depreciation method that we applied in PQP1, which is tilted annuity depreciation with a tilt rate of -13% with an asset life of 14.2 years.

Our draft decision for the FLA is that it will remain the same as in PQP1, using the tilted annuity method to front-load depreciation. We consider that the same depreciation approach as applied in PQP1 for the FLA should continue to be applied and that no alternative depreciation method would better promote the purpose of Part 6, noting that the Commission is not altering depreciation to smooth revenues and prices under clause 3.3.3 of the fibre IMs. This is because our draft decision better manages the risk of asset stranding for the FLA than a depreciation method consistent with GAAP, as discussed in our reasons paper for our PQP1 decision.[305]

[305] Note that the FLA is considered to have a higher asset stranding risk than other assets. See Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021), at [6.89.1].