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1 Introduction

This document provides documentation for the opex allocation (i.e. allocation of operating costs as described in 2.1.1 of the IM Determination) that was performed as part of the opex workstream of the building block model (BBM) Analysys Mason was commissioned to develop for Chorus. Though it can be reviewed as a standalone document, this is a supplement to the Excel workbook “BBM Opex Allocation v3.31.xlsm”.

The calculation starts off with opex data from the general ledger (GL) actuals (financial years FY12-FY20) and allocates this opex into 109 expense categories¹. Data for FY21-FY25 from the new 5-year plan is allocated directly to the expense categories.

The opex for each expense category is then allocated to services using a choice of 44 allocation drivers². Please note that the 44 allocation drivers include drivers that allocate directly to either FFLAS or non-FFLAS services. Those direct allocation drivers may not be considered true “cost allocators” by the Commission in the sense of the IM Determination but they are needed to allow a full reconciliation of all total costs

The output of the model consists of 2 tables which contains the opex allocated to each service category for each year³. The BBM Initial Asset Value (IAV) model links to these tables.

The decisions of which expense categories should be used for each GL item (i.e. a “G/L Account” or a combination of “G/L Account” and “Cost Center”) and which allocation driver should be used to allocate each expense category allocation to services (i.e. how to implement the accounting-based allocation approach defined in the IM Determination) were made after extended discussions between Analysys Mason and Chorus, and after weighing up of alternative options.

1.1 Structure of document

The remainder of this document is laid out as follows:

- Section 2 discusses where to find responses to the notice to supply information and compliance with the IM Determination
- Section 3 describes the flow of the opex calculation and the mechanisms used allocate the GL and forecast opex data to the various service categories

¹ Listed in named range “list.expenses.categories” in the “Lists” sheet of the model

² Listed in named range “list.expenses.categories.allocation.driver” in the “Lists” sheet of the model

³ The first table includes a reallocation of common costs as an Equi-Proportional Mark-Up (EPMU) while the second table keeps the common costs as a separate service category.

- Section 4 describes the expense categories used for each opex type and details the choice of allocation driver for each of those categories for allocation of the expense category to service categories. The opex types are considered in four functions:
 - Section 4.1: Customer and Network Operations (CNO)
 - Section 4.2: IT related opex from the CTO department
 - Section 4.3: Marketing & Sales
 - Section 4.4: Corporate
- Section 5 describes how allocation drivers are used to allocate opex from expense categories onto service categories in order to produce the final output for the BBM IAV model
- Annex A describes how the data provided by Chorus was used to create allocation drivers for unmixed expense categories
- Annex B describes how the data provided by Chorus was used to create allocation drivers for mixed expense categories
- Annex C is a glossary for acronyms and definitions used throughout the documentation.

2 Where to find responses to the notice to supply information and compliance with the IM Determination

In this section we discuss:

- Where to find responses to the notice to supply information in Section 2.1
- Compliance with the IM Determination in Section 2.2

2.1 Where to find the responses to the notice to supply information

Figure 2.1 below signposts where the responses to the notice to supply information can be found.

Figure 2.1: Where to find the responses to the notice to supply information [Source: Analysys Mason, 2021]

Reference	Section heading	Where to find the responses
B5.3	the final AM Opex Model; and	Excel workbook “BBM Opex Allocation v3.31.xlsm”
B5.4	relevant documentation for the final AM Opex Model, including an explanation of:	This document
B5.4.1	the underlying assumptions used in the final AM Opex Model; and	This document
B5.4.2	how the various parts of the final AM Opex Model interact with other parts of the final AM Opex Model.	Figure 3.1
B6.2	an explanation of how the final AM Opex Model complies in all material respects with the relevant requirements in the IM Determination, including:	Section 2.2
B6.2.1	clause 3.3.1(8) of Attachment B of the IM Determination; and	Section 2.2
B6.2.2	clauses B1.1.2(2)-(9) of Schedule B of Attachment B of the IM Determination; and	Section 2.2
B6.3	an explanation of how the cost allocators and asset allocators used in the final IAV Model and final AM Opex Model:	Annex A
B6.3.1	have been chosen; and	Annex A
B6.3.2	comply with: <ul style="list-style-type: none"> (a) clause 3.2.1(11) of Attachment B of the IM Determination; and (b) clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination. 	Annex A
B9	Provide other quantitative and qualitative information that Chorus considers would support the Commission’s understanding of the final IAV Model and final AM Opex Model, which may include an explanation of:	Annex A

