

Chorus' expenditure allowance for the second regulatory period (2025 – 2028)

Final decision – reasons paper

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Associated documents

Publication date	Reference	Title
28 February 2023	ISBN 978-1-99-101275-3	Duration of the second regulatory period for Chorus' price quality path – Final decision – Reasons paper
28 February 2023		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
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
17 July 2024	ISBN 978-1-991287-50-2	Draft fibre IM amendments to implement our PQ decisions or correct technical errors
18 April 2024	ISBN 978-1-991287-04-5	Chorus' expenditure allowance for the second regulatory period (2025-2028) draft decisions – reasons paper
18 April 2024		Chorus Letter – RE: Notification of material change to PQP2 capex proposal – 5 February 2024
18 July 2024	ISBN 978-1-991287-20-5	Chorus' price quality path for the second regulatory period (2025-2028) draft decision – reasons paper and determination

Commerce Commission
Wellington, New Zealand

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List of abbreviations

Abbreviation	Definition
Act	Telecommunications Act 2001
ABAA	Accounting-based allocation approach
BST	Base step trend
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
CRT	Chorus regional transport
CTO	Chief technology office
DFAS	Direct fibre access service
DWDM	Dense-wave division multiplexing
FAN	Fibre access network
FFLAS	Fibre fixed line access service
FFP	Fibre flexibility point
FLA	Financial loss asset
FSA	Field service agreement
FSP	Field service provider
GPON	Gigabit passive optical network
ICP	Individual capex proposal
ID	Information disclosure
IFP	Integrated fibre plan
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
PPI	Producer price index
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)
RAB	Regulatory asset base
Regulations	Telecommunications (Regulated Fibre Service Providers) Regulations 2019
RFI	Request for information
RPE	Real price effect
RSP	Retail service provider
Synergies	Synergies Economic Consulting
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 final decisions for Chorus' expenditure allowances for the regulatory period from 1 January 2025 to 31 December 2028 (PQP2).
- X2 For PQP1 we determined Chorus' expenditure allowances and price quality (PQ) path at the same time. The process for PQP2 has been different. We have split our decisions into two and have held separate consultations on each of the following:
- X2.1 Chorus' expenditure allowances for PQP2; and
 - X2.2 Chorus' PQ path for PQP2.
- X3 We are currently consulting on Chorus' PQ path for PQP2, with submissions on that paper closing on 15 August 2024 and cross submission due on 5 September 2024. Our final expenditure decision will be followed later in the year by a final decision on Chorus' PQ path, which will determine the maximum revenue Chorus can earn and the quality standards it must achieve.

Summary comments

- X4 Our final decision is to determine a total expenditure allowance of \$1.7 billion for PQP2 (base capex allowance, connection capex baseline allowance and opex). In coming to our final decision, we have applied the fibre IMs and considered whether the proposed expenditure satisfies the capital expenditure objective and reflects good telecommunications industry practice.¹
- X5 The final expenditure allowances represent an increase of \$128.6 million over our draft decision following the further information (and evidence) provided in submissions to support our conclusions that the expenditure proposed satisfies the requirements of the Act and the fibre IMs. As the regime matures, in subsequent PQ resets, we would expect to see better upfront evidence of why the proposed expenditure reflects the efficient costs that a prudent fibre operator would incur to deliver PQ FFLAS of appropriate quality, during the relevant regulatory period and over the longer term included in Chorus' proposal. This would reduce the use of submissions and RFIs to provide this information.

¹ We have explained our final decisions by referencing our specific obligations under the fibre IMs, and where relevant, the Act, as well as explaining why our final decisions best give, or are likely to best give, effect to the s 166(2) purposes. For opex we adopted a similar approach to how we consider capex (as set out in the draft decision). We have applied this framework in coming to our final decision, and this is the same framework as used in PQP1.

- X6 While our final decision is an increase in the amount of expenditure compared to our draft decision, we have still not included \$362.3 million proposed by Chorus. We have not included this expenditure as we do not consider that it reflects the efficient costs that a prudent fibre operator would incur or that it was sufficiently evidenced to be prudent and efficient.
- X7 We have consulted on our draft decisions and have considered all submissions and cross submissions received. In many places our final decisions are the same as our draft, but we note the following expenditure areas that have materially changed:
- X7.1 cost allocation;
 - X7.2 standard installations;
 - X7.3 field sustain;
 - X7.4 resilience;
 - X7.5 connection capex; and
 - X7.6 opex.
- X8 Our final decisions by category are summarised below, and detailed in subsequent chapters.

Final expenditure allowances for PQP2

- X9 Our final decision is to determine the following amounts for Chorus' expenditure allowance for PQP2 as set out in Table X1.

Table X1 Summary of our expenditure final decisions (constant \$2022)²

Expenditure Category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	PQP2 Total (\$m)
Base capex allowance	245.9	217.0	189.9	194.9	847.7
Connection capex baseline allowance	53.9	45.5	42.3	32.3	174.1
Opex	173.2	175.9	176.4	174.9	700.4
Total	473.0	438.4	408.7	402.2	1722.3

² Unless specified, all expenditure amounts set out in this final decision are expressed in constant terms (2022 dollars).

Base capex

X10 Our final decision is to determine a base capex allowance of **\$847.7m**. This is **73%** of the \$1,154.7m Chorus proposed. This is broken down in Table X2 below.

Table X2 Summary of base capex final decision

Category	Sub-category	Chorus proposal ³ (\$m)	Final decision (\$m)	Difference (\$m)	% of proposal included
Extending the network	Augmentation	220.6	32.5	-188.1	15%
	New property developments	32.4	32.5	0.0	100%
	UFB Communal	0.0	0.0	0.0	
Installations	Complex installations	1.8	1.8	0.0	100%
	Standard installations	117.7	89.9	-27.8	76%
IT and Support	Business IT	72.6	72.5	-0.1	100%
	Corporate	12.9	12.9	0.0	100%
	Network and customer IT	94.9	94.8	-0.1	100%
Network Capacity	Access	127.5	71.3	-56.2	56%
	Aggregation	79.8	79.8	0.0	100%
	Transport	85.0	84.9	-0.1	100%
Network Sustain and Enhance	Field sustain	120.5	114.8	-5.7	95%
	Relocations	18.2	18.2	0.0	100%
	Resilience	79.7	50.7	-29	64%
	Site sustain	91.1	91.1	0.0	100%
Total		1154.7	847.7	-307.0	73%
Total (excluding major fibre frontier investment)		965.0	847.7	-117.3	88%

³ For Chorus' proposed expenditure allowances see Chorus "RT01 – Forecast and historic expenditure regulatory template" (31 October 2023).

- X11 The most significant reduction in this category occurred following the further information Chorus provided on 5 February 2024 on its proposed approach to its fibre frontier programme. As a result of considering this information the final decision does not include **\$188.1m** of proposed base augmentation capex. In other cases, where we consider the proposed expenditure does not satisfy the capital expenditure objective as set out in the fibre IMs, our final decision includes a lower expenditure allowance than was proposed by Chorus.
- X12 Chorus may submit individual capex proposals for additional expenditure related to one or more base capex sub-categories at any time. This may include expenditure it has proposed for PQP2 and which we have not included in the base capex allowance.⁴

Connection capex

- X13 Our final decision is to determine a connection capex baseline allowance of **\$174.1m** which is **92%** of the \$190.0m Chorus proposed. This is broken down in Table X3 below. Chorus has forecast a lower level of connection capex compared to PQP1 reflecting a slowing of Chorus' network growth following the completion of the UFB programme.

Table X3 Summary of connection capex final decision

Connection types (aggregated)	Chorus proposal (\$m)	Final decision (\$m)	Difference (\$m)	% of proposal included
1: Standard – installation – simple	50.5	46.5	-4	92%
2a: Standard – installation – non-civil	48.9	40.8	-8.1	83%
2b: Standard installation – civil construction	19.9	17.3	-2.6	87%
3-6: Standard – extension (all classes)	49.8	49.8	0	100%
7-9: ONTs and complex installations	20.9	19.7	-1.2	94%

⁴ *Fibre Input Methodologies Determination 2020, as amended on 28 June 2023, clause 3.7.22.*

Connection types (aggregated)	Chorus proposal (\$m)	Final decision (\$m)	Difference (\$m)	% of proposal included
10: Non-linear hyperfibre costs	0	0	0	N/A
Total	190.0	174.1	-15.9	92%

X14 Compared to Chorus' proposal, our final decision on the connection capex baseline allowance is a reduction of **\$15.9m**, made up of the following:

X14.1 **\$11.6m** lower because our final decision is to reduce forecast connection volumes to reflect the updated information Chorus provided on the fibre frontier network extension programme; and

X14.2 **\$4.3m** lower because our final decision is to adjust some unit costs to remove unsupported cost spikes and to adjust forecast connection volumes to reflect a lower uptake of hyperfibre than that assumed in Chorus' proposal.

X15 The connection capex baseline allowance is washed up using actual connection volumes at the end of the PQP2 period under the connection capex variable adjustment. Connection capex unit costs are determined in our final decision on PQP2 expenditure and are not washed up at the end of the PQP2 period.

Opex

X16 Our final decision is to determine an opex allowance of **\$700.4m** which is **95%** of the \$739.8m Chorus proposed. This is broken down in Table X4.

Table X4 Summary of opex final decision

Category	Sub-category	Chorus proposal (\$m)	Final decision (\$m)	Difference (\$m)	% of proposal allowed
Customer	Customer operations	-28.9	-28.3	0.7	98%
	Product, sales and marketing	115.4	108.5	-6.8	94%
Network	Maintenance	137.3	126.8	-10.5	92%
	Network operations	80.1	78.5	-1.6	98%
	Operating costs	43.7	43.1	-0.5	99%

Category	Sub-category	Chorus proposal (\$m)	Final decision (\$m)	Difference (\$m)	% of proposal allowed
Support	Asset management	95.0	91.9	-2.9	97%
	Corporate	203.7	188.9	-14.6	93%
	Technology	94.1	91.0	-3.1	97%
Total		739.8	700.4	-39.4	95%

- X17 The differences between our final decision and Chorus' proposal are largely related to our final decisions on cost allocation, which retains much of the approach used in PQP1, and reflect the impact of the information received in February on fibre frontier on the allocation values. Other differences between our final decision and Chorus' proposal are due to our final decision not including expenditure that we do not consider satisfies the expenditure objective as set out in the fibre IMs. In some cases, this is due to insufficient information being provided to support proposed uplifts in opex as being the efficient costs of a prudent fibre operator, and in others where we consider Chorus has underestimated likely PQP2 efficiency gains.
- X18 Compared to Chorus' proposal, our final decision on the opex allowance allows for approximately:
- X18.1 **\$4.7m** less because our final decision is to remove a proposed step change (uplift) in opex proposed by Chorus;
 - X18.2 **\$2.2m** less because our final decision is to assume a greater step change in opex savings from IT optimisation than Chorus did in its proposal; and
 - X18.3 **\$32.8m** less because our final decision results in the combination of:
 - X18.3.1 reducing the connection growth input to opex to take into account the information Chorus provided in February on the fibre frontier network extension programme;
 - X18.3.2 efficiency adjustments to the trend of maintenance and non-network opex over the PQP2 period;
 - X18.3.3 removing the application of elasticity (trend) in advertising costs;
 - X18.3.4 allocating costs (between FFLAS and non-FFLAS) based on a split between either revenue or totex for the relevant component costs instead of the revenue allocator proposed by Chorus for some opex costs; and

X18.3.5 updating allocator values to reflect our final decision on base capex and connection capex.

Final decision compared to PQP1

X19 Table X5 compares our final expenditure decision for PQP2 with our final expenditure decision for PQP1 in terms of the average annual expenditure, in constant \$2022 terms. This puts the adjustments into comparative perspective across the two regulatory periods. It also illustrates the proportion of Chorus' proposal that was included in our decision for PQP1 and our final decision for PQP2. Our final decision results in average annual expenditure over PQP2 that is broadly consistent with our final decision on PQP1 expenditure, recognising both the slowing network growth and significant upfront investment in network capacity made by Chorus prior to PQP2.

Table X5 Comparison of PQP2 final decision and PQP1 final decision (in constant \$2022)

Expenditure allowance	PQP1 average annual expenditure (\$m)	PQP1 % of proposal included	Final decision average annual expenditure (\$m)	Final decision % of the proposal included
Base capex	232.3	94%	211.9	73%
Connection capex baseline	115.9	87%	43.5	92%
Opex	174.3	93%	175.1	95%

Final decisions that apply across expenditure categories

X20 The following areas apply across several expenditure categories.

Cost allocation

X21 Our final decisions on cost allocation are as follows:

X21.1 use, as we did for the draft decision,⁵ Chorus' proposed asset allocator types where they remain unchanged from PQP1;⁶

X21.2 use, as we did for the draft decision, Chorus' proposed operating cost (opex) allocator types where they remain unchanged from the opex allocator type used in PQP1;

⁵ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.17].

⁶ The fibre IMs require that the choice of allocators must be reviewed every 18 months, fibre IMs clause 2.1.3(1)(b).

- X21.3 for CTO common costs, use a revenue-based allocator (this is a change from our draft decision, which was to allocate all CTO costs using the totex allocator);
- X21.4 for CTO variable costs, use a totex allocator type and a personnel cost allocator type, as proposed by Chorus in its submission on our draft decision (this is a change from our draft decision, which was to continue to apply a totex allocator type);
- X21.5 for corporate common costs, use a revenue-based allocator (a change to the draft decision to allocate all corporate costs using the totex allocator);
- X21.6 for corporate variable costs to use the specific alternative allocator types as proposed by Chorus in its submission on the draft decision, which are totex and Chorus personnel cost allocator types;
- X21.7 maintain the draft decision to allocate co-location establishment and relinquishment operating costs using a revenue-based allocator, which is a change from the PQP1 direct attribution to non-FFLAS;
- X21.8 maintain the draft decision to directly attribute a number of roles to FFLAS or non-FFLAS in the product, sales and marketing area of opex costs. This reduces the proportion of operating costs in this area requiring allocation; and
- X21.9 maintain the draft decision to allocate service company overhead costs, which are costs associated with the management of service companies and related activities, using a service company totex-based allocator.

Table X6 Unallocated opex

	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total PQP2 (\$m)
Proposal	275.1	272.7	270.8	269.7	1,088.3
Final decision	269.0	265.2	262.1	259.0	1,055.2
Change	-6.1	-7.5	-8.7	-10.7	-33.1

Table X7 FFLAS opex

	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total PQP2 (\$m)
Proposal	180.5	184.9	186.7	187.8	739.8

	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total PQP2 (\$m)
Final decision	173.2	175.9	176.4	174.9	700.4
Change	-7.3	-9.0	-10.3	-12.8	-39.4

Table X8 Unallocated capex

	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total PQP2 (\$m)
Proposal	423.8	410.3	374.8	369.4	1,578.3
Final decision	375.8	329.6	276.8	274.0	1,256.2
Change	-48.0	-80.7	-98.0	-95.4	-322.1

Table X9 FFLAS capex

	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total PQP2 (\$m)
Proposal	348.0	343.4	330.5	323.0	1,344.8
Final decision	299.8	262.5	232.3	227.3	1,021.8
Change	-48.2	-80.9	-98.2	-95.7	-322.9

Cost escalation

X22 Our final decisions on cost escalation are to:

- X22.1 use the set of escalation indices proposed by Chorus (which is the same set used for PQP1 (see Table X10 below));
- X22.2 use the escalation index forecasts prepared by the New Zealand Institute of Economic Research (NZIER), as was done in PQP1;
- X22.3 use the same usage assumptions as used in PQP1, and not adopt Chorus' proposed changes for PQP2;⁷ and

⁷ 'Usage assumptions' is the term used by Chorus in its proposal to refer to the weightings of each expenditure sub-category that are inflated by the different escalation indices.

X22.4 update all of the escalation index forecasts, as well as the NZD/USD exchange rate forecast, for the final expenditure allowance.⁸

Table X10 Final set of escalation indices⁹

Index	CAGR ¹⁰
PPI civil	2.6%
CGPI	2.8%
LCI professional	2.4%
LCI all	2.6%
CPI ¹¹	2.8%
PPI all	2.5%
PPI rent	1.1%
PPI O E&E (PPI Outputs electrical and equipment)	2.0%
U.S. Fibre	0.2%

X23 Table X11 below summarises our final decision in nominal terms, which includes the application of our decisions on cost escalation. The expenditure decisions in this paper are expressed in constant dollar (2022) terms before cost escalation has been applied, unless otherwise stated.

X24 Minor differences may exist between final allowances in this paper and the draft allowances in the draft decision due to changes in cost allocation and/or flow-on impacts of the Fibre Frontier change, even where underlying policy has not changed. In other words, in some cases, while the draft and final decision are the same, the dollar values may be slightly different.

Table X11 Summary of our expenditure allowance final decisions (nominal dollars)

	Chorus proposal (\$m)	Final decision (\$m)	Difference (\$m)
Base capex allowance	1,280.4	943.0	-337.4

⁸ This update will be made to match the timing of forecast CPI used for input cost inflation with CPI used to smooth the revenue path.

⁹ These are the same as the indices proposed by Chorus in its 2023 expenditure proposal and remain unchanged from PQP1.

¹⁰ Compound Annual Growth Rate for 2022-2028.

¹¹ Just 'CPI' in Chorus "RT02 – Cost escalation regulatory template" (31 October 2023).

	Chorus proposal (\$m)	Final decision (\$m)	Difference (\$m)
Connection capex baseline	214.4	196.6	-17.8
Opex	841.8	789.5	-52.3
Total	2,336.7	1929.1	-407.5

Deliverability

X25 We consider the overall risk to deliverability of Chorus' opex and capex investment plans over PQP2 is likely to be low. We note that the primary risk in relation to deliverability would be any unforeseen interruptions to the provision of services by field service providers (FSPs), which could be caused by an insolvency event. Accordingly, we have not considered it necessary to make any adjustment to Chorus' overall expenditure allowances to account for delivery risks.

Forecast demand

X26 Significant proportions of Chorus' expenditure requirements are driven by numbers of connections to the fibre networks and the bandwidth requirements of users. Accordingly, it is important that demand forecasts are based on sound forecasting methodologies. Our final decision on demand forecasting is to rely on the following in analysing Chorus' expenditure proposal:

X26.1 connections forecasts produced by Chorus for PQP2 adjusted for the Commission's assessment of the impacts of the new information in relation to fibre frontier; and

X26.2 the bandwidth forecast produced by Chorus to forecast network capacity capex for PQP2.

X27 For our final decision, we have used an alternative hyperfibre demand forecast to the one Chorus used in its proposal, as explained in paragraph 4.124.

Chapter 1 Introduction

Purpose of this paper

- 1.1 This paper sets out our final decisions for Chorus' expenditure allowances for the second regulatory period from 1 January 2025 to 31 December 2028 (PQP2). Consistent with the fibre Input Methodologies (IMs), for our final decision we have determined expenditure allowances for the:¹²
- 1.1.1 base capex allowance; and
 - 1.1.2 connection capex baseline allowance.
- 1.2 We have also made a final decision on an opex allowance for the upcoming regulatory period.

Structure of this paper

- 1.3 This paper is structured as follows:
- 1.3.1 Chapter 1 is an introduction and outlines the process followed in coming to our final decision;
 - 1.3.2 Chapter 2 sets out our regulatory framework;
 - 1.3.3 Chapter 3 sets out our final decisions on topics that apply across more than one area;
 - 1.3.4 Chapter 4 sets out our final determination on Chorus' base capex allowance;
 - 1.3.5 Chapter 5 sets out our final determination on Chorus' baseline connection capex allowance; and
 - 1.3.6 Chapter 6 sets out our final decision on Chorus' opex allowance.

The process we have followed

- 1.4 The timeline for our process is set out in Table 1.1.

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.

¹² *Determination of the duration of the second regulatory period for Fibre Price-Quality Path Determination 2020 [2023] NZCC 2.*

Date	Milestone	Description
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	Consultation 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.
26 June 2024	Final decision on TAMRP IM	Final decision on the tax-adjusted market risk premium input methodology.
1 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. ¹³
18 July 2024	Determination of Chorus' PQ path for PQP2 draft decision	Draft decision (and accompanying draft determination) on Chorus' revenue path and quality standards for PQP2.
22 August 2024	Decision on Chorus' expenditure allowance for PQP2	Final decision on Chorus' capex and opex allowances for PQP2. ¹⁴
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.
1 January 2025	Start of PQP2 regulatory period	PQP2 comes into effect.

¹³ The requirements for changes to input methodologies are set out in ss 179 and 181 of the Act.

¹⁴ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.2 – sets out that none of the Commission's functions or decisions are invalidated on account of our failure to meet the any timeframes applying to the Commission as set out in the determination. We sent out an email to stakeholders on 19 March 2024 setting out the new timelines that apply.

- 1.5 For PQP1 we determined Chorus' expenditure allowances and PQ path at the same time. The process for PQP2 has been different. We have split our decisions in two with separate consultations on each of the following:
- 1.5.1 Chorus' expenditure allowances for PQP2; and
 - 1.5.2 Chorus' PQ path for PQP2.
- 1.6 We need to determine expenditure allowances to set allowable revenues for Chorus' PQ path for PQP2. This includes capex and opex allowances. Our decisions on Chorus' expenditure allowances for PQP2 will feed into our decisions on Chorus' PQ path for PQP2 by way of the building block methodology we use to calculate Chorus' maximum allowable revenue.
- 1.7 Forecast allowable revenue is comprised of building blocks revenue, pass-through costs and a wash-up amount. Building blocks revenue is determined by us as part of the PQ price path setting process.
- 1.8 Our draft PQ determination published on 18 July 2024 used our draft expenditure decisions. Our final PQ determination in Q4 2024 will use the final expenditure decisions detailed in this document.

Process leading to our final decision on expenditure

- 1.9 We have consulted on our final decision in respect of Chorus' base capex allowance, connection baseline allowance and opex allowance for PQP2.
- 1.10 On 31 August 2023 we published our process and approach paper,¹⁵ which outlined:
- 1.10.1 the scope of decisions we would consider;
 - 1.10.2 how we intended to run the PQP2 project including timelines and stages; and
 - 1.10.3 specific areas for stakeholder feedback.
- 1.11 Chorus submitted its expenditure proposal for PQP2, covering base capex, connection capex baseline and opex on 31 October 2023.
- 1.12 On 16 November 2023 we published Chorus' proposal on its expenditure allowance, covering:¹⁶

¹⁵ Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023).

¹⁶ Chorus "Our Fibre Plans" (31 October 2023).

- 1.12.1 Chorus' proposal (including the Independent Verifier's report); and
 - 1.12.2 our consultation document inviting views on Chorus' proposal and specific topic areas of interest.
- 1.13 On 5 February 2024 Chorus provided us with additional information on its proposed fibre frontier programme of work:¹⁷
- 1.13.1 Chorus proposed to reduce this programme of work from \$201.1m of capex, to \$13m; and
 - 1.13.2 as the fibre IMs do not allow for a proposal to be amended after submission, we treated this as additional information for consideration in coming to our draft decision.
- 1.14 On 19 March 2024 we notified stakeholders of an update to the timeframes that would apply to our expenditure decisions. For the draft, the timeframe update was from Q1 2024 to April 2024,¹⁸ and for the final decision from Q2 2024 to Q3 2024. This allowed us additional time to consider the material provided by Chorus on fibre frontier.
- 1.15 On 18 April 2024 we published our draft decision on Chorus' expenditure, covering:
- 1.15.1 our process leading to the draft decision;
 - 1.15.2 draft decisions on base and connection capex;
 - 1.15.3 a draft decision on opex; and
 - 1.15.4 our initial assessment of the impact of Chorus' reduction in fibre frontier expenditure.
- 1.16 Consultation on our draft expenditure decision concluded on 6 June 2024.

Prioritisation

- 1.17 We assessed submissions and cross submissions received on our draft expenditure allowances decision, prioritising areas that we expect to impact end-users the most.

¹⁷ Chorus "Notification of material change to PQP2 capex proposal" (5 February 2024).

¹⁸ Stakeholders were notified via email and an update to the published timeline on our website, <https://comcom.govt.nz/regulated-industries/fibre/projects/chorus-fibre-price-quality-path-from-2025> (viewed on 24 July 2024). This notification was in accordance with clause 3.8.2(2) of the fibre IMs.

Additional information requests

- 1.18 We have raised a small number of additional requests for information (RFIs) with Chorus to clarify points raised in its submission and proposal. See Appendix A for more detail on the RFIs raised as part of the expenditure decision.

Engagement of Network Strategies

- 1.19 Where we considered necessary, we engaged Network Strategies to provide us with targeted independent advice on identified issues.
- 1.20 Network Strategies provided independent advice for us to consider in our assessment of expenditure allowances for elements of the following expenditure categories:
- 1.20.1 IT and support;
 - 1.20.2 network capacity;
 - 1.20.3 network sustain and enhance;
 - 1.20.4 connection capex; and
 - 1.20.5 opex.
- 1.21 Network Strategies also provided independent advice for us to consider in our assessment of areas applying across expenditure categories, such as Chorus' suite of demand forecast models.

Chapter 2 Regulatory framework

Purpose of this chapter

- 2.1 This chapter describes the legal and economic frameworks we have followed in reaching our final decision on Chorus' expenditure allowances for PQP2.

Legal framework

- 2.2 This section sets out the legal requirements and regulatory framework which underpin our final decisions on expenditure.

Background

- 2.3 We determined Chorus' PQ path for PQP1 on 16 December 2021. Before the end of the current regulatory period, the Commission must make a determination under s 170 of the Act specifying how PQ regulation applies to Chorus during the next regulatory period.
- 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 2028.¹⁹
- 2.5 The purpose of PQ regulation is to regulate the price and quality of FFLAS provided by regulated providers.²⁰ 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".²¹ Chorus is currently the only local fibre company (LFC) subject to PQ regulation under Part 6 of the Act.²²

Purpose of Part 6 and draft expenditure decisions

- 2.6 We must make decisions on expenditure 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). In relation to our expenditure decisions, we must also comply with the requirements set out in the fibre IMs.

¹⁹ *Fibre Price-Quality Determination 2024 (Determination of the duration of the second regulatory period for Fibre Price-Quality Path)* [2023] NZCC 2.

²⁰ Telecommunications Act 2001, s 192.

²¹ Telecommunications (Regulated Fibre Service Providers) Regulations 2019, regulation 6.

²² Telecommunications (Regulated Fibre Service Providers) Regulations 2019, regulation 6.

- 2.7 In our final reasons paper for PQP1,²³ we made the following observations about the relationship between the two objectives in s 166(2) of the Act, which we consider still apply.
- 2.7.1 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.
 - 2.7.2 Section 166(2)(a) directs us to make decisions that best give effect to the purpose in s 162. This is a mandatory consideration.
 - 2.7.3 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.
 - 2.7.4 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).
 - 2.7.5 Through our evaluation of Chorus’ expenditure proposal and application of the fibre IMs, we aim to ensure Chorus’ expenditure reflects the efficient costs that a prudent fibre network operator would incur to deliver PQ FFLAS of appropriate quality, during the relevant regulatory period. This limits Chorus’ ability to extract excessive profits while preserving incentives to improve efficiency (s 162(b) and (d)). Setting expenditure allowances that meet the expenditure objective as set out in the fibre IMs also preserve Chorus’ incentive to innovate and to invest, including in replacement, upgraded, and new assets (s 162(a)).
- 2.8 In this final decision paper, we have explained our final decisions by referencing our specific obligations under the fibre IMs, and where relevant, the Act, as well as explaining why our final decisions best give, or are likely to best give, effect to the s 166(2) purposes.

²³ Commerce Commission “Chorus’ price-quality path from 1 January 2022 – Final decision – Reasons paper” (16 December 2021), at [2.46], see also [2.47].

Fibre IMs

- 2.9 For the second regulatory period, the fibre IMs require Chorus to submit its base capex proposal 14 months before the start of the regulatory period.²⁴ Chorus submitted its expenditure proposal (base capex, connection capex and opex) on 31 October 2023.
- 2.10 The fibre IMs require Chorus' base capex and connection baseline capex proposal to be verified by an Independent Verifier approved by the Commerce Commission.²⁵
- 2.11 The fibre IMs require us to determine a capex allowance, after Chorus has submitted a capex proposal that relates to each of the capital expenditure categories set out in the IM.²⁶ Specifically, we must determine:
- 2.11.1 a base capex allowance for each regulatory year of the regulatory period; and
 - 2.11.2 a connection capex baseline allowance for each regulatory year of the regulatory period.
- 2.12 In respect of the connection capex baseline allowance, the fibre IMs require us to include the following:
- 2.12.1 the connection capex baseline allowance by connection type for each regulatory year of the regulatory period;
 - 2.12.2 the connection capex unit costs and any non-linear connection cost functions, used to calculate the connection capex baseline allowance for each regulatory year of the regulatory period; and
 - 2.12.3 the forecast volumes, by connection type, used to calculate the connection capex baseline allowance for each regulatory year of the regulatory period.
- 2.13 We must also determine a connection capex variable adjustment at the end of the regulatory period.²⁷ This is the difference between:
- 2.13.1 the connection capex baseline allowance; and

²⁴ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clauses 3.7.9(1)(b) and 3.7.16(1).

²⁵ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.10.

²⁶ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.1.

²⁷ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.13(1)(b).

- 2.13.2 the capital expenditure given by applying the unit costs determined in the connection capex baseline allowance to actual connection volumes for each connection type.²⁸
- 2.14 The fibre IMs also allow Chorus to apply for additional individual capex allowances at any time before or during the regulatory period (provided it meets the requirements set out in the fibre IMs). Individual capex allowances approved before the start of the second regulatory period will be included in the revenue path for PQP2.²⁹ However, as at the date of publication of this paper, Chorus has not submitted any individual capex proposals (ICPs).
- 2.15 We must evaluate Chorus' expenditure proposal (in respect of base and connection capex) by having regard to relevant assessment factors when considering whether the capex proposal has met the capital expenditure objective.³⁰ This includes considering whether the proposed expenditure meets the expenditure objective and reflects good telecommunications industry practice.³¹ A capex proposal meets the capital expenditure objective if the expenditure reflects the efficient costs that a prudent fibre network operator would incur to deliver PQ FFLAS of appropriate quality, during the upcoming regulatory period and over the longer term.³²
- 2.16 We apply the assessment factors to help us identify the different aspects of prudence and efficiency. We must have regard to as many of the assessment factors as are relevant when evaluating Chorus' expenditure proposal. The assessment factors are specified in clause 3.8.6(1)(a) -(t) of the fibre IMs and repeated for ease of reference in Table 2.1.

Table 2.1 Assessment factors in the fibre IMs

	Assessment factors
a)	Whether the proposed capex complies with all applicable legal and regulatory obligations associated with the provision of PQ FFLAS.
b)	Governance relating to proposed capex, including evidence that appropriate policies and processes have been applied.
c)	Historic capital expenditure and consideration of historic rates of investment.
d)	Quantitative or economic analysis related to the proposed capex, including sensitivity analysis and impact analysis undertaken.

²⁸ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.21(2).

²⁹ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.22(1).

³⁰ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clauses 3.8.5(1)(b) and 3.8.6.

³¹ As defined in clause 1.1.4(2) of the *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023.

³² *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.5(2).

	Assessment factors
e)	Approach to forecasting capital expenditure, including models used to develop the capital expenditure forecasts.
f)	Relevant financial information including evidence of efficiency improvements in proposed capex.
g)	Competition effects, including specific information for sub-categories of capital expenditure that have potential impacts on competition in PQ FFLAS and other telecommunications markets.
h)	The linkages between the proposed capex and quality, including the impact the capital expenditure would have on PQ FFLAS quality outcomes.
i)	Consideration and analysis of alternatives to the proposed capex, including the impact of the alternatives on PQ FFLAS quality outcomes.
j)	The extent and effectiveness of consultation and engagement with stakeholders and the extent that feedback received has been incorporated into the capex proposal.
k)	Procurement, resourcing, and deliverability of the proposed capex.
l)	Common costs and benefits between PQ FFLAS, ID-only FFLAS and services that are not regulated FFLAS.
m)	Fibre asset and fibre network information.
n)	Mechanisms for controlling actual capital expenditure with respect to the proposed capex and achieving the PQ FFLAS quality outcomes.
o)	The extent of the uncertainty related to the: <ul style="list-style-type: none"> - need for the proposed capex; - economic case justifying the proposed capex; and - timing of the proposed capex.
p)	The extent that a risk-based approach has been applied.
q)	The impact that the proposed capex has on a layer 1 service in respect of PQ FFLAS.
r)	The dependency and trade-off between the proposed capex and related operating expenditure to ensure least whole-of-life cost for managing assets and cost-efficient solutions.
s)	The accuracy and reliability of data.
t)	The reasonableness of the key assumptions, methodologies, planning and technical standards relied upon.

2.17 We consider that by applying the evaluation criteria set out in the fibre IMs, our decisions best give effect to s 166(2) of the Act (ie, the purpose in s 162 and the promotion of workable competition for the long-term benefit of end-users, where relevant).

2.18 The evaluation criteria, including the assessment factors that support the evaluation of the proposed capex against the capital expenditure objective, allow us to identify and evaluate where good asset management has been applied. We consider that good asset management is important for Chorus to ensure capex meets the expenditure objective.

Opex

2.19 The fibre IMs do not include criteria for us to make decisions on opex. However, we have adopted a similar approach to how we consider capex for our final decisions (as we proposed in the process and approach paper and used in our draft decision). This is the same approach we adopted for opex decisions for PQP1.³³

2.20 Therefore, in making our final decision on Chorus' opex allowance, we have had regard to the assessment factors in the fibre IMs that we consider are relevant to considering an opex proposal. We consider the application of the relevant assessment factors to the opex proposal best gives effect to the purposes in s 166(2) by promoting expenditure that reflects the efficient costs of a prudent fibre network operator while also reflecting good telecommunications industry practice.

2.21 The assessment factors we have had regard to for our evaluation of Chorus' opex expenditure are listed in Table 2.2.

Table 2.2 Commission opex assessment factors

Opex assessment factors	
a)	Historic operating expenditure and consideration of historic rates of expenditure.
b)	Quantitative or economic analysis related to the proposed opex, including sensitivity analysis and impact analysis undertaken.
c)	Approach to forecasting opex, including models used to develop the opex forecasts.
d)	Relevant financial information including evidence of efficiency improvements in proposed opex.
e)	Competition effects, including specific information for sub-categories of opex that have potential impacts on competition in PQ FFLAS and other telecommunications markets.
f)	Fibre asset and fibre network information.
g)	The extent of the uncertainty related to the: <ul style="list-style-type: none"> - need for the proposed opex; - economic case justifying the proposed opex; and - timing of the proposed opex.
h)	The dependency and trade-off between the proposed opex and related capital expenditure to ensure least whole-of-life cost for managing assets and cost-efficient solutions.

³³ Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision – Reasons paper" (16 December 2021).

Opex assessment factors	
i)	The accuracy and reliability of data.
j)	The reasonableness of the key assumptions, methodologies, planning and technical standards relied upon.

Cost allocation

2.22 We are also required to apply the cost allocation IM to any forecast expenditure.

Promotion of s 162 and s 166(2)(b)

2.23 Our final decisions on allocator types and the associated allocator values for the cost or asset allocators must best give, or be likely to best give, effect to the purpose in s162 (as set out in s 166(2)(a)) and where relevant s166(2)(b) (workable competition in telecommunications markets for the long-term benefit of end-users).

2.24 In terms of cost allocation, one of the key outcomes to be promoted is that regulated fibre service providers allow end-users to share the benefits of efficiency gains in the supply of FFLAS, including through lower prices: s 162(c).

2.25 Cost allocation must also minimise the risk that regulated providers could over-recover shared costs enabling them to extract excessive profits: s 162(d).

2.26 The promotion of workable competition under s 166(2)(b) of the Act is also relevant to the issue of how to allocate shared costs. For example, a disproportionate allocation of expenses to regulated FFLAS may distort competition, including in the supply of services that are not regulated FFLAS.

The fibre IMs and cost allocation

2.27 Regulated providers have operating costs and asset values that are shared between regulated FFLAS and services that are not regulated FFLAS. The cost allocation IM (clause 3.2.1) sets out the rules and methodologies that regulated providers must apply in order to identify the portion of operating costs and asset values that are associated with regulated FFLAS.