Reference	Section heading	Where to find the responses
B9.2	any cost allocators and asset allocators that are based on extrapolated data.	Annex A
B22	Provide a list of all cost allocators that Chorus has applied to allocate operating costs that are not directly attributable to the provision of UFB FFLAS and the opening cost allocator value for each financial loss year. The list must provide the following as a minimum:	Annex A
B22.1	the name of the allocator type;	Annex A
B22.2	whether the allocator type is based on a causal relationship or is equal to a proxy cost allocator;	Annex A
B22.3	the allocator from the allocator types listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates, or identifying if Chorus is applying for separate approval by the Commission under clause B1.1.6(1)(c)(x) of Schedule B of Attachment B of the IM Determination;	Annex A
B22.4	a list of all operating cost categories to which this allocator is applied;	Annex A
B22.5	the allocator value for each financial loss year; the rationale for the choice of this allocator, including	In the model on sheet "Unmixed expenses ADs" and in Annex A
B22.6	the rationale for the choice of this allocator, including	Section 4
B22.6.1	demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years; and	Section 4
B22.6.2	evidence that supports that the allocator is objectively justifiable and demonstrably reasonable;	Section 4
B22.7	and alternative allocators considered when choosing the allocator, including whether they are included in the allocator types listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination or would need separate approval by the Commission under clause B1.1.6(1)(c)(x) of Schedule B of Attachment B of the IM Determination.	Section 4
B23	Provide a list of all allocator types and allocator values, as at the beginning and end of each financial loss year, applied to undertake the calculation of the opening cost allocator value and closing cost allocator values by financial loss year. The list must provide the following information as a minimum:	See B22
B23.1	name of allocator type;	See B22.1
B23.2	whether the allocator type is based on a causal relationship or is equal to a proxy asset allocator;	See B22.2
B23.3	which allocator from the allocator types listed in clause B1.1.6(2)(d)(i)-(ix) of Schedule B of Attachment B of the IM Determination it relates to, or identifying if Chorus is applying for separate approval by the Commission under B1.1.6(2)(d)(x) of Schedule B of Attachment B of the IM Determination;	See B22.3

Reference	Section heading	Where to find the responses
B23.4	a list of all asset classes to which this allocator is applied;	See B22.4
B23.5	the opening cost allocator value and closing cost allocator values of each financial loss year;	See B22.5
B23.6	the rationale for the choice of this allocator, including	See B22.6
B23.6.1	demonstrating that the causal relationship or proxy asset allocator is consistent with similar measures, both within a financial loss year and between financial loss years; and	See B22.6.1
B23.6.2	evidence that supports that the allocator is objectively justifiable and demonstrably reasonable; and	See B22.6.2
B23.7	alternative allocators considered when choosing the allocator, including whether they are included in the allocator types listed in clause B1.1.6(2)(d)(i)-(ix) of Schedule B of Attachment B the IM Determination or would need separate approval by the Commission under clause B1.1.6(2)(d)(x) of Schedule B of Attachment B of the IM Determination.	See B22.6.7
B40	Provide a breakdown by allocator type of the allocator values used to calculate each allocator over time.	Annex A and in the model on sheet "Unmixed expenses ADs"

2.2 Compliance with the IM Determination

This section provides the response to question B6.2 of the notice to supply information.

B6.2 an explanation of how the final AM Opex Model complies in all material respects with the relevant requirements in the IM Determination, including:

B6.2.1 clause 3.3.1(8) of Attachment B of the IM Determination; and

B6.2.2 clauses B1.1.2(2)-(9) of Schedule B of Attachment B of the IM Determination; and

The final AM Opex Model complies in all material respects with the relevant requirements in the IM Determination, including clause 3.3.1(8) of Attachment B of the IM Determination and clauses B1.1.2(2)-(9) of Schedule B of Attachment B of the IM Determination because:

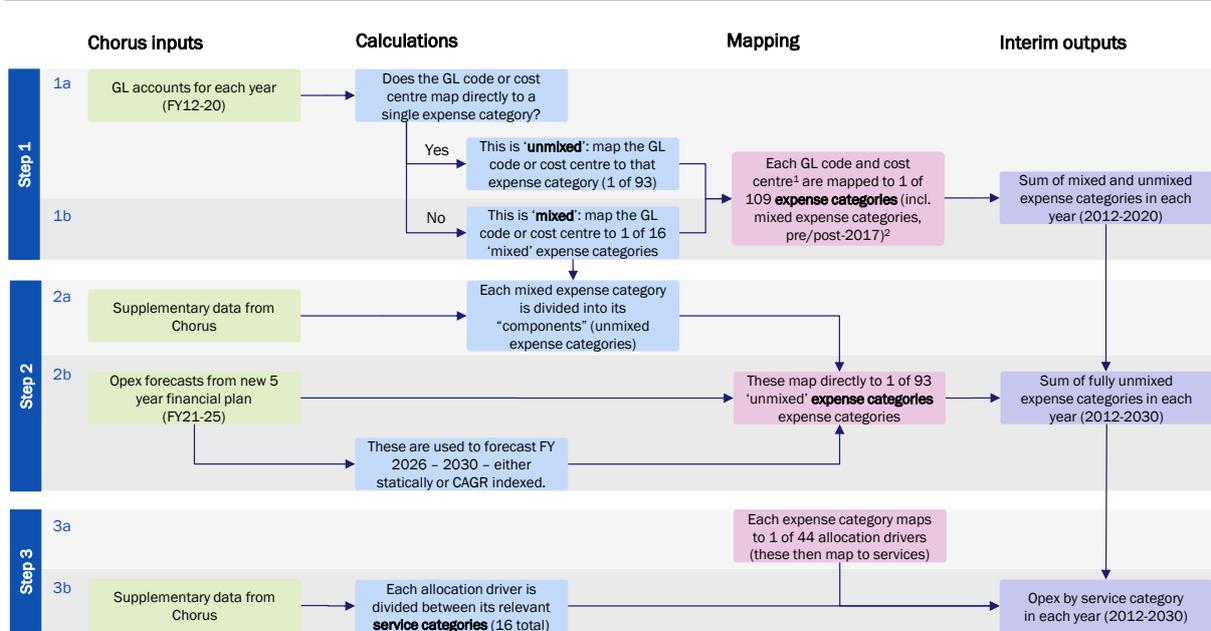
- throughout the pre-implementation period FFLAS-only costs were determined by adopting relevant actual values obtained from Chorus, or using actual values to inform forecasts where actual values are not available for a given time period
- these costs are directly attributed as shown in Section 4
- the cost allocators for shared costs are justifiable and reasonable as shown in Section 4 and Annex A
- we document which of the cost allocators are not in the Commission's list in the IM Determination as shown in Section 4 and Annex A

- the forecasts (where used) are based on relevant and demonstrably reasonable assumptions as shown in Annex A.
- all calculations pertaining to financial losses are calculated according to the formulae and definitions contained within clause B1.1.2(2)-(9). These calculations are further explained within Section 3.6.7 in the “BBM model CRM documentation v120c”.

3 Calculation overview

In this section, we describe the flow of the opex calculation. Figure 3.1 provides an overview of the key inputs, calculation steps and outputs from the opex allocation model.

Figure 3.1: Overall approach for opex allocation [Source: Analysys Mason, 2020]



In the rest of the section we discuss:

- The key opex input data in Section 3.1
- Aggregating/allocating cost inputs in expense categories in Section 3.2
- Allocating expense categories onto services in Section 3.3
- The output to the BBM model in Section 3.4

3.1 Key opex input data

There are two main inputs to the calculation:

- The historical **GL accounts** provide already a split of the opex in a format that is broadly speaking consistent across all financial years⁴. However, further information is required to allocate opex data to the relevant service categories. Hence, opex data is first aggregated/allocated into **expense categories**.

⁴ Chorus' financial years end on 30 June. Each financial year is 12 months except for FY12 which is the 7 months from 1 Dec 2011 to 30 June 2012.

- In many instances, the GL is granular enough that the expense categories are simply an aggregation of “G/L Accounts” and can then directly be allocated across service categories. Those expense categories are called “unmixed”.
- In other instances, the GL does not contain the necessary granularity to directly allocate opex across service categories. For example, labour costs for different functions need to be allocated differently. In these cases, a two-step process of aggregation then allocation is used:
 - First the “G/L Accounts” and/or “cost centers”⁵ are aggregated into a special type of expense categories called “mixed”
 - Second, more detailed data from Chorus is used in order to allocate the “mixed” expense categories into unmixed expense categories.
- The **forecast data for FY 21-25** is already disaggregated into “unmixed” expense categories and does not therefore need to use “mixed” expense categories as an intermediary step
- Finally, **allocation drivers** are used to allocate all these expense categories to service categories. Several options exist when constructing each allocation driver and mapping expense categories to service categories, and careful consideration was given to decide which was appropriate i.e. how to implement the accounting-based allocation approach defined in the IM Determination. This is discussed in further detail in Section 5.

3.2 Aggregating/allocating cost inputs to expense categories

Each item⁶ from the GL and forecast data is aggregated to an expense category in order to simplify the calculation, as well as to allow for customisation.

As mentioned previously, in some cases, a GL account needs to be allocated between different expense categories with each having a different allocation driver. This is done in a series of steps:

Aggregation of GL accounts to unmixed expense category or mixed expense category

First, GL accounts are aggregated:

- either directly to a single expense category,
- or those that need to be allocated are first aggregated to a “mixed” expense category (e.g. “CNO - NPC mixed” for all personnel costs in the CNO department).