2.28 At a high level, the cost allocation IM requires that:³⁴

³⁴ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.2.1.

- 2.28.1 Unallocated asset values that are “directly attributable” to the provision of FFLAS are allocated to FFLAS.³⁵ Conversely, asset values that are directly attributable to the provision of services that are not FFLAS must not be allocated to FFLAS.
- 2.28.2 Unallocated asset values that are not directly attributable to either FFLAS or services that are not FFLAS (ie, are shared) must undergo cost allocation. Specifically, shared costs must be allocated between those services using the accounting-based allocation approach (ABAA).
- 2.29 Within the ABAA, costs and assets must be allocated using an allocator that is based on:
- 2.29.1 a causal relationship: that is, there is a causal relationship between the asset value and the circumstance where a factor influences the employment of the asset in provision of UFB FFLAS;³⁶ or
- 2.29.2 a proxy asset allocator: that is, where a causal relationship cannot be established.³⁷
- 2.30 Within the definitions of “causal relationship” and “proxy asset allocator” is the requirement that in each case these allocators (ie, ratios):³⁸
- 2.30.1 must be consistently applied within a financial loss year, and between financial loss years; and
- 2.30.2 are objectively justifiable and demonstrably reasonable.
- 2.31 We have previously set out what the cost allocation IM requires, and how we will consider whether the “objectively justifiable and demonstrably reasonable” requirement has been met.³⁹ Chapter 3 sets out how we have approached the final decisions for cost allocation for PQP2.

³⁵ “Directly attributable” is defined in the fibre IMs as “in relation to operating costs, where a cost is wholly and solely incurred in the provision of a particular service; and (b) in relation to asset values, where an asset is wholly and solely employed by a regulated provider in the provision of a particular service”. See *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023.

³⁶ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.1.1(4)(2) – definition of causal allocator.

³⁷ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.1.1(4)(2) – definition of proxy allocator.

³⁸ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 1.1.1(4)(2) – definition of proxy allocator and causal allocator.

³⁹ Commerce Commission “Chorus’ transitional initial price-quality regulatory asset base as at 1 January 2022 – Final Decision – Reasons paper” (16 December 2021), at [2.59]-[2.60].

Cost escalation

- 2.32 As set out above, subpart 7 of Part 3 of the fibre IMs requires us to determine Chorus' capex allowance.
- 2.33 One of the steps in this process is to determine cost escalators in order to inflate the real expenditure allowance to a nominal expenditure allowance that is suitably adjusted for price changes in future years.
- 2.34 We note that our expenditure decisions in this paper are expressed in constant dollar (2022) terms before cost escalation has been applied, unless otherwise stated. However, the amount of expenditure that we determine for setting Chorus' revenue path are in commissioned nominal dollars.
- 2.35 Chapter 3 sets out how we have approached the final decisions for cost escalation.

Economic framework

- 2.36 As part of our fibre IMs decision-making process, we developed an economic framework. The economic framework relates to all aspects of our economic decision-making in regulating regulated FFLAS.⁴⁰ We applied this to our decision-making framework for PQP1. We referenced this economic framework in our PQP2 process and approach paper.⁴¹
- 2.37 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. It has three components:
- 2.37.1 economic principles: real financial capital maintenance, allocation of risk, and asymmetric consequences of under- or over-investment;⁴²
- 2.37.2 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;⁴³ and

⁴⁰ 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.

⁴¹ Commerce Commission "Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period" (31 August 2023), at [3.47]-[3.81].

⁴² Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), at [2.272]-[2.316].

⁴³ Commerce Commission "Fibre input methodologies: Main final decisions – reasons paper" (13 October 2020), at [2.317]-[2.335].

- 2.37.3 approach to identifying competition issues: to help us assess whether our decisions might be relevant to competitive outcomes in telecommunications markets.⁴⁴
- 2.38 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.
- 2.39 Examples highlighted in the process and approach paper were that the Act requires Chorus to use geographically consistent pricing, provide an anchor product with a prescribed maximum price, and provide direct fibre access services at a prescribed maximum price.⁴⁵

⁴⁴ Commerce Commission “Fibre input methodologies: Main final decisions – reasons paper” (13 October 2020), at [2.385]-[2.395].

⁴⁵ Commerce Commission “Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period” (31 August 2023), at [3.71]-[3.73].

Chapter 3 Final decisions that apply across expenditure categories

Purpose and structure of this chapter

- 3.1 This chapter sets out our final decisions on cross-cutting topics that impact or relate to more than one area of expenditure.
- 3.2 The topics covered in this chapter include:
- 3.2.1 cost allocation;
 - 3.2.2 cost escalation;
 - 3.2.3 deliverability; and
 - 3.2.4 demand forecasting.

Cost allocation

Final decision

- 3.3 Our final decisions are as follows:
- 3.3.1 use, as we did for the draft decision,⁴⁶ Chorus' proposed asset allocator types where they remain unchanged from PQP1;⁴⁷
 - 3.3.2 use, as we did for the draft decision, Chorus' proposed operating cost (opex) allocator types where they remain unchanged from the opex allocator type used in PQP1;
 - 3.3.3 for CTO economic common costs, use a revenue-based allocator (this is a change from our draft decision which was to allocate all CTO costs using the totex allocator);
 - 3.3.4 for the remaining CTO variable costs, use a totex allocator type and a personnel cost allocator type, as proposed by Chorus in its submission on our draft decision (this is a change from our draft decision which was to continue apply a totex allocator type);
 - 3.3.5 for corporate economic common costs, use a revenue-based allocator (a change to the draft decision to allocate all corporate costs using the totex allocator);

⁴⁶ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.17].

⁴⁷ The fibre IMs require that the choice of allocators must be reviewed every 18 months, fibre IMs clause 2.1.3(1)(b).

- 3.3.6 for the remaining corporate variable costs, use the specific alternative allocator types as proposed by Chorus in its submission on the draft decision, which are totex and Chorus personnel cost allocator types;
- 3.3.7 maintain the draft decision to allocate co-location establishment and relinquishment operating costs using a revenue-based allocator, which is a change from the PQP1 direct attribution to non-FFLAS. These co-location establishment and relinquishment operating costs will be allocated in proportion to the share of revenue from the charges for co-location services of FFLAS compared to non-FFLAS;
- 3.3.8 maintain the draft decision to directly attribute a number of roles to FFLAS or non-FFLAS in the product, sales and marketing area of opex costs. This reduces the proportion of operating costs in this area requiring allocation; and
- 3.3.9 maintain the draft decision to allocate service company overhead costs, which allocates costs associated with the management of service companies and related activities, using a service company totex-based allocator. This is a change from the PQP1 allocation based on the split of FFLAS versus non-FFLAS service company opex activities to a split based on all service company activities (totex that is opex plus capex).

Background to our decisions

- 3.4 We must make a decision that we consider best gives, or is likely to best give, effect to the purpose in s 162 of the Act. Section 162 sets out that the purpose of Part 6 is to promote the long-term benefit of end-users in markets for FFLAS by promoting outcomes that are consistent with outcomes produced in workably competitive markets, so that regulated fibre service providers allow end-users to share the benefits of efficiency gains, and are limited in their ability to extract excessive profits (see s 162(c) and (d)).
- 3.5 We consider that the decisions we have made best give effect to the purpose of s 162 by:
 - 3.5.1 ensuring shared costs in the CTO and corporate areas that have a material level of variable (incremental) costs are allocated using a demonstrably reasonable allocator type that can increase the allocation to non-FFLAS as well as decrease it, when activity levels vary;
 - 3.5.2 allocating common costs via a revenue-based allocator will appropriately share these costs that are relatively invariant between FFLAS and non-FFLAS services;

- 3.5.3 continuing to apply capex and opex allocators previously reviewed and accepted in PQP1, based on Chorus' review that confirms these allocators continue to be demonstrably reasonable;
- 3.5.4 adopting revised allocators where evidence that the changes are justified and demonstrably reasonable has been provided; and
- 3.5.5 expanding the level of costs that are directly allocated, based on activity reviews confirming these particular costs are specifically supporting services that are either FFLAS or non-FFLAS.

Stakeholder views

- 3.6 We received submissions on our draft cost allocation decision from Chorus (which also submitted a report from Incenta), 2degrees, L1 Capital and Yarra Capital.
- 3.7 Chorus' submission and Incenta's report were mainly focused on the changes we made to the proposed allocators for the CTO and corporate areas in our draft decision. Chorus acknowledged the other draft decisions, which accepted Chorus' proposed PQP2 allocations.
- 3.8 L1 Capital and Yarra Capital were critical of the draft decision to retain a totex-based allocator and to the apportioning of shared costs between Chorus' copper and fibre networks.
- 3.9 2degrees was supportive of our draft decision on cost allocation, and had concerns regarding the changes to cost allocation proposed by Chorus.

Chorus' and Incenta's general views on the draft decision on cost allocators

- 3.10 Chorus in its submission on our draft decision set out that it put forward a limited number of changes to opex allocator types for PQP2 including changes that reflected the changed nature of its business. Chorus made no specific comment on our draft decision on the allocator types for co-location and service company opex and the draft decision on product, sales and marketing allocation, beyond noting our acceptance of the proposals it put forward.

- 3.11 Chorus' submission, and the report by Incenta, made extensive comment on our draft decision not to accept the proposed changes of allocator type for corporate opex and CTO opex (noting Chorus' submission referred to the latter as IT systems-related opex).^{48,49}
- 3.12 Chorus noted that we did not accept the corporate opex and IT systems-related opex allocator type changes, but accepted other proposed opex allocator changes, and that we accepted as appropriate its proposal not to change any other opex or asset allocator types.⁵⁰
- 3.13 Chorus indicated its submission provided:⁵¹
- further evidence and expert advice to demonstrate that revenue - rather than totex - is the more appropriate basis for allocation of certain shared corporate and IT systems-related opex for PQP2.
- 3.14 Further, it indicated that:⁵²
- there does not appear to be fundamental disagreement about the economic principles to be applied to substantiate the allocator selection - rather the Commission has focused on the perceived risk of our proposed allocators over-allocating costs to FFLAS in practice.
- 3.15 Incenta also considered that the Commission did not appear to disagree with the economic framework it had presented in its paper supporting Chorus' proposal,⁵³ but that we had expressed reservations about how it had been applied.
- 3.16 Chorus recommended that we either approve:
- 3.16.1 the use of a revenue-based allocation for certain corporate and IT systems-related opex (consistent with Chorus' expenditure proposal); or
- 3.16.2 an alternative allocator approach for PQP2 as set out in its submission. Chorus indicated that the alternative approach in its submission draws on Incenta's analysis but is conservative in that it does not assume any change in underlying cost structure during PQP2.

⁴⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024) at 213-265; and Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024).

⁴⁹ Incenta submitted a paper on behalf of Chorus responding to the Commission's draft decision on certain cost allocation issues. In this paper it responded to economic points on cost allocation included in our draft decision, including how we addressed Incenta's earlier reports.

⁵⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [214 – 215].

⁵¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [216].

⁵² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [216].

⁵³ Incenta Economic Consulting "Cost allocation issues for RP2" (October 2023)..

- 3.17 Incenta noted the Commission's apparent concern that application of Incenta's economic framework assumes that Chorus' shared costs are likely to be principally (economic) common costs, and/or that it assumes that Chorus has returned to a business-as-usual state.^{54,55} It also stated that we had criticised the judgement that Incenta made about the trade-off between the extent of precision applied when allocating costs and the complexity (and potential reduction in robustness to change), given it argued that a relative revenue allocator is more robust to changes in Chorus' structure over time.⁵⁶ Lastly, Incenta said we highlighted that Chorus' proposed allocators would cause an upward step change in the proportion of the relevant shared costs that are allocated to FFLAS.⁵⁷
- 3.18 Incenta indicated that most of our concerns over how Chorus' shared corporate and CTO systems costs are allocated are based on misapprehensions. It stated that, for the concerns that are valid, the most appropriate response would be to extend our previous cost allocation work to apply more disaggregated and precise cost allocators, rather than replacing a revenue allocator with a totex allocator.⁵⁸
- 3.19 Incenta's paper then provided further explanation of its view of shared costs and stated again that its review of allocators was based on a detailed analysis of cost structures of the relevant cost centres. It acknowledged that it did assume that Chorus has reached a more business-as-usual state.⁵⁹
- 3.20 Chorus' submission summarised what it sees as the key findings coming out of Incenta's second report. It indicated the key points made by Incenta are that:⁶⁰
- 3.20.1 it is unlikely that there are material UFB related costs within the 2022 base year;
- 3.20.2 it is highly unlikely copper decommissioning costs are included in the shared IT costs;

⁵⁴ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [10-12].

⁵⁵ It says we did not accept these assumptions and thought there may still be UFB-related costs in shared costs as well as costs associated with copper decommissioning. Also, that we further have concerns in relation to the CTO systems cost, where the extent of direct attribution to non-FFLAS services has declined recently (which we interpreted to be a sign that copper decommissioning costs were being reflected in shared costs).

⁵⁶ Incenta Economic Consulting "Cost allocation issues for RP2" (October 2023), at [66].

⁵⁷ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [11-12].

⁵⁸ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [13]

⁵⁹ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [14]

⁶⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [219].

- 3.20.3 the considerable decrease in shared IT system expenditure suggests that copper decommissioning costs are not included within these cost items;
- 3.20.4 while there is potential for copper decommissioning costs to be included in the corporate costs, these are far less material than UFB related costs;
- 3.20.5 where the Commission disagrees that a simple allocation is more robust to changes, the more reasonable alternative is to use Chorus' detailed allocation rather than use the PQP1 allocation (which was totex); and
- 3.20.6 while the Commission highlights the increase in allocated cost from PQP1 to PQP2 due to the change in allocator types, this may also reflect a correction for under allocation in PQP1.
- 3.21 In its submission, Chorus made a number of points in relation to our draft decision not to adopt its proposed change to a revenue-based allocator type. We consider the key points made in the submission are:
- 3.21.1 its network business has changed: The UFB rollout is complete, copper services are being withdrawn, and new technologies are providing new market options. It is required to review allocators to ensure they meet IM requirements, and the proposed changes seek to address the latest conditions;⁶¹
- 3.21.2 its proposed allocators are objectively justifiable and demonstrably reasonable. They are based on recent reviews involving Chorus subject matter experts, including a further review undertaken this year. Proposed changes are supported by certification and assurance and the Independent Verifier was briefed and provided with material on the proposed changes; and⁶²
- 3.21.3 our draft decision to not accept changes to the CTO allocator types was overly conservative. The risk that the change will lead to FFLAS cross-subsidising copper services is unproven and, Chorus' submits, counter to our previous discussions on totex.⁶³

Chorus submission on IT systems cost allocation

- 3.22 Chorus considered our draft decision on IT systems costs focused on the following three points:⁶⁴

⁶¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [222-230].

⁶² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [231-236].

⁶³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [237].

⁶⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [238].

- 3.22.1 that there is a risk of incremental copper cost within the shared costs that would be allocated to FFLAS;
 - 3.22.2 the directly attributable portion of technology costs should be increasing; and
 - 3.22.3 allocating variable cost as fixed cost could materially over allocate CTO cost to FFLAS.
- 3.23 Incenta's paper stated that advice from CTO experts is that it is very unlikely that copper decommissioning costs are present in the forecast expenditure for PQP2. However, it said the potential does exist that copper decommissioning costs are being undertaken in the corporate area, though these costs will be far less material and pervasive across the corporate area than the UFB related costs.
- 3.24 Chorus addressed each of the three points in relation to IT systems. In its submission, it included reasons to support its proposed change, setting out that:
- 3.24.1 the likelihood of incremental copper withdrawal costs being included in IT systems-related cost during PQP2 is very low;⁶⁵
 - 3.24.2 the directly attributable portion of opex cannot be used as the only indicator of incremental costs; and
 - 3.24.3 Chorus' IT systems-related allocation is supported by evidence and is demonstrably reasonable.
- 3.25 Chorus addressed the risk of material over-allocation of CTO costs to FFLAS from allocating variable costs using the same allocator as that used for fixed costs by pointing to its review of costs undertaken for IT systems-related cost and reiterating the point in its original proposal that over 80% of costs were identified as fixed.⁶⁶ In support of its submission, the report provided by Incenta considered the use of two options for CTO costs:
- 3.25.1 using a revenue allocator, which would be more robust to changes over time (the 'recommended' option); and

⁶⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [240 - 246].

⁶⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [253].

- 3.25.2 applying a revenue allocator to the 80% of IT costs that are fixed costs and identify individual allocators for the remaining 20% (the 'alternative' option). Incenta's report set out that it did not consider that this alternative option better met the requirements of the IMs and the Part 6 purpose than an overall revenue allocator (ie, than the 'recommended' option).
- 3.26 Chorus submitted that it did not consider the draft decision justifies the retention of the PQP1 allocator type for IT systems-related costs based on the points raised by Incenta in its report. It indicated that applying the proposed revenue-based allocation is materially better than retention of the PQP1 allocator type.⁶⁷ However, its submission also included the 'alternative' option set out above. Chorus set out in the submission that it sees this alternative option as a conservative and more complex allocation approach, but one that is also consistent with its analysis following its review of allocators.⁶⁸
- 3.27 Our final decision recognises that, while Chorus does not support the use of totex for all IT systems-related costs, it did provide an alternative that relies on totex and Chorus personnel costs for a portion of the costs. It recognises that, for the majority of the costs, a revenue-based allocator is demonstrably reasonable. For the remaining CTO variable costs, our decision is to use a totex allocator type and a personnel cost allocator type, as proposed by Chorus in its submission on our draft decision (this is a change from our draft decision which was to continue apply a totex allocator type).

Chorus submission on corporate cost allocation

- 3.28 Chorus disagreed with the Commission's draft decision in relation to there being incremental copper withdrawal costs within shared costs, meaning shared costs relating to copper services are understated.⁶⁹ Chorus' view was that the risk of incremental copper withdrawal cost residing within corporate shared cost is low. It highlighted that Incenta had noted that:⁷⁰
- 3.28.1 the lower level of expenditure, and risk, required for copper withdrawal will be significantly less than that of the rollout of a new network;
- 3.28.2 decommissioning assets requires significantly less strategic management compared to starting a business and building a new network; and

⁶⁷ Our understanding is that Chorus considers a revenue-based allocator to be materially better due to Incenta's analysis that concludes that 80% of IT-systems costs are economic common costs.

⁶⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [239].

⁶⁹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [259].

⁷⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [260].

3.28.3 as the level of expenditure is expected to be lower, the level of finance-related tasks is expected to be lower.

- 3.29 Chorus' submission set out that it has conducted an updated survey of its people leaders' estimate of staff time allocated to fibre. This survey updates (as at May 2024) an initial survey conducted in early 2023 and includes the effect of a major internal restructure that was implemented on 1 February 2024. Chorus explained that the restructure is part of broader changes to its operating model as it transitions from building to operating the network.⁷¹
- 3.30 The survey results show more time being spent on fibre than would be allocated by totex as time spent on fibre compared to copper has increased since 2023, confirming the trend of Chorus' activity being increasingly focused on fibre.
- 3.31 Chorus provided further background on the latest survey in its cross submission. There, it acknowledged that the survey results should be interpreted cautiously. For example, the survey reflects perceptions of people leaders about effort, not measurement and does not distinguish between operating and capitalisable labour. Therefore, the results may not align with the economic concepts relevant to cost allocation.⁷²
- 3.32 However, Chorus submitted that:⁷³
- Overall, we observe that the results of the survey do not support the Commission's hypothesis that "management of the withdrawal of the copper network is increasing shared costs in the corporate and CTO areas above 'business-as-usual' levels". If this hypothesis was correct, the survey results would not be showing a notable decrease in the effort identifiable with the copper business as the pace of withdrawal increases.
- 3.33 As it did for IT systems, Chorus also noted an alternative corporate allocation approach that Incenta had identified that is a more conservative proposal for PQP2. This approach would apply an economic common cost allocator, revenue, to functions that are fixed, while functions whose effort could be variable would use a proxy allocator to reflect potential cost drivers.⁷⁴

⁷¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [261].

⁷² Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [33 - 34].

⁷³ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [38].

⁷⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [262 - 263].

Yarra Capital

3.34 Yarra Capital stated it considered we had taken a “frankly non-sensical approach to the apportioning of shared costs between Chorus’ copper and fibre networks”. It says Chorus’ copper connections have been rapidly declining and that it is likely that at some point during PQP2 that Chorus will have zero copper connections within its fibre zone. It saw our draft proposal to be ignoring the economic reality of Chorus’ copper/fibre mix (ie, revenue) and the rapid trend of copper disconnections. It saw our decision as placing pressure on Chorus’ business leading to cost cutting in the fibre business given the demise of the copper network, which it said could hardly be seen as being in the best interests of consumers.⁷⁵

L1 Capital

3.35 L1 Capital indicated that, while investors consider consistency in approach an important feature of regulatory regimes, and this may support retaining totex as a cost allocator, it also needs to be balanced against the need to avoid anomalous cost allocations.⁷⁶

3.36 L1 Capital stated that the need to avoid anomalous cost allocations becomes even more important as copper comes to the end of its economic life and all joint costs effectively revert in time to FFLAS. It noted the acceleration of copper migration to fibre and other alternative networks and said we must consider the risk that the continued use of totex could lead to anomalous allocation outcomes.

3.37 It did not consider the proposed reduction in the allocation of costs to FFLAS were a well-measured outcome, saying that it imposes an excessive reduction in allowed costs. It saw this as underestimating the proportion of costs attributable to FFLAS, which would be inconsistent with the principle of FCM and could result in under-investment in services, to the detriment of end-users.⁷⁷

2degrees

3.38 2degrees thought our draft decision highlighted that “Chorus’ cost allocation proposals would result in substantial and arbitrary increases in its regulated FFLAS expenditure allowances which would result in windfall gains to Chorus and a weakening of the limit to excessive profits, which would not offer any benefits to consumers (only detriments through higher prices)”. It welcomed our draft decision “not to adopt many of Chorus’ proposed changes”.⁷⁸

⁷⁵ Yarra Capital Management "Consultation on the Chorus PQP2 Draft Expenditure Decisions" (16 May 2024), at [9-10].

⁷⁶ L1 Capital "Submission on draft expenditure decision for PQP2" (16 May 2024), at [8].

⁷⁷ L1 Capital "Submission on draft expenditure decision for PQP2" (16 May 2024), at [9 - 11].

⁷⁸ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028): 2degrees' Cross-Submission in response to Commerce Commission consultation" (June 2024), at 1 and 5.

- 3.39 2degrees stated that Chorus should both provide a range of possible options for allocators it is proposing to change as well as the quantified impacts of those options.⁷⁹
- 3.40 In its cross submission, 2 degrees did not think that Chorus had substantiated its assertion that the draft cost allocators would “require too much cost to be recovered from our declining copper business would have an overall negative impact on continued operations and Chorus’ ability to fund further fibre investment.”

Chorus’ responses in cross submission

- 3.41 In its cross submission, Chorus indicated that 2degrees’ characterisation of its cost allocators as “arbitrary” is incorrect. It pointed to advice from internal and external subject matter experts it relied upon, along with other material in its submissions, as the basis for rejecting that claim.⁸⁰
- 3.42 Chorus indicated it was unclear why 2degrees insisted it should:
- 3.42.1 provide a range of possible options for allocators it is proposing to change; and
 - 3.42.2 quantify the impacts of those options.
- 3.43 It stated that economic common costs should be allocated in a way which ensures cost recovery, and economic incremental costs allocated to the service driving them. Doing so meets the requirements of the IMs and the Part 6 purpose statement. It noted that the cost allocation IMs do not require Chorus to provide a range of allocator options, or scenario modelling.⁸¹
- 3.44 Chorus indicated that 2degrees had reiterated the Commission’s concern that “Chorus’ corporate and CTO functions continue to manage material copper totex costs as it proceeds with the withdrawal of the copper network”. It noted that this view reflects a misunderstanding of the extent of decommissioning-related costs in the corporate and CTO cost centres. Chorus then set out that CTO decommissioning costs will principally be labour-related and will be incurred in a separate cost area from the CTO shared systems costs. For corporate, decommissioning costs will be far less significant than the incremental costs associated with the UFB rollout, and less widespread across corporate functions (being largely limited to regulatory affairs and associated legal functions).⁸²

⁷⁹ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028): 2degrees' Cross-Submission in response to Commerce Commission consultation" (June 2024), at 4.

⁸⁰ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [29].

⁸¹ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [31 - 32].

⁸² Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [39 - 41].

- 3.45 Chorus commented that L1 Capital and Yarra have recognised the impact the rapid transition away from copper has on cost allocation.⁸³

Reasons for our final decision

- 3.46 As noted in our draft decision, our analysis for our final decision on cost allocation has focused on determining whether the allocator type is demonstrably reasonable as we accept that the allocator values are objectively justifiable (ie, are calculated correctly and based on accurate records).
- 3.47 We have relied on the supporting certification and assurance opinion that accompanied Chorus' proposal in regard to the issue of whether the supplied cost allocator information is objectively justifiable.⁸⁴

Allocator types that are unchanged from PQP1 (asset allocator types, certain opex allocator types)

- 3.48 Chorus proposed that the asset allocator types for PQP2 remain unchanged from those we determined for PQP1.⁸⁵ Our final decision is to retain the asset allocator types, all of which are unchanged from PQP1.^{86,87}
- 3.49 Chorus also proposed that a number of opex allocator types to be used in PQP2 remain the same as those we determined for PQP1. Our final decision is to retain the opex allocator types for PQP2 that Chorus proposed remain unchanged from those applied in PQP1.⁸⁸ Opex allocator types that Chorus proposed to make changes to, compared to the approach taken in PQP1, are detailed below.
- 3.50 We did not receive any specific submissions on our draft decisions to use the same asset and opex allocator types as in PQP1.

⁸³ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [30].

⁸⁴ Chorus "Directors Certificate of Compliance: Price-Quality Period 2 Expenditure Proposal", (30 October 2023), and KPMG "Independent Reasonable Assurance Report to the Directors of Chorus Limited" (30 October 2023).

⁸⁵ In the regulatory templates, asset allocators are applied to newly commissioned assets. These assets result from capex, and the asset allocators are applied to "capex" in the regulatory templates.

⁸⁶ Chorus "Modelling and Cost Allocation report" (31 October 2023), at 12.

⁸⁷ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.30 – 4.33].

⁸⁸ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.34 – 4.37].

- 3.51 We consider the asset allocator types used in PQP1 (that Chorus proposed for PQP2) continue to comply with the requirements of the fibre IMs. We also consider that the unchanged operating cost allocator types continue to comply with the IM requirements. We note that in PQP1, the determination of the initial RAB and PQP1 expenditure allowance included consideration of the asset and cost allocators against the framework outlined above, and the IM requirements.⁸⁹
- 3.52 We have also undertaken a high level review of the impact of the unchanged asset and opex allocators on PQP2 expenditure. This review did not identify any areas we considered required further analysis.
- 3.53 Chorus is required to review its allocator types for ID every 18 months and has undertaken this review.⁹⁰ That review, coupled with the director certification and the assurance work, as well as our assessment of them from PQP1 means we are satisfied that those allocators continue to meet IM requirements.

Co-location, service company overhead and Marketing and sales personnel

Co-location

- 3.54 Our final decision is to allocate co-location establishment and relinquishment costs in proportion to the share of revenue from the charges for co-location services of FFLAS compared to non-FFLAS (as proposed by Chorus in its proposal). This is the same as our draft decision.⁹¹
- 3.55 We did not receive any specific submissions on our draft decision on the allocation of co-location costs.
- 3.56 In its proposal, Chorus proposed a change from direct attribution of co-location costs (the approach used in PQP1) to an allocation of costs. During PQP1, co-location operating costs are attributed on the assumption that the co-location services are wholly non-FFLAS, meaning costs are directly attributed to non-FFLAS services.⁹² However, in its proposal, Chorus set out that some of the co-location space is used for FFLAS and revenues from co-location services are included in its FFLAS total revenues.

⁸⁹ Commerce Commission "Chorus' transitional initial price-quality regulatory asset base as at 1 January 2022 – Final Decision – Reasons paper" (16 December 2021).

⁹⁰ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 2.1.3(1)(b).

⁹¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.84 – 4.87].

⁹² *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 2.1.1(3)(a).

- 3.57 For PQP2, our final decision is that FFLAS will receive an allocation of co-location costs, apportioned based on the split of FFLAS/non-FFLAS revenue for co-location. We consider an allocation based on revenue, which also varies with the level of service provided, is demonstrably reasonable, given the costs of co-location establishment and relinquishment will vary with the level of service provided.⁹³

Service company overhead

- 3.58 Our final decision is to allocate the service company overhead costs on the split of FFLAS versus non-FFLAS service company totex (as proposed by Chorus in its proposal) rather than the PQP1 approach which was to split costs based on service company opex. Our final decision is the same as our draft decision.⁹⁴
- 3.59 We did not receive any specific submissions on our draft decision on the allocation of service company overhead costs.
- 3.60 The proxy service company overhead allocator is applied to opex categories reflecting activities related to service company management. These are largely undertaken by Chorus staff, and span maintenance-related expenditure (opex) and build-related expenditure (capex).
- 3.61 Chorus proposed a change to the calculation of the allocator value for the service company overhead allocator.⁹⁵ For PQP1 the value was calculated as the ratio of maintenance-related opex related to FFLAS to total maintenance-related opex. Chorus proposed that this calculation be based on the ratio of FFLAS to non-FFLAS service company totex for PQP2.
- 3.62 Chorus expects PQP2 opex incurred for each service for the BBM opex categories in customer and network operations (net personnel costs – network) and CTO (common – schedules) to vary somewhat depending on the effort required to manage the service company expenditure.
- 3.63 The tasks undertaken in relation to the management of service companies do scale with cost of the service company work. We consider our final decision to adopt a service company totex calculation is demonstrably reasonable, given the service company work covers both opex and capex.

Marketing and sales personnel

⁹³ Note that in contrast to the some of the corporate and CTO costs, the costs for co-location are expected to vary with the level of services provided, as are the revenues generated.

⁹⁴ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.88 – 4.91].

⁹⁵ Chorus "Modelling and Cost Allocation report" (31 October 2023), at 20.

- 3.64 Our final decision is to directly attribute to FFLAS or non-FFLAS a number of roles in the product, sales and marketing area. This is the same as our draft decision (and Chorus' proposal). Chorus proposed changing some of the marketing and sales personnel costs to directly attributable, while keeping the cost allocator type for costs not directly attributable unchanged.⁹⁶
- 3.65 We did not receive any specific submissions on our draft decision to directly attribute to FFLAS or non-FFLAS a number of roles in the product, sales and marketing area.
- 3.66 Our final decision to use direct attribution reflects an updated view of the number of roles that are exclusively related to either FFLAS or non-FFLAS activities. Our final decision has the effect of reducing the amount of shared costs that need to be allocated using a cost allocator. We consider our final decision to directly attribute these roles is demonstrably reasonable, as it improves granularity of cost information and better identifies those costs that can be directly attributed.

CTO and corporate allocator types

- 3.67 Our final decision is:
- 3.67.1 for CTO economic common costs to use a revenue-based allocator (this is a change from our draft decision);
 - 3.67.2 for the remaining CTO variable costs to use a totex allocator type and a personnel cost allocator type, as proposed by Chorus in its submission on our draft decision (this is a change from our draft decision);
 - 3.67.3 for corporate economic common costs to use a revenue-based allocator (this is a change from our draft decision); and
 - 3.67.4 for the remaining corporate variable costs to use the specific alternative allocator types as proposed by Chorus in its submission on the draft decision, which are totex and Chorus personnel cost allocator types (this is a change from our draft decision).
- 3.68 We discuss our decisions in the following paragraphs. Our decisions relating to:
- 3.68.1 common costs in the CTO and corporate areas are explained in paragraphs 3.69 to 3.80;
 - 3.68.2 variable costs in the CTO area are explained in paragraphs 3.81 to 3.90; and

⁹⁶ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.84 – 4.87].

3.68.3 variable costs in the corporate area are explained in paragraphs 3.91 to 3.103.

Common costs in the CTO and corporate areas

3.69 Chorus and Incenta's submissions on our draft decision provided further explanation and evidence to support the proposed change to the revenue-based allocator for CTO and corporate related expenditure. They provided further detail on the analysis of costs and subsequent classification of those costs as either common costs or variable costs, as well as on alternative allocators for costs that are not classified as common costs.

3.70 As noted by Incenta, in our draft decision we did not disagree with:⁹⁷

3.70.1 the concept that economic common costs should be allocated in a manner that allows their recovery overall (but avoids double-recovery);⁹⁸ or

3.70.2 the potential allocation of economic common costs using a relative revenue allocator.⁹⁹

3.71 We did not accept, as part of our draft decision, the change from a totex allocator to a revenue-based allocator for both the economic common costs and incremental costs contained in the relevant shared costs, proposed by Chorus and Incenta.¹⁰⁰

3.72 We did not consider that Chorus had demonstrated that a revenue-based allocator is demonstrably reasonable at this time.¹⁰¹ We also expressed concerns that the application of the revenue-based allocator may over allocate costs to FFLAS, especially costs relating to copper withdrawal.¹⁰²

3.73 Chorus, as part of its submission on our draft decision, provided further evidence in support of the analysis that a majority of the costs in the two areas are economic common costs, including:

3.73.1 further details of the process undertaken to review the costs in each area and how the costs were classified as economic costs or variable costs; and

⁹⁷ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [10].

⁹⁸ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [7(b)].

⁹⁹ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [8(a)].

¹⁰⁰ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [8(b)(ii)].

¹⁰¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.65].

¹⁰² Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.67].

- 3.73.2 clarification that the opex costs in question in the CTO area are IT platform costs that are unlikely to include incremental copper withdrawal costs and that these platforms are likely to be in a business-as-usual state.¹⁰³
- 3.74 Chorus contrasted this to the pre-implementation period, where a totex allocator was applied, as in that period costs of new system establishment and transitioning from shared systems (with Spark) or copper-focused systems was a focus of the effort required.¹⁰⁴
- 3.75 Chorus provided an explanation of the trend of the declining proportion of CTO costs that are directly attributable to non-FFLAS services. This was explained as a switch from specific copper processes onto shared or common IT systems.¹⁰⁵
- 3.76 Chorus, referring to Incenta's report, also provided a more detailed breakdown of costs into fixed, semi-fixed and variable categories and provided details of alternative cost allocator types for non-economic costs.¹⁰⁶ We consider this provides demonstrably reasonable evidence on the demarcation of costs into economic costs, for which we now conclude that a revenue-based allocator is demonstrably reasonable, based on this further evidence. For costs that vary depending on the effort devoted to FFLAS and non-FFLAS functions we do not consider a revenue-based allocator is demonstrably reasonable.
- 3.77 We note that, in relation to variable costs, a revenue-based allocator would only move in one direction going forward in terms of allocation to non-FFLAS activities: downward. It would, therefore, when applied to costs that depend on the effort devoted to FFLAS and non-FFLAS functions, implicitly assume that non-FFLAS efforts are reducing at the same rate as non-FFLAS revenue declines. However, we expect these costs will vary and may increase, decrease or stay flat over time.
- 3.78 A totex allocator would also trend downward if the effort required in relation to the non-FFLAS services was simply declining in line with revenue. However, the difference between a totex and a revenue-based allocator is that if this prediction of an ongoing decline in effort as the revenue earned from non-FFLAS services declines proved to be incorrect, the revenue-based allocator would have no probability of recognising this, whereas the totex-based allocator would. This would also be true of variations in Chorus personnel costs.

¹⁰³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [240 – 245].

¹⁰⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [243].

¹⁰⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [247 – 250].

¹⁰⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [254 - 258].

- 3.79 We agree with Incenta that the result of Chorus' proposal of an increase in the proportions of the shared costs allocated to FFLAS should not in itself guide the choice of allocators.¹⁰⁷ It is equally fair to observe that Chorus would prefer, given a choice, an allocation approach that allocated more costs to FFLAS than one that allocated less. The original proposal's application of a revenue-based allocator type across all areas of opex therefore required clear evidence that this approach was demonstrably reasonable, which the Commission considered, at the time of the draft, Chorus did not sufficiently provide.
- 3.80 Our final decision, which is different from our draft decision, is to apply a revenue-based allocator for the economic common costs in both the CTO and corporate areas. This is because the further evidence provided satisfies us that the cost allocator is 'demonstrably reasonable' and that the economic common costs that the allocator is applied to are being correctly identified. We do not consider that a revenue-based allocator is demonstrably reasonable on the basis of the evidence provided for the other variable costs within these areas.

Variable costs in the CTO

- 3.81 For our final decision for the CTO non-economic common costs, that is variable costs, we have adopted the specific alternative allocator types proposed by Chorus in its submission on our draft decision for the variable costs.¹⁰⁸ This is a change from our draft decision and is explained further below.
- 3.82 In its submission on our draft decision, Chorus sets out that after a detailed review of IT systems-related costs, it considered that over 80% of costs are fixed.¹⁰⁹ It then noted that Incenta had considered an option to apply a revenue allocator to 80% of fixed costs and to identify individual allocators for the remaining 20%. Chorus stated that Incenta's advice was that this alternative approach did not better meet the requirements of the IMs and the Part 6 purpose than an overall revenue allocator.¹¹⁰

¹⁰⁷ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [19].

¹⁰⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [Table 7, 55].

¹⁰⁹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [253].

¹¹⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [254.2].

- 3.83 Chorus did not provide a specific explanation of why individual allocators for what Incenta identified as the 20% of costs that were not fixed costs did not better meet the IM requirements. The explanation advanced by Incenta for the choice of a revenue-based allocator for these other variable costs was that it is a simpler approach (ie, one that defines the allocator at a higher level of aggregation) and would be more robust to changes in how Chorus structured and delivered its IT systems.¹¹¹
- 3.84 Chorus recommended the approach of applying a revenue-based allocator to all costs despite the fact that Incenta had identified allocators it expected would provide the best proxies for causal allocators for individual cost items not likely to be economic common costs.¹¹² Incenta had concluded that most of these “best proxy” allocators are likely to be related to relative revenue, and so relative revenue would be a reasonable allocator.¹¹³ We note the conclusion that relative revenue is a reasonable allocator, but not that it would provide the best proxy clearly means it is not likely to best meet, or equally meet, the requirements compared to any other allocator. This does not show that it is demonstrably reasonable that relative revenue is equal to or superior to available alternatives.
- 3.85 In its original paper, Incenta said that attempting to apply different drivers for the around 20% of variable costs would be complex, as some drivers may be hard to derive, and they would be sensitive to changes in how CTO delivers its services. It then said it did not think “this approach would better meet the IMs and Purpose Statement”.¹¹⁴ No details of potential alternative allocators were provided at that time by either Chorus or Incenta.
- 3.86 Chorus appears to suggest in its submission on our draft decision that details of alternatives sufficient to reach other conclusions were provided prior to us reaching our draft decision to retain the PQP1 allocator type. This was not the case.¹¹⁵

¹¹¹ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [37].

¹¹² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [221]

¹¹³ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [36(b)].

¹¹⁴ Incenta Economic Consulting "Cost allocation issues for RP2" (October 2023), at [63].

¹¹⁵ "However, it (the commission) did not consider the alternative option ", Chorus 16 May 24 sub, [255].

- 3.87 We also note Incenta refers to a need for robustness to change as a justification for adopting a revenue-based allocator for CTO costs, even variable ones (see paragraph 3.17). However, it is unclear what weight, if any, should be put on a relative revenue allocator being more robust to change in how Chorus structures and delivers its IT systems when selecting an allocator. We have no evidence that any changes would be likely to produce material challenges to cost allocation in future and note that Chorus is obligated under the IMs to review cost allocators in any case, so the IMs recognise that changes may be required.
- 3.88 Given that we accept the revenue-based allocator for common costs and we now have specific alternative allocator types proposed by Chorus for variable costs that we consider are demonstrably reasonable and objectively justifiable, our final decision is to use a revenue-based allocator for common costs and the alternatives provided by Chorus for the other costs. Incenta has also acknowledged that the Commission has a different view on the appropriate trade-off between precision and simplicity / robustness to change.¹¹⁶
- 3.89 For the alternative allocation methodology, Incenta explained that it had asked Chorus subject matter experts to indicate whether the fixed portion of costs in the CTO system area was likely to be “high”, “medium” or “low”. It then translated the qualitative responses high, medium and low as 75 per cent, 50 per cent and 25 per cent fixed, which it said was reasonably common in risk assessment activities, and so is appropriate to apply in this case. These splits were applied to arrive at the alternative approach.¹¹⁷
- 3.90 The final decision for the CTO area is as set out in Table 3.1.

Table 3.1 Chief Technology Office - final decision

Cost variability	Estimated proportion of cost	Final decision
Unknown	4%	100% totex
Fixed	44%	100% revenue
Some variability, high proportion of fixed cost	37%	75% revenue, 25% totex
Some variability, moderate proportion of fixed cost	8%	50% revenue, 50% totex
Variable	6%	100% Chorus personnel cost

¹¹⁶ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [79].

¹¹⁷ Incenta Economic Consulting "Commerce Commission draft decision on Chorus' expenditure allowance - reply to certain cost allocation issues" (16 May 2024), at [82].

Variable corporate costs

- 3.91 For our final decision for the corporate non-economic common costs, that is the variable costs, we have decided to use a totex allocator type and a personnel cost allocator type, as proposed by Chorus in its submission on our draft decision. This is a change from our draft decision and is explained further below.
- 3.92 While Chorus remains of the view that the risk of incremental copper withdrawal costs residing within corporate shared cost is low,¹¹⁸ it has provided an alternative approach to allocating corporate costs.¹¹⁹
- 3.93 The alternative approach is based on Incenta expanding upon its 2023 analysis in the report provided with Chorus' submission on our draft decision. Incenta considered that, where a risk arises, it is higher for regulatory functions. It therefore identifies a more "conservative" proposal for cost allocation for variable corporate costs for PQP2 where:¹²⁰
- 3.93.1 functions that are fixed use an economic common cost allocator, namely revenue. These functions, such as the executive team, finance and executive assistants, do not vary considerably with the amount of effort placed on various services;
- 3.93.2 functions whose effort could be variable use a proxy allocator to reflect potential cost drivers. For example, the people and culture team will have some variability with the number of staff. Regulatory functions potentially devote more time and effort to copper policy. The costs of these functions could be allocated by totex; and
- 3.93.3 for workability, where teams are in the same cost centre it proposed using the same allocator, ensuring it can be applied in the current model.
- 3.94 We consider this alternative approach proposed by Chorus, which applies either totex or Chorus personnel cost allocator types for the variable costs, sets out allocators that are demonstrably reasonable and objectively justifiable. This is based on our agreement with Incenta's alternative proposal of allocators for functions where effort is variable, or likely to be variable.
- 3.95 The details of the alternative allocator types provided by Chorus for the other, non-common costs, as submitted by Chorus, are set out in Table 3.2.¹²¹

¹¹⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [260].

¹¹⁹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [262-263].

¹²⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [262].

¹²¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at Appendix A3.

Table 3.2 Cost allocator types

Function / sub-function	Chorus Comment on nature of costs	Alternative allocation
Senior executive - CEO, CFO, General counsel, CTO, CCO	These are all functions whose scope would be largely invariant to the size of the organisation.	Revenue (common cost)
Senior executive - Executive assistant to the CEO	Effort required likely to depend on the size of the senior executive group, which was noted above to be largely invariant to the size of the organisation.	Revenue (common cost)
Finance -Tax Planning and performance Group reporting	These are all functions whose scope that would be largely invariant to the size of the organisation.	Revenue (common cost)
Finance - treasury	Likely to have some fixed component, but with the effort also depending on the size of the debt portfolio to be managed.	Revenue, (proxy allocator for consistency with rest of cost centre)
Billing and revenue assurance	Effort likely to relate to the revenue being managed.	Revenue (proxy allocator to reflect variability)
Finance manager and team for the business units	Effort likely to depend on the number and size of the transactions being performed by each business unit.	Revenue (proxy allocator to reflect variability)
People and culture - Personnel functions (people experience, payroll, recruitment, learning and development)	Likely to have a fixed component, but with effort likely to increase with the number of employees.	Chorus personnel cost (proxy allocator to reflect variability)
People and culture - Internal communications Diversity and inclusion Organisation change	Likely to be largely invariant to changes to the size of the organisation.	Chorus personnel cost (proxy allocator for consistency with rest of cost centre)
General counsel, Legal – corporate	Effort will depend on the extent of commercial legal issues to be addressed.	Totex (proxy allocator for consistency with rest of cost centre)
General counsel, Legal – regulatory	Effort will depend on the extent of regulatory issues to be addressed.	Totex (proxy allocator to reflect variability)

Function / sub-function	Chorus Comment on nature of costs	Alternative allocation
General counsel - External relations Sustainability Risk and internal audit Partnerships	These are all functions whose scope would be largely invariant to the size of the organisation. Note that “partnerships” refers to the activity of entering into procurement agreements (ie, with suppliers) – administration of the contracts (which would be variable) occurs within the business units.	Totex (proxy allocator for consistency with rest of cost centre)
General counsel - policy and affairs	Effort will depend on the extent of regulatory issues to be addressed.	Totex (proxy allocator to reflect variability)
General counsel - delivery	Wholly engaged on FFLAS.	Directly attributable to FFLAS

- 3.96 Chorus considered the alternative option is conservative in that it largely relies on the current cost structure but allows for incremental work related to copper withdrawal. It also noted that, where there is potential for incremental copper withdrawal cost, totex is used for consistency with PQP1.¹²²
- 3.97 We note that Chorus did not consider this alternative basis to be better than its preferred use of a revenue-based allocator, but said it presents a materially better option than retaining totex-based allocators for all costs, based on the best information available.
- 3.98 As set out earlier, in relation to variable corporate costs, a revenue-based allocator would only move in one direction going forward in terms of allocation to non-FFLAS activities: downward. A totex or Chorus personnel-based allocator, on the other hand, can move upward as well as downward, if the ongoing decline in effort as the revenue earned from non-FFLAS services declines is not correct.
- 3.99 The revenue-based allocator therefore appears less reasonable as a proxy allocator for variable costs than a totex allocator or the Chorus personnel cost allocator. Our final decision is therefore to adopt Chorus’ proposed alternative allocators for non-common costs.
- 3.100 Our final decision is to use a split between corporate economic common costs and variable costs based on Chorus’ submission of an alternative approach (see Table 3.2). We consider this alternative proposal is demonstrably reasonable, based on the submissions and reports received.

¹²² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [264].

3.101 We note that in Incenta’s original report, submitted to support the expenditure proposal, it set out that its review of corporate costs found:¹²³

3.101.1 the majority of the (corporate) sub-functions are likely to be common costs, and for which we have recommended using a revenue-based allocator; and

3.101.2 the remaining sub-functions comprise costs that are likely to depend on the effort that is devoted to FFLAS and non-FFLAS.

3.102 We note that in implementing the alternative approach we have had to make some assumptions for corporate cost centres where the mapping of the cost centre to Chorus’ proposal was not clear. Where an assumption was required, we have applied an 80/20 split between common costs and variable costs to implement the alternative approach.¹²⁴

3.103 Our final decision is for:

3.103.1 common costs, to allocate via a revenue-based allocator; and

3.103.2 variable costs to use a totex allocator type or a personnel cost allocator type, as proposed by Chorus in its submission on our draft decision.

Cost escalation

Final decision

3.104 Our final decision is to use the:

3.104.1 set of escalation indices proposed by Chorus (which is the same set used for PQP1 – see Table 3.3 below);

3.104.2 escalation index forecasts prepared by NZIER, as we did for PQP1; and

3.104.3 same usage assumptions as used in PQP1, and not adopt Chorus’ proposed changes for PQP2.

¹²³ Incenta Economic Consulting “Cost allocation issues for RP2” (October 2023), at [65(b)].

¹²⁴ Our use of an 80/20 split was based on Incenta’s finding that a majority of corporate sub-functions are likely to be common costs, we consider 80% to be a reasonable interpretation of this, in the absence of more specific information on cost centres to the proposal.

Table 3.3 Final set of escalation indices¹²⁵

Index	CAGR ¹²⁶
CPI ¹²⁷	2.8%
CGPI	2.8%
PPI civil	2.6%
LCI all	2.6%
PPI all	2.5%
LCI professional	2.4%
PPI O E&E (PPI Outputs electrical and equipment)	2.0%
PPI rent	1.1%
U.S. Fibre	0.2%

3.105 Our final decision is the same as our draft decision.¹²⁸

Stakeholder views

3.106 Chorus submitted that the updated PQP2 weightings are based on “changes to cost mix in the PQP2 forecast.” Moreover, it stated that it has “increased the granularity and accuracy of [its] approach to determining the PQP2 weightings based on the latest forecast cost splits.”¹²⁹

3.107 Chorus further submitted that it provided an explanation for its proposed changes on page 10, tables 2 and 3 of its Modelling and Cost Allocation (MCA) report.¹³⁰

3.108 Lastly, Chorus calculated a reduction of \$0.56m on opex compared to the Commission’s stated \$0.5m and an increase of \$0.9m capex compared to the Commission’s stated \$0.2m applying the usage assumptions used in PQP1.¹³¹

¹²⁵ These are the same as the indices proposed by Chorus in its 2023 expenditure proposal and remain unchanged from PQP1.

¹²⁶ Compound Annual Growth Rate for 2022-2028. The values are updated based on new forecasts from NZIER in July 2024.

¹²⁷ ‘Just CPI’ in Chorus “RT02 – Cost escalation regulatory template” (31 October 2023).

¹²⁸ Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at 56.

¹²⁹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at 70.

¹³⁰ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at 70.

¹³¹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at footnote 133; and Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at [4.110].

Reasons for our final decision

- 3.109 As set out above, our final decision is the same as our draft decision. In respect of our use of the escalation indices proposed by Chorus and the forecasts prepared by NZIER, our reasoning for the final decision is the same as for the draft decision.¹³²
- 3.110 In respect of the usage assumptions our final decision is to use the assumptions used in PQP1, and not to adopt Chorus' proposed changes for PQP2.
- 3.111 In respect of Chorus' submissions on usage assumptions, we consider:
- 3.111.1 Chorus did not provide supporting details or workings to explain the "changes to the cost mix." Such explanation could have been in the form of a variance analysis, showing the PQP1 versus the PQP2 weightings at sub-category level and explaining the underlying business driver for the changes. The "increased granularity and accuracy in approach" should have been explained further in terms of what has changed in its process between PQP1 and PQP2;¹³³
- 3.111.2 tables 2 and 3 on page 10 of the MCA report describe the cost escalation approach for PQP2. It is not an explanation of the changes to usage assumptions (weightings) from PQP1 to PQP2; and¹³⁴
- 3.111.3 the net impact to the nominal allowance of approximately \$300k is still relatively low.
- 3.112 In the absence of adequate justification for the proposed changes to the weightings, our final decision is to apply the weightings from PQP1 for the reasons set out in our draft decision.¹³⁵

Deliverability

Final decision

- 3.113 Our final decision is that we consider the overall risk to the deliverability of Chorus' opex and capex investment plans over PQP2 to be low. This is the same as our draft decision.¹³⁶

¹³² Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.103]-[4.111].

¹³³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 70.

¹³⁴ Chorus "Modelling and Cost Allocation report" (31 October 2023), at 10.

¹³⁵ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.105] – [4.111].

¹³⁶ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 60.

Stakeholder views

3.114 Chorus in its submission on our draft decision agreed with our draft decision that the overall risk to the deliverability of the proposal is low.¹³⁷

Reasons for our final decision

3.115 In coming to our final decision, we have considered deliverability as a cross-cutting issue as it impacts all aspects of Chorus' expenditure proposal. It is also an assessment factor to consider under clause 3.8.6(1)(k) of the fibre IMs and, as such, we have considered it in expenditure sub-categories as necessary.¹³⁸

3.116 As we stated in our draft decision, the primary expenditure related risk associated with deliverability is that if Chorus cannot deliver on its investment plans, expenditure could be over-forecast, and therefore revenue could be set too high, which could lead to excessive profits.¹³⁹

3.117 We noted that the primary cause of this risk would be driven by any interruptions to the provision of services from FSPs, which could be caused by an insolvency event.¹⁴⁰ While this may have a short-term impact, our view is that over the PQP2 period it is unlikely to be significant. The other risk to deliverability of Chorus' opex and capex investment plans likely stems from resourcing requirements or procurement issues. We consider these risks to still be the primary risks for Chorus to manage over PQP2, but are sufficiently low that we need not make provision for risk of non-delivery in our expenditure or PQP2 decisions.

3.118 As explained in our draft decision paper, we agree with the reasoning and findings of the Independent Verifier.¹⁴¹ Deliverability is an assessment factor to consider under clause 3.8.6(1)(k). As such we have had regard to assessment factor (k) of clause 3.8.6(1) of the fibre IMs in coming to our final decision.

Demand forecasting

Final decision

3.119 Our final decision is to use the following in analysing Chorus expenditure proposal:

¹³⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at table 2.

¹³⁸ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

¹³⁹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.115].

¹⁴⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.114].

¹⁴¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 62-63; and Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 24.

3.119.1 the connections forecasts produced by Chorus adjusted for the assessment of the impacts of the change to the fibre frontier proposal and hyperfibre demand; and

3.119.2 the bandwidth forecast produced by Chorus to forecast network capacity capex for PQP2.

3.120 Our final decision is the same as our draft decision.¹⁴²

Key features of Chorus' forecasts

Connections forecast

3.121 As highlighted in our draft expenditure decision and explained in Chorus' proposal:

3.121.1 the volumes of new property developments (NPD) demand is expected to decline over PQP2 after historically high levels of NPD demand seen from 2020 to 2022;¹⁴³

3.121.2 the volume of new fibre installations will continue to decline from the peak seen in 2018 to 2019.¹⁴⁴ This is mainly driven by the falling demand for NPDs; and

3.121.3 the monthly growth in FFLAS connections is expected to continue to decline over PQP2, following the trajectory in PQP1.¹⁴⁵

Bandwidth forecast

3.122 Chorus also stated in its proposal that the average throughput per user and the total peak traffic on the network is forecast to grow on average by 20.6% per annum and 25% per annum respectively from 2022 to 2029.¹⁴⁶

Stakeholder views

3.123 In its submission on our draft expenditure decision Chorus submitted that it:¹⁴⁷

3.123.1 spent time with us during the RFI process addressing issues and concerns raised in relation to demand forecasting; and¹⁴⁸

¹⁴² Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 63.

¹⁴³ Chorus "Our Fibre Plans" (31 October 2023), at 74.

¹⁴⁴ Chorus "Our Fibre Plans" (31 October 2023), at 82.

¹⁴⁵ Chorus "Our Fibre Plans" (31 October 2023), at 90.

¹⁴⁶ Chorus "Our Fibre Plans" (31 October 2023), at 98.

¹⁴⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 69.

¹⁴⁸ Note that Chorus mostly responded to our RFIs with written responses rather than in in-depth meetings.

3.123.2 considers some of the statements describing the demand forecasting suite in Table 4.10 of our draft expenditure decision are incorrect. These include:¹⁴⁹

3.123.2.1 the connections model not informing other models in the suite. Chorus stated that it has demonstrated that the connections model informs the bandwidth model. Chorus noted that the input connections in the bandwidth model are based on an earlier version of the connections model due to the timing of updating the bandwidth model; and

3.123.2.2 The bandwidth model not informing any expenditure sub-categories. Chorus stated that it used the calculated throughput growth rate from the bandwidth model in its investment forecasts for access, aggregation and transport capex.

3.124 In its submission, Chorus also set out that it will continue to refine and improve its models based on the Commission’s feedback and will continue to work proactively to improve the transparency and robustness of the models.¹⁵⁰

Reasons for our final decision

3.125 In reaching our final decision on whether Chorus’ connections and bandwidth forecast meet the capital expenditure objective of being prudent and efficient, we have had regard to assessment factors (b), (e), and (t) of clause 3.8.6(1) of the fibre IMs.¹⁵¹

3.126 As explained in our draft expenditure decision, we have found a significant number of issues and inconsistencies across Chorus’ different models that we consider indicate that the governance and processes applied by it need improvement (assessment factor (b)). Examples of these include:¹⁵²

3.126.1 connections forecast used as inputs across the models do not match the output of the connections model;

3.126.2 overuse of hardcoded figures with no source and underlying methodology;

3.126.3 models have differing characteristics in terms of data frequency, latest actual data used and the forecast period; and

¹⁴⁹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at 69.

¹⁵⁰ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [346].

¹⁵¹ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

¹⁵² Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at table 4.11.

- 3.126.4 models do not follow a set structure or format.
- 3.127 As explained in our draft expenditure decision:¹⁵³
- 3.127.1 while there are a number of issues with Chorus' forecast modelling, we consider that the errors and inconsistencies within the models used to calculate Chorus' connections forecast offset each other and the overall outcome from the models for total connections is likely to be reasonable; and
- 3.127.2 there are also a number of issues with Chorus' bandwidth forecast, which appear to have a material impact on the forecast. However, this forecast has limited to no impact on PQP2 expenditure.
- 3.128 We note Chorus' submission on whether there are inconsistencies. We still consider there are inconsistencies (as set out in our draft) and our final decision is to utilise the connection and bandwidth forecasts outlined in paragraph 3.6.
- 3.129 In reaching our final decision for the connections forecasts we have considered the methodology and assumptions utilised in Chorus' connection forecasts and the approach Chorus has used to forecast demand (assessment factors (e) and (t)). As stated in our draft decision, our analysis has shown that while there are a number of identified issues with the market and connections models, the combined impact of these issues on total (copper and fibre) connections forecast in the Chorus UFB area is immaterial.¹⁵⁴
- 3.130 Accordingly, we consider that, overall, the connection forecasts are a reasonable basis for driving expenditure for PQP2.
- 3.131 In reaching our final decision for the bandwidth forecast we have considered the methodology and assumptions utilised in Chorus' bandwidth forecast and the approach Chorus has used to forecast demand (assessment factors (e) and (t)). As stated in our draft report, and like the connections forecast, we have found that there are a number of issues with the bandwidth forecast. We consider these have a material impact on the forecast but forecast bandwidth demand increases over PQP2 result in negligible change to proposed capex.¹⁵⁵

¹⁵³ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.137]-[4.138].

¹⁵⁴ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.143].

¹⁵⁵ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [4.146].

Chapter 4 Base capex

Purpose and structure of this chapter

4.1 This chapter sets out our final decisions on the base capex allowance for Chorus for PQP2, and covers final decisions on the following categories of expenditure:

- 4.1.1 extending the network;
- 4.1.2 installations;
- 4.1.3 IT and support;
- 4.1.4 network capacity; and
- 4.1.5 network sustain and enhance.

4.2 Our final decisions on the expenditure categories and their relevant sub-categories are discussed further in the sections below.

Summary of our base capex final decision

4.3 Our final decision is to determine a base capex allowance of \$847.7 million. Table 4.1 shows our final decision broken down by year. This is \$307 million less than Chorus' proposal, and 117.3m less than Chorus proposal excluding major fibre frontier investment.

Table 4.1 Our base capex final decision by year

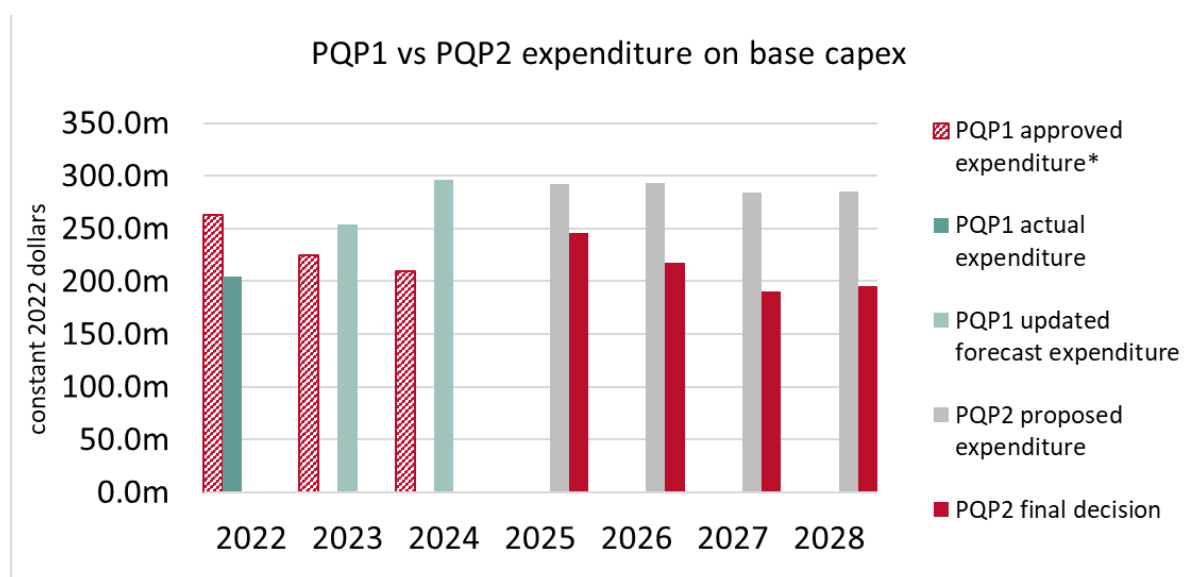
	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Base capex final decision	245.9	217.0	189.9	194.9	847.7
Chorus proposal (excluding major fibre frontier investment)	258.4	244.4	234.0	228.2	965.0
Difference	-12.5	-27.4	-44.1	-33.3	-117.3

4.4 Our final decision on the base capex allowance for each category of expenditure is summarised in Table 4.2.

Table 4.2 Summary of final decision for Chorus' PQP2 base capex allowance

Category	Sub-category	Chorus proposal (\$m)	Final decision (\$m)	Difference (\$m)	% of proposal allowed
Extending the network	Augmentation	220.6	32.5	-188.1	15%
	New property developments	32.4	32.5	0.0	100%
	UFB communal	0.0	0.0	0.0	
Installations	Complex installations	1.8	1.8	0.0	100%
	Standard installations	117.7	89.9	-27.8	76%
IT and support	Business IT	72.6	72.5	-0.1	100%
	Corporate	12.9	12.9	0.0	100%
	Network and customer IT	94.9	94.8	-0.1	100%
Network capacity	Access	127.5	71.3	-56.2	56%
	Aggregation	79.8	79.8	0.0	100%
	Transport	85.0	84.9	-0.1	100%
Network sustain and enhance	Field sustain	120.5	114.8	-5.7	95%
	Relocations	18.2	18.2	0.0	100%
	Resilience	79.7	50.7	-29.0	64%
	Site sustain	91.1	91.1	0.0	100%
Total		1154.7	847.7	-307.0	73%
Total (excluding major fibre frontier investment)		965.0	847.7	-117.3	88%

4.5 The Figure 4.1 compares our final decision to Chorus' proposal, our final decision for PQP1, and Chorus' actual expenditure and updated forecast expenditure for the PQP1 period.

Figure 4.1 PQP1 vs PQP2 base capex

4.6 The following sections set out the reasons for our final decision by category and sub-category.

Extending the network

Augmentation

Final decision

- 4.7 Our final decision is to include \$32.5m in the base capex allowance for augmentation capex over PQP2. This includes \$19.5m for augmentation – infill capex and \$13.0m for augmentation – fibre frontier capex.
- 4.8 The \$13.0m for augmentation – fibre frontier uses the information that Chorus provided in February 2024 as a starting point, which is \$188.1m lower than the amount proposed by Chorus in its proposal in October 2023.
- 4.9 As explained in our draft decision and above in paragraph 1.13, Chorus provided information in February 2024 that set out a reduced scope for the proposed rollout of its ‘fibre frontier’ investment.¹⁵⁶ This resulted in a reduction in the amount for Chorus’ proposed investing for augmentation – fibre frontier, being \$13.0m rather than the \$201.1m in its original proposal. This was a reduction of \$188.1m from the expenditure proposal it submitted in October 2023. As noted above, the fibre IMs do not allow for a proposal to be amended after submission. We therefore treated this as additional information to consider in coming to our draft and final decisions.

¹⁵⁶ Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at [5.9]. Also see Chorus “Notification of material change to PQP2 capex proposal” (5 February 2024).

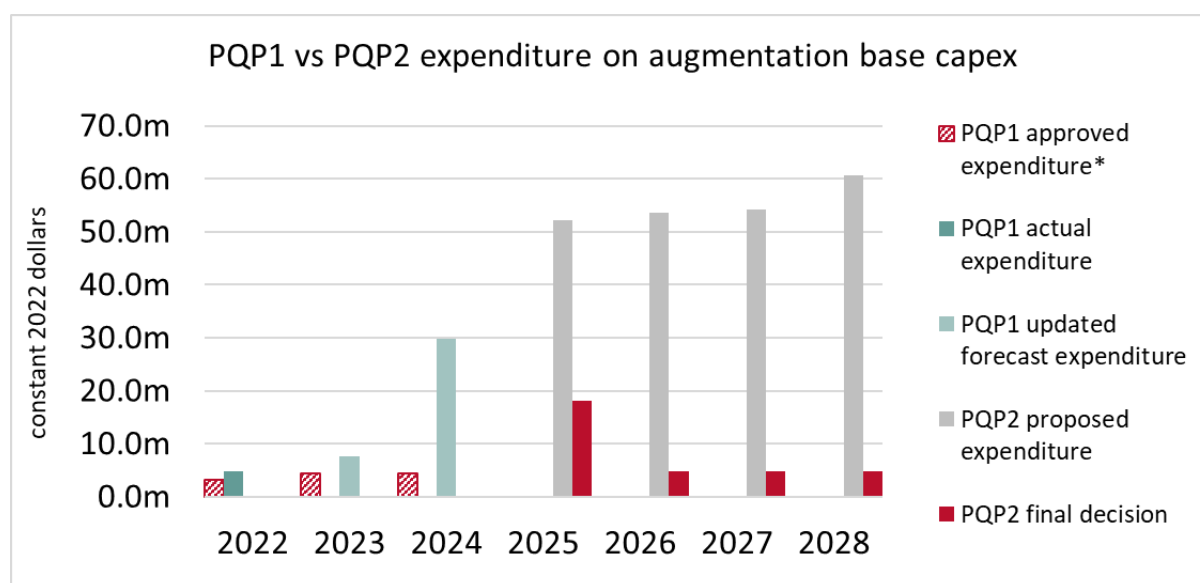
4.10 Our final decision is the same as our draft decision and is broken down by each year over PQP2 in Table 4.3.¹⁵⁷

Table 4.3 Breakdown of augmentation base capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Augmentation – fibre frontier	13.0	0.0	0.0	0.0	13.0
Augmentation - infill	5.0	4.9	4.8	4.8	19.5
Total	18.0	4.9	4.8	4.8	32.5

4.11 Figure 4.2 below compares our final decision to Chorus’ proposal, our final decision for PQP1, and Chorus’ actual expenditure and updated forecast expenditure for the PQP1 period.

Figure 4.2 PQP1 vs PQP2 augmentation base capex



¹⁵⁷ Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at 71.

Augmentation – fibre frontier

Final decision

4.12 Our final decision is to include \$13.0m for augmentation – fibre frontier capex in Chorus’ base capex allowance for PQP2.¹⁵⁸ Fibre frontier capex relates to work to extend the fibre network to areas that did not meet the threshold for the UFB 2/2+ contract.¹⁵⁹ Our final decision is the same as our draft decision.¹⁶⁰

Stakeholder views

4.13 In its submission on our draft expenditure decision, Chorus provided revised regulatory templates, and submitted that:¹⁶¹

4.13.1 it agreed that the removal of a large amount of its augmentation fibre frontier investment has flow-on effects to other areas of the expenditure proposal; and

4.13.2 its bottom-up modelling had resulted in a \$1.6m increase to expenditure allowances due to the flow-on effects of changes to the fibre frontier investment.

4.14 On the assessment we undertook in our draft expenditure paper to support the draft decision on augmentation – fibre frontier, Chorus submitted that:¹⁶²

4.14.1 our approach of comparing the incremental revenue from additional connections against the incremental costs (IRIC) is excessively conservative when considering other aspects of the regulatory framework such as geographically consistent pricing (GCP) and anchor service price caps. These other aspects are designed to protect rural end-users, but the IRIC approach will have the effect of depriving rural end-users of access to fibre services and restricting fibre investment relative to competing technologies, which can (and typically do) charge higher prices and deliver lower quality for rural end-users. This is contrary to promoting competition;

¹⁵⁸ Note that capital expenditure on phase 1 of the programme spans 2024, the end of PQP1, and the beginning of PQP2. The \$13m of capex forecast to fall in 2025 will conclude the phase 1 that has begun in PQP1.

¹⁵⁹ Chorus "Our Fibre Assets" (31 October 2023), at 67.

¹⁶⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.9]. This is also the same amount as Chorus' reduced scope for augmentation – fibre frontier.

¹⁶¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 11.

¹⁶² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 64-65.

- 4.14.2 reiterating its proposal, the appropriate test for us to use to assess the fibre frontier investment is a workably competitive market test because it would:
- 4.14.2.1 best give effect to the Part 6 purpose because it sought to produce network extension outcomes that are consistent with the outcomes produced in a workably competitive market; and
 - 4.14.2.2 better promote workable competition because it would not suppress fibre extension because of other aspects of the regulatory framework.
- 4.14.3 we should be transparent and provide information to it regarding the revisions we made to the economic analysis to allow it to assess the appropriateness of including such revisions in the modelling for future network extension proposals;
- 4.14.4 it was concerned that our competition analysis did not acknowledge the substantial increase in retail competition that will result from the availability of open access infrastructure. Chorus considers open access fibre will give end-users access to dozens of additional retail offerings, increasing choice and competition; and
- 4.14.5 it was also concerned with the statement that “we recognise that other fibre providers may have advantages that need to be considered in other areas where expansion may be proposed in future.”¹⁶³ It does not believe that it is appropriate for us to consider whether it might be preferable for Chorus to be prevented from extending its network to assist another provider to deploy there, based on a view of relative efficiency. We should be focused on creating incentives for efficient competition rather than selecting “winners” and “losers” to assist in competition. We should be neutral to any outcome in the competitive process.
- 4.15 On the consequential impacts of the update made to the augmentation – fibre frontier investment, Chorus submitted:¹⁶⁴
- 4.15.1 it acknowledged our efforts in modelling the impacts of the flow-on effects of the reduced augmentation – fibre frontier investment; and

¹⁶³ Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at [5.36].

¹⁶⁴ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at 65 – 66.

- 4.15.2 it was providing us with updated information and a reconciliation of the impacts which it had modelled internally and included impacts from reduced connection volumes which impacts opex trending, connection capex volumes and specific capex forecasts.
- 4.16 The update also drove changes in other areas as well as other considerations, namely:¹⁶⁵
- 4.16.1 a reduction of revenue forecasts in line with connection volumes which also impacts the cost allocator values;
- 4.16.2 that totex and net book value allocators are impacted by changes to the capex and opex forecasts; and
- 4.16.3 Chorus' proposal forecast did not include any assumptions for capital contributions relating to the fibre frontier programme. These only apply to NPDs, roadworks and business fibre work.
- 4.17 Chorus also considered that our estimates of the flow-on impacts are very close to the bottom-up modelling it had performed.¹⁶⁶ The net change it proposed (based on its bottom-up modelling) compared to our draft decision would result in an increase to the expenditure allowances by \$1.6m in total.
- 4.18 In its submission on our draft expenditure decision, 2degrees submitted that it:¹⁶⁷
- 4.18.1 welcomed Chorus' withdrawal of most of its proposal relating to augmentation – fibre frontier;
- 4.18.2 considered the ICP mechanism the most appropriate way to seek augmentation – further fibre frontier investment; and
- 4.18.3 continued to have concerns about the tests used and justifications given by Chorus to explain that its expenditure proposal is prudent and efficient.
- 4.19 2degrees considered that the following were all relevant considerations in determining whether to approve Chorus' network expansion proposals:¹⁶⁸
- 4.19.1 any alternative providers should only face competition from a Chorus service that is provided on a commercially prudent basis;

¹⁶⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [319].

¹⁶⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 66.

¹⁶⁷ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): 2degrees' Submission in response to Commerce Commission consultation" (May 2024), at 5 – 6.