⁵ In particular Net personnel costs under GL “0010CH_LAB” are split between “Corporate - NPC mixed”, “CTO - NPC”, “CNO - NPC mixed” and “Marketing & Sales - NPC mixed” based on the cost centers information in the GL

⁶ i.e. a “G/L Account” or a combination of “G/L Account” and “Cost Center”

These mappings used for those aggregations are recorded in the “GL.consolidated” sheet. These mappings are usually the same over time, but in exceptional cases may change (e.g. as a result of Chorus reorganisations which mean that the role of specific teams or GL accounts changes).

“Mixed” expense categories are characterised by the fact that they are not being used to allocate opex directly to a service. They act as an intermediate step between the GL and the final expense categories used to allocate to service categories. The reason for this additional step is that there might be a collection of GL accounts that need to be aggregated and then allocated in a different way in order to be allocated more realistically. The mixed expense categories used in the model are listed in list.mixed.expenses.categories in the “Lists” sheet.

The opex allocated to each expense category is present in the GL and the 5-year plan (FY21-25) only to FY25; years FY26-FY30 are forecast based on either no growth (flat nominal) or a compound annual growth rate (CAGR) (both of those are based on “relevant and demonstrably reasonable assumptions, data, methods and judgements” as requested by clauses 3.2.1(5)(a) and 3.2.1(6) of the IM). This is performed in Step 1 on the Opex Allocation sheet.

Allocation of mixed expense category to expense categories

Second, the “mixed” expense categories are then allocated into their expense categories “components” based either on supplementary data provided by Chorus, or on the data present in the GL. This process of working out the fraction of the total opex for each mixed expense category allocated to each of the expense categories is carried out on the “Mixed expenses ADs” sheet.

The opex in mixed expense categories is then allocated across expense categories.⁷ Each mixed expense category’s allocation to expense categories is calculated on the “Mixed expenses ADs” sheet and summarised in the “unmixing” range of the “Opex allocation” sheet. This range of cells is carefully designed as follows:

- unmixed expense categories that were aggregated directly from GL items have a value of 0
- mixed expense categories themselves have a matching negative value such that in the sum in the range below they will not appear
- and unmixed expense categories derived from mixed expense categories attract their correct allocation of the mixed expense category value.

This means that this range can be summed with the “list.opex” range above it to give the correct result in “expenses.categories”.

⁷ Note that mixed expense categories do not have an associated allocation driver (to services), as they are split into their components before the allocation drivers (to services) are used in the calculation.

Summarise opex for each expense category

Finally, the opex for each expense category is summed and summarised in a table providing the opex annual data split into expense categories.

This is achieved in Step 2 on the “opex allocation” worksheet, the result is in the “expenses.categories” range.

3.3 Allocating expense categories onto services

Expense categories are allocated to service categories through allocation drivers i.e. using the accounting-based allocation approach defined in the IM Determination.⁸

Each unmixed expense category is assigned a single allocation driver, which reflects the most appropriate split of that category between service categories. The choice of allocation drivers is set out in the “list.expenses.categories.allocation.driver” range on the “Lists” sheet, and is discussed in section 4 below.

Allocation drivers range from simple ones (e.g. 100% allocated to copper) to more complex data-driven allocation, changing from year to year. Some allocation drivers are calculated as the weighted average of other allocation drivers. The value of each allocation driver varies over time (in line with clause B1.1.6(3) of the IM) and is calculated on the “Unmixed expenses ADs” sheet. The service categories allocated to include one called “Common costs” for costs that can be allocated as an Equi-Proportional Mark-up to all other opex.

The sheet “ADs by years” is then used to create tables of allocation drivers for each year using the information in the “Unmixed expenses ADs” sheet.

Finally, the calculated tables of allocation drivers in each year from the “ADs by years” sheet are used to allocate the opex of each expense category in each year to the various service categories. This allocation happens as the first part called “Allocation of direct costs” of Step 3 on the Opex Allocation sheet.

It should be noted that for the post-implementation period the Commission has specified four FFLAS classes: ID, ID-only, PQ and any additional FFLAS class. The opex model is built to support these. As no additional FFLAS classes have been specified, these are currently not calculated in the model.