¹⁶⁸ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): 2degrees' Submission in response to Commerce Commission consultation" (May 2024), at 6.

- 4.19.2 geographic areas to be served and the associated costs; and
- 4.19.3 the risk of requiring ongoing higher charges for existing customers.
- 4.20 2degrees did not agree with Chorus that it had demonstrated that the original augmentation – fibre frontier proposal is in the interests of consumers and New Zealand generally, meets the capital expenditure objective and reflects good telecommunications industry practice.¹⁶⁹
- 4.21 However, 2degrees agreed with Chorus that the capex fibre IM is non-prescriptive in nature.¹⁷⁰ It agreed that there is no clear precedent for us to evaluate the merits of Chorus’ augmentation fibre frontier proposal, the IMs do not clearly illustrate the appropriate economic test to use and that this contrasts with the Transpower capex IM which specifies the economic test to use.
- 4.22 2degrees considered that this is an aspect of the IMs the Commission should revisit to provide greater clarity and certainty about the operation of Part 6 of the Telecommunications Act and what would be needed to determine whether an investment would be approved/would be to the long-term benefit of end-users.¹⁷¹
- 4.23 2degrees agreed with the draft decision that the revised augmentation – fibre frontier proposal will have flow-on impacts to several expenditure sub-categories.¹⁷² However, it was concerned that we had not reduced the expenditure allowance for standard installations base capex in our draft expenditure decision due to the reduction in connections because we did not consider we have a sufficient basis for estimating any change in capex associated with the reduction in connections.
- 4.24 2degrees was also concerned with us inviting Chorus to set out its view of the impacts to the wider expenditure proposal of the new information in its submission. It believed that we should formally require Chorus to provide more complete information about the impact of the updated augmentation – fibre frontier proposal.¹⁷³

¹⁶⁹ 2degrees “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028): 2degrees’ Submission in response to Commerce Commission consultation” (May 2024), at 6.

¹⁷⁰ 2degrees “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028): 2degrees’ Submission in response to Commerce Commission consultation” (May 2024), at 6.

¹⁷¹ 2degrees “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028): 2degrees’ Submission in response to Commerce Commission consultation” (May 2024), at 7.

¹⁷² 2degrees “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028): 2degrees’ Submission in response to Commerce Commission consultation” (May 2024), at 7.

¹⁷³ 2degrees “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028): 2degrees’ Submission in response to Commerce Commission consultation” (May 2024), at 7.

Reasons for our final decision

- 4.25 Our final decision, consistent with our draft decision, is to include \$13.0m for augmentation – fibre frontier capex as we consider the expenditure meets the capital expenditure objective and reflects good telecommunications industry practice, having regard to the relevant assessment factors in clause 3.8.6(1) of the fibre IMs. In particular:
- 4.25.1 the expenditure reflects costs that a prudent operator would incur, and that payback is forecast to occur within a reasonable timeframe (assessment factor (d));
 - 4.25.2 the \$13.0m capex proposed for inclusion in base capex for PQP2 meets our assessment criteria, in particular factors (d), (e), (g) and (o);
 - 4.25.3 the expansion of the FFLAS footprint as proposed under phase 1 will promote workable competition in telecommunications markets for the long-term benefit of end-users; and
 - 4.25.4 the phase 1 capex information satisfies assessment factor (o), the extent of uncertainty relating to the proposal, as it clearly (and with certainty) sets out the geographic areas to be served and the associated costs.
- 4.26 We will engage further with Chorus on any analysis of fibre frontier ICPs if and when a proposal is submitted. In response to Chorus’ submission that we be transparent and provide information on the revisions made to the economic analysis, we will provide the revisions to Chorus following the publication of this expenditure decision.¹⁷⁴
- 4.27 In considering whether Chorus’ proposal has met the capital expenditure objective, we have had regard to the assessment factors (d), (e), (g), (j) and (o) of clause 3.8.6(1) of the fibre IMs.¹⁷⁵
- 4.28 Our final decision considers the information provided by Chorus for phase 1 that shows, compared to the 31 October 2023 proposal:
- 4.28.1 reduced costs per premises passed and a reduced payback period; and
 - 4.28.2 a significant reduction in uncertainty given the reduced scope of phase 1 and the improved cost information provided.

¹⁷⁴ We note these models are confidential to Chorus as they contain commercially sensitive information.

¹⁷⁵ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

- 4.29 We consider including \$13.0m of expenditure for augmentation – fibre frontier meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Economic analysis (assessment factors (d) and (e))

- 4.30 When Chorus revised its proposal in February 2024, it also provided revised economic analysis for phase 1 of its fibre frontier proposal.
- 4.31 As explained in our draft decision, we consider that the payback period for the \$13.0m of expenditure for augmentation – fibre frontier, is likely to fall within a 25- to 30-year timeframe (when using current levels of average revenue). We consider this payback period is acceptable for the proposed level of capex and the degree of confidence in the underlying proposal forecasts.¹⁷⁶ The reduced timeframe significantly lessens the degree of risk that some assets would require replacement, and for those that do, we are satisfied replacement would not lead to a payback beyond a commercially prudent timeframe limit.

2degrees' submission

- 4.32 While 2degrees' submission welcomed the more limited investment that Chorus sought in terms of its fibre frontier network expansion and that Chorus would seek approval for any further investment via the ICPs mechanism, it does not agree that Chorus has demonstrated that the proposal meets the capital expenditure objective and reflects good telecommunications industry practice.¹⁷⁷
- 4.33 As set out above, we continue to consider that the expenditure satisfies the capital expenditure objective and reflects good telecommunications industry practice for the reasons provided. We do not consider that 2degrees has provided any basis in its submission to justify a change from our draft decision in relation to the fibre frontier expenditure included in PQP2 capex.

¹⁷⁶ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.31].

¹⁷⁷ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): 2degrees' Submission in response to Commerce Commission consultation" (May 2024), at 6.

- 4.34 Further, 2degrees was also concerned that we set out in our draft decision that we did not consider we had a sufficient basis for estimating any change in capex associated with the reduction in connections and as such our draft decision did not make any reductions. We note that, as explained at paragraph 4.14, Chorus has now provided us with updated information as part of its submission on our draft decision. This contained a reconciliation of the impacts, including from reduced connection volumes, connection capex volumes and specific capex forecasts. We are satisfied that the impacts of the changes to fibre frontier are correctly reflected in our final decision.
- 4.35 We have noted comments in 2degrees' submission that there is a need to provide greater clarity and certainty about the operation of Part 6 of the Telecommunications Act and what would be needed to determine whether an investment would be approved/would be to the long-term benefit of end-users. Our current evaluation and assessment criteria are intended to best give effect to s 166(2) of the Act. Any future provision of further clarity on whether an investment would be approved is something that could be considered as part of a future fibre IM review.

Chorus' submission

- 4.36 We disagree with Chorus' submission that in including the \$13m of augmentation - fibre frontier capex, our use of an IRIC framework is excessively conservative when considering other aspects of the regulatory framework such as GCP and anchor service price caps. Given the potential uncertainty of particular financial factors used in the calculation, we do not consider it overly conservative to have used this framework (noting this is the first time we have considered a proposal for fibre frontier expansion capex and we have applied the IRIC framework in this context). We may consider other approaches to quantitative analysis in future.
- 4.37 Further, the draft decision noted that there was little support for Chorus' proposed assessment approach. It was seen as subjective and lacking transparency. Spark did not support Chorus' proposed alternative optimised technology test, indicating these tests appeared to be inconsistent with government policy (eg, GCP and the balancing of higher prices for end-users and government funding).
- 4.38 In any case, we consider that the fact that the \$13m fibre frontier capex for PQP2 passes a more conservative test than Chorus has proposed applying, provides greater confidence that the proposal meets the economic test criteria that we considered appropriate to meet assessment factor (d). As Chorus has noted, further fibre expansion potentially requires further policy and regulatory consideration which we consider is best addressed outside of the PQP process.

Competition effects (assessment factor (g))

- 4.39 As explained in our draft decision, our final decision is that the phase 1 expansion promotes workable competition in telecommunications markets, and is commercially viable, generating an acceptable payback while meeting the legislative requirement for GCP (see s 201 of the Act). The phase 1 expansion is a logical next step in fibre network expansion, providing a competitively priced service to existing alternatives, given it will be priced the same as existing services under GCP, while in several respects offering a superior service to them. This modest expansion fosters more competition and access to an expanded range of services via better fibre coverage, with an acceptable payback, and encourages workable competition between fibre and other modern technologies that are already being offered in these areas.
- 4.40 The geographic areas chosen for phase 1 are based on the more detailed costings Chorus has now obtained. Phase 1 expansion is forecast to achieve payback on the investment within a commercially reasonable timeframe, taking into account the long-lived nature of the assets.
- 4.41 Our final decision is to include \$13.0m capex for phase 1 of the rollout (as set out in the information provided by Chorus), but we recognise that other fibre providers may have advantages that need to be considered in other areas where expansion may be proposed in the future.
- 4.42 Unlike subdivision network extensions, where there is contestability to be the fibre provider (including competition from other LFCs and non-UFB fibre providers), or the contested UFB contracts, fibre frontier investment is not a contested process. Taking account of the likely limited commercial attractiveness of the areas where Chorus proposes to expand the network, the low level of investment in the phase 1, and the benefits to consumers of the phase 1 expansion, we consider that the phase 1 proposal to spend \$13m is likely to reflect a more efficient outcome and incentivise Chorus to supply fibre fixed line access services of a quality that reflects end-user demands (as set out in s166(2)(b)). This relatively modest investment in phase 1 addresses potential customers that can be served with a feasible payback and that have not currently attracted investment from other providers. In terms of any future proposals to expand coverage, phase 1 is a targeted investment that meets the test of being expenditure that reflects the efficient costs that a prudent fibre network operator would incur to deliver PQ FFLAS of appropriate quality.
- 4.43 In providing information on its fibre frontier proposal, Chorus indicated that it would need greater policy and regulatory certainty to proceed with a wider programme. This capex approval recognises the limited and controlled scope of phase 1 and we note that for further investments in fibre network expansion the role of contestability would need to be considered as part of further policy development.

- 4.44 We note Chorus' view that:
- 4.44.1 we should be focused on creating incentives for efficient competition rather than selecting "winners" and "losers" to assist in competition; and
 - 4.44.2 our competition analysis did not acknowledge the substantial increase in retail competition that will result from the availability of open access infrastructure.
- 4.45 We consider that assessment factor (g), which requires that we consider competition effects that have the potential to impact on competition in PQ FFLAS and other telecommunications markets, requires that we do not simply assume a fibre solution is best. Submitters, as noted in our draft decision, considered Chorus' proposed expenditure on further fibre rollout should not be incentivised in areas where other technologies would provide a more efficient solution, because this would distort competition.
- 4.46 With regard to open access infrastructure, Chorus' submission raises the benefits of access to a range of retail offerings with increased choice and competition as key benefits. We agree that these are also added benefits, but note that we already consider the investment meets our IRIC test so we did not need to look at valuing these added benefits. We also note that we are not selecting winners or losers but acknowledge that in some areas other LFCs may have advantages that Chorus does not in terms of extending the fibre footprint, and that is a relevant factor to be considered. For example, an existing fibre network within a particular geographic area or with relevant experience and resources may mean that another entity has advantages in terms of extending the provision of a fibre network within a particular area.

Consultation and engagement with stakeholders (assessment factor (j))

- 4.47 As set out in our draft decision, Chorus undertook consultation on the proposal it submitted in October 2023. Responders to the consultation were supportive of the fibre frontier investment, but it was not clear that the consultation set out the long payback period required for the original proposal to recoup the investment.
- 4.48 As set out above, we consider that including \$13m for augmentation - fibre frontier as part of Chorus' base capex allowance reflects the efficient costs of a prudent fibre operator and this amount of expenditure forecasts a payback within a reasonable timeframe, lowering the risk of Chorus needing to charge materially higher prices for existing customers.

Uncertainty regarding the fibre frontier proposal (assessment factor (o))

- 4.49 We considered assessment factor (o) in coming to our final decision and we consider that \$13m for phase 1 of the project provides an acceptable degree of confidence in the level and timing of the proposed capex and that the economic case is justified. The further information provided in February 2024 set out in greater detail the geographic areas that would be served and the associated costs.

Further PQP2 fibre frontier investment beyond stage 1

- 4.50 If Chorus required further expenditure for network expansion during PQP2 it would be open to submit an ICP in accordance with the fibre IMs. Any ICP received would need to satisfy the relevant fibre IM requirements for a proposal and would be assessed on its merits against the relevant criteria.¹⁷⁸ Chorus provided revised information about fibre frontier on the basis that further policy and regulatory certainty is required. We welcome involvement in discussions with Chorus and policymakers on the appropriate basis for progressing further fibre expansions, including how we will assess any fibre frontier ICPs.

Augmentation – infill

Final decision

- 4.51 Our final decision is to include \$19.5m for augmentation – infill capex in Chorus’ base capex allowance for PQP2. Infill capex is a component of the base capex - augmentation expenditure sub-category along with fibre frontier capex. Our final decision is the same as our draft decision.¹⁷⁹
- 4.52 Chorus’ infill capex will be used for work which “includes augmenting the network for unforeseen (at the time of network build) growth within the existing UFB footprint.”¹⁸⁰

Stakeholder views

- 4.53 We did not receive any submissions from stakeholders on our draft expenditure decision on augmentation – infill capex.

¹⁷⁸ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.22.

¹⁷⁹ Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at 77. This is the same amount as proposed by Chorus in its PQP2 expenditure proposal.

¹⁸⁰ Chorus “Our Fibre Assets” (31 October 2023), at 67.

Reasons for our final decision

- 4.54 As set out in our draft decision, having reviewed Chorus' proposal and the Independent Verifier report, we agree with the reasoning and findings of the Independent Verifier.¹⁸¹ Given the need for this capex and having regard to the existing management of infill investment by Chorus, which has been reviewed by the Independent Verifier, and having regard to assessment factors (c), (e), (o) and (t) of clause 3.8.6(1) of the fibre IMs, we are satisfied that the existing processes in place to forecast and manage this capex meet the capital expenditure objective.
- 4.55 We consider including \$19.5 million of expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

New property developments

Final decision

- 4.56 Our final decision is to include \$32.5m in the base capex allowance for NPD capex over PQP2. NPD capex relates to work that involves laying fibre into NPD near the existing fibre network.¹⁸²
- 4.57 Our final decision is the same as our draft decision.¹⁸³ Our final decision is broken down by year over PQP2 in Table 4.4.

Table 4.4 Breakdown of new property developments capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
New property developments	8.0	9.0	6.9	8.5	32.5

Stakeholder views

- 4.58 We did not receive any submissions from stakeholders on our draft expenditure decision on NPD capex.

¹⁸¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 78; and Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 132.

¹⁸² Chorus "Our Fibre Assets" (31 October 2023), at 63.

¹⁸³ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 78.

Reasons for our final decision

- 4.59 As explained in our draft decision, we agree with the reasoning and findings of the Independent Verifier,¹⁸⁴ including the need for this expenditure to connect NPDs near the existing fibre network, and that the existing management of NPD capex by Chorus is appropriate. We are satisfied that there are existing processes in place to forecast and manage this capex. In reaching our final decision we have had regard to assessment factors (c), (e), (m) and (s) of clause 3.8.6(1) of the fibre IMs.
- 4.60 We consider our final decision to include \$32.5 million of expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

UFB communal*Final decision*

- 4.61 Our final decision is to include \$0m in the base capex allowance for UFB communal capex over PQP2. Our final decision is the same as our draft decision.¹⁸⁵

Stakeholder views

- 4.62 We did not receive any submissions from stakeholders on our draft expenditure decision on UFB communal capex.

Reasons for our final decision

- 4.63 As explained in our draft decision, we agree with the reasoning and findings of the Independent Verifier, that verified that Chorus' UFB communal capex forecast satisfies the evaluation criteria under clause 3.8.5 of the fibre IMs.¹⁸⁶ In reaching our final decision we have had regard to assessment factors (c), (m) and (s) of clause 3.8.6(1) of the fibre IMs.
- 4.64 We consider our final decision to include \$0m of expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

¹⁸⁴ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 79; and Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 129.

¹⁸⁵ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 79.

¹⁸⁶ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at 79-80; and Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 127.

Installations

Complex installations

Final decision

- 4.65 Our final decision is to include \$1.8m in the base capex allowance for complex installations over PQP2. Complex installations capex relates to connections that require additional design and planning work to install fibre and that do not meet the definition of connection capex in the fibre IMs.¹⁸⁷ These connections are typically for businesses.
- 4.66 Our final decision is the same as our draft decision.¹⁸⁸ Our final decision is broken down by year over PQP2 in Table 4.5.

Table 4.5 Breakdown of complex installations capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Complex installations	0.5	0.4	0.4	0.4	1.8

4.67

Stakeholder views

- 4.68 We did not receive any submissions from stakeholders on our draft expenditure decision on complex installations capex.

Reasons for our final decision

- 4.69 In reaching our final decision on whether Chorus' proposal has met the capital expenditure objective, we have had regard to assessment factors (a), (c), (m), (o), (s) and (t) of clause 3.8.6(1) of the fibre IMs.¹⁸⁹
- 4.70 As explained in our draft decision, we consider that Chorus' descriptions across its document *Our Fibre Assets* are consistent with the exclusion of intact connection expenditure from the connection capex allowance required by the definition of "connection capex" in the fibre IMs (assessment factor (a)).¹⁹⁰
- 4.71 Furthermore, as explained in our draft decision:¹⁹¹

¹⁸⁷ Chorus "Our Fibre Assets" (31 October 2023), at 77; and *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023.

¹⁸⁸ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at 80.

¹⁸⁹ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

¹⁹⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at [5.69].

¹⁹¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at [5.70].

- 4.71.1 expenditure proposed for complex installations by Chorus is consistent with actual and forecast expenditure for PQP1 (assessment factor (c));
- 4.71.2 while there is some volatility in actual expenditure it appears to be consistent with the uncertainty and bespoke business activities expected for complex installations (assessment factors (o) and (m)); and
- 4.71.3 we agree with the Independent Verifier that Chorus' assumptions appear reasonable (assessment factor (t)).
- 4.72 There are negative values for actual expenditure in 2022 and 2023 which we expect are a result of how the expenditure is calculated (eg, due to the exclusion of capital contributions).
- 4.73 We consider our final decision to include \$1.8 million of expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Standard installations

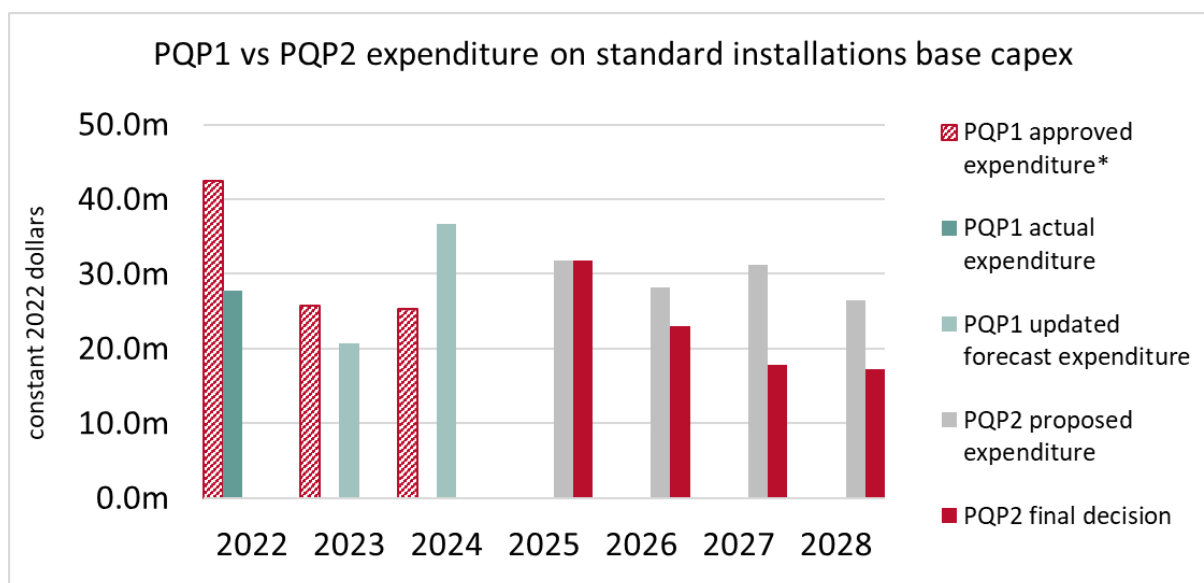
Final decision

- 4.74 Our final decision is to include \$89.9m in the base capex allowance for standard installations capex (including customer incentives of \$18.8m) over PQP2. Our final decision is different to our draft decision (due to the change from our draft in respect of customer incentives) and is broken down by year over PQP2 in Table 4.6.

Table 4.6 Breakdown of standard installations capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Customer incentives	13.6	5.2	0	0	18.8
Standard installations (excluding customer incentives)	18.1	17.8	17.9	17.3	71.1
Total	31.7	23.0	17.9	17.3	89.9

- 4.75 Figure 4.3 below compares our final decision to Chorus' proposal, our final decision for PQP1, and Chorus' actual expenditure and updated forecast expenditure for the PQP1 period.

Figure 4.3 PQP1 vs PQP2 standard installations base capex

Standard Installations (excluding customer incentives)

Final decision

4.76 Our final decision for standard installations (excluding incentive capex) is to include \$71.1m. Our final decision is the same as our draft decision.¹⁹²

Stakeholder views

4.77 We did not receive any submissions from stakeholders on our draft expenditure decision on standard installations capex (excluding customer incentives). We address stakeholder submissions received on our draft decision on customer incentive capex in paragraphs 4.82 to 4.87.

Reasons for our final decision

4.78 As explained in our draft decision, we agree with the reasoning and findings of the Independent Verifier.¹⁹³ We recognise the need for this expenditure to connect customers to the fibre network. In reaching our final decision we have had regard to assessment factors (a), (c), (m), (o), (s) and (t) of clause 3.8.6(1) of the fibre IMs.

¹⁹² Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at 82.

¹⁹³ Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at 80-81; and Synergies Economic Consulting “Independent verification report – Chorus’ PQP2 expenditure proposal (CY2025-2028)” (31 October 2023), at 141-142.

- 4.79 We consider including \$71.1 million of expenditure (excluding incentive payments) in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Customer incentives

Final decision

- 4.80 Our final decision is to include incentive payment expenditure of \$18.8m in the base capex allowance for the first 18 months for the PQP2. This is the amount Chorus proposed for the first 18 months of PQP2 but excludes the remainder of its proposed PQP2 incentive payment expenditure.¹⁹⁴ This is a change from our draft decision which was to include incentive payment expenditure of \$13.6m in the base capex allowance for 2025 only (ie, the first 12 months only).
- 4.81 Incentive payments are a component of the base capex – standard installations expenditure sub-category. Incentive payment capex relates to the incentive payments that Chorus pays to RSPs to attract new end-users to its fibre network and to upgrade end-users to faster fibre plans.¹⁹⁵

Stakeholder views

- 4.82 We received the following submissions (and cross submissions) from stakeholders on our draft expenditure decision on incentive payments.
- 4.83 Chorus agreed with us that there is uncertainty related to the forecast spend due to the uncertainty of future volume.¹⁹⁶ It recommended that we approve the incentive payments for the first 18 months of PQP2 to:¹⁹⁷
- 4.83.1 better align with its business planning on a financial year basis;
 - 4.83.2 provide more certainty to the market; and
 - 4.83.3 reduce the number of ICPs during PQP2.
- 4.84 One NZ, Spark, and 2degrees welcomed our draft decision to include the incentive payment for the first year only.¹⁹⁸ However, they raised concerns with a number of aspects of the draft decision, including allowing incentive payments to be treated as capex:

¹⁹⁴ Chorus proposed \$47m (constant) for customer incentive capex for PQP2.

¹⁹⁵ Chorus "Our Fibre Assets" (31 October 2023), at 77.

¹⁹⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [306].

¹⁹⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 64.

¹⁹⁸ One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at [10]; Spark "Chorus expenditure allowances for the 2025-2028 regulatory period: draft decision"

- 4.84.1 One NZ still had concerns, as it submitted in PQP1,¹⁹⁹ that allowing incentive payments as part of capex for determining the maximum allowable revenue (MAR) would enable Chorus to earn monopoly profits and would create asymmetry in the market.²⁰⁰ It also had concerns that the incentive payment allowance is not consistent with relevant criteria in the fibre IMs as it is not an efficient cost that a prudent fibre network operator would incur.²⁰¹
- 4.84.2 Spark indicated it continues to have concerns, as also raised in PQP1,²⁰² that the screening test is inadequate for determining whether the expenditure should be approved.²⁰³ Spark further suggested that we should fully consider the related competition issues in future ICPs.²⁰⁴
- 4.84.3 2degrees welcomed our draft decision, although it still had concerns about incentive payments as set out in its previous submissions on our process and approach paper.^{205,206}
- 4.85 Chorus (in its cross submission) emphasised its suggestion to include the incentive payments for the first 18 months. It also submitted that the submissions of Spark, One NZ, and 2degrees only reflect the position of the large mobile network operators (MNOs), which do not represent the views of other smaller RSPs.²⁰⁷ Chorus also noted that previous submissions, both in response to our draft decision in PQP1 and the 2022 ICP,²⁰⁸ show that RSPs do not have a uniform view of customer incentives and that incentive payments enable smaller RSPs to compete effectively with the MNOs.²⁰⁹

(16 May 2024), at [5]; and 2degrees “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028): 2degrees’ submission in response to Commerce Commission consultation” (May 2024), at 2.

¹⁹⁹ Commerce Commission “Chorus’ price-quality path from 1 January 2022 – Final decision – Reasons paper” (16 December 2021), at [C37.1].

²⁰⁰ One NZ “One NZ submission on the draft decision on Chorus’ expenditure allowance for PQP2” (16 May 2024), at [10].

²⁰¹ One NZ “One NZ submission on the draft decision on Chorus’ expenditure allowance for PQP2” (16 May 2024), at [12].

²⁰² Commerce Commission “Chorus’ price-quality path from 1 January 2022 – Final decision – Reasons paper” (16 December 2021), at [C33.2].

²⁰³ Spark “Chorus expenditure allowances for the 2025-2028 regulatory period: draft decision” (16 May 2024), at [6].

²⁰⁴ Spark “Chorus expenditure allowances for the 2025-2028 regulatory period: draft decision” (16 May 2024), at [8].

²⁰⁵ 2degrees “Chorus’ expenditure allowances for the second regulatory period (2025-2028): 2degrees’ submission in response to Commerce Commission consultation” (May 2024), at 8.

²⁰⁶ 2degrees “Chorus’ proposed expenditure for PQP2: 2degrees’ Cross-Submission in response to Commerce Commission consultation” (2 February 2024), at 3.

²⁰⁷ Chorus “Chorus cross-submission on the PQP2 draft expenditure decision” (6 June 2024), at [44].

²⁰⁸ Vocus “Submission on Chorus price quality path from 1 January 2022 draft decision” (31 August 2021), at 1; and Mercury “Submission on Chorus individual capex-proposal” (1 November 2022), at 1.

²⁰⁹ Chorus “Chorus cross-submission on the PQP2 draft expenditure decision” (6 June 2024), at [44].

- 4.86 Mercury (in its cross submission) submitted that Chorus' customer incentive payments enable it "to offer compelling propositions to its customers and compete with large RSPs".²¹⁰ It supported Chorus' proposal to include the incentive payments for the first 18 months to give Mercury more time to adjust to any substantial change to the incentive payment.²¹¹
- 4.87 2degrees (in its cross submission) shared concerns with One NZ and Spark on including the incentive payment as part of capex and the quality of the supporting information provided by Chorus.²¹²

Reasons for our final decision

- 4.88 We note the concerns raised by One NZ, Spark, and 2degrees on the impact on the MAR and competition of including incentive payments as part of capex. However, as we set out in our final reasons paper for PQP1, we consider it consistent with the fibre IMs and the Act that incentive payments are categorised as capex.²¹³ We also set out in our draft decision that incentive payments can improve efficiency and be procompetitive although in some cases they can also reduce efficiency and be anticompetitive.
- 4.89 On the concerns raised by Spark on the adequacy of the economic test:
- 4.89.1 when determining whether the incentive payments capex should be approved, we do not only rely on the result of the economic test. In reaching our final decision on incentive capex, we also consider the proposed expenditure against the fibre IMs and have regard to the relevant assessment factors, as well as considering the proposed amount with respect to observed historical spending; and

²¹⁰ Mercury "Mercury cross-submission on Chorus expenditure allowance for PQP2" (5 June 2024), at 1.

²¹¹ Mercury "Mercury cross-submission on Chorus expenditure allowance for PQP2" (5 June 2024), at 1.

²¹² 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028) – 2degrees' cross-submission in response to Commerce Commission consultation" (June 2024), at 2.

²¹³ Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision: Reasons paper" (16 December 2021), at [C46]-[C56].

- 4.89.2 as we explained in our final decision for PQP1, we do not consider that Spark’s suggested detailed exercise (set out in Spark’s submission on our PQP1 draft decision) is feasible or practical in the context of ex-ante scrutiny of an overall allowance.²¹⁴ We also noted in our final PQP1 decision that we will consider Chorus’ behaviour in informing our future approval of incentive payments in order to deter undesirable conduct.²¹⁵ We will continue to do this when assessing any future ICPs submitted by Chorus during PQP2.
- 4.90 Chorus, in its submission on our draft decision, recommended including the incentive payments for the first 18 months of PQP2. In response to Chorus’ submission, we have done further analysis on including the first 18 months of the allowance for PQP2, including applying the economic test to the allowance for the additional six months.
- 4.91 Our analysis and application of the economic test shows that:
- 4.91.1 the expected incremental revenue from incremental end-users outweighs the incremental costs;
 - 4.91.2 the proposed amount of an extra \$5.2m for the first six months of 2026 falls within the estimated range of the economic test. This means that, in aggregate, the amount of incentives sought for the first six months of 2026 is likely to support competition, efficiency, and is unlikely to be excessive;
 - 4.91.3 the proposed increase of \$5.2m for the further six months, is in line with the historical observed level of spending on incentives in 2022 and 2023. This supports the view that the proposed amount is not excessive; and
 - 4.91.4 the uncertainty for the further expenditure proposed for the first six months of 2026 will not be materially different than that for the expenditure proposed for 2025.
- 4.92 As set out in our draft decision, we consider that in general the level of expenditure is efficient for the first 12 months of PQP2. However, we consider that the uncertainty is high for the level of capex required for the later years of PQP2 (assessment factor (o)). We still consider that, in a number of instances, insufficient evidence has been provided to show that the assumptions and forecasting approach are reasonable and appropriate (assessment factors (e) and (t)).

²¹⁴ Commerce Commission “Chorus’ price-quality path from 1 January 2022 – Final decision: Reasons paper” (16 December 2021), at [C65.2].

²¹⁵ Commerce Commission “Chorus’ price-quality path from 1 January 2022 – Final decision: Reasons paper” (16 December 2021), at [C65.2].

- 4.93 Our final decision is to include incentive capex of \$18.8m for the first 18 months of PQP2:
- 4.93.1 we consider that it is prudent and efficient to include an amount of incentive capex for the first 18 months of PQP2. This would better meet the purposes in section 166(2) and the expenditure objective in clause 3.8.5 of the fibre IMs, than including the full amount for the whole PQP2;
 - 4.93.2 we assessed Chorus' proposed amount for 2025 and the first six months of 2026 against the actual amount of incentive payments for 2022 and 2023 and found that they are in line with Chorus' historical observed level of spending for 2022 and 2023. We therefore consider the total amount of \$18.8m is not excessive;
 - 4.93.3 the incentive capex of \$18.8m for the first 18 months meets the economic test;
 - 4.93.4 we still consider that there is uncertainty on the level of incentive payments required for the later years of PQP2. However, we consider that the uncertainty for the expenditure proposed for the first six months of 2026 will not be materially different than that for the expenditure proposed for 2025; and
 - 4.93.5 comparing with our draft decision, we consider that the additional amount of \$5.2m is conservative and allowing the incentive payments for 18 months makes Chorus better able to align its future business planning for incentive payments on a financial year basis. Our final decision is therefore to only approve the allowance for the first 18 months.
- 4.94 In reaching our final decision we have considered whether Chorus' proposal has met the capital expenditure objective, having regard to the assessment factors (d), (e), (o), (t) of clause 3.8.6(1) of the fibre IMs.
- 4.95 We consider that approving an allowance of \$18.8m for the first 18 months of expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs, as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.
- 4.96 We note Chorus is able to submit ICPs to us in accordance with the fibre IMs if it wishes to seek approval of incentive payment expenditure during PQP2.

IT and support

Business IT and network and customer IT

Final decision

- 4.97 Our final decision is to include:
- 4.97.1 \$72.5m in the base capex allowance for business IT capex over PQP2; and
 - 4.97.2 \$94.8m in the base capex allowance for network and customer IT capex over PQP2.
- 4.98 Our final decision for business IT capex and network and customer IT capex is the same as our draft decision.²¹⁶ Business IT capex relates to the systems and applications that support business decision-making such as financial software and data management systems.²¹⁷
- 4.99 Network and customer IT capex relates to the systems and platforms that help Chorus run the network.²¹⁸
- 4.100 Our final decision is broken down by year over PQP2 in Table 4.7 below:

Table 4.7 Breakdown of business IT capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Business IT	17.7	19.6	19.0	16.1	72.5
Network and Customer IT	25.2	24.5	23.1	22.0	94.8

Stakeholder views

- 4.101 We did not receive any submissions from stakeholders on our draft expenditure decision on business IT capex and network and customer IT capex.

Reasons for our final decision

- 4.102 In reaching our final decision on whether Chorus' proposal has met the capital expenditure objective we have had regard to assessment factors (b), (c), (f), (k), (n), (r), and (t) of clause 3.8.6(1) of the fibre IMs.²¹⁹

²¹⁶ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.107] – [5.107.2].

²¹⁷ Chorus "Our Fibre Assets" (31 October 2023), at 167.

²¹⁸ Chorus "Our Fibre Assets" (31 October 2023), at 167.

²¹⁹ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

- 4.103 As explained in our draft decision, in reviewing Chorus' proposed IT expenditure and in coming to our final decision, we consider:²²⁰
- 4.103.1 Chorus has presented a good description of its IT strategy and provided evidence that it is linked to its corporate strategy (assessment factor (b));
 - 4.103.2 governance and management processes around Chorus' expenditure appear to be effective. While the information provided is not comprehensive, we consider that Chorus has sufficiently demonstrated the effectiveness of its management process within its proposal along with the additional information provided in response to our RFIs (assessment factors (b) and (n)). The Independent Verifier also arrived at the same conclusion within its final report;
 - 4.103.3 Chorus has demonstrated that historically planned IT investment has and continues to be delivered (assessment factors (c), (k), (t)). We have no reason to believe this would not continue to be the case over PQP2;
 - 4.103.4 the sizing of the expenditure is likely to be appropriate. With the deployment of Agile methodologies, the question becomes what is the right sizing of the resources to meet the investment needs over the PQP2 period? To help inform our consideration of this we undertook a high level comparison of the relative size of Chorus' IT spend to that of Australia's National Broadband Network (NBN). We found that while there are differences, which are to be expected, Chorus' average spend as a proportion of total capex (12%) is similar to NBNs (13%) over the period from 2021 to 2026. Accordingly, we consider the level of spend is likely to be prudent (assessment factors (c), (f), (k)); and
 - 4.103.5 in regard to the right sizing of resources to investment need, Chorus also provided evidence of downsizing the number of required squads where the need for their resources has reduced. This demonstrates that Chorus is conscious of the efficiency of its IT resource base and the resulting expenditure (assessment factor (f)).
- 4.104 Accordingly, we consider our final decision to include \$94.8 million of expenditure for network and customer and \$72.5 million for business IT, meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

²²⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.115] – [5.115.5].