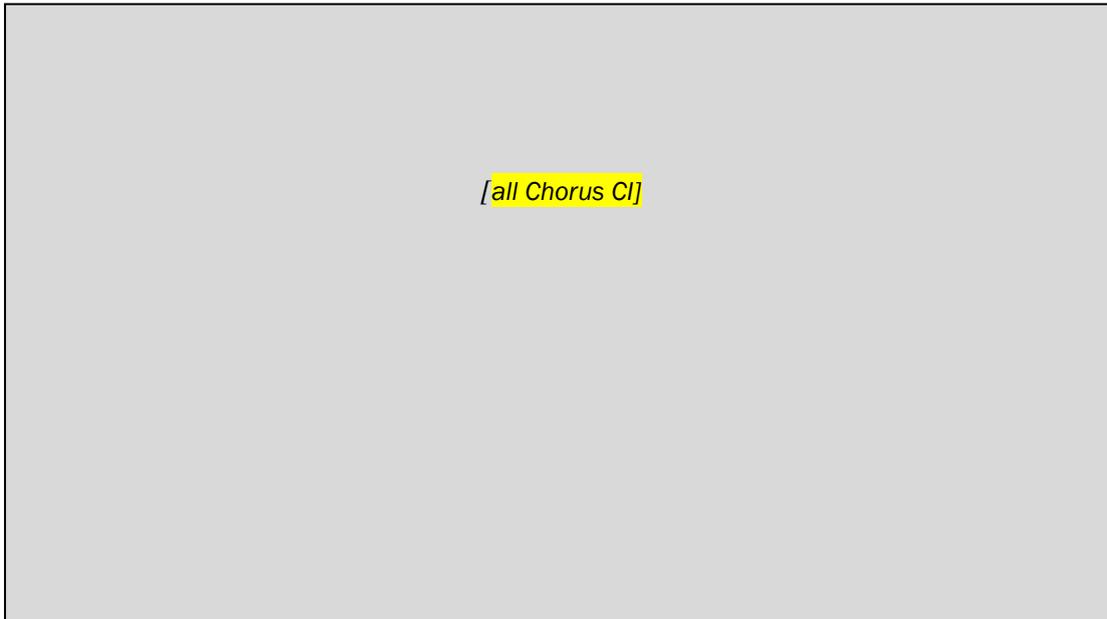
At this stage, any opex that has been allocated to the “Common costs” service category is marked-up to the other service categories in the second part called “Allocation of common costs” of Step 3 on the opex allocation sheet.

⁸ This applies the accounting based allocation approach (ABAA) by allocating the expense categories derived from the GL accounts (and forecasts) to service categories using cost allocators as defined in the IMs. Some costs are allocated 100% to a single service in all periods and these are directly attributable to those services, the remainder are allocated between services. Some opex allocation is performed in the IAV model, for example allocating from FFLAS to PQ FFLAS and therefore no opex costs are directly attributable to PQ FFLAS..

This results in opex annual data being allocated to service categories in each year and is presented in 2 tables⁹ as shown in Figure 3.2 and Figure 3.3.

Figure 3.2: Opex allocation to service categories with EPMU of common costs [Source: Analysys Mason, 2020]

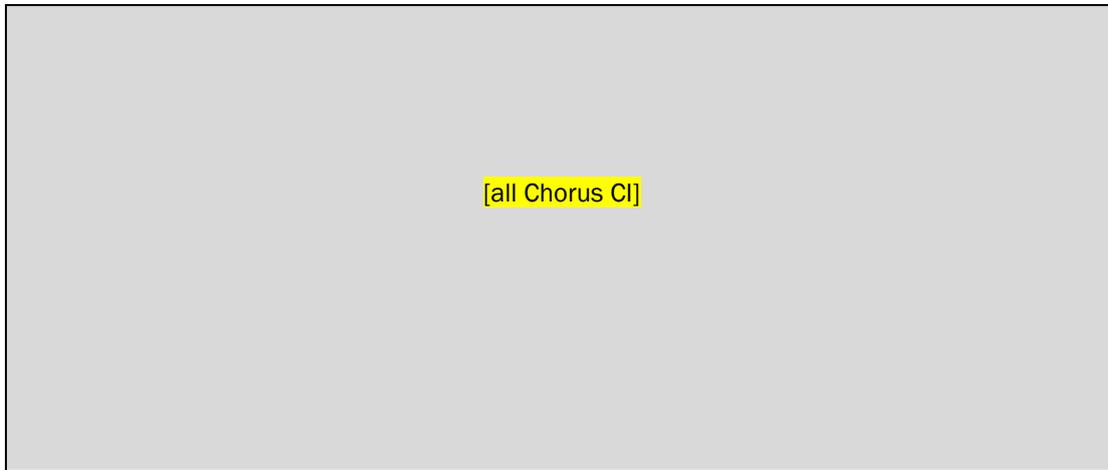
[all Chorus CI]



⁹ The first table includes a reallocation of common costs as an Equi-Proportional Mark-Up (EPMU) while the second table keeps the common costs as a separate service category.

Figure 3.3: Opex allocation to service categories without EPMU of common costs [Source: Analysys Mason, 2020]

[all Chorus CI]



In some instances, negative opex values can occur. These negative opex values originate from the GL itself and represent specific expense movements, in certain years associated with recovery of some costs (for instance, with the recovery of copper cables). The approach to opex allocation itself does not introduce negative values.

3.4 Output to the BBM model

The output of the model consists of 2 tables¹⁰ that contains the opex allocated to each service category for each year. The BBM IAV model links to these tables. The output table is essentially the same as in Figure 3.2 and Figure 3.3 above, but with the addition of a forecast beyond FY30 modelled as follows:

- opex in years FY31-FY39 is forecast to remain stable at FY30 levels, assuming that any further efficiencies or increases in opex are negligible, and due to uncertainties in opex trends beyond the next ten years.

¹⁰ The first table includes a reallocation of common costs as an Equi-Proportional Mark-Up (EPMU) while the second table keeps the common costs as a separate service category

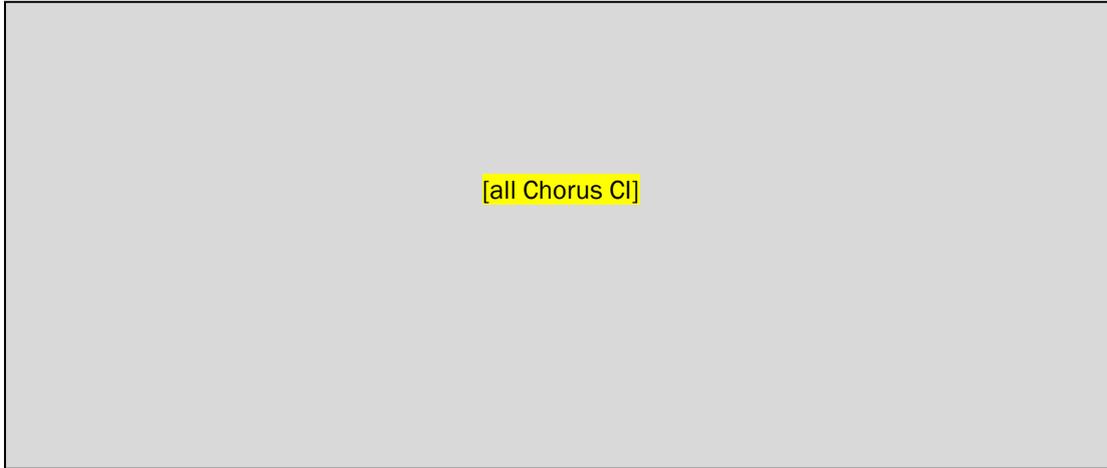
Figure 3.4: "Opex" output table with EPMU of common costs [Source: Analysys Mason, 2020]

[all Chorus CI]



[all Chorus CI]

Figure 3.5: "Opex" output table without EPMU of common costs [Source: Analysys Mason, 2020] [all Chorus CI]



[all Chorus CI]

The IAV model subsequently allocates these service categories to areas, or, both areas and services depending on the category. For instance, "FFLAS (fibre) directly attributable" is allocated between "Won", "Lost" and "Non" areas whereas the category "Costs allocated using NBV" is allocated to those areas and to FFLAS. The geographic scope of the allocators used in the IAV model changes between pre-implementation and post-implementation to ensure only costs relevant to UFB FFLAS are included in the loss calculation whereas costs related to PQ FFLAS are included post-implementation. This is explained further in the IAV documentation.

4 Treatment of opex data

In this section, we provide details on each of four major types of opex by describing the expense categories used and considerations taken into account in selecting the allocation driver(s) for each of these expense categories¹¹. These allocation drivers then allow allocation of the expense category opex to service categories, which is considered in Section 5.

The allocation method outlined in this section applies to both historical information and to forecasts¹².

4.1 Customer and Network Operations (CNO)

Customer and Network Operations (CNO) corresponds more or less to the Customer Care and Network Operations (ex NFM) group.

Following a discussion with Chorus experts [redacted] Chorus CI], we considered twelve categories of opex within CNO:

- Net personnel costs
- Payment to service companies
- Network integrity
- Customer maintenance
- Chargeable damages
- Proactive maintenance
- Reactive maintenance
- Property
- Property rates
- Provisioning
- Customer Care – Outsourcing
- Miscellaneous

In the next section we present details of expense categories and considerations for allocation drivers for each of these CNO opex sub-categories.

¹¹ Including non-FFLAS services in order to avoid allocating “any **operating cost** that is **directly attributable** to the provision of **services that are not regulated FFLAS**” as per clause 2.1.1(3)(a) of the IM

¹² Covered by clauses 3.2.1(1), (2), (7), (8) of the IM

4.1.1 Net personnel costs (NPC)

The expense categories and allocation drivers used are shown Figure 4.1.