4.105 We consider that Chorus has likely undervalued the benefits from its IT investment. While it has set out that benefits are accounted for within both the capex and opex, this appears to be unsupported, and the benefits that are explicitly proposed are lower than those accounted for in PQP1. While we have not made any capex efficiency adjustments in our final decision, we have made an additional opex adjustment (assessment factor (r)) to recognise the level of IT capex investment in optimisation of Chorus' business processes.²²¹

Corporate

Final decision

4.106 Our final decision is to include \$12.9m in the base capex allowance for corporate capex over PQP2. Corporate capex largely relates to Chorus' corporate accommodation leases and associated costs.²²²

4.107 Our final decision is the same as our draft decision.²²³ Our final decision is broken down by year over PQP2 in Table 4.8.

Table 4.8 Breakdown of corporate capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Corporate	1.4	2.2	1.8	7.5	12.9

Stakeholder views

4.108 In its submission on our draft expenditure decision, Chorus noted that corporate capex was incorrectly referred to as "Corporate IT capex" in the draft expenditure decision.²²⁴

Reasons for our final decision

4.109 In considering whether Chorus' proposal has met the capital expenditure objective, we have had regard to the assessment factors (c), (m), (s) and (t) of clause 3.8.6(1) of the fibre IMs.²²⁵

²²¹ Refer to paragraph 6.125 for further information

²²² Chorus "Our Fibre Assets" (31 October 2023), at 184.

²²³ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.118].

²²⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 71.

²²⁵ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

- 4.110 We consider that the amount of corporate capex is consistent with PQP1 (assessment factor (c)), is necessary for Chorus to maintain its corporate offices (assessment factor (m)), the data used is accurate and reliable (assessment factor (s)) and the assumptions and methodologies used in the forecasting appear to be reasonable (assessment factor (t)).
- 4.111 As Chorus noted in its submission, our draft decision mistakenly labelled the ‘corporate’ sub-category ‘corporate IT’ in the row headings of five tables as part of the IT and support expenditure category, the sub-category should have been labelled ‘corporate’ and not ‘corporate IT’. The tables were:
- 4.111.1 Table X2: Summary of base capex draft decision;
- 4.111.2 Table 4.6: Proposed usage assumption for capex;
- 4.111.3 Table 4.8: Final PQP1 usage assumptions – capex;
- 4.111.4 Table 5.2: Summary of draft decision for Chorus’ PQP2 base capex allowance; and
- 4.111.5 Attachment B: Draft determination base capex (constant \$2022).
- 4.112 We provided the explanation of corporate capex in paragraph 5.119 of our draft decision and in paragraph 4.108 above which Chorus outlines in its proposal.²²⁶ This capex (corporate) is what we have considered in our analysis of this sub-category. We have not considered IT expenditure. This was a mistake in labelling in the draft decision, which we have corrected for this final decision.
- 4.113 We consider our final decision to include \$12.9 million of expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

²²⁶ Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper” (18 April 2024), at [5.119].

Network capacity

Access

Final decision

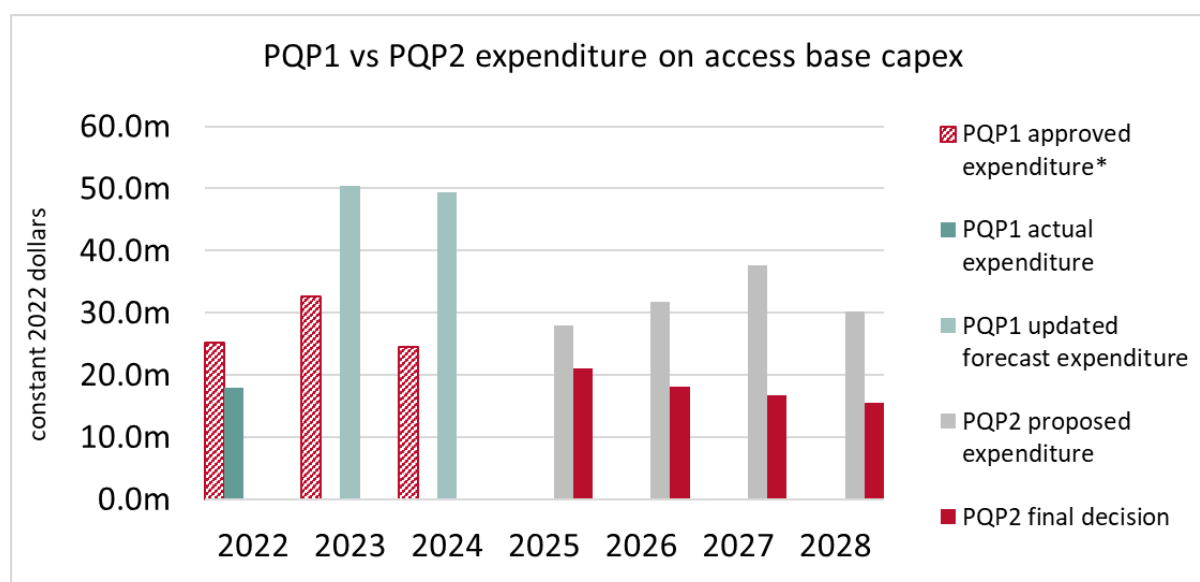
4.114 Our final decision is to include \$71.3m in the base capex allowance for access capex over PQP2. Access capex relates to the replacement or upgrade of assets required to connect end-users to the fibre network. These assets include both hardware (optical network terminals (ONTs) and optical line terminals (OLTs)) and supporting software and systems, such as element management platforms (EMPs).²²⁷ Our final decision is the same as our draft decision.²²⁸ Our final decision is broken down by year over PQP2 in Table 4.9 below.

Table 4.9 Breakdown of access capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Access	21.0	18.1	16.8	15.5	71.3

4.115 Figure 4.4 compares our final decision, Chorus' proposal, our final decision for PQP1 and Chorus' actual expenditure and updated forecast expenditure for the PQP1 period.

Figure 4.4 PQP1 vs PQP2 access base capex



4.116 Table 4.10 sets out the components of our final decision for ONTs, OLTs and EMPS.

²²⁷ Chorus "Our Fibre Assets" (31 October 2023), at 155.

²²⁸ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at [5.126].

Table 4.10 Summary of final decision for access capex²²⁹

Category	Chorus proposed (\$m)	Final decision (\$m)	Difference (\$m)
ONTs	[]	[]	[]
OLTs and related activities	[]	[]	[]
EMPs	[]	[]	[]
Total access capex	127.5	71.3	-56.2

4.117 Chorus provided the Commission with new information about its fibre frontier network extension programme on 5 February 2024.²³⁰ The new information set out that it now expects 9,958 fewer new connections in the PQP2 period.²³¹

4.118 Our final decision on network capacity – access is based on the use of an alternative (linear) hyperfibre demand forecast (a key cost driver of Chorus’ access capex for PQP2) as set out in our draft decision. As explained below in paragraph 4.124 Chorus in its submission on our draft decision set out that it has accepted our draft decision and the associated reduction in access capex allowance.²³²

Stakeholder views

4.119 We received submissions from Chorus and One NZ on our draft decision on ‘network capacity – access’. Chorus submitted that:²³³

4.119.1 it accepted the draft decision’s linear hyperfibre demand forecast, and associated reduction in access capex for PQP2;

4.119.2 it would be concerned if we continued to adopt this methodology for hyperfibre or other new products in the future; and

4.119.3 it agreed with the Commission that it is difficult to forecast the demand for new products, but it is typical to use data from similar products to inform the forecasts for new products. This is why it assumed the uptake of hyperfibre would match the uptake of the Gig product which shows that its demand followed an s-curve profile.

²²⁹ Chorus, response to request for information #25 (4 December 2023).

²³⁰ Chorus "Notification of material change to PQP2 capex proposal" (5 February 2024)

²³¹ Chorus response to request for information #89, 15 February 2024

²³² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [341].

²³³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [338] – [342].

4.120 One NZ submitted that:²³⁴

4.120.1 it agreed with our decision to reduce Chorus' access capex allowance by \$56.1m over PQP2. It agreed with our draft decision and the Independent Verifier report that there is significant uncertainty in the forecasting of hyperfibre uptake, and that the proposed hyperfibre forecast from Chorus is inconsistent with actual historic hyperfibre demand levels; and

4.120.2 it agreed that the reduction in connections from the change to the fibre frontier investment is likely to have a flow-on impact on access capex because there will be fewer new installations required. However, it believed that it would not be prudent for us to not make an adjustment for this just because we do not have a 'good basis' for determining the level of capex adjustment required. It believed the Commission should carry out analysis and request additional information needed to make an informed decision around any required adjustment to access capex.

Reasons for our final decision

Hyperfibre demand

4.121 Our final decision is to include \$71.3m for network capacity access in Chorus' base capex allowance for PQP2. Our final decision is the same as our draft decision.

4.122 In coming to our final decision on access capex, we have had regard to assessment factors (b), (d), (e), (j), (o) and (t). These are the same factors considered by the Independent Verifier.

4.123 As set out in our draft decision, hyperfibre demand is a key driver of Chorus' access expenditure and we do not consider Chorus' approach to forecasting hyperfibre demand is sufficiently justified, given the actual data available and the significant uncertainty about the timing of a hyperfibre demand increase (assessment factors (e) and (o)).²³⁵ Therefore, our final decision is to use an alternative hyperfibre forecast using a linear trend (as set out in our draft decision).

4.124 As outlined above, Chorus accepted and One NZ agreed with our draft decision to use a linear hyperfibre demand forecast for PQP2 and the associated \$56.1m decrease in access capex, with both acknowledging the inherent uncertainty of forecasting new product demand. The Independent Verifier also noted the difficulty of forecasting new product demand.²³⁶

²³⁴ One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at [16] – [17].

²³⁵ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at [5.149] – [5.155].

²³⁶ Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 200.

- 4.125 Use of the linear trend to forecast hyperfibre demand for our final decision is because we consider a prudent and efficient operator would have taken greater account of actual historic hyperfibre demand levels when forecasting PQP2 capex, given the lack of evidence to support the forecast demand for hyperfibre during PQP2. We consider this approach reduces the risk of overstating PQP2 expenditure given the uncertainties about hyperfibre when forecasting the demand and timing of the investment (assessment factor (o)).
- 4.126 As we did for the draft decision,²³⁷ for our final decision we have modelled PQP2 expenditure by recasting the hyperfibre upgrade demand input in Chorus' ONT expenditure model. We have done this by taking the same starting point as Chorus' forecast and applying a forecast based on a linear trend of historical growth in hyperfibre demand.²³⁸ We have applied the linear forecast trend of hyperfibre demand in the model Chorus supplied, to determine the proportional impact on ONT expenditure for our draft decision.²³⁹
- 4.127 We consider our final decision to include \$71.3m expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Aggregation

Final decision

- 4.128 Our final decision is to include \$79.8m in the base capex allowance for aggregation capex over PQP2. Chorus' aggregation capex relates to work to add or upgrade aggregation electronics (eg, core switch, chassis) to meet bandwidth demand.²⁴⁰
- 4.129 Our final decision is the same as our draft decision.²⁴¹ Our final decision is broken down by year over PQP2 in Table 4.11.

Table 4.11 Breakdown of aggregation capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Aggregation	21.8	21.6	16.9	19.5	79.8

²³⁷ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at [5.155].

²³⁸ Chorus' ONT model contains less than one year of actual data for hyperfibre upgrades, but its connections forecast model contains six years of actual data for overall hyperfibre demand. We have used the latter to construct a trend forecast.

²³⁹ Chorus, response to request for information #2 (24 November 2023).

²⁴⁰ Chorus "Our Fibre Assets" (31 October 2023), at 159.

²⁴¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at 103.

Stakeholder views

4.130 We did not receive any submissions from stakeholders on our draft decision on aggregation capex.

Reasons for our final decision

4.131 As explained in our draft expenditure decision:²⁴²

4.131.1 we consider the key drivers of aggregation capex are bandwidth growth and lifecycle replacement; and

4.131.2 we agree with Chorus that the performance quality standard provides an operational upper limit for network utilisation. We consider this limit then drives the timing of Chorus' investment in network capacity in response to increasing aggregate bandwidth demand from end-users.

4.132 In its proposal, Chorus uses price times quantity as a basis for its network capacity expenditure forecasts. For most aggregation capex, Chorus' 'price' is the unit cost of its equipment, and 'quantity' of network electronics is derived from its optimised network plan.

4.133 The unit cost is defined by Chorus' vendor (supplier) contract which is beneficial for forecasting expenditure. Chorus noted some efficiencies, such as volume discounts and prices remaining relatively stable over time (leading to more reliable forecasts and likely more prudent decision-making).

4.134 We consider that Chorus' proposed aggregation capex for PQP2 is prudent and efficient. In coming to our final decision, we have had regard to assessment factors (a), (b), (e), (h), (o), (q) and (t) of clause 3.8.6(1) of the fibre IMs.²⁴³

4.135 Although, there are uncertainties around bandwidth demand forecasts for aggregation capex we consider that these are unlikely to have any material impact on Chorus' aggregation capex over PQP2 (assessment factors (e), (h) and (t)). This is because:

²⁴² Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at 104 – 105.

²⁴³ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

- 4.135.1 we agree with Chorus that the relationship between bandwidth growth and network capacity capex is not linear. New investment will result in a step-up in both capacity and capex, following which bandwidth growth can continue without further capex until the next investment (and corresponding step change in expenditure) is required; and²⁴⁴
- 4.135.2 our modelling of different scenarios (including testing significant and material bandwidth demand increases) resulted in a negligible impact on proposed expenditure.
- 4.136 As set out in our draft, we consider aggregation capex is necessary to maintain sufficient quality for end-users (assessment factor (h)):²⁴⁵
- 4.136.1 investment in both aggregation and transport assets is largely driven by timing due to Chorus' intention to complete the proactive element of its OLT upgrade replacement programme with XGS-PON-capable technology to be complete by end of PQP1 (assessment factor (o)); and²⁴⁶
- 4.136.2 as such, prior to the start of PQP2, Chorus should have upgraded its OLTs in major urban areas (where hyperfibre uptake is most likely). In turn, capacity equipment for end-users (ONTs) and upstream of OLTs (eg, aggregation equipment) should then be readily upgraded in those areas to meet demand.
- 4.137 We therefore consider our final decision to include \$79.8m expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Transport

Final decision

- 4.138 Our final decision is to include \$84.9m in the base capex allowance for transport capex over PQP2. Chorus' transport capex is used to provide equipment for network capacity over longer distances.²⁴⁷
- 4.139 Our final decision is the same as our draft decision.²⁴⁸ Our final decision is broken down by year over PQP2 in Table 4.12.

²⁴⁴ Chorus "Our Fibre Assets" (31 October 2023), at 151.

²⁴⁵ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at [5.186]-[5.186.2].

²⁴⁶ Chorus "Our Fibre Assets" (31 October 2023), at 328.

²⁴⁷ Chorus "Our Fibre Assets" (31 October 2023), at 160.

²⁴⁸ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at 106.

Table 4.12 Breakdown of transport capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Transport	26.7	26.1	18.3	13.9	84.9

Stakeholder views

4.140 We did not receive any submissions from stakeholders on our draft expenditure decision on transport capex.

Reasons for our final decision

4.141 As explained in our draft expenditure decision, and above for aggregation capex:²⁴⁹

4.141.1 we consider that the key drivers of transport capex are bandwidth growth and lifecycle replacement; and

4.141.2 some areas of Chorus' proposal suggested that quality standards are a separate driver to bandwidth growth of aggregation and transport capex.

4.142 As noted in paragraph 4.131.2 in relation to Chorus' proposed aggregation expenditure, we agree with Chorus that the performance quality standard provides an operational upper limit for network utilisation. We consider this limit then drives the timing of Chorus' investment in network capacity in response to increasing bandwidth demand from end-users. Therefore, for the purpose of our assessment, we consider bandwidth growth (noting the constraint of the performance quality standard) and lifecycle replacement as key drivers of transport capex expenditure.

4.143 Chorus uses price times quantity as a basis for its network capacity expenditure forecasts. For transport capex, Chorus' 'price' is the unit cost of its equipment, and 'quantity' of network electronics is derived from its optimised network plan.

4.144 We consider that Chorus' proposed transport capex for PQP2 is prudent and efficient. In making our assessment we have had regard to assessment factors (a), (b), (c), (e), and (t).

4.145 We acknowledge Chorus' decision to change its primary vendor of transport equipment (assessment factor (a)).²⁵⁰

²⁴⁹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at [5.195] – [5.196].

²⁵⁰ Chorus "Our Fibre Assets" (31 October 2023), at 162.

- 4.145.1 Chorus' reasons for choosing its new supplier appear to be reasonable. The new vendor's equipment seems more appropriate to Chorus' network than the alternative suppliers considered. Chorus has stated that the equipment of alternative suppliers was optimised for core and metro areas, which may have led to backward compatibility issues with some of Chorus' legacy technology.
- 4.146 We consider there are commonalities between the investment (and cost drivers) of aggregation and transport assets. As such, our final decision is that (consistent with our draft decision):²⁵¹
- 4.146.1 we agree with Chorus that the relationship between bandwidth growth and network capacity capex is not linear. New investment will result in a step-up in capacity, following which bandwidth growth can continue without further capex until the next investment (and corresponding step change in expenditure) is required (assessment factors (e) and (t));²⁵²
- 4.146.2 investment in both aggregation and transport assets is largely about timing to meet forecast traffic demand within the bounds of the performance standard. A shift to next generation PON technology (ie, XGS-PON) is expected in the next decade. We anticipate the uptake of hyperfibre (XGS-PON) will positively change Chorus' traffic demand profile. However, the timing of the uptake of the new technology along with any increase in bandwidth demand is difficult to forecast. Chorus has stated that it will deploy XGS-PON capable assets in PQP2, after it has completed the proactive element of its OLT upgrade programme (expected to be complete by the end of PQP1) (assessment factor (o)); and
- 4.146.3 a certain level of investment in transport capex is necessary to maintain sufficient quality for end-users (assessment factors (a) and (h)).
- 4.147 We therefore consider our final decision to include \$84.9m expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

²⁵¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): Draft decision – Reasons paper" (18 April 2024), at 108 – 109.

²⁵² Chorus "Our Fibre Assets" (31 October 2023), at 151.

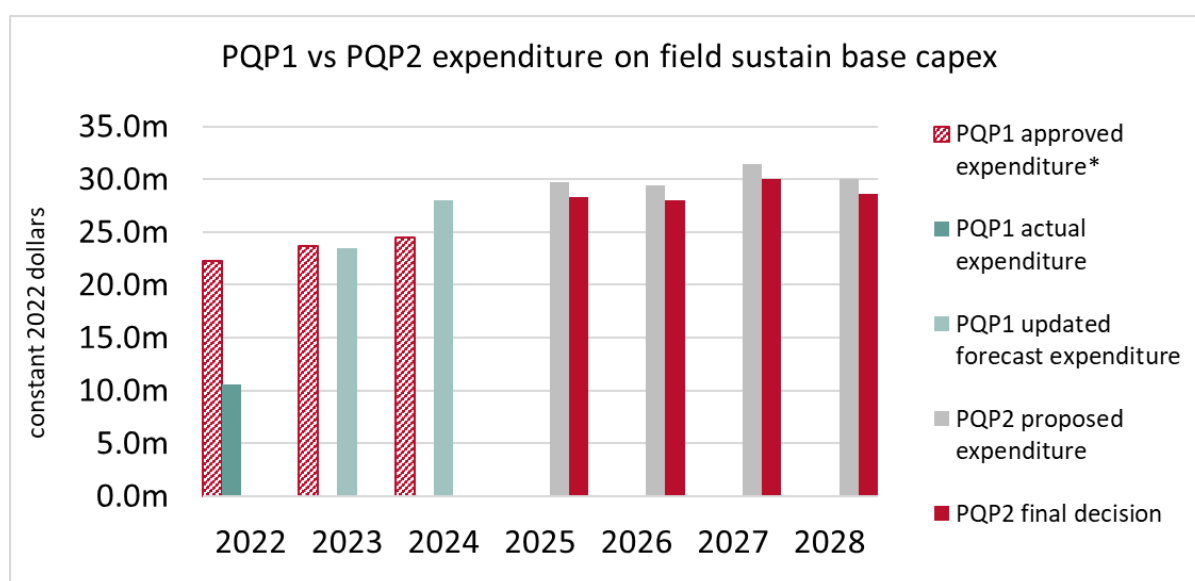
Network sustain and enhance

Field sustain

Final decision

- 4.148 Our final decision is to include \$114.8m in the base capex allowance for field sustain capex over PQP2. This is an increase of \$24.3m on our draft decision of \$90.5m, which relates to the proactive replacement of fibre cable expenditure component of field sustain capex.²⁵³
- 4.149 Field sustain capex relates to routine investments to replace or rehabilitate physical network assets.²⁵⁴ The objective of the investment is to optimise the lifetime cost of Chorus' network physical assets, while safeguarding public and worker safety.²⁵⁵
- 4.150 Figure 4.5 compares our final decision to Chorus' proposal, our final decision for PQP1, and Chorus' actual expenditure and updated forecast expenditure for the PQP1 period.

Figure 4.5 PQP1 vs PQP2 field sustain base capex



- 4.151 Our final decision is broken down by year over PQP2 in Table 4.13.

Table 4.13 Breakdown of field sustain capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Field sustain	28.3	28.0	30.0	28.6	114.8

²⁵³ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 109.

²⁵⁴ Chorus "Our Fibre Assets" (31 October 2023), at 114.

²⁵⁵ Chorus "Our Fibre Assets" (31 October 2023), at 114 – 115.

4.152 Our final decision considers the component expenditures of Chorus' field sustain capex programmes over PQP2. Table 4.14 sets out the component expenditures of our final decision on field sustain capex over PQP2.

Table 4.14 Summary of final decision for field sustain capex

Category	Chorus proposed (\$m)	Draft decision (\$m)	Final decision (\$m)	Difference final to proposal (\$m)
Proactive poles	23.8	23.8	23.8	0.0
Proactive fibre	64.0	39.9	64.0	0.0
PCM/CMAR	5.7	0.0	0.0	-5.7
Pits and manholes	16.2	16.2	16.2	0.0
Fibre flexibility points	4.8	4.8	4.8	0.0
Capability	3.2	3.2	3.2	0.0
Fibre growth	2.8	2.8	2.8	0.0
Cost allocation update effect²⁵⁶	NA	-0.2	0.0	0.0
Total	120.5	90.5	114.8	-5.7

4.153 As explained in our draft decision, we considered Chorus' proposed capital expenditure for the field sustain expenditure sub-categories for the proactive replacement of pole, pits and manhole, fibre flexibility points, capability and fibre growth reflected good telecommunications industry practice and satisfied the capital expenditure objective of being prudent and efficient. Therefore, for our draft decision we included these expenditures, as proposed by Chorus, in the base capex allowance for field sustain capex for PQP2.

4.154 However, as explained in our draft decision we:

²⁵⁶ In our draft decision document, we attributed a cost allocation effect to our draft decision on field sustain capex. We do not consider the cost allocation impact to be material for our final decision. The difference between our final decision and Chorus' proposal reflects that we have not included \$5.7m of Chorus' proposed expenditure to replace PCM/CMAR routes with fibre backhaul.

- 4.154.1 excluded \$5.7m of Chorus' proposed expenditure to replace Pulse-Code Modulation Customer Multi-Access Radio (PCM/CMAR) routes with fibre backhaul as we had been unable to evaluate Chorus' proposed expenditure for lack of information; and
 - 4.154.2 included \$39.9m for the replacement of 400km of fibre cables as we considered this value of expenditure to be more consistent with Chorus' underlying models. This amount was \$24.1m less than the \$64.0m Chorus proposed for replacement of (slotted core) fibre cables.
- 4.155 Our final decision as outlined in Table 4.14 is to:
- 4.155.1 retain our draft decision to include Chorus' proposed capital expenditure for the field sustain expenditure sub-categories of:
 - 4.155.1.1 proactive pole replacement;
 - 4.155.1.2 pits and manholes;
 - 4.155.1.3 fibre flexibility points;
 - 4.155.1.4 capability;
 - 4.155.1.5 fibre growth; and
 - 4.155.1.6 cost allocation update effect;
 - 4.155.2 retain our draft decision to exclude \$5.7m of Chorus' proposed proactive expenditure for the replacement of PCM/CMAR routes with fibre backhaul; and
 - 4.155.3 include the \$64.0m Chorus proposed for the proactive replacement of 574km of fibre cables (ie, slotted core fibre) over PQP2. Our final decision results in a \$24.1m increase in expenditure from our draft decision of \$39.9m.
- 4.156 We consider our final decision to include \$114.8m in the base capex allowance for field sustain capex over PQP2 reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient (assessment factors (e), (m), (o) and (t)).

Stakeholder views

- 4.157 We received stakeholder submissions from Chorus and Spark on our draft expenditure decision for field sustain capex.

4.158 Chorus submitted that:²⁵⁷

4.158.1 it accepted our draft decision to remove \$5.7m of field sustain capex for the replacement of PCM/CMAR equipment with fibre backhaul, and noted it considered this expenditure is no longer required due to a change in strategy;

4.158.2 in support of its proposed \$64m investment in the replacement of slotted core fibre cable, it had provided us with its Fibre Lifecycle Plan spreadsheet that identified the high priority projects where the replacement of fibre cables was planned by 2033; and

4.158.3 the projects in the Fibre Lifecycle Plan consist of the replacement of fibre cables that have been identified as having an asset health score of H1 and are suffering from performance degradation.

4.159 Further, Chorus' submission noted it had made an error in its proposal relating to the length of fibre cables to be replaced during PQP2. It stated 400km of fibre cables would be replaced with the proposed expenditure of \$64m. However, Chorus has acknowledged that the length of fibre cable to be replaced in its proposal was incorrect and that 574km of fibre cable would be replaced during PQP2.²⁵⁸

4.160 Spark submitted on our draft decision in relation to transport fibre cables which included expenditure for the lifecycle replacement of fibre cables covered by field sustain capex. Spark considered that Chorus should prioritise and pursue projects based on cost benefit analysis (and seek to share costs where possible) and questioned whether Chorus is motivated to consult with potential partners when considering fibre route investment expenditure.²⁵⁹

However, it is impossible to know that the highest priority expenditure proposal projects are being pursued at lowest cost, with any competition implications made transparent, without Chorus consulting with stakeholders and other potential investors to judge co-investment appetite. We are not aware of this having occurred.

4.161 In its cross submission, Chorus responded to Spark's submission seeking consultation on fibre transport routes (including the lifecycle replacement of core fibre routes). Chorus' cross submission noted:²⁶⁰

Our fibre lifecycle investment programme currently prioritises the replacement of slotted core type fibre cable with known condition and performance issues. We share many slotted

²⁵⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [274277] and [288].

²⁵⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [274].

²⁵⁹ Spark "Chorus expenditure allowances for the 2025-2028 regulatory period: draft decision" (16 May 2024), at [12] – [14].

²⁶⁰ Chorus, Chorus cross submission on the PQP2 draft expenditure decision, 6 June 2024 at [56].

core fibre cable routes with Spark and fully consult with Spark on these lifecycle replacement projects to agree the work programme and share costs.

- 4.162 Chorus also noted a recent example of where it replaced fibre in the Coromandel and consultation was undertaken on this project:²⁶¹

Chorus also has slotted core fibre cable routes in our regional dense wavelength division multiplexing (DWDM) network. Consultation often occurs to ensure we are making prudent & efficient decisions. A recent example of this is where we identified the need to replace our fibre cable around the Coromandel, where we consulted and considered several options including doing nothing, replacing this on our own, sharing the build with others, and leasing fibre from another party. This is simply 'business-as-usual' for Chorus. In this instance, while we explored a commercial option with Spark, we decided to partner with another party.

- 4.163 Chorus considered that requiring it to undertake additional consultation for core fibre lifecycle replacement investment would cause material disruption to business-as-usual activity to which open access rules apply.

Reasons for our final decision

Replacement of certain legacy routes (PCM/CMAR) with fibre backhaul

- 4.164 Our final decision is to not include the proposed \$5.7m of field sustain capex for the replacement of PCM/CMAR routes with fibre backhaul. In reaching our final decision we had regard to assessment factors(e), (s), (o) of clause 3.8.6(1) of the fibre IMs.²⁶² We were also not able to identify whether key assumptions underlying the expenditure forecasts are reasonable (assessment factor (t)) or whether data relating to the expenditure is accurate and reliable. Without sufficient evidence to explain this discrepancy, we are not satisfied the expenditure meets the capital expenditure objective.
- 4.165 In addition, Chorus' submission acknowledged that this expenditure is no longer required due to a change in its strategy.²⁶³ Chorus' strategy will see PCM/CMAR customers transferred to an alternative provider technology.
- 4.166 Therefore, our final decision is to remove \$5.7m of field sustain capex for the replacement of PCM/CMAR equipment with fibre backhaul.

Proactive replacement of poles

- 4.167 Our final decision for field sustain capex is to include \$23.8m for the proactive replacement of poles in Chorus' base capex allowance for PQP2. This is the same amount Chorus proposed for proactive pole replacement in PQP2. We have had regard to assessment factors (k), (l), (o), (p) (s) and (t) as set out in clause 3.8.6 of the fibre IMs.

²⁶¹ Chorus, Chorus cross submission on the PQP2 draft expenditure decision, 6 June 2024 at [57] – [58].

²⁶² *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

²⁶³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 287.

- 4.168 As set out in our draft decision, we consider Chorus' approach to modelling the number of poles to be replaced has followed current wider industry best practice.
- 4.169 We agree with Chorus that the investment drivers for this capex are:²⁶⁴
- 4.169.1 lifecycle replacement of poles that are large structures located along roadsides and in other public spaces. Chorus considers a run-to-fail strategy presents an unacceptable public (and worker) hazard, both from a legislative compliance and reputational perspective (assessment factors (a) (o), (p) and (t)); and
- 4.169.2 based on replacement volumes determined by survivor curve analysis (risk) assessment and information obtained on the health (condition) of poles through its 'test and tag' programme (assessment factors (e), (o) (s) and (t)).
- 4.170 We consider our final decision to include \$23.8m for the proactive replacement of poles in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Fibre cable proactive replacement

- 4.171 Our final decision for field sustain capex is to include \$64.0m for the proactive replacement of 574km of fibre cables (ie, slotted core). This is a \$24.1m increase in expenditure from our draft decision to include \$39.9m and a 174km increase on the amount of fibre to be replaced during PQP2. In reaching this view we had regard to assessment factors (e), (m), (o), (t) as set out in clause 3.8.6 of the fibre IMs.
- 4.172 Chorus' proposal set out that it planned to proactively replace 400km of its oldest slotted core fibre cables in the PQP2 regulatory period at a cost of \$64.0m.²⁶⁵
- 4.173 For our draft decision, after reviewing Chorus' proposal and its forecasting model for the replacement of fibre cables in PQP2, we identified the following inconsistencies between the model and proposed expenditure:²⁶⁶
- 4.173.1 the model supplied in response to a RFI identified fibre replacement projects as having a priority of 1 to 6, or as having no assigned priority (ie, Blank/Null) (assessment factor (m) and (t));

²⁶⁴ Chorus "Our Fibre Assets" (31 October 2023), at 116 – 117.

²⁶⁵ Chorus "Our Fibre Assets" (31 October 2023), at 117.

²⁶⁶ Chorus, response to request for information #18 (7 December 2023).

- 4.173.2 the model forecasts total expenditure for fibre cable replacements, irrespective of assigned priority, at \$64.1m. This figure is close to the expenditure stated in Chorus' proposal. However, the model also indicates this expenditure is to replace 574km of fibre cable, significantly more fibre cable than the 400km stated in Chorus' proposal (assessment factor (e)); and
- 4.173.3 further, the model indicated expenditure to replace only the priority 1 and 2 fibre cables is \$39.9m. This involved 392 km of cable, which is close to the 400km stated in Chorus proposal (assessment factor (e)).
- 4.174 In coming to our final decision, we have considered Chorus' submission that it made an error in its proposal relating to the length of fibre cables to be replaced. We consider Chorus' submission explains the inconsistencies we identified, and its modelling and documentation provide sufficient evidence that the \$64.0m of expenditure relates to 574km of fibre cable replacement, and not the 400km stated in its original proposal (assessment factor (e)).
- 4.175 We agree with Chorus the investment drivers for this capex are:
- 4.175.1 the lifecycle replacement of 30-40 year old slotted cable fibres showing signs of deterioration consistent with approaching end-of-life (assessment factor (m), (o) and (t)); and
- 4.175.2 the replacement of fibre cables according to their condition (tagged H1 and H2) and further prioritised based on how it is impacting service levels (assessments factors (o) and (p)).
- 4.176 We consider expenditure for the replacement of fibre cables should be modelled based on historical and forecast unit costs. Further, where Chorus shares ownership of a fibre cable the cost to replace the cable is proportionately shared between the parties (eg 50:50) (assessment factors (e), (k) and (t)).
- 4.177 For our final decision we consider \$64.0m for the proactive replacement of 574km of fibre cables meets the evaluation criteria under clause 3.8.5 of the fibre IMs, reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient, for the reasons outlined above.

Rehabilitation, reactive maintenance, capability and fibre growth expenditure

- 4.178 Our final decision for field sustain capex is to include \$27m for the rehabilitation of fibre flexibility points (FFPs), pits and manholes inspection programme, asset replacement, capability and for fibre growth in Chorus' base capex allowance for PQP2. This is the same as the amount proposed by Chorus. In reaching this view we had regard assessment factors (o), (p), (r) and (t) as set out in clause 3.8.5 of the fibre IMs.
- 4.179 Our final decision is the same as our draft decision. We received no specific submissions on this component of network sustain and enhance expenditure.
- 4.180 We considered Chorus' stated investment drivers for this expenditure in our draft reasons paper.²⁶⁷ We consider, based on Chorus' proposal, the proposed expenditure reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient. The Independent Verifier stated it was of the same view.²⁶⁸
- 4.181 We therefore consider our final decision to include \$27m expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Relocations

Final decision

- 4.182 Our final decision is to include \$18.2m in the base capex allowance for relocations capex over PQP2. Relocations capex relates to work that is required to move network elements.²⁶⁹
- 4.183 Our final decision is the same as our draft decision.²⁷⁰ Our final decision is broken down by year over PQP2 in Table 4.15.

Table 4.15 Breakdown of relocations capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Relocations	4.6	4.5	4.5	4.5	18.2

²⁶⁷ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.228 – 5.229].

²⁶⁸ Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 14.

²⁶⁹ Chorus "Our Fibre Assets" (31 October 2023), at 130.

²⁷⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at 116.

Stakeholder views

4.184 We did not receive any submissions from stakeholders on our draft expenditure decision on relocations capex.

Reasons for our final decision

4.185 In coming to our final decision, we have considered whether Chorus' proposal has met the capital expenditure objective, we have had regard to assessment factors (c), (m) and (s) in clauses 3.8.6(1) of the fibre IMs, the same assessment factors identified as relevant by the Independent Verifier.²⁷¹

4.186 As in our draft decision, we consider that the PQP2 forecast is in line with historic capital expenditure (assessment factor (c)), has regard to fibre asset and fibre network information (assessment factor (m)) as relocating assets is reactive and driven by third party requirements external to Chorus, and the data used is accurate and reliable (assessment factor (s)).²⁷²

4.187 We therefore consider including \$18.2 million of expenditure in this sub-category meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Resilience*Final decision*

4.188 Our final decision is to include \$50.7m in the base capex allowance for resilience capex over PQP2. Our final decision is different to our draft decision and our final decision represents an increase in Chorus resilience capex allowance of \$4.2m.

4.189 The Commission recognises the importance of resilience investments, particularly in light of forecasts that severe weather events are likely to increase in frequency. We strongly support infrastructure providers implementing systematic programmes to evaluate risks to their networks and prioritising investments and contingency plans to respond to high impact, low probability events. However, we expect infrastructure providers to have robust frameworks in place to assess the net benefits of resilience investments, particularly where they have high costs per benefitting consumer.

4.190 Our final decision is broken down by year over PQP2 in Table 4.16.

²⁷¹ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

²⁷² Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.238].