Figure 4.1: Allocation drivers for CNO NPC [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.1.6 of the IM	Alternative allocators considered ¹³	Comment including response to question B22.6 and B23.6 of the notice to supply information
1	CNO - NPC - network	Service company overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Fibre 60 and Totex 40¹⁴ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO staff in the same way as opex payment to service companies for all other teams which makes sense as CNO staff supervise work done by service companies B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on service company work and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on opex payment to service companies so is justifiable and reasonable

¹³ As requested in question B22.7 and B23.7 of the notice to supply information “alternative allocators considered when choosing the allocator, including whether they are included in the allocator types listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination or would need separate approval by the Commission under clause B1.1.6(1)(c)(x) of Schedule B of Attachment B of the IM Determination”

¹⁴ B1.1.6(1)(c)(x) (requires Commission approval)

¹⁵ B1.1.6(1)(c)(i)

#	Expense categories	Allocation driver to services	Allocator type under B.1.1.6 of the IM	Alternative allocators considered ¹³	Comment including response to question B22.6 and B23.6 of the notice to supply information
2	CNO - NPC - property - accommodation	Accommodation relationship driver	B1.1.6(1)(c)(iv)	<ul style="list-style-type: none"> Fibre 60 and Totex 40¹⁴ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO property accommodation staff in the same way as property accommodation opex which makes sense as CNO property accommodation staff manage property accommodation opex B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property accommodation opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on usage of property accommodation opex by services so is justifiable and reasonable
3	CNO - NPC - property - power	Power relationship driver	B1.1.6(1)(c)(viii)	<ul style="list-style-type: none"> Fibre 60 and Totex 40¹⁴ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO property power staff in the same way as property power opex which makes sense as CNO property power staff manage property power opex B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property power opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably

#	Expense categories	Allocation driver to services	Allocator type under B.1.1.6 of the IM	Alternative allocators considered ¹³	Comment including response to question B22.6 and B23.6 of the notice to supply information
					reasonable: The allocator is based ultimately on data on usage of property power opex by services so is justifiable and reasonable
4	CNO - NPC - property - overhead	Corporate personnel	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Fibre 60 and Totex 40¹⁴ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO property overhead staff in the same way as corporate personnel which makes sense as CNO property overhead staff manage property overhead opex which is used by corporate personnel B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property overhead opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on allocation of corporate personnel so is justifiable and reasonable
5	CNO - NPC - billing agency	Other services	n/a (direct allocation to services that are not UFB FFLAS)	<ul style="list-style-type: none"> Fibre 60 and Totex 40¹⁴ Billable to third party¹⁶ 	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to Other services and not to be included in the fibre BBM calculations.
6	CNO - NPC - Assure	Maintenance overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Fibre 60 and Totex 40¹⁴ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO Assure staff in the same way as overall maintenance opex which makes sense as spend of CNO - NPC - Assure

¹⁶ B1.1.6(1)(c)(x) (requires Commission approval)

#	Expense categories	Allocation driver to services	Allocator type under B.1.1.6 of the IM	Alternative allocators considered ¹³	Comment including response to question B22.6 and B23.6 of the notice to supply information
					<p>personnel can reasonably be assumed to be in line with overall maintenance opex</p> <ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on overall maintenance opex spend and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on overall maintenance spend so is justifiable and reasonable
7	CNO - NPC - copper operations	Copper	n/a (direct allocation to services that are not UFB FFLAS)	<ul style="list-style-type: none"> • Fibre 60 and Totex 40¹⁴ 	<ul style="list-style-type: none"> • Directly attributable to non-FFLAS services. Entirely allocated to Copper services and not to be included in the fibre BBM calculations.
8	CNO - NPC - fibre operations	Fibre	n/a (direct allocation to UFB FFLAS services)	<ul style="list-style-type: none"> • Fibre 60 and Totex 40¹⁴ 	<ul style="list-style-type: none"> • Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
9	CNO - NPC - Provisioning	Provisioning overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Fibre 60 and Totex 40¹⁴ • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO provisioning staff in the same way as overall provisioning opex which makes sense as spend of CNO - NPC - provisioning personnel can reasonably be assumed to be in line with overall provisioning opex • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based

#	Expense categories	Allocation driver to services	Allocator type under B.1.1.6 of the IM	Alternative allocators considered ¹³	Comment including response to question B22.6 and B23.6 of the notice to supply information
					<p>on overall provisioning opex spend and is consistent timewise as the same driver is used for all years</p> <ul style="list-style-type: none"> • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on overall provisioning spend so is justifiable and reasonable • Going forward no allocation should be necessary as the Provisioning team disappears in 2017.
10	CNO - Overhead portion of labour capitalised	CTO overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Part of labour capitalised corresponds to recovery of CTO-based overhead costs. Those are extracted here and allocated using CTO overhead • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators for Overhead portion of labour capitalised and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based on the analysis of CTO spend and aims to avoid an allocation inconsistency that would otherwise appear between the recovery of CTO-based overhead costs and other labour costs so is justifiable and reasonable
12	CNO - NPC - CC Provisioning	CC Provisioning	B1.1.6(1)(c)(x) (requires Commission approval)	None	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs based on an analysis of FTE job description