Table 4.16 Breakdown of resilience capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Resilience	13.8	12.8	8.1	16.1	50.7

Stakeholder views

- 4.191 We received submissions from Chorus, 2degrees, Spark and OneNZ on our draft decision for resilience capex.
- 4.192 Chorus accepted that it did not provide sufficient evidence in support of investment in dual fibre paths that go beyond the requirements of the Network Infrastructure Project Agreement (NIPA) to support communities with fewer than 3,000.²⁷³
- 4.193 Chorus set out in its submission that it plans these projects based on the projected number of future connections rather than current connections (eg, accounting for copper withdrawal, more premises will move onto fibre over time). Chorus also stated that, of the 14 projects we did not include in the draft decision, seven support total premises over 3,000 (when total premises is considered on projected numbers). Chorus provided a summary of these 14 projects in Appendix 4 of its submission, stating that seven meet the architectural standard of supporting more than 3,000 premises (on projected numbers) and proposed that our final decision should include \$16.8m for these seven projects.²⁷⁴
- 4.194 Chorus also disagreed in its submission that satellite could be an alternative to fibre for the backhaul from an access site in the Chorus network. It submitted that alternative technologies such as low earth orbit satellite are not feasible as backhaul because they are not fast enough, and current regulatory and commercial settings would not allow for it.²⁷⁵ Chorus also submitted it would not be prudent and efficient to devote significant resources to assessing what is a clearly inappropriate option that would not deliver services at a quality standard end-users demand.²⁷⁶

²⁷³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [290].

²⁷⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 62.

²⁷⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 62.

²⁷⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 62.

- 4.195 2degrees noted that our draft decisions help mitigate the risk of Chorus receiving windfall gains from over-forecasting expenditure, noting that Chorus underspent its PQP1 resilience allowance by \$12m.²⁷⁷ However, Spark noted that rather than being mechanistic, expenditure approval should consider the costs and benefits of each proposal, and any competition concerns highlighted.²⁷⁸
- 4.196 RSPs continued to support resilience investments in principle.²⁷⁹ However, they supported our position that Chorus did not quantify the benefits from its resilience investments or significantly detail how the cost and benefits justified the investments.²⁸⁰
- 4.197 Spark submitted on the importance of consultation on resilience projects to ensure the highest priority expenditure proposal projects are being pursued at lowest cost and proposed the Commission make it a condition of core fibre route investment expenditure approval that Chorus undertake a written consultation for each project with potential partners and report back the outcomes of that consultation to the Commission.²⁸¹ This view was shared by One NZ, which added that the projects the Commission did not approve in the draft decision could be considered via an ICP as they will need to be scoped out and evaluated on a project-by-project basis.²⁸²
- 4.198 2degrees agreed with and welcomed our messaging to Chorus on future resilience work:

Going forward we expect Chorus to continue to assess the appropriateness of its architectural standards and to consider alternatives. We expect investments in dual fibre pathways to be invested where they meet a reasonable cost benefit test, relative to alternative options. We also expect Chorus to continue to consult with all of its stakeholders to identify high value targets for investments and to identify whether more cost-effective alternatives exist.

- 4.199 In its cross submission, Chorus stated that:

Requiring Chorus to formally consult on each project and then seek Commission approval would be excessive, onerous, and out of step with approval requirements for other types of capital expenditure. Feedback from our end-users and stakeholders following Cyclone Gabrielle has indicated they see investment in a resilient network as “non-negotiable” and

²⁷⁷ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): 2degrees' Submission in response to Commerce Commission consultation" (May 2024), at 8 – 9.

²⁷⁸ Spark "Chorus expenditure allowances for the 2025-2028 regulatory period: draft decision" (16 May 2024), at[10]

²⁷⁹ Spark "Chorus expenditure allowances for the 2025-2028 regulatory period: draft decision" (16 May 2024), at [10]; and One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at 6.

²⁸⁰ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025 – 2028): 2degrees' Submission in response to Commerce Commission consultation" (May 2024), at[10].

²⁸¹ Spark "Chorus expenditure allowances for the 2025-2028 regulatory period: draft decision" (16 May 2024), at [16].

²⁸² One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at 6.

a core function of a fibre network provider, so it is unclear why additional consultation would be required on this type of investment.

It is worth noting that other government agencies are also reviewing policy settings for resilience. Any changes to how we manage resilience, such as the suggestion by One NZ, would be subject to our overarching regulatory requirements - not just Part 6.

MNOs have argued for a requirement to consult on discretionary capital expenditure. In particular, Spark argued we should be required to consult on proposed investment to replace end-of-life transport assets and One NZ called for Chorus to be required to consult on resilience capex projects. Many of our transport routes are shared with Spark and we jointly agree and fund the replacement programme on these routes. For other routes, we fully consider the most appropriate solution to end-of-life assets and note it is not always practical or necessary to consult. We also disagree that consultation should be required for all resilience projects. This would add onerous additional steps before we could make investment that has strong support from end-users.²⁸³

Reasons for our final decision

4.200 Chorus has proposed investment of \$79.6 million in PQP2 which consists of:²⁸⁴

4.200.1 dual fibre paths (\$69.1 million): providing route diversity so connectivity is sustained if a single fibre route fails or is taken out of service (eg, for planned works). Dual fibre paths help reduce the number of outages on Chorus' network;

4.200.2 functional limits (\$9.9 million): building or upgrading network sites so that no site is a single point of failure for more than a set number of connections (depending on the function undertaken at that site); and

4.200.3 critical spares (\$0.7 million): putting measures in place to support rapid recovery if connection is lost.

4.201 Our final decision is to increase the amount of Chorus' resilience expenditure allowance by \$4.2m.

4.202 In coming to our final decision we have had regard to the following assessment factors: (a), (c), (d), (e), (i), (j), (k), (n), (o) (t). Some of the assessment factors we have had regard to were considered by the Independent Verifier in its final report, but we have identified others we consider are relevant as well.

4.203 Our final decision assesses the three main components of Chorus' resilience expenditure including its investment in critical spares, functional limits on exchanges, and investments in implementing fibre dual pathways. We have focused our analysis on dual pathway investments given the materiality of this component of resilience expenditure.

²⁸³ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at[13].

²⁸⁴ Chorus "Our Fibre Assets" (31 October 2023), at 139 and 141 – 142.

- 4.204 We consider that the expenditure for critical spares expenditure (\$0.7m) is prudent and should be included in Chorus' allowance.
- 4.205 Chorus appears to have applied its technical standard for functional limits in developing its forecast (assessment factors (t) and (e)). Its proposal included limited explanation for why the standard for functional limits should be set at 25,000 connections directly connected to any access site. We consider that functional limits are an appropriate intervention to ensure an appropriate level of network redundancy and have no cause to challenge this standard. We have accepted Chorus' proposal for applying its technical standard for functional limits.
- 4.206 As with other technical standards that drive investment decisions, we consider it would reflect good telecommunications industry practice to review these standards at regular intervals and to take into account the views of end-users when determining them.
- 4.207 Our final decision is to approve resilience projects for dual fibre pathways where the projected number of premises meet Chorus' network architectural standard. In our draft decision, we did not include expenditure from Chorus' proposal for 14 projects that did not meet its network architecture standard based on the current number of connections.
- 4.208 We agree with Chorus' submission that the network standard should apply to the projected number of premises rather than current connections. We are satisfied that a prudent operator would apply the standard to areas once the projects are complete, provided this is based on a forecast of connections that is reasonable.
- 4.209 Chorus provided additional information in its submission on seven projects including where the forecast number of protected premises is greater than 3,000. For some projects, Chorus assumed significant growth in the projected number of premises that would be protected (using Chorus' terminology) by additional redundancy, with one project to be greater than 100%. However, it did not provide substantial information to explain the forecasts or the basis for calculating this number. It did state that the projected number includes additions from copper withdrawal, as it assumes more premises will move onto fibre over time.²⁸⁵
- 4.210 We consider it reasonable to expect the number of premises projected will grow in the areas covered by projects proposed by Chorus and that it is likely that a large proportion of current copper end-users will convert to fibre. However, it has not provided information on the assumptions or inputs used in the forecasts, information on how the standard had been applied or detailed information on the projects including specific target communities and key boundary areas.

²⁸⁵

Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [291].

- 4.211 Therefore, while we agree with Chorus that consideration of the projected numbers of premises to meet the technical standard is appropriate in assessing whether the expenditure satisfies the evaluation criteria, we consider that a prudent and efficient operator would base the timing of projects on reasonable forecasts of connections and on appropriate assumptions and inputs relating to each specific project (assessment factor (t)). We consider Chorus should have the information available to provide reasonable assumptions of these parameters assessment factor (o)).
- 4.212 Without this information from Chorus, we have applied reasonable forecasts to test whether the proposed additional projects should be included in its resilience expenditure allowance. To develop a reasonable forecast to determine the number of protected premises, we have:
- 4.212.1 used Chorus' own forecast FFLAS connections for POI areas for the respective areas where the project takes place;²⁸⁶
 - 4.212.2 used these forecasts to calculate a forecast connection growth rate to apply to the relevant project areas. The growth rates differ by the region where the project takes place; and
 - 4.212.3 then applied this growth rate to the number of current connections Chorus has identified for each project and calculated the number of forecast connections by the year 2028 for the respective areas for each project. We consider it is reasonable to forecast projected premises out to the end of the regulatory period (2028) instead of the year in which Chorus has forecast the project to be commissioned. This is because the fungible nature of the expenditure means that Chorus could delay the project until 2028.
- 4.213 Our final decision is to approve an additional \$4.2m expenditure for resilience compared to our draft decision (representing four further projects set out in Chorus' expenditure proposal) that we consider satisfy the expenditure objective. This is less than the increase of \$16.8m proposed by Chorus in its submission on the draft decision.
- 4.214 We acknowledge the submissions from Spark, OneNZ, 2degrees and Chorus on the role of consultation and ICPs to help assess and approve Chorus' resilience expenditure. We agree with Spark, 2degrees and OneNZ that the highest priority expenditure proposal projects should be pursued at lowest cost. However, we continue to consider it is prudent to provide some base capex allowance for projects that meet the expenditure objective.

²⁸⁶ Chorus "Our Fibre Plans" (31 October 2023), at 106.

- 4.215 We reiterate our position in our draft decision that the ICP mechanism remains an option for Chorus to pursue expenditure allowances for additional resilience projects during PQP2, including the projects that we did not include in the final base capex allowance.
- 4.216 We acknowledge Chorus’ submission on the potential constraints of alternative technologies to fibre in providing resilience. However, we consider Chorus needs to improve how it illustrates it has taken a risk-based and systematic approach to determining the risk its network faces from high impact, low probability events and to determine appropriate investments via reasonable cost benefit tests, relative to alternative options alongside appropriate levels of consultation.
- 4.217 We therefore consider our final decision to include \$50.7m of expenditure in resilience sub-category of base capex meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Site sustain

Final decision

- 4.218 Our final decision is to include \$91.1m in the base capex allowance for site sustain capex over PQP2. Our final decision is the same as our draft decision.²⁸⁷ Our final decision is broken down by year over PQP2 in Table 4.17.

Table 4.17 Breakdown of site sustain capex allowance for PQP2

Sub-category	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Site sustain	27.2	22.3	21.4	20.2	91.1

- 4.219 Site sustain capex allows Chorus to ensure it maintains a suitable operating environment for network equipment and ensure it meets safety obligations.²⁸⁸

Stakeholder views

- 4.220 We did not receive any submissions from stakeholders on our draft decision on site sustain capex.

²⁸⁷ Commerce Commission “Chorus’ expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper” (18 April 2024), at [5.269].

²⁸⁸ Chorus “Our Fibre Assets” (31 October 2023), at 122.

Reasons for our final decision

- 4.221 In coming to our final decision, we have considered whether Chorus' proposal has met the capital expenditure objective, having regard to assessment factors (a), (e), (i), (k), (n), (o), (r), (t) in clause 3.8.6(1) of the fibre IMs.²⁸⁹
- 4.222 As explained in our draft decision, a significant component of Chorus' proposed investment in site sustain relates to regulatory compliance and lifecycle requirements, which allow some flexibility in scheduling (assessment factor (a)).²⁹⁰ There is a lack of detail on some types of spend within site sustain and inconsistencies in the costs from different Chorus sources.²⁹¹
- 4.223 However, a review of information provided prior to the draft decision shows that the total amount of work required to meet Chorus' compliance requirements appears to be greater than the amount sought by Chorus for PQP2 (ie, the proposed expenditure results from Chorus' phasing of investment, rather than the need for compliance).
- 4.224 Regulatory compliance is the main driver for seismic upgrade investment, and we consider there is a reasonable case for this investment (assessment factor (a)).²⁹² Chorus has a programme of work required to be completed within 15 years and additional investment is expected post PQP2.
- 4.225 As explained in the draft decision, Chorus forecasts expenditure for seismic upgrades using an average cost multiplied by the number of buildings (price times quantity) methodology.²⁹³ Preliminary cost estimates are generalisations based on two projects that have been fully costed. However, we note that most projects will be unique, and although there may be some buildings with similar design features that will require similar remediation, there is likely to be some variability in the cost estimates given the bespoke nature of the required work (assessment factor (t)). We also expect that Chorus has sufficient control of the timing of any work to fully utilise the proposed capex envelope – eg, it can bring forward any additional work if average costs are less than forecast (assessment factors (k), and (n)).
- 4.226 Therefore, we consider the proposed expenditure is prudent and efficient and meets the evaluation criteria.

²⁸⁹ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.6(1).

²⁹⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.275].

²⁹¹ Chorus, response to request for information #48 (26 January 2024).

²⁹² This investment is required by the Earthquake Amendment Act 2016 and the Building Act 2004.

²⁹³ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [5.278].

- 4.227 We have reviewed the other components of the site sustain expenditure (building sustain, services sustain, leases and exchange modifications) and considered the Independent Verifier report.
- 4.228 In our view the proposed expenditure is in line with historical expenditure levels (assessment factor (c)) and appears to be appropriate in light of the uncertainty inherent in forecasts (assessment factors (a), (o), and (t)).
- 4.229 We note that the solar upgrade investment results in a capex-opex trade-off which we proposed to accept in our draft decision (assessment factor (r)). Therefore, based on the information we have reviewed, we agree with the Independent Verifier's conclusions and consider the remaining proposed expenditure for site sustain is also prudent and efficient and meets the evaluation criteria.
- 4.230 We therefore consider our final decision to include \$91.1m of expenditure in site sustain sub-category of base capex meets the evaluation criteria under clause 3.8.5 of the fibre IMs as it reflects good telecommunications industry practice and satisfies the capital expenditure objective of being prudent and efficient.

Chapter 5 Connection capex

Purpose and structure of this chapter

- 5.1 This chapter describes our final decision on the connection capex baseline allowance for Chorus for the PQP2 period.
- 5.2 Connection capex is capex that is directly incurred by Chorus in relation to connecting new end-user premises where the communal fibre network already exists or will exist at the time of connection. The fibre IMs require us to determine a connection capex baseline allowance,²⁹⁴ which must include the:²⁹⁵
 - 5.2.1 expenditure allowance for each connection type for each year of the PQP2 period;
 - 5.2.2 unit costs used to calculate the allowance for each year of the PQP2 period; and
 - 5.2.3 forecast volumes used to calculate the allowance for each connection type for each year of the PQP2 period.
- 5.3 We must also determine a connection capex variable adjustment at the end of the regulatory period.²⁹⁶ This is the difference between the:
 - 5.3.1 connection capex baseline allowance; and
 - 5.3.2 capex given by applying the unit costs determined in the connection capex baseline allowance to actual connection volumes for each connection type.²⁹⁷
- 5.4 We must determine the unit costs and forecast volumes for each connection type to establish the connection capex allowance. The unit costs will apply for the whole of PQP2 but the forecast connection volume will be 'washed up' using actual volumes.

²⁹⁴ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.20(2).

²⁹⁵ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.13(1)(a).

²⁹⁶ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.13(1)(b).

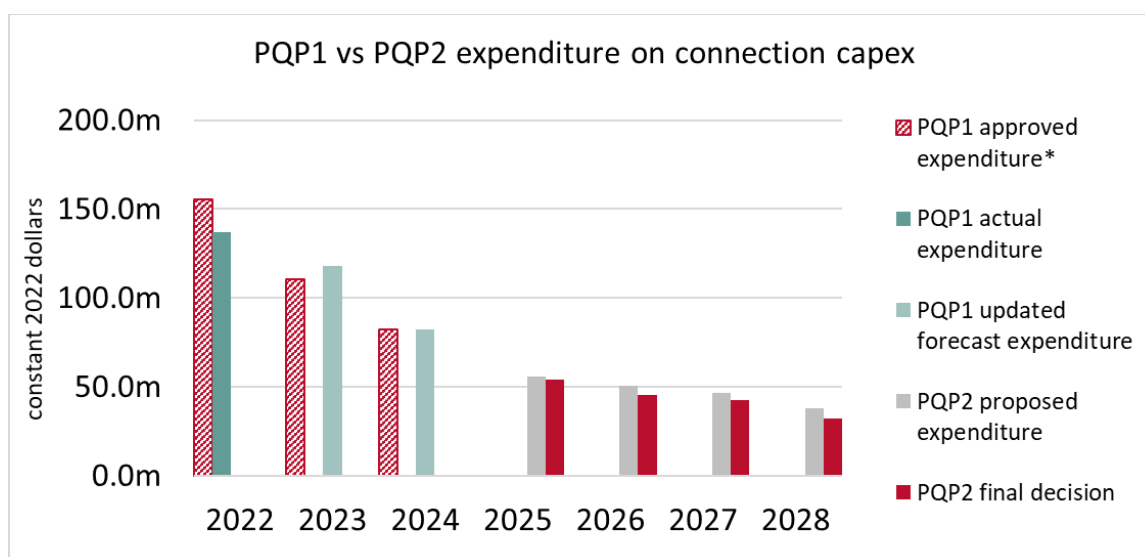
²⁹⁷ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.7.21(2).

- 5.5 Connection capex is capex associated with new connections (not intact connections) and where the expenditure is driven by each additional new connection (ie, there is an identifiable unit cost). The base capex allowance captures other capex that may be related to demand, including capex on intact connections.²⁹⁸ Other demand related capex can be found in the base capex sub-categories of standard installations, complex installations, and network capacity (access, aggregation and transport).²⁹⁹

Final decision

- 5.6 Our final decision on connection capex is to include \$174.1m for connection capex baseline allowance for PQP2. This is \$15.9m less than proposed by Chorus in its connection capex proposal, but \$3.2m more than our draft decision.³⁰⁰ We consider our final decision meets the evaluation criteria set out in clause 3.8.5 of the fibre IMs as it meets the capital expenditure objective and reflects good telecommunications industry practice.
- 5.7 Figure 5.1 compares our final decision, Chorus' proposal, our final decision for PQP1, and Chorus' actual expenditure and updated forecast expenditure for the PQP1 period.

Figure 5.1 PQP1 vs PQP2 connection capex



- 5.8 For our final decision we have determined:

²⁹⁸ Commerce Commission "Fibre Input Methodologies: Main final decisions – reasons paper" (13 October 2020), at 628.

²⁹⁹ Chorus "Our Fibre Assets" (31 October 2023), at 203.

³⁰⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [6.6]

- 5.8.1 smoothed connection capex unit costs for connection types 1, 2a, 2b. Our final decision is different from our draft decision, as we are no longer smoothing connection capex unit costs for connection types 3 and 4.³⁰¹ We consider there is insufficient evidence that some underlying cost increases were consistent with the efficient costs of a prudent operator, and these have been adjusted to align more closely with what we consider would be prudent and efficient costs;
 - 5.8.2 adjusted forecast connection volumes for connection types 1, 2a, 2b, 7 and 8. Our final decision reflects the latest changes in the augmentation – fibre frontier proposal and hyperfibre demand; and
 - 5.8.3 the connection capex unit costs and forecast connection volumes for connection types 5, 9 and 10 are the same as Chorus' expenditure proposal and our draft decision.
- 5.9 Table 5.1 and Table 5.2 set out our final decision and Chorus' proposal for each connection type. Table 5.1 is redacted for publication because information on specific connection types is confidential to Chorus. Table 5.2 presents totals for connection volumes and capex and weighted averages for unit costs which is aggregated to groupings of connection types.

³⁰¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 - 2028): Draft decision - Reasons paper" (18 April 2024), at [6.8.1].

All	Proposed			55.5	50.3	46.4	37.9	190.0
	Final decision			53.9	45.5	42.3	32.3	174.1

Stakeholder views

- 5.10 In its submission on our draft expenditure decision, Chorus submitted that:³⁰²
- 5.10.1 it accepts the Commissions draft decision to reduce the managed migration unit cost for UFB2 connections for connection types 1, 2a and 2b by using linear interpolation to derive a unit cost for 2027;
 - 5.10.2 the Commission should use the service desk unit costs for connection types 1, 2a and 2b that Chorus proposed in its expenditure proposal. Chorus submitted that running its base level service desk operation required fix costs which do not reduce as connections decline. The forecast for service desk unit costs is done using the number of expected orders and the full-time equivalents required to complete these orders. As connection volumes fall, there remains a large proportion of connections that are complex and require more service desk resource to finish. Chorus' service level agreements with RSPs require staff to be available for customers at certain times of the day. Therefore, Chorus needs to have a base level of staff to fulfil this, so staffing levels are not expected to have a directly linear relationship with volumes;
 - 5.10.3 the Commission should use the fibre access component of connection type 3 unit costs that Chorus proposed in its expenditure proposal. The unit cost for type 3 connections is declining due to the efficiencies from smart location connection unit rates.³⁰³ However, after 2026 the average unit rate is expected to increase due to the move away from smart locations to other connection types with larger unit rates; and
 - 5.10.4 the Commission should use the connection type 4 unit costs that Chorus proposed in its expenditure proposal.
- [
-]

³⁰² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 67 – 68.

³⁰³ Smart Location connections are connections that connect a place or structure that typically doesn't have a fixed address to Chorus' fibre network. See [Chorus "Bigger IoT ambitions need even bigger bandwidth"](#) for more information.

Reasons for our final decision

Analysis

- 5.11 Our final decision on connection capex is to include \$174.1m for connection capex baseline allowance for PQP2. In reaching our final decision on connection capex, we have evaluated Chorus' connection capex baseline proposal by considering whether the proposed capex meets the capital expenditure objective and reflects good telecommunications industry practice, having regard to the assessment factors relevant to whether the proposal meets the capital expenditure objective.
- 5.12 In evaluating Chorus' connection capex baseline proposal, we have also reviewed and considered:
- 5.12.1 submissions received on our draft expenditure decision;
 - 5.12.2 Chorus' proposed unit costs and how they compare to historic unit costs, including during PQP1;
 - 5.12.3 Chorus' reasoning for its proposal as laid out in their *Our Fibre Assets* report, including investment drivers and underlying assumptions;³⁰⁴
 - 5.12.4 relevant information that we requested from Chorus ahead of the draft decision, including supporting forecast models;
 - 5.12.5 the Independent Verifier's findings and reasoning; and
 - 5.12.6 our final decision for PQP1, our reasoning and the information we considered.
- 5.13 We have had regard to assessment factors (a), (c), (d), (e), (f), (m), (n), (o), (s) and (t).

Conclusion of our analysis of connection capex

- 5.14 We consider that Chorus' original connection capex proposal does not meet the capital expenditure objective because its proposal did not provide sufficient evidence that the expenditure reflects the efficient costs that a prudent fibre network operator would incur to deliver the service at appropriate quality.³⁰⁵
- 5.15 Our assessment identified that for connection types 1, 2a and 2b, the explanation provided for the rate of change of unit cost components either does not address spikes in cost components or does not explain why these spikes are necessary (assessment factors (c) and (e)).

³⁰⁴ Chorus "Our Fibre Assets" (31 October 2023).

³⁰⁵ *Fibre Input Methodologies Determination 2020*, as amended on 28 June 2023, clause 3.8.5(2).

5.16 The impact of this issue on our final decision is described below.

Analysis of connection capex unit costs

- 5.17 Our final decision is that the connection capex unit costs for connection types 1, 2a and 2b do not reflect the efficient costs of a prudent fibre operator. The information provided by Chorus did not satisfy us that the increases in some cost components were efficient or prudent.³⁰⁶ This is the same as our draft decision. However, we have taken a different view on connection types 3 and 4. Our final decision is that the connection capex unit costs for connection types 3 and 4 reflect efficient costs of a prudent fibre operator.³⁰⁷
- 5.18 For the connection types where we found the proposed changes in unit costs to be inconsistent with the efficient costs of a prudent operator, our final decision is to use the alternative unit costs we determined by smoothing the costs through linear interpolation or extrapolation at the underlying cost component level.
- 5.19 For connection types 1, 2a and 2b, Chorus' forecast service desk costs are significantly higher in 2024-2027 than in 2023 or 2028. Chorus already noted that service desk costs do not decrease immediately as connection volumes decline because there is a delay in adjusting staffing levels.³⁰⁸ Furthermore, as detailed above in paragraph 5.10.2, Chorus explained in its submission on our draft expenditure decision that service desk costs have a fixed and variable component and that a proportion of orders that are more complex to complete and hence require more service desk resource. However, without information to support the amount of the cost being fixed, or the increase in resource for the more complex connections, we are not satisfied that the relevant unit costs in Chorus' original proposal reflect the efficient costs that a prudent fibre network operator would incur.
- 5.20 Having considered the forecast connection volumes and their underlying components, the timing and scale of the cost increase and Chorus' explanation (assessment factors (e) and (m)), we found that the service desk component of Chorus' proposed unit costs for connection types 1, 2a and 2b do not reflect the efficient costs of a prudent operator. Our final decision is to use linear interpolation to adjust this component between 2024 to 2027 to produce unit costs that better reflect what we consider are efficient costs of a prudent operator.

³⁰⁶ Our analysis of connection capex unit costs is based on constant costs and did not cover cost escalation. Where we describe increases in proposed unit costs, these are increases in real terms exclusive of inflation. Our draft decision on cost escalation is discussed in Chapter 4 of this paper.

³⁰⁷ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 - 2028): Draft decision - Reasons paper" (18 April 2024), at [6.19].

³⁰⁸ Chorus, response to request for Information #81 and #86 (16 February 2024).

- 5.21 For connection types 1, 2a and 2b, we found an unexplained spike in managed migration costs for UFB2 connections in 2027. Our final decision is the same as our draft decision with which Chorus in its submission on our draft expenditure decision agreed.³⁰⁹ The information Chorus provided in its expenditure proposal does not explain why this cost component should increase by over []% in 2027. Having regard to assessment factors (e), (m) and (s), we consider this increase is inconsistent with the efficient costs of a prudent operator. Our final decision is therefore to use linear interpolation of this component to produce unit costs that better reflect what we consider are efficient costs of a prudent operator.
- 5.22 For connection types 3 and 4, we agree that Chorus' proposed unit costs are prudent and efficient having regard to assessment factors (e) and (s). Our final decision is different from our draft decision where we used linear extrapolation of the fibre access component of connection type 3 and linear interpolation for connection type 4 to produce costs that were efficient and prudent.³¹⁰ This is because in its submission on our draft expenditure decision, Chorus provided evidence to support the unit cost increases in these connection types:
- 5.22.1 in its submission, Chorus set out that the unit cost for type 3 connections is declining due to the efficiencies from smart location connection unit rates. However, after 2026 the average unit rate is expected to increase due to the move away from smart locations to other connection types with larger unit rates. We analysed the 'indicative' demand for fibre access by financial year, disaggregated into smart locations and 'other' as well as the breakdown of the connection type 3 unit costs. This analysis shows that unit costs for the underlying sub-components for each of UFB1 and UFB2 remain constant over the forecast period while the fibre access component changes. Until 2027, the forecast unit cost for fibre access declines due to efficiency gains for smart locations (one of two sub-components of fibre access).³¹¹ Forecast demand for smart locations peaks over 2026 and 2027 after which it declines sharply;

³⁰⁹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [6.22].

³¹⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [6.23] – [6.24].

³¹¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [329].

5.22.2 in its submission Chorus set out that

[

] We consider that

[

]; and

5.22.3 on the basis of the further information provided by Chorus in its submission, we consider the proposed unit costs for connection types 3 and 4 to be prudent and efficient.

- 5.23 For connection types 5, 6 and 9, we agree that Chorus' proposed unit costs are prudent and efficient having regard to assessment factors (e) and (m). This is because the very low connection volume and bespoke installation activities are consistent with significant fluctuations in unit cost.
- 5.24 For connection types 7 and 8, we agree that Chorus' proposed unit costs are prudent and efficient having regard to assessment factors (e) and (m). These unit costs are driven by the cost of ONT equipment from an international supplier, where Chorus has limited control over cost.
- 5.25 In reaching our final decision, we considered alternative methods to those that we used in our draft decision. These included top-down approaches that directly adjust the unit cost for a given connection type, rather than adjusting the underlying cost components and considering using an average flat unit cost over PQP2. Our final decision uses the approach we consider most closely aligns to underlying cost drivers and to satisfy the capital expenditure objective, which is to smooth the costs through linear interpolation or extrapolation at the underlying cost component level.

Analysis of forecast connection volumes

- 5.26 As set out previously, on 5 February 2024, Chorus informed us that it was reducing the scope of its fibre frontier network extension programme. It provided us with additional information which shows that it now expects approximately 9,958 fewer new connections in the PQP2 period.³¹²

³¹² Chorus, response to request for information #89 (15 February 2024).

- 5.27 As explained previously in paragraph 4.118, we have used an alternative hyperfibre demand forecast as Chorus did not sufficiently justify the basis for its proposed increase in forecast hyperfibre uptake during PQP2.
- 5.28 We have reduced connection volumes for connection types 1, 2a, 2b, 7 and 8 in our final decision based on information on fibre frontier and hyperfibre demand. In its proposal, Chorus did not specify the connection types to which its planned new connections from fibre frontier related. In our draft expenditure decision we assumed that the fibre frontier related new connections are in types 2a and 2b because these are common connection types for standard installations, as we did not have more precise information to rely on.³¹³ However, as part of its submission, Chorus provided updated connection volumes showing that connection type 1 connection volumes also decreased due to what we assume to be Chorus' change to the augmentation - fibre frontier investment. We consider this represents more accurate information on the impact of the change in fibre frontier investments and have therefore adopted Chorus' proposed volume changes to connection types 1, 2a and 2b arising from its change in the fibre frontier investment.
- 5.29 Having regard to assessment factors (e) and (o), we consider the degree of uncertainty and limited historic data regarding future hyperfibre demand indicates an insufficient justification for Chorus' forecast connection volumes for connection type 7, which relates to hyperfibre ONTs.
- 5.30 Our final decision is to adjust forecast connection volumes for connection type 7 using the linear trend of actual hyperfibre connections, based on data provided by Chorus within its demand forecasting models. This is the same as our draft decision. Our final decision also adjusts forecast connection volumes for connection type 8, which covers non-hyperfibre ONTs, to capture the new connections moved from connection type 7. This means that the total number of ONTs given by the forecast connection volumes across connection types 7 and 8 does not change as a result of this hyperfibre adjustment.
- 5.31 We have made our final decision using Chorus' proposed forecast connection volumes (adjusted for changes to augmentation - fibre frontier and hyperfibre demand as described above).

Analysis of connection types and non-linear cost functions

- 5.32 Our final decision includes the same connection types as in PQP1, shown in Table 5.1. Connection type 10 used a non-linear cost function in PQP1 but has nil value in Chorus' proposal for PQP2.

³¹³ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025 – 2028) – Draft decision – Reasons paper" (18 April 2024), at [6.29].

- 5.33 Based on the analysis above, we consider approving a connection capex baseline allowance of \$174.1m for PQP2 meets the evaluation criteria set out in clause 3.8.5 of the fibre IMs, because it meets the capital expenditure objective and reflects good telecommunications industry practice.

Chapter 6 Opex

Purpose and structure of this chapter

6.1 This chapter sets out our final decision on the opex allowance for Chorus for the PQP2 period.

Summary of our opex final decision

6.2 Our final decision is to determine an opex allowance of \$700.4 million. This is an increase from our draft decision of \$92.5 million.³¹⁴ Table 6.1 shows our final decision broken down by year.

Table 6.1 Our final opex decision by year

	2025 (\$m)	2026 (\$m)	2027 (\$m)	2028 (\$m)	Total (\$m)
Opex final decision	173.2	175.9	176.4	174.9	700.4

6.3 Our final decision on the opex allowance for each category of expenditure is summarised in Table 6.2 below.

Table 6.2 Summary of final decision for Chorus' PQP2 opex allowance

Category	Sub-category	Chorus proposal (\$m)	Draft decision (\$m)	Final decision (\$m)	Difference (\$m)	% of proposal allowed
Customer opex	Customer operations	-28.9 ³¹⁵	-22.7	-28.3	0.7	98
	Product, sales and Marketing	115.3	100.9	108.5	-6.8	94
Network opex	Maintenance	137.3	126.6	126.8	-10.5	92
	Network operations	80.0	67.4	78.5	-1.6	98
	Operating costs	43.7	41.3	43.1	-0.5	99

³¹⁴ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.2].

³¹⁵ Chorus has proposed a negative balance for the customer operations subcategory. The negative balance is associated with how it undertakes capitalisation of labour costs which have otherwise been included in other opex expenditure categories. For our final decision we have retained the negative balance, which offsets the total opex. For further discussion on this refer to 4.72

Category	Sub-category	Chorus proposal (\$m)	Draft decision (\$m)	Final decision (\$m)	Difference (\$m)	% of proposal allowed
Support opex	Asset management	94.8	78.1	91.9	-2.9	97
	Corporate	203.5	153.4	188.9	-14.6	93
	Technology	94.1	63.0	91.0	-3.1	97
Total		739.8	607.9	700.4	-39.4	95

6.4 Figure 6.1 compares our final decision to Chorus' proposal, our final decision for PQP1, and Chorus' actual expenditure and updated forecast expenditure for the PQP1 period.

Figure 6.1 PQP1 vs PQP2 opex expenditure

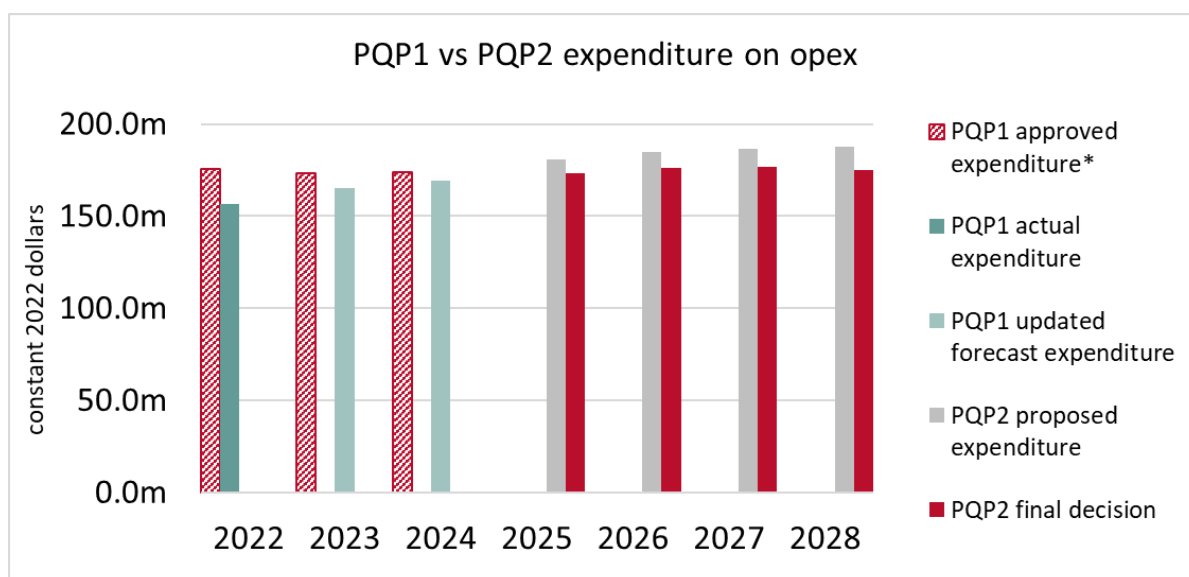
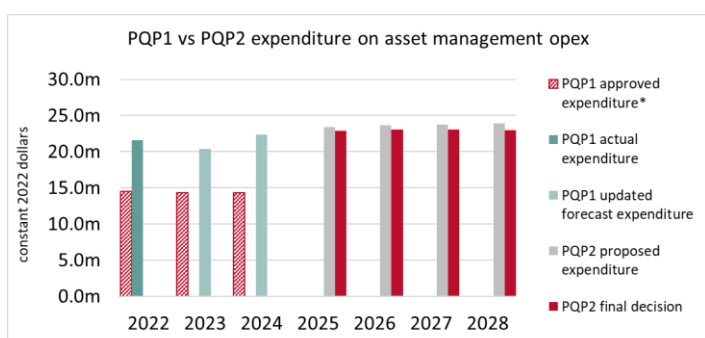
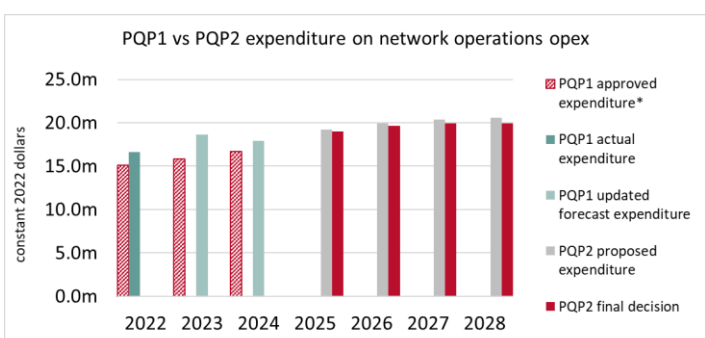
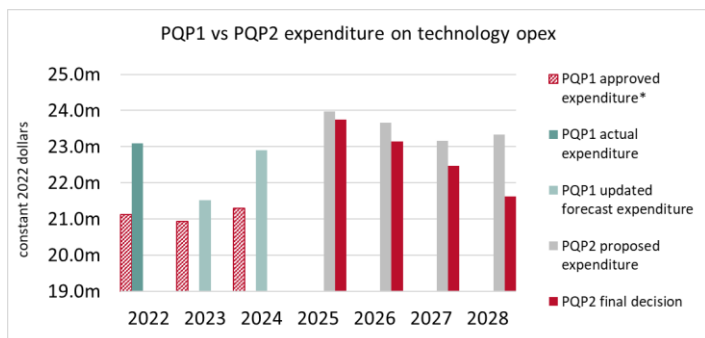
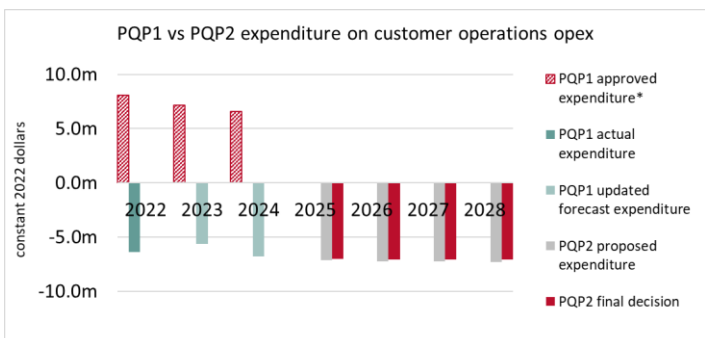
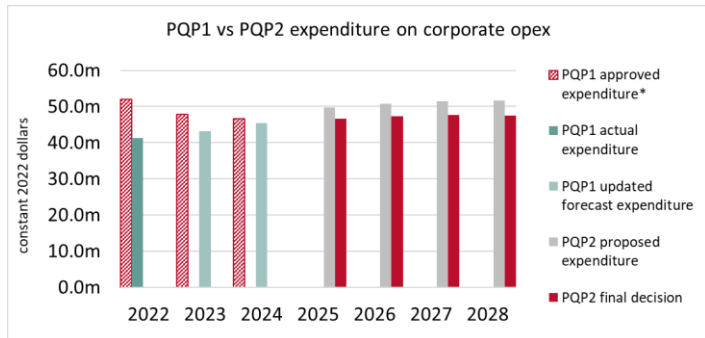
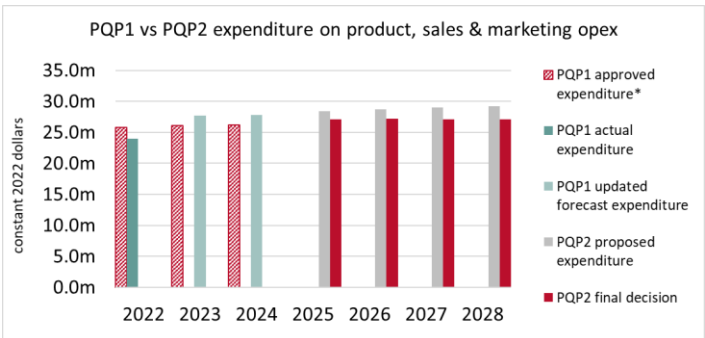
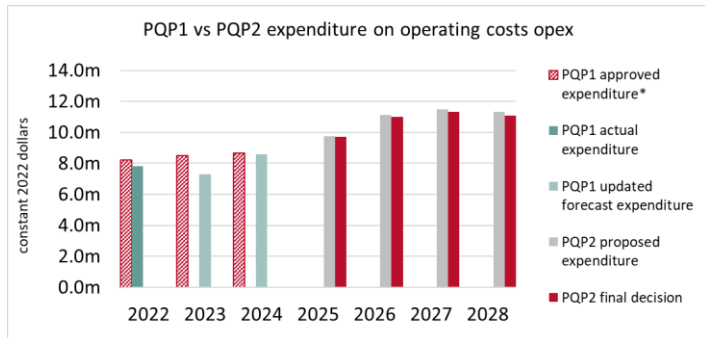
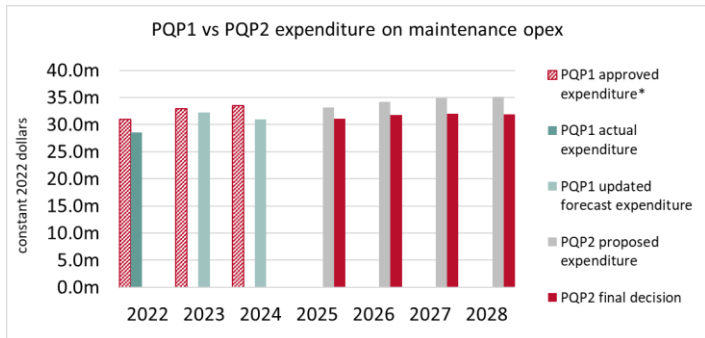


Figure 6.2 PQP1 vs PQP2 opex by sub-category



- 6.5 As we noted in our draft decision, Chorus has utilised a base step trend (BST) methodology for forecasting opex expenditure of PQP2. We accepted the use of the BST methodology for our draft and final opex decisions.

Changes for our final decision

- 6.6 The changes for our final decision compared to the draft decision are described in Table 6.3.

Table 6.3 Summary of changes in our final decisions compared to our draft decision

Area of change	Description
Base year adjustment – self-insurance	Our final decision is to include the self-insurance uplift. In our draft decision we excluded it based on lack of information provided.
Rate of change - efficiency	Our final decision is to include 0.5% efficiency adjustment on non-network opex costs, excluding information technology and electricity costs. Our draft decision applied a 3% efficiency to non-network costs.
Step change - compliance costs	Our final decision is to include the full compliance costs proposed by Chorus. Our draft decision excluded a small portion (\$[]) of the compliance costs due to information not being provided.
Step change - IT optimisation benefits	Our final decision is to retain the step change but remove the opex component from calculation of required benefits from IT capex investment following receipt of further information from Chorus in its submission on our draft decision. We have also changed the implementation to apply at an unallocated level.
Allocators	As described in the allocation section above, we have changed the cost allocators for our final expenditure decision. Our final opex decision implements the changes.

- 6.7 The aspects of our final decision which are the same as our draft decision are described below in Table 6.4.

Table 6.4 Summary of final decisions which remain the same as our draft decision

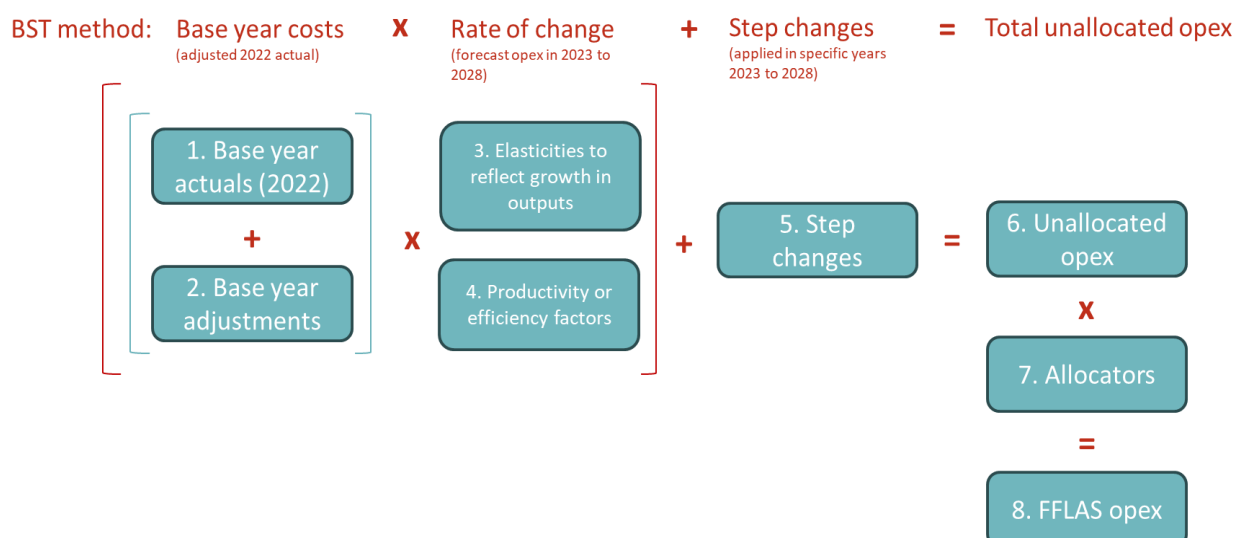
Areas that remain the same as our draft decision	Description
Base year	We have used the year 2022 as the base year for the PQP2 opex forecast.

Areas that remain the same as our draft decision	Description
Base year - adjustments	<p>Our final decision is to include the following base year adjustments:</p> <ul style="list-style-type: none"> - self-insurance; - advertising; - property maintenance; and - []. <p>These adjustments are the same as proposed by Chorus within its submission.</p>
Rate of change (trends) - Elasticities	<p>Our final decision is to use the elasticities proposed by Chorus, with the exception of advertising (see paragraph 6.85)</p>
Rate of change (trends) - Efficiency	<p>Our final decision is to include a 1% efficiency adjustment on network related opex costs.</p>
Step changes	<p>Our final decision is to include the following step changes:</p> <ul style="list-style-type: none"> - increased compliance costs; - solar adjustment; and - IT optimisation benefits. <p>Our final decision is to not include the proposed step change for []. This is the same as in our draft decision.</p>

The BST methodology

6.8 The steps involved in the application of the BST methodology as applied to Chorus are shown in Figure 6.3.

Figure 6.3 Diagram illustrating the BST methodology



6.9 A description of each step is provided below:

- 6.9.1 **Base year costs.** Determining efficient base year costs consists of selecting an appropriate base year from which to use the actual expenditure (item 1 in the above diagram) and applying adjustments (item 2) such that the base year represents the prudent and efficient costs for the operator in that year. Base year costs are recurring costs during each year of the regulatory period. We accepted Chorus' proposal to use 2022 as base year in our draft decision. 2022 was the last full year of actuals prior to Chorus submitting its proposal;
- 6.9.2 **Rate of change (Trend).** A trend factor or rate of change is applied to base year costs to calculate and forecast the costs for future years. The rate of change typically consists of two components. The first component is the application of elasticities to output growth to account for how output growth will be translated into opex growth for a firm with a downward sloping average cost curve (item 3). In other words, the elasticities scale the opex to reflect the change in outputs required by a change in business size or scope eg, the opex is scaled to reflect an increasing number of connections or expected growth in the size of network. The second component is the application of productivity or efficiency factors (item 4). Efficiency factors reflect the efficiencies that would be expected from a prudent and efficient fibre network operator over the period being considered. The rate of change will be a multiplier(s) on the base year costs;

- 6.9.3 **Step Changes.** Step changes (item 5) are then applied to reflect where there are expected discontinuities in the costs from a specific year or for a specific period within the forecast window. Step changes can be both additions and reductions, dependant on the forecast changes expected; and
- 6.9.4 Together the implementation of these steps results in the calculation of Chorus' total unallocated opex for PQP2 (item 6). Allocators are then applied within the calculation process (item 7) to derive the total FFLAS opex for PQP2 (item 8).
- 6.10 Chorus' application of the BST approach has been carried out at the general ledger code level, and then the results translated to the categories we agreed with Chorus within the regulatory templates prior to the commencement of the submission and approval process for PQP2. The regulatory templates show how cost escalation has been applied to the opex forecasts as per our final decisions on cost escalation (refer to Chapter 3).
- 6.11 In the following sections we set out our final decision in accordance with the BST components described above. We also set out the submissions received on our draft decision.

Stakeholder views

- 6.12 Chorus submitted on our draft opex decision and accompanying its submission it also provided reports from NERA, Incenta, and Analysys Mason.
- 6.13 In addition to Chorus' submission, 2degrees commented on our overall draft opex decision that we need be cautious when approving Chorus' proposed expenditure, given the underspend in PQP1, to avoid the risk of windfall gains or excess returns.³¹⁶ 2degrees used opex as an example to show that Chorus underspent opex by \$32.2m over the three years of PQP1.³¹⁷
- 6.14 We received submissions from Chorus and RSPs on our draft decision on marketing costs. Submitters welcomed our draft decision to not include the scaling of advertising costs by connection, but some RSPs expressed concerns on our evaluation process of Chorus' marketing spend.
- 6.14.1 Chorus agreed with our draft decision to not include the scaling of advertising costs by connections,³¹⁸

³¹⁶ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028) – 2degrees' submission in response to Commerce Commission consultation" (May 2024), at 8-9.

³¹⁷ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028) – 2degrees' submission in response to Commerce Commission consultation" (May 2024), at 9.

³¹⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [35].

- 6.14.2 One NZ welcomed our draft decision on not trending the advertising costs in accordance with connection growth.³¹⁹ However, One NZ argued that it is not sufficient to approve Chorus' proposed advertising spend on the basis of assessing it at a high level and comparing it with Spark's advertising spend on a per connection basis.³²⁰ Spark is in a different position within the overall market structure to Chorus, and such comparison is without justification.³²¹ More importantly, we need to be cautious when approving the proposal when the Independent Verifier did not reach a firm conclusion that supports Chorus' proposal;³²²
- 6.14.3 2degrees welcomed our draft decision of not applying any trend increase in the advertising component of the expenditure.³²³ However, it did not support our draft decision to adopt the base year amount proposed by Chorus.³²⁴ 2degrees expressed a similar concern to One NZ, being that marketing expenditure by a supplier in a competitive market does not provide justification or benchmark for assessing market expenditure by a regulated natural monopoly; and³²⁵
- 6.14.4 Chorus (in its cross submission) responded to 2degrees and One NZ's submissions and submitted that its marketing includes expenditure to manage and promote Chorus brand, fibre technology, and fibre products.³²⁶ These activities advance its "active wholesaler" strategy for fibre, which is prudent given the telecommunications market structure in New Zealand.³²⁷

³¹⁹ One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at [4].

³²⁰ One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at [6].

³²¹ One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at [6].

³²² One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at [7].

³²³ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028) – 2degrees' submission in response to Commerce Commission consultation" (May 2024), at 2.

³²⁴ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028) – 2degrees' submission in response to Commerce Commission consultation" (May 2024), at 11.

³²⁵ 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028) – 2degrees' submission in response to Commerce Commission consultation" (May 2024), at 11.

³²⁶ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [19].

³²⁷ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [20].

- 6.15 We also received submissions on our opex draft decision from L1 Capital (L1) and Yarra Capital Management. These set out concerns with our draft decision on Chorus' opex allowance.³²⁸ In particular, L1 submitted that an 18% cut to Chorus' opex would require a substantial change to its operating model, and that our assessment of opex savings from IT investment in the draft decision was not properly substantiated.³²⁹
- 6.16 Chorus' submission on opex covered the following areas:
- 6.16.1 Base year costs:
 - 6.16.1.1 selection of the base year;
 - 6.16.1.2 base year adjustments;
 - 6.16.1.3 efficiency of base year;
 - 6.16.2 Rate of change (Trend):
 - 6.16.2.1 use of elasticities;
 - 6.16.2.2 productivity and efficiency adjustments; and
 - 6.16.3 Step changes:
 - 6.16.3.1 compliance costs;
 - 6.16.3.2 [];
 - 6.16.3.3 IT optimisation benefits; and
 - 6.16.3.4 opex savings from solar investment.
- 6.17 The main themes from Chorus' submission in each of these areas are outlined below.

Base year costs

Base year selection

³²⁸ L1 Capital "Submission on draft expenditure decision for PQP2" (16 May 2024); and Yarra Capital Management "Submission on draft expenditure decision for PQP2" (16 May 2024).

³²⁹ L1 Capital "Submission on draft expenditure decision for PQP2" (16 May 2024), at 1 – 3.

- 6.18 Chorus noted that both the Independent Verifier and the Commission proposed to use 2023 as the base year if the 2023 actuals were available.³³⁰ Chorus indicated it continues to view 2022 as the best available base year for the PQP2 expenditure proposal but recommend using 2023 actuals as a cross-check.³³¹

Base year adjustment: self-insurance

- 6.19 Chorus submitted that it understood that our rejection of base year adjustment on self-insurance was due to insufficient justification, as it omitted the final actuarial report that the base year adjustment was predicated on.³³² Chorus provided the actuarial report for our evaluation and approval on the self-insurance costs with its submission on the draft expenditure decision.³³³

Efficiency of the base year

- 6.20 Chorus emphasised that it considered the draft decision overlooked the evidence that it operates efficiently and has strong incentives to be efficient and to contain risks of over-spending.³³⁴ Chorus indicated it considers that the selection of 2022 as the base year does not justify large downward efficiency adjustments as applied in the draft decision.³³⁵
- 6.21 Noting that we referred to assessment factor (a) when justifying opex in the draft decision, Chorus submitted that it provided extensive information detailing historic opex and had explained the reasons for movements in opex over that time period and to the end of the forecast period.³³⁶
- 6.22 Chorus explained that the transition from ‘build’ to ‘operate and maintain’ phase was largely completed in 2022, and the remaining operational shift is not expected to yield significant additional efficiency benefits beyond those it pursues in the ordinary course of business.³³⁷ This resulted in a significant downsizing prior to the commencement of PQP1 as the build planning and delivery teams were significantly scaled back.³³⁸

³³⁰ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [112].

³³¹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [118].

³³² Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [196].

³³³ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at 9.

³³⁴ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [48].

³³⁵ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [118].

³³⁶ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [59].

³³⁷ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [119] – [121].

³³⁸ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [121].

Rate of change (Trend)

Use of elasticities

- 6.23 Chorus submitted that the elasticities it used in its proposal are highly conservative. It said that the way in which its proposed elasticities are applied in the BST model have the effect of accounting for both economies of scale and productivity gains over the forecast period.³³⁹
- 6.24 NERA submitted that we did not provide evidence for our concern that Electricity Distribution Businesses (EDB) elasticities are an overestimate of the appropriate elasticities for Chorus.³⁴⁰ NERA believes that Chorus' network elasticities should be higher than 0.45.³⁴¹
- 6.25 Chorus agreed that its cost drivers and mix of cost elements are different to those for electricity distribution, but nonetheless considers that the EDB elasticities are appropriate for setting its opex allowance.³⁴²
- 6.26 Chorus also considered that the application of Ofcom productivity factors, is not supported by any analysis.³⁴³

Productivity and efficiency adjustments

- 6.27 Our draft decision was to apply a 1% efficiency adjustment for fibre maintenance and other network maintenance and a 3% efficiency adjustment for non-network opex. The draft decision was based on Ofcom's approach and our use of Chorus' proposed elasticities.
- 6.28 Chorus, and experts submitting on behalf of Chorus (NERA, Incenta, and Analysys Mason), disagreed with our use of these efficiency adjustments. It submitted that:
- 6.28.1 there are issues with using Ofcom's approach, especially as it is designed for a different purpose and applied in a different context; and
- 6.28.2 the use of the proposed elasticities means we do not need to make any further efficiency adjustments.

³³⁹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [54].

³⁴⁰ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [47].

³⁴¹ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [48].

³⁴² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [52].

³⁴³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [56].

- 6.29 Chorus submitted that its PQP2 proposal contains a realistic opex forecast and our draft decision to apply a further high level downward efficiency adjustment is not justified.³⁴⁴ Chorus (in its cross submission) further submitted that there would be a severe lack of resources to make improvements in some areas where we are seeking improvements, and it would be unlikely for Chorus to achieve real FCM over PQP2, if the draft decision were imposed.³⁴⁵
- 6.30 Chorus also submitted that our draft decision indicated that its opex proposal could only be approved once it addresses the issues raised in the draft reasons paper. However, Chorus considered that we had identified few substantive issues with its opex proposal, and the Independent Verifier had verified most of it.³⁴⁶
- 6.31 Chorus accepted that forecasting opex over the medium- and long-run is difficult.³⁴⁷ However, it and its experts considered that the methodology it had used is appropriate, and that the adjustments we made in our draft decision are unjustified:
- 6.31.1 Chorus argued that the use of a 0% productivity factor is appropriate, and our draft decision did not provide the details or rationale for rejecting it.³⁴⁸ NERA's report (in support of Chorus) submitted that our application of an efficiency factor is unjustified when substantial catch-up (inefficient firms becoming efficient) and scale efficiencies (lower average costs as output grows) are already accounted for in Chorus' BST model; and³⁴⁹

³⁴⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [47].

³⁴⁵ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [16] – [17].

³⁴⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [38].

³⁴⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [64].

³⁴⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [68].

³⁴⁹ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [60].

- 6.31.2 NERA considered that the application of the efficiency factors imposes excessive burden on Chorus to improve efficiency.³⁵⁰ It submitted that the IT and solar savings should mitigate the concerns on base year efficiency.³⁵¹ NERA also stated that the average productivity factor of 2.1% is significantly higher than the frontier shift set for other Australian and NZ regimes.³⁵² It further submitted that if we continue to think a further efficiency adjustment is needed, then a range between 0% and 0.5% is more reasonable.³⁵³
- 6.32 Chorus submitted that using a 0% productivity factor is consistent with what it considered to be our standard method, which is to apply an elasticity assumption as the first change and then separately consider if there are any additional productivity assumptions, of which there are none.³⁵⁴ Incenta's report (submitted in support of Chorus) supported Chorus' proposal to exclude an explicit 'productivity offset', on the basis that it considers Chorus has already accounted for key sources of expected productivity growth.³⁵⁵
- 6.33 The Incenta report also set out that Chorus has already factored into its opex forecast the assumption that opex will grow more slowly than output because of economies of scale via cost elasticity assumption, and the expected benefits from a range of IT projects.³⁵⁶
- 6.34 Chorus submitted that its proposed base year step changes include a 'frontier shift' (efficient firms becoming more efficient), and that the draft decision to apply a productivity adjustment would double count these efficiencies, resulting in an allowance below its efficient costs.³⁵⁷

³⁵⁰ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [5].

³⁵¹ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [5B].

³⁵² NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [5E].

³⁵³ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [86].

³⁵⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [72.5].

³⁵⁵ Incenta Economic Consulting "Memorandum: Including a productivity assumption in opex forecasts" (3 August 2023), at 1.

³⁵⁶ Incenta Economic Consulting "Memorandum: Including a productivity assumption in opex forecasts" (3 August 2023), at 1 – 2.

³⁵⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [67].

- 6.35 Chorus disagreed with our draft decision and stated that it suggested that Chorus’ “[]”.³⁵⁸ Chorus argued that “[]”.³⁵⁹ []”³⁶⁰
- 6.36 Chorus disagreed with our draft decision to apply productivity factors of 1% and 3% based on efficiency assumptions developed by Ofcom in the UK.³⁶¹ It indicated that Ofcom’s productivity factors were developed to promote investment and competition in the fibre network, rather than for the purpose of revenue or price setting.³⁶² NERA submitted that our draft decision has inappropriately weighted Ofcom’s bottom-up entry.³⁶³ L1 Capital also submitted that the 3% efficiency factor is not supported and that significant differences exist between the UK fibre rollout and that of Chorus.³⁶⁴
- 6.37 Chorus submitted that the draft decision stated that it has exempted the IT component of the non-network costs from the 3% adjustment; however, the NERA report (on behalf of Chorus) considered it is unclear whether this exemption has been applied correctly.³⁶⁵
- 6.38 Analysys Mason (on behalf of Chorus) also submitted that given the assumptions that underlie Ofcom’s estimates, our draft decision does not apply them appropriately because:

³⁵⁸ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [73], confidential version.

³⁵⁹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [73], confidential version.

³⁶⁰ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [73], confidential version.

³⁶¹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [81].

³⁶² Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [82].

³⁶³ NERA “Chorus opex productivity target for PQP2 – Response to NZCC draft decision” (16 May 2024), at 20.

³⁶⁴ L1 Capital “Submission on draft expenditure decision for PQP2” (16 May 2024), at 2.

³⁶⁵ NERA “Chorus opex productivity target for PQP2 – Response to NZCC draft decision” (16 May 2024), at [44].

- 6.38.1 the draft reasons paper states that it adopts the same approach used by Ofcom by applying the same level of efficiency to equivalent expenditure types. The draft decision applies Ofcom’s 3% efficiency adjustment to non-network opex, excluding IT. However, Analysis Mason noted that Ofcom does not apply the 3% efficiency factor to non-network opex or network maintenance opex (only to network provisioning-related opex); and³⁶⁶
- 6.38.2 Ofcom’s bottom-up model used to estimate efficiency factors is not used to set prices.³⁶⁷
- 6.39 In addition, Analysys Mason’s report (on behalf of Chorus) set out that it had not identified that regulators in Belgium, Finland, Greece, Norway, Spain, and Sweden applied any opex efficiency factors in opex forecast for regulatory purposes.³⁶⁸ The Danish only applied a productivity gain of 0.63% of staff opex (meaning likely less than 0.5% of total opex), which is much smaller than our draft decision.³⁶⁹
- 6.40 Finally, Analysys Mason expressed concern that we have used a single source, which is an outlier among the approaches of a larger peer group of regulators as a benchmark.³⁷⁰
- 6.41 Chorus noted that we have previously accepted advice from CEPA that it is not appropriate to use parameters from other regulators without adequate scrutiny (specifically with respect to Ofcom’s beta estimates for the cost of capital), and questions why we have accepted the efficiency factors from Ofcom without scrutiny. It noted further that the approach taken was consistent with our earlier view that estimates of efficient opex should be based on Chorus’ actual costs, quoting us as previously writing that: “we believe that Chorus’ operating costs are the best objective starting point for estimating the network opex for a nationwide fixed line telecommunications network in New Zealand.”³⁷¹ CEPA responded to submissions which suggested using asset betas proposed by Ofcom in its Wholesale Fixed Telecoms Market Review by outlining the need to consider the nature of the regulatory framework, the context of previous decisions, and the characteristics of the regulated services when considering estimates adopted by other regulators.³⁷²

³⁶⁶ Analysys Mason “Report for Chorus: Approaches to forecasting FTTH/FTTP opex” (13 May 2024), at 5.

³⁶⁷ Analysys Mason “Report for Chorus: Approaches to forecasting FTTH/FTTP opex” (13 May 2024), at 5.

³⁶⁸ Analysys Mason “Report for Chorus: Approaches to forecasting FTTH/FTTP opex” (13 May 2024), at 6.

³⁶⁹ Analysys Mason “Report for Chorus: Approaches to forecasting FTTH/FTTP opex” (13 May 2024), at 8.

³⁷⁰ Analysys Mason “Report for Chorus: Approaches to forecasting FTTH/FTTP opex” (13 May 2024), at 8.

³⁷¹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [90].

³⁷² CEPA “Cost of capital for regulated fibre telecommunication services in New Zealand: Response to submissions on the Input Methodologies Draft Decision” (6 July 2020), at 6.

Step changes

Step change - compliance cost uplift

- 6.42 Chorus noted in its submission that our draft decision accepts only two of the three components of the compliance costs step changes. Chorus recommended that we approve the compliance step changes in full.³⁷³ It explained that the costs exceeded those incurred in the base year because new regulatory obligations only applied for the first time in 2023, so they are not reflected in 2022 costs.³⁷⁴
- 6.43 Chorus submitted that the third component relates to external assurance costs associated with operating under PQ and information disclosure regulation.³⁷⁵ These costs are unavoidable and arise directly due to the requirement that took effect in 2022, for which the main external audit requirement first occurred in 2023.³⁷⁶
- 6.44 It submitted that approximately 10% of the costs for preparing the PQ proposal and supporting our evaluation process were incurred in 2022.³⁷⁷ The work on PQP2 proposal commenced in 2022, but the bulk of costs fall in the penultimate and final years of PQP1.³⁷⁸
- 6.45 Chorus also set out that the costs stated in the draft decision do not accord with information it provided.³⁷⁹ It suggested in its submission that we might have used incorrect cost lines and might not have netted off the avoided costs of stopping 'old ID' audit.³⁸⁰
- 6.46 Chorus also responded to our assessment factors analysis and submitted that the main assumption is that Chorus will continue to be required (as part of PQP2) to externally audit the specified PQ and ID reports and compliance statements.³⁸¹

Step change – []

- 6.47 Chorus recommended that we approve the [] step change in the opex forecast.³⁸² Chorus submitted that there is uncertainty regarding the magnitude of this step change, but there is high confidence that this step will occur.³⁸³

³⁷³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [177].

³⁷⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [157].

³⁷⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [165].

³⁷⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [168].

³⁷⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [162].

³⁷⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [162].

³⁷⁹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [158].

³⁸⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [158].

³⁸¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [160].

³⁸² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [154], confidential version.

³⁸³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 8.

- 6.48 Chorus submitted that it has provided a detailed description on this step change and has responded to our analysis of assessment factors including that:
- 6.48.1 it has provided historical actual expenditure by expenditure sub-category from 2016 to 2022;³⁸⁴ and
- 6.48.2 it has provided a breakdown of costs and trends over time for each priority opex expenditure category and evidence for appropriate costs breakdown for each adjustment proposed.³⁸⁵
- 6.49 In regard to [], it has provided [].³⁸⁶
- 6.50 []³⁸⁷
[]³⁸⁸ At the conclusion of this process, the weighted average price increased by [] across capex and opex pricing.³⁸⁹ In achieving this, Chorus exhausted options which might enable significant future efficiencies.³⁹⁰
- 6.51 Chorus submitted that it estimated that the weighted average price will increase by []³⁹¹
- 6.52 Chorus also submitted that the cost pressure is exacerbated by []³⁹²

³⁸⁴ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [144].

³⁸⁵ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [144].

³⁸⁶ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [144], confidential version.

³⁸⁷ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [147], confidential version.

³⁸⁸ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [148], confidential version.

³⁸⁹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [149].

³⁹⁰ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [149].

³⁹¹ Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [150], confidential version.

³⁹² Chorus “Chorus submission on the PQP2 draft expenditure decision” (16 May 2024), at [151]-[151.3], confidential version.

Step change – IT optimisation benefits

- 6.53 In our draft decision, we included the amended IT optimisation opex savings of \$20.4m over PQP2 which equates to a further incremental opex reduction of \$7.7m over and above that proposed by Chorus.
- 6.54 In its submission, Chorus proposed we accept its IT efficiency gains of \$12.7m. Our draft decision assumed a higher level of savings would be achieved, but Chorus submitted that our analysis seems to be flawed.³⁹³ Chorus insisted that the draft efficiency adjustment reflects a level of efficiency gains that is greater than what could be expected over PQP2.³⁹⁴
- 6.55 Chorus submitted that there are three issues with the reasoning in the draft decision:
- 6.55.1 no evidence was provided for the 10% opex assumption, and this assumption was not made in PQP1,³⁹⁵
- 6.55.2 IT optimisation capex is invested in existing systems and platforms and does not trigger additional opex in order to upgrade or enhance these systems.³⁹⁶ The assumption in the draft decision does not reflect forecast costs for Chorus, nor do these costs form part of its proposal; and³⁹⁷
- 6.55.3 even if it is correct that IT optimisation investment will increase opex by 10% of the initial investment, Chorus' expenditure allowance should then increase because of this assumption, not decrease.³⁹⁸
- 6.56 Chorus submitted that its estimates of IT efficiency gains were conservative, which is consistent with our approach in PQP1.³⁹⁹ Chorus pointed out that there is a discrepancy between the value of additional efficiency proposed in our draft decision and the underlying modelling, and it requested us to clarify the working.⁴⁰⁰
- 6.57 Chorus (in its cross submission) reiterated its position as expressed in its submission on our draft decision.⁴⁰¹ It further submitted that the potential cost savings are calculated as the net impact on opex from the investment, while our approach used the gross opex saved from the investment.⁴⁰²

³⁹³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at 8.

³⁹⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [109].

³⁹⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [98.1].

³⁹⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [98.2].

³⁹⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [98.2].

³⁹⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [98.3].

³⁹⁹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [99].

⁴⁰⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [100].

⁴⁰¹ Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [27].

⁴⁰² Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [28].

- 6.58 Based on the NERA report, Chorus submitted that our draft decision has exempted the IT component of non-network costs from the 3% adjustment, but it is unclear whether the exemption has been applied correctly in the model.⁴⁰³

Reasons for our final decision

- 6.59 Our final decision is to determine an opex allowance of \$700.4m. This is a change from our draft decision.
- 6.60 We address the submissions received and discuss the reasons for our final opex decision in the following order, reflecting the structure of the BST methodology previously described:
- 6.60.1 Base year costs:
 - 6.60.1.1 selection of the base year;
 - 6.60.1.2 base year adjustments; and
 - 6.60.1.3 efficiency of the base year;
 - 6.60.2 Rate of change (trends) – trending base costs forward:
 - 6.60.2.1 application of Elasticities; and
 - 6.60.2.2 productivity and Efficiencies;
 - 6.60.3 Step changes:
 - 6.60.3.1 compliance cost uplift;
 - 6.60.3.2 []; and
 - 6.60.3.3 IT Optimisation benefits.
- 6.61 Within its submission on our draft decision, Chorus provided additional information relating to the opex sub-categories that form part of its opex allowance proposal for example corporate and maintenance expenditure. We have assessed this information where appropriate when determining the BST components of Chorus' opex forecast.

⁴⁰³ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [44].

Base year costs

Selection of the base year

- 6.62 Our final decision is to use 2022 as the base year for Chorus' PQP2 opex forecast.
- 6.63 In our draft decision we agreed with Chorus' proposal to the use of 2022 as a base year (opex assessment factor (a)).⁴⁰⁴ In its submission on our draft decision, Chorus continued to propose that 2022 should be the base year and that there would be practical concerns with 2023 being selected as a base year.⁴⁰⁵ The Independent Verifier also agreed that 2022 is an appropriate base year for the PQP2 expenditure.⁴⁰⁶
- 6.64 We agree with Chorus that there are practical issues with changing the base year for expenditure to 2023 at this point in the process. As such our final decision is to use 2022 as the base year for our final expenditure decision (opex assessment factors (a), (c), and (i)).

Marketing costs (base year costs)

- 6.65 Our final decision is to include \$108.5m in product, sales and marketing costs. Submitters welcomed our draft decision to not include the scaling of advertising costs by connection, but some RSPs expressed some concerns on our evaluation process of Chorus' marketing spend.
- 6.66 We acknowledge the concerns expressed by RSPs regarding marketing costs. We consider that based on information provided by Chorus the level of expenditure included in the draft (and consistent with what Chorus proposed) is not excessive at this point. However, as set out in our draft decision, we expect that Chorus can develop and improve the economic test that supports its proposal in the lead up to PQP3.⁴⁰⁷

⁴⁰⁴ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.23.1].

⁴⁰⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [113].

⁴⁰⁶ Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 20.

⁴⁰⁷ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.55].

- 6.67 We note that in coming to our final decision, we have not only relied on the comparison between Spark and Chorus' marketing expenditure when determining whether Chorus' proposed expenditure is reasonable. In reaching our draft and final decision, we also considered Chorus' proposed expenditure in the context of Chorus' historical expenditure (assessment factor (c)).⁴⁰⁸ We consider that this approach, comparing Chorus' proposed expenditure with its historical trend, is consistent with our assessment in PQP1.⁴⁰⁹

Base year adjustments

- 6.68 Our final decision is to include all the adjustments proposed by Chorus to base year costs. This is a change to our draft decision.
- 6.69 Our draft decision included all but one of the base year adjustments proposed by Chorus.⁴¹⁰ The exception was for self-insurance, where we considered that insufficient justification was provided to demonstrate the prudence and efficiency of the proposed uplift.⁴¹¹
- 6.70 In its submission, Chorus provided additional information on the self-insurance costs, which was not included in its proposal, including an actuarial report to support the self-insurance uplift. The proposed uplift is for a portion of the network not covered via existing insurance policies and will adjust Chorus' base year component of its opex forecast (BST).
- 6.71 Our final decision is to approve the base year adjustment uplift for self-insurance of \$1.2m for each year of PQP2. This equates to approximately \$5.4m over the regulatory period.
- 6.72 The actuarial report sets out the areas that Chorus is proposing to self-insure because insurance cover for these areas is not economically viable.⁴¹² The report states that Chorus self-insures for retained losses on insured assets (the amounts below and above the insured values).⁴¹³ It explains that this risk is compensated through a self-insurance premium based on an actuary's assessment of the cost carried by Chorus.⁴¹⁴

⁴⁰⁸ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.57].

⁴⁰⁹ Commerce Commission "Chorus' price-quality path from 1 January 2022 – Final decision: Reasons paper" (16 December 2021), at [4.368].

⁴¹⁰ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.23.3].

⁴¹¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.32].

⁴¹² Aon "Chorus Self Insurance Quantification" (26 June 2023), confidential.

⁴¹³ Aon "Chorus Self Insurance Quantification" (26 June 2023), confidential.

⁴¹⁴ Aon "Chorus Self Insurance Quantification" (26 June 2023), confidential.

- 6.73 We consider including the uplift as part of opex expenditure meets the expenditure objective having regard to assessment factor (d). The provision of the report in response to our draft decision provides an economic explanation to show how the uplift was determined using actuarial analysis.
- 6.74 While Chorus did not articulate its governance arrangements around its self-insurance, the report is evidence that it has followed a suitable process to determine the forecast insurance allowance based on identifying the scope of self-insurance and the methodology for estimating the cost of self-insurance (assessment factor (b)).
- 6.75 We issued a notice of intention in May 2024 that set out that we are beginning work on potential amendments to certain IMs under Part 4.⁴¹⁵ This notice states we have identified potential amendments to the IMs in respect of the treatment of insurance proceeds and other compensatory entitlements. As part of the Fibre IM review, we will consider the treatment of insurance and other compensatory entitlements under Part 6, including self-insurance entitlements and whether the fibre IMs need to be amended to deal with insurance arrangements differently in the future. This may involve considering whether there are similar policy concerns to that identified in Part 4.
- 6.76 We may also in future consider whether reporting requirements under ID should be amended to provide further transparency for the Commission and end-users on Chorus' self-insurance payments and policies. Unlike other expenditure items, where there is an observable payment to a third party or related party, there is no insurance payment. In approving this expenditure allowance, the Commission considers that an expenditure will be incurred for self-insurance and the allowance should not be fungible (ie, Chorus should not later claim to have spent the allowance on something else).
- 6.77 In regard to the other base year adjustments proposed by Chorus, our final decision is the same as our draft decision. We considered the proposed base year adjustments for advertising costs (\$2.2m in 2022), which were constrained in 2022 due to labour shortages, property maintenance cost adjustment of \$0.5m, and [] [] meet the expenditure objective. Chorus welcomed our draft decision on the base year adjustments (excluding self-insurance).

⁴¹⁵ Commerce Commission "Notice of Intention: Potential amendments to Input Methodologies for Electricity Distribution Services, Gas Transmission Services and Transpower" (20 May 2024).

Base year efficiency

- 6.78 In our draft decision we stated that Chorus had not provided sufficient information to demonstrate the efficiency of its base year costs. Following receipt of Chorus' submission and cross submission on our draft decision, we continue to consider that Chorus has not provided evidence that there is no more efficiencies could be made in to the base year costs.
- 6.79 We note that the Independent Verifier also considered the demonstration of base year efficiency problematic. It noted that "as a result of data limitations, Chorus is relying on a forecasting method not well suited to a regulated entity early on in its regulatory evolution, making demonstration of base year efficiency problematic."⁴¹⁶ It also noted that "in the absence of third party benchmark comparisons, or a well-established history of revealed cost outcomes, it is difficult to definitively confirm that Chorus' CY22 opex base year costs are efficient but nor can we definitively find that CY22 revealed costs are inefficient."⁴¹⁷ The Independent Verifier also noted "the absence of some important elements of the asset management system, such as portfolio management plans and rigorous, verifiable, and reliable asset data and a centralised cost estimation system currently weaken its ability to demonstrate assurance about the prudence and efficiency of its PQP2 forecast expenditures".^{418,419}
- 6.80 In its submission and cross submission on our draft decision, Chorus continued to state that its 2022 costs were efficient.⁴²⁰ It stated that there is no possibility for further efficiencies to be made.⁴²¹ These statements are repeated a number of times by Chorus and also noted by NERA.⁴²²
- 6.81 Chorus has provided some additional information by presenting its opex per connection relative to the LFCs.⁴²³ While this provides some evidence of relative efficiency, without further supporting information on the base year costs themselves, it is difficult to determine if the difference between Chorus and LFCs are simply due to economies of scale or are a result of efficient operation of an entity of the size, scale and development stage of an organisation the size of Chorus.

⁴¹⁶ Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 216.

⁴¹⁷ Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 216.

⁴¹⁸ Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 4.

⁴¹⁹ We note that the independent verifier was satisfied about CY22 base year efficiency in its final report.

⁴²⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [137]; Chorus "Chorus cross-submission on the PQP2 draft expenditure decision" (6 June 2024), at [10].

⁴²¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [36].

⁴²² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [48].

⁴²³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), Figure 3.

- 6.82 NERA considered that considerable catch-up efficiencies are already accounted for within Chorus' proposed PQP2 opex.⁴²⁴ While we accept this may be true, from the observation of the cost profile associated with total unallocated costs, it is far from clear whether the reduction in costs is simply due to the combined impact of Chorus' historical separation from Spark and the transition from build to operate, or is a result of efficiency improvements in Chorus' underlying operating costs as a fibre network operator. Once again, other than statements stating that catch-up efficiencies are already accounted for, in our view it appears that no additional supporting information was provided by NERA to support the claim.
- 6.83 In addition, Chorus also explained in its submission that the transition from 'build' to 'operate and maintain' phase was largely completed in 2022.⁴²⁵ In other words, that transition was still underway in 2022 and as such 2022 still contained an element of transition costs. We are also cognisant that Chorus' transition out of copper was (and still is) far from complete in 2022.
- 6.84 Accordingly, in our view the 2022 costs are unlikely to be as efficient as Chorus claim,⁴²⁶ due to the transitional nature of the 2022 costs, and the absence of historical information provided to support such claims (opex assessment factor (d)).
- 6.85 As such, while our final decision is to not amend the base year costs to account for the likely opportunities for catch-up efficiencies that exist within the base year costs, we expect these efficiencies to be shared with consumers in PQP3.

Rate of change – trending the base costs forward

Elasticities applied to reflect the growth in outputs

- 6.86 Our final decision is to use the elasticities proposed by Chorus to trend the base year costs (base year 2022 costs plus base year adjustments) forward. The exception to this being, as per our draft decision, our application of an elasticity of zero on advertising, based on our view that this cost category is more likely to be a constant expense in real terms over the period.

⁴²⁴ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [60].

⁴²⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [119]-[121].

⁴²⁶ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.26].

- 6.87 In our draft decision we considered that there were fundamental issues with Chorus' use of the EDB elasticities such as the high likelihood that the underlying cost structures are substantially different between the two industries (opex assessment factors (a), (b), (f), and (j)).⁴²⁷ Chorus set out in its submission that while the underlying costs structures are different, the outcome of applying the selected elasticities is reasonable.⁴²⁸ In our view Chorus' statements are contradictory. We continue to hold the view that the EDB elasticities are unlikely to accurately reflect the change in costs associated with and increasing size of network and FFLAS connections. We note that, as demonstrated by NERA, given the lack of available Chorus specific information, the analytical rigour required to support Chorus' position is unlikely to be possible at this point in time. As an example of the level of analysis required to support the establishment of elasticities, refer to the analysis we undertook for the draft DPP4 decision.⁴²⁹
- 6.88 We also note that the purpose of the elasticities is to scale the projected opex costs to reflect the impact that a growth in output will have on costs. As a result of the lack of historic information to support the determination of the selected elasticities, it is difficult to demonstrate whether the selected elasticities are in fact conservative (ie, they understate costs). Chorus seems to also suggest that the use of conservative elasticities means that productivity gains are inherently accounted for within the forecast costs. We disagree with this position because elasticities (or scale efficiencies) typically account for growth and scaling opex to reflect the growth, rather than underlying efficiency improvements. As such, accounting for growth and considering efficiency improvements are two separate exercises. We also note that efficiency factors should be applied to the whole cost base where as elasticities would apply to growth opex meaning only accounting for efficiencies in the elasticities could understate required efficiency adjustments.
- 6.89 Chorus submitted that our draft decision implied that the use of EDB elasticities overstates the opex expenditure.⁴³⁰ With the absence of information on which to determine the accuracy of the elasticities it is not possible to determine whether the proposed elasticity either under- or overstated the opex expenditure. However, as we described in our draft decision, it also means that we are not in a position at this time to determine alternative elasticities that would more accurately forecast the impact that output growth would have on Chorus' opex.⁴³¹

⁴²⁷ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.37].

⁴²⁸ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [52].

⁴²⁹ Commerce Commission "Default price-quality paths for electricity distribution businesses from 1 April 2025 – Draft decision: Reasons paper" (29 May 2024), Attachment C.

⁴³⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [56].

⁴³¹ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.38].

- 6.90 As set out in the draft, we have concerns with the use of EDB elasticities and we continue to consider the accuracy of the proposed elasticities is unknown. However, at this time and given the level of information available to utilise or calculate an alternative, our final decision is to use the elasticities proposed by Chorus for the PQP2 forecast (opex assessment factor (c)).
- 6.91 However, we would expect that the quality and level of information provided by Chorus in support of using these types of assumptions within Chorus' forecasts (for both opex and capex) to be substantially improved for PQP3.
- 6.92 As noted above, our final decision does not include the growth rate on advertising costs. Submitters supported our draft decision and as such our final decision remains unchanged from our draft decision.⁴³²

Productivity and efficiency

- 6.93 Our final decision is to include the following:
- 6.93.1 a 1% efficiency applied to network related opex costs; and
 - 6.93.2 a 0.5% efficiency for non-network costs. The 0.5% efficiency on non-network efficiency reduction is not applied to information technology opex costs and electricity costs where downward steps changes have been applied (as discussed further below).
- 6.94 Having reviewed the submissions received, we have further considered what efficiencies would be reasonably expected in the underlying costs over the PQP2 period from a prudent and efficient fibre network operator and its application to Chorus at this time (opex assessment factors (b), (d), and (g)).
- 6.95 Chorus (NERA, Incenta and Analysys Mason as part of Chorus' submission) made a number of submissions on our draft decision selection of efficiencies and the application of those within our draft decision. Chorus:
- 6.95.1 considered that its selected elasticities are conservative, and productivity is already accounted for within the use of the selected elasticity factors.⁴³³ As such, application of further efficiency factors are unwarranted;⁴³⁴

⁴³² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [35]; One NZ "One NZ submission on the draft decision on Chorus' expenditure allowance for PQP2" (16 May 2024), at [4]; 2degrees "Chorus' expenditure allowances for the second regulatory period (2025-2028): 2degrees' Submission in response to Commerce Commission consultation" (May 2024), at 2.

⁴³³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [54] and [72.1].

⁴³⁴ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [72] – [72.5].

- 6.95.2 argued that the use of a 0% productivity factor is appropriate, and our draft decision has not provided the details or rationale for rejecting it;⁴³⁵
- 6.95.3 submitted that our use of Ofcom efficiency factors in our draft decision is inappropriate.⁴³⁶ The determination of the efficiency factors we used are unsupported by an appropriate level of consultation within the UK environment.⁴³⁷ Chorus' position on the suitability of the efficiency factors used in the draft decision was supported by NERA and Analysys Mason, documented in the reports attached to Chorus' submission; and⁴³⁸
- 6.95.4 stated the application of the efficiency factors double counted the efficiencies already accounted for by the savings made by the IT opex and solar step changes.⁴³⁹ This position was supported by analysis from NERA.⁴⁴⁰
- 6.96 NERA and Incenta cited typical frontier shift targets used in New Zealand and Australia being in the range of 0% to 0.5%, which NERA points out expands to 1.25% when considering the UK. Analysys Mason pointed to efficiency factors in Denmark of 0.63%. NERA noted that Chorus' historic efficiency gain has been in the order of 1.9% per year, which includes catch-up that is no longer occurring in PQP2 and so is unlikely to be sustainable. All the quoted efficiencies are lower than the 3% non-network efficiency set out in our draft decision and the references to typical Australian and New Zealand frontier targets include both telecommunication and non-telecommunication sectors.
- 6.97 NERA suggested that the analysis used by Ofcom for copper-based wholesale local access (WLA) services is more comparable to that being applied to Chorus.⁴⁴¹ It considered that the Commission has incorrectly applied the Ofcom fibre efficiency targets in the draft decision, in distinguishing between network and non-network opex.⁴⁴²

⁴³⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [68].

⁴³⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [45.5].

⁴³⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [81].

⁴³⁸ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [71]; Analysys Mason "Report for Chorus: Approaches to forecasting FTTH/FTTP opex" (13 May 2024), at 5-6.

⁴³⁹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [67]-[68].

⁴⁴⁰ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at 12 – 13.

⁴⁴¹ NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [77].

⁴⁴² NERA "Chorus opex productivity target for PQP2 – Response to NZCC draft decision" (16 May 2024), at [76].

- 6.98 We note that Ofcom’s WLA benchmark was set at 3.5%. Our draft decision also recognised that the broad network and non-network categories do not exactly match those used by Ofcom.
- 6.99 Chorus’ breakdown of expenditure into cost categories was insufficiently detailed for a BST analysis. This in itself restricted a more accurate implementation of the efficiencies.
- 6.100 In response to submissions on the appropriateness of using Ofcom’s efficiencies in our draft decision we make the following observations:
- 6.100.1 in its Wholesale Fixed Telecoms Market Review⁴⁴³ for the regulatory period 2021 - 2026, Ofcom specified separate efficiency targets for active legacy services and new fibre services;
 - 6.100.2 while the Ofcom model may not be used for setting prices for fibre services, its purpose was to support Ofcom in exploring options for regulatory decisions.⁴⁴⁴ The model was largely based on Openreach network and cost data, and the model outputs were validated against information from Openreach and other network operators;
 - 6.100.3 in developing the model there were opportunities for stakeholders to scrutinise the Ofcom model through several rounds of consultation, on which multiple submissions were received. Hence, while the consultation was undertaken for a different purpose than setting PQ regulation, the suggestion by Analysys Mason⁴⁴⁵ that the model was subject to limited scrutiny does not appear to be supported; and
 - 6.100.4 within the Ofcom model, explicit efficiency factors are applied to some opex elements, while others are subject to indirect influences (via capex efficiency factors and price trends that incorporate efficiency improvements).

⁴⁴³ Ofcom (2021), *Promoting investment and competition in fibre networks: Wholesale Fixed Telecoms Market Review 2021-26*, 18 March 2021. Available at <https://www.ofcom.org.uk/consultations-and-statements/category-1/2021-26-wholesale-fixed-telecoms-market-review>.

⁴⁴⁴ Based on our review of the Ofcom process.

⁴⁴⁵ Analysys Mason “Report for Chorus: Approaches to forecasting FTTH/FTTP opex” (13 May 2024), at 5.

- 6.101 We note that both efficiency factors applied to Chorus in our draft decision were lower than Ofcom’s WLA benchmark, which as noted above, was set at 3.5%. Ofcom initially proposed an opex efficiency target of 3.5% to 6.5% and capex efficiency target of 1.0% to 5.0%.⁴⁴⁶ Ofcom’s analysis of Openreach’s historical information and forecasts suggested that, adjusting for inflation, historically Openreach had achieved 4.4% efficiency and it forecast efficiency gains of 5.3%. However, Openreach claimed that a ‘more appropriate’ opex efficiency target was 0.5% to 3.5% and as a result Ofcom settled on 3.5%.
- 6.102 In a similar vein, we also note that as part of Chorus’ proposal, NERA’s paper pointed to a regulatory precedent across jurisdictions with a range of productivity factors for frontier shifts between 0% and 1.25% which is further extended to 3.5% when historical catch-up is included.⁴⁴⁷ NERA’s analysis was cited by the Independent Verifier in its review of Chorus’ opex costs.⁴⁴⁸ The 3% efficiency we applied to the non-network costs was lower than the 3.5% cited by NERA and the 1% efficiency on network costs was within the broader range quoted.
- 6.103 Analysys Mason (as part of Chorus’ submission) submitted that our selection of efficiency factors were outliers.⁴⁴⁹ In regard to consideration of efficiencies applied in jurisdictions other than the UK, Analysys Mason suggests two potentially relevant benchmarks, from Denmark and France.
- 6.104 We do not agree with Analysys Mason that the Ofcom efficiencies are outliers among approaches of a larger peer group of regulators:
- 6.104.1 based on a Danish bottom-up long-run average incremental cost regulatory model, Analysys Mason claimed that there is an effective productivity gain of 0.63%.⁴⁵⁰ However, we note the model incorporates a number of adjustments in addition to its productivity index to reflect the costs of an efficient operator. Testing the effect of the productivity index alone under-estimates the impact of all the opex efficiency adjustments applied in the model;

⁴⁴⁶ Ofcom (2021), *Promoting investment and competition in fibre networks: Wholesale Fixed Telecoms Market Review 2021-26*, 18 March 2021, Annex 14, paragraph A14.80. Available at <https://www.ofcom.org.uk/consultations-and-statements/category-1/2021-26-wholesale-fixed-telecoms-market-review>.

⁴⁴⁷ NERA “Regulatory period 2 – Recommended options for applying a base-step-trend model” (June 2023), at 32.

⁴⁴⁸ Synergies Economic Consulting “Independent verification report – Chorus’ PQP2 expenditure proposal (CY2025-2028)” (31 October 2023), at 219.

⁴⁴⁹ Analysys Mason “Report for Chorus: Approaches to forecasting FTTH/FTTP opex” (13 May 2024), at 8.

⁴⁵⁰ Analysys Mason “Report for Chorus: Approaches to forecasting FTTH/FTTP opex” (13 May 2024), at 6.

- 6.104.2 the regulatory fibre cost models of the Analysys Mason peer group of six other European regimes are based on methodologies in which efficiency adjustments are not required. The starting point for such methodologies is a hypothetical efficient operator rather than an actual operator with inefficiencies; and
- 6.104.3 we have looked at three additional benchmark jurisdictions (Australia, the Netherlands and Norway) using a similar approach that Analysys Mason used to derive an implied efficiency adjustment from the French example, ie, using opex cost trends expressed in real terms. The indicative benchmark range from this sample (including France) is 0.0% to 4.2%.
- 6.105 As noted previously, like NERA's analysis, the examples from Analysis Mason and the additional examples from Australia, the Netherlands and Norway demonstrate that the selection of efficiency factors we utilised within our draft decision fall within the range of productivity utilised across other jurisdictions.
- 6.106 Having considered Chorus' submission and the supporting information provided by NERA, Incenta and Analysys Mason, we consider the efficiencies, applied in our draft decision are within the range that other jurisdictions utilise and within the range of efficiencies that would be expected from a prudent and efficient fibre network operator.
- 6.107 In our view, the use of a zero productivity/efficiency factor within the PQP2 opex forecast for either non-network or network costs does not meet the expenditure objective.
- 6.108 We also consider that the forecast of benefits applied to specific line items (such as the IT optimisation benefits, and the solar efficiencies discussed further below) do not necessarily capture the entire scope of efficiency gains in opex that would be expected to be made by a prudent and efficient fibre network operator over the period.
- 6.109 As such, we consider it reasonable to expect an ongoing efficiency gain even from a prudent and efficient fibre network operator. Given the ongoing transitional nature of Chorus' business it is reasonable to expect efficiencies to be gained over the PQP2 period. This is also consistent with the expectation of efficiency gains from telecommunications network operators within other jurisdictions, and the regulatory settings adopted by other regulators.⁴⁵¹

⁴⁵¹ This point has been adeptly demonstrated by NERA, Incenta, and Analysys Mason.

- 6.110 However, we do accept that when considering the range of the efficiencies expected across jurisdictions, the magnitude of the efficiency applied in our draft decision is at the high end of the range. Our final decision is to use a 0.5% efficiency for non-network costs.⁴⁵²
- 6.111 In regard to network related opex costs, it is clear that Chorus is still in the midst of transitioning away from the copper network. We note that within the information provided by Chorus in its proposal, significant volumes of copper connections continue to exist over PQP2, albeit at a declining rate. The Independent Verifier noted similar concerns stating []⁴⁵³ Therefore, as stated in our draft decision, we consider it is reasonable to expect a prudent and efficient operator to realise efficiencies as the field operations are rationalised. Hence, our final decision is to apply a 1% efficiency factor to network related opex costs. This is the same as our draft decision.

Summary of our final decision on productivity

- 6.112 We have considered the points raised by Chorus, NERA, Incenta, and Analysys Mason on productivity and efficiency adjustments to Chorus' opex forecasts.
- 6.113 We consider it is likely that Chorus has not sufficiently accounted for efficiencies in its proposal. In the absence of specific evidence and data from Chorus to conduct efficiency analysis, and evidence suggesting efficiency gains are possible (greater than zero) we consider it appropriate to look at benchmarks. As such we have taken a wider view of available benchmarks than in our draft.
- 6.114 Accordingly, our final decision on productivity and efficiencies is as follows:
- 6.114.1 **inclusion of 1% annual efficiency gain on network costs.** We continue to consider that it is highly likely for there to be opportunities for efficiency improvements to network opex related costs as Chorus continues to transition out of copper. We consider there will likely be opportunities to [] and associated network costs and as such our final decision is to include 1% efficiency annually. This is the same as we included within our draft decision;

⁴⁵² As noted previously NERA point to a range of 0% to 1.25% and our own analysis (see paragraph 6.103) suggests an equivalent range of 0% to 4.2% efficiencies has been used by other regulators.

⁴⁵³ Synergies Economic Consulting "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 219-220.

6.114.2 **inclusion of a 0.5% efficiency adjustment for non-network costs.** As noted above, we consider that a 0.5% efficiency reduction in each year for non-network costs is appropriate for Chorus at this time, excluding information technology and electricity costs. As submitted by Chorus, consideration of other jurisdictions outside of the UK results in a lower efficiency than the one we applied in our draft decision and 0.5% falls within the clear range noted by NERA, Incenta, Analysys Mason (ie, 0-1.25%), and our own analysis of a wider set of jurisdictions. We do not consider it is appropriate to set this number at 0% due to the newness of Chorus' fibre business, and ongoing technological changes in the sector. However, the 0.5% is below the midpoint of Incenta's range reflecting the initiatives and incentives already in place on Chorus to pursue efficiencies. Our final decision is a change from our draft decision; and

6.114.3 **removal of the efficiency adjustment from specific non-network cost lines in the model.** In our draft decision we stated that the efficiency adjustment was not applied to the IT opex and electricity costs. Upon review of the implementation of our draft decision within Chorus' opex model, we agree with NERA that the efficiency was incorrectly applied to the IT costs and the electricity costs. Our final decision is to remove any efficiency from the information technology and the electricity costs. This is the same as our draft decision, with corrected implementation.

Step changes

6.115 Our final decision is to:

6.115.1 include the full step change for Chorus proposed for compliance costs. This is a change from our draft decision where we did not include a small portion of these costs;⁴⁵⁴

6.115.2 not include the step change for []. This is the same as our draft decision;

6.115.3 include a reduction of \$14.9m for IT optimisation. Our final decision also changes the implementation of the IT optimisation to apply at an unallocated level, in order to more accurately account for changes in allocation; and

6.115.4 include a reduction of \$1.2m for opex savings that result from Chorus' investment in solar. Our final decision is the same as our draft decision.

6.116 Our final decision for each of these is discussed below.

⁴⁵⁴ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.35].

Step change in compliance costs

- 6.117 Our final decision is to include the uplift in compliance costs for PQP2. This is a change from our draft decision.
- 6.118 Chorus submitted that the costs provide for the additional compliance requirements for PQP2 compared to what existed in the base year.
- 6.119 In our draft decision we considered that the costs associated with compliance obligations are likely to have already been incorporated into the base year costs and Chorus had not explained the proposed uplift such that we considered they were efficient costs of a prudent fibre operator.
- 6.120 Having reviewed Chorus' submission and the information provided, we now consider that these additional costs proposed by Chorus are likely to be required, and reflect efficient costs of a prudent fibre operator. Accordingly, we have accepted that the uplift for compliance costs should be included. This approach is consistent with our approach to assessing and approving the adjustments Chorus proposed to its base year costs.

Step change in []

- 6.121 Our final decision is to not include the [] uplift. This is the same as our draft decision.
- 6.122 Chorus submitted that while the cost pressure on [] is primarily a function of scale, the cost pressure is exacerbated by increasing [].⁴⁵⁵ It also considered that it has exhausted options that might enable significant future efficiencies.⁴⁵⁶ As such it considers a step change in [] is justified to incorporate likely increases as [] within the PQP2 period. Chorus stated that [].⁴⁵⁷
- 6.123 While we agree with Chorus and consider there is likely to be some increases in the [], as we stated in our draft decision, we consider there is considerable uncertainty in the quantum of the proposed uplift.⁴⁵⁸

⁴⁵⁵ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [151], confidential version.

⁴⁵⁶ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [149].

⁴⁵⁷ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [140], confidential version.

⁴⁵⁸ Commerce Commission "Chorus' expenditure allowances for the second regulatory period (2025-2028) Draft decision – Reasons paper" (18 April 2024), at [7.34].

- 6.124 In our view, Chorus did not provide the information necessary to demonstrate that the proposed step change meets the expenditure objective and the assessment criteria (opex assessment factors (b), (c) and (j)). We note that Chorus already accounts for increases in the scale of [] by its selection of elasticities, which it considers to be accurate. Chorus will also receive increases in nominal costs through the application of escalators. We note that in the information provided, Chorus does not present that expected change in real costs going forward, but instead relied on historical figures based on circumstances which will not be present going forward. In addition to these issues, and as noted above in the discussion on our final decision to apply a 1% efficiency factor, we consider there are highly likely to be opportunities for rationalisation as Chorus transitions out of copper to a fibre centric business.
- 6.125 Accordingly, our final decision is not to include the step change in []. We do not consider that the information provided by Chorus in its proposal and submissions supports the case for a step change to increase the [] beyond those allowed for by the application of Chorus' selected elasticities, PQP2 escalators and cost allocation (opex assessment factors (b), (c) and (j)).

IT optimisation capex / opex trade-off – savings resulting from investment

- 6.126 Our final decision is to include IT optimisation of \$14.9m. The forecast opex is reduced by IT optimisation amount to reflect the expected savings that result from the IT optimisation capex investment. We have also amended the expected savings amount from our draft decision to more accurately implement the IT benefits at an allocated cost level. Our final decision is a change from our draft decision, which included a reduction of \$20.4m.
- 6.127 In response to our draft decision, Chorus submitted that it did not agree with our calculation of the IT optimisation benefits.⁴⁵⁹ Chorus proposed that it was conservative in its proposed estimates of the benefits that arise from IT optimisation capex ([]),⁴⁶⁰ that it calculated the benefits over the lifetime of the assets, and was consistent in its approach to the calculation with the method we used our PQP1 decision.⁴⁶¹ It also considered that in most cases the IT optimisation capex is invested in existing systems and platforms and does not result in additional opex, and as such the assumptions we used in our estimation of the benefits do not reflect forecast costs for Chorus.⁴⁶² Chorus further stated that we did not provide any evidence to support the 10% opex assumption within our model.⁴⁶³

⁴⁵⁹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [97] – [98].

⁴⁶⁰ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [99].

⁴⁶¹ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [99].

⁴⁶² Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [108].

⁴⁶³ Chorus "Chorus submission on the PQP2 draft expenditure decision" (16 May 2024), at [98.1].

- 6.128 We accept the explanation from Chorus (opex assessment factors (d) and (j)). Accordingly, for our final decision we have removed the 10% opex component of our benefit calculation.
- 6.129 In regard to the other components of our calculation of the IT optimisation benefits included in our draft decision, we continue to consider that aspects of Chorus' benefits model are unrealistic. For example, Chorus assumes that the full benefits of an IT project would be realised in the year in which the investment is made (opex assessment factor (j)). We note that if we utilised the benefits model used in PQP1, the reduction in opex would have been greater than what we have accounted for in our PQP2 opex decision.
- 6.130 In its submission on our draft decision Chorus provided additional information which demonstrated that the implementation of the IT benefits within the opex model should be refined. Previously our draft decision was applied at an allocated FFLAS only level within the opex model. However, by more accurately implementing the IT benefits at an unallocated cost level, any changes to the associated allocation would be reflected through into FFLAS terms (opex assessment factors (c) and (j)). Implementation of this results in a step change in FFLAS of -\$14.9m over PQP2.

Step change – opex savings from solar investments

- 6.131 Our final decision is to include Chorus' proposed opex savings that result from its solar capex investments (\$1.2m over PQP2). Our final decision is the same as our draft decision and we did not receive any submissions on the proposed saving amounts for solar investment. As we stated in our draft decision, we have no reason to expect that the proposed opex reductions will not be achieved.

Application of allocators

- 6.132 Our final allocator decision is described above in paragraph 3.3. The application of our final decision on allocators results in a change to Chorus' proposal of \$12.7 million.

Consideration of good telecommunications industry practice, and s 166(2)

- 6.133 Having considered the submissions provided in response to our draft decision, and as described in this section, we consider the combination of our final decisions on the components that make up the opex forecast for PQP2 resulting in an opex expenditure of \$700.4m meets the evaluation criteria we have utilised for opex, reflects good telecommunications industry practice and is most likely to best give effect to the s 166(2) and s 162 purposes.

Attachment A List of RFIs

- A1 We issued Chorus a number of RFIs to get the information required to make a draft decision on Chorus' expenditure allowance for PQP2. Table A1 below contains a list of expenditure related RFIs sent to Chorus.
- A2 Ninety RFIs were raised prior to publication of our draft decision. Following publication of the draft decision, we raised a further four RFIs (numbers 91 to 94) to Chorus clarifying points identified in submissions or from the original proposal.

Table A1 List of Chorus RFIs

No	Topic/Theme	Final subject
1	Chorus MAR model	Draft of Initial building blocks revenue model and supporting information
2	Demand forecasting	Demand models
3	Deliverability	Scope and outcomes from the market testing for network extension
4	Deliverability	FSP performance v KPIs over the last 12 months
5	Resilience	Resilience expenditure forecast models
6	Resilience	Economic and impact analysis for the benefit of end-users
7	Standard Installations	RSP incentive capex model
8	Opex	Opex models and additional evidence for trends, steps and base year adjustments
9	Cost allocation	Clarification on cost allocators
10	Augmentation - fibre frontier	Financial model for fibre frontier
11	Access	ONT, OLT models
12	Access	ONT, OLT vendor roadmaps
13	Aggregation and transport	Technology roadmaps and asset management plans
14	Aggregation and transport	Aggregation and transport models
15	Aggregation and transport	The optimised network plan
16	Business IT and network and customer IT	ICT strategy document
17	Field sustain	Pole model(s) and asset management plans
18	Field sustain	Field sustain models
19	Stakeholder engagement	Kantar terms of reference
20	Port utilisation	Benchmark forecasts source
21	Port utilisation	Base traffic assumed
22	Port utilisation	Time period for the time series methodology
23	Port utilisation	Observations input into the time series methodology
24	Port utilisation	Time series methodology weighting
25	Port utilisation	Clarification regarding whether Chorus has fit data with an exponential curve

No	Topic/Theme	Final subject
26	Availability	Customer service areas and relevant points of interconnection
27	Augmentation - fibre frontier	List of areas where fibre frontier is planned to be rolled out
28	Stakeholder engagement	Information supporting stakeholder engagement
29	Stakeholder engagement	Information supporting stakeholder engagement
30	Capex	IT capex model
31	Chorus MAR model	Nelson-Siegel spreadsheet
32	Cost escalators	Capex - RPE indices calc of hardcoded weightings
33	Cost escalators	Opex - RPE indices calc of hardcoded weightings
34	Cost escalators	Tables for other indices - LCI all, PPI outputs all, PPI outputs and CGPI
35	Business plan	Chorus' 10-year business plan
36	Availability	Clarification re POI CSA mapping
37	Port utilisation	Clarification re downtime data between overlapping time periods
38	Demand forecasting	Adjustments applied to the market model
39	Demand forecasting	Updated actuals data for the connections model
40	Revenue allocator	Change to revenue allocator over time
41	Revenue allocator	Fibre Frontier forecast impact
42	Revenue allocator	GCP and building block impacts on allocations by revenue
43	Revenue allocator	Copper withdrawal plans
44	Fibre frontier	Calculations on wholesale revenue
45	Fibre frontier	Fibre replacement in fibre frontier
46	Fibre frontier	Uptake rates
47	Opex	Business case information for solar panel investments
48	Site sustain	Models and forecast information relating to Chorus' proposed earthquake strengthening work
49	Demand forecasting	Driver used for costings purposes
50	Access	ONT strategy modelling
51	Opex	Negative opex amounts
52	Resilience	More information relating to resilience expenditure forecast models
53	Demand forecasting	Clarification of model interactions
54	Demand forecasting	Forecasts of consumer services
55	Demand forecasting	Forecasts of business services
56	Demand forecasting	Forecasts of networks and hyperfibre
57	Demand forecasting	7(b) summary monthly (1.13a)
58	Demand forecasting	Growth rate
59	Demand forecasting	Connection forecast input
60	Field sustain	Additional documentation for pole and fibre replacement

No	Topic/Theme	Final subject
61	Field sustain	Information on PQP1 delivery
62	Field sustain	Unallocated expenditure
63	Field sustain	Clarification on proactive replacement
64	Opex	Opex models
65	IT capex	IT optimisation capex
66	Resilience	More information on resilience expenditure forecast models
67	Cost escalators	Application of cost escalator weightings to proposed expenditure sub-categories
68	Demand forecasting	Sales and operations planning model
69	Incentive capex	Clawback models
70	Incentive capex	Clarification on calculations
71	Incentive capex	Clarification on growth rate
72	Cost allocator	Service company overhead
73	Incentive capex	Sensitivity analysis
74	Demand forecasting	Market Model clarifications
75	Demand forecasting	Connections model clarifications
76	Demand forecasting	Bandwidth model - model scope
77	Demand forecasting	Bandwidth model – clarifications re consistency with connections model
78	Demand forecasting	Bandwidth model - assumed traffic growth
79	New quality standard	Provisioning data for 2023
80	Infill	Clarification on infill capex
81	Connection capex allowance	Forecasting method for connection capex unit costs
82	Pricing	Pricing 300/100 plan
83	Pricing	Migration from 300/100 plan
84	Wash-up balance	Wash-up balance in relation to allocators
85	Aggregation and transport	Additional supporting models
86	Connection capex allowance	Clarification on connection capex model
87	Incentive capex	Actual incentive capex paid 2022 - 2023
88	Fibre frontier	Communal fibre rollout in stage 1
89	Fibre frontier	Fibre frontier financial model clarifications
90	Incentive capex	Additional information on incentive payment design
91	IT Optimisation	Clarification of Chorus' interpretation of draft Commission decision
92	Opex model	Provision of updated opex model following draft decision
93	Connection capex	Annual estimate of connections accounting for fibre frontier change
94	Opex model	Clarification on updated opex model