#	Expense categories	Allocation driver to services	Allocator type under B.1.1.6 of the IM	Alternative allocators considered ¹³	Comment including response to question B22.6 and B23.6 of the notice to supply information
					<ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on analysis of FTE job description and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on analysis of FTE job description so is justifiable and reasonable
13	CNO - NPC - Customer Supply & Billing	Customer Supply & Billing	B1.1.6(1)(c)(ix)	<ul style="list-style-type: none"> • Fibre 60 and Totex 40¹⁴ • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs based on an analysis of FTE job description • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on analysis of FTE job description and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on analysis of FTE job description so is justifiable and reasonable
14	CNO - NPC - overall serco management	Service company overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Fibre 60 and Totex 40¹⁴ • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO staff in the same way as opex payment to service companies for all other teams which makes sense as CNO staff supervise work done by service companies

#	Expense categories	Allocation driver to services	Allocator type under B.1.1.6 of the IM	Alternative allocators considered ¹³	Comment including response to question B22.6 and B23.6 of the notice to supply information
					<ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on service company work and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on opex payment to service companies so is justifiable and reasonable
15	CNO - NPC - Operations & Optimisation	Service company overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Fibre 60 and Totex 40¹⁴ • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO staff in the same way as opex payment to service companies for all other teams which makes sense as CNO staff supervise work done by service companies • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on service company work and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on opex payment to service companies so is justifiable and reasonable
16	CNO - NPC overhead costs	Service company overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Fibre 60 and Totex 40¹⁴ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO staff in the same way as opex payment to service companies for all

#	Expense categories	Allocation driver to services	Allocator type under B.1.1.6 of the IM	Alternative allocators considered ¹³	Comment including response to question B22.6 and B23.6 of the notice to supply information
				<ul style="list-style-type: none"> CNO - NPC Overhead¹⁷ Subscribers¹⁵ 	<p>other teams which makes sense as CNO staff supervise work done by service companies</p> <ul style="list-style-type: none"> B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on service company work and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on opex payment to service companies so is justifiable and reasonable

4.1.2 Payments to service companies

The expense categories and allocation drivers used are shown in Figure 4.2

Figure 4.2: Expense categories and allocation drivers for CNO payments to services companies [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
18	CNO - payment to service companies - provisioning	Provisioning overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of payment to service companies for provisioning in the same way as overall provisioning opex which makes sense as spend of

¹⁷ B1.1.6(1)(c)(x) (requires Commission approval)

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>payment to service companies for provisioning can reasonably be assumed to be in line with overall provisioning opex</p> <ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on overall provisioning opex spend and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on overall provisioning spend so is justifiable and reasonable
19	CNO - payment to service companies - maintenance	Maintenance overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of payment to service companies for maintenance in the same way as overall maintenance opex which makes sense as spend of payment to service companies for maintenance can reasonably be assumed to be in line with overall maintenance opex • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on overall maintenance opex spend and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					on overall maintenance spend so is justifiable and reasonable
20	CNO - payment to service companies - Customer maintenance	Other services	n/a (direct allocation to services that are not UFB FFLAS)	<ul style="list-style-type: none"> Billable to third party¹⁸ 	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to Other services and not to be included in the fibre BBM calculations.

4.1.3 Network Integrity

The expense categories and allocation drivers used are shown in Figure 4.3

Figure 4.3: Expense categories and allocation drivers for CNO network integrity [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
23	CNO - Network integrity - chargeable	Billable to third party	B1.1.6(1)(c)(x) (requires Commission approval) in opex model B1.1.6(1)(c)(i) in IAV model	None	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Entirely allocated to billable to third party and partially included in the fibre BBM calculations. These are allocated to services and areas using connections in the IAV model B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: Billable to third party is used consistently for cost that can be recovered from third party. It is also consistent timewise as the same driver is used for all years

¹⁸ B1.1.6(1)(c)(x) (requires Commission approval) in opex model and B1.1.6(1)(c)(i) in IAV model

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<ul style="list-style-type: none"> B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based on identifying costs billable to third party so is justifiable and reasonable
24	CNO - Network integrity - non-chargeable	Maintenance overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of non-chargeable network integrity spend in the same way as overall maintenance opex which makes sense as spend of non-chargeable network integrity can reasonably be assumed to be in line with overall maintenance opex B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on overall maintenance opex spend and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on overall maintenance spend so is justifiable and reasonable

4.1.4 Customer Maintenance

The expense categories and allocation drivers used are shown in Figure 4.4

Figure 4.4: Allocation drivers for CNO Customer maintenance [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
27	CNO - Customer maintenance - Fibre	Fibre	n/a (direct allocation to UFB FFLAS services)	<ul style="list-style-type: none"> Other services¹⁹ Billable to third party¹⁸ 	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
28	CNO - Customer maintenance - Copper	Other services	n/a (direct allocation to services that are not UFB FFLAS)	<ul style="list-style-type: none"> Billable to third party¹⁸ 	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to Other services and not to be included in the fibre BBM calculations.
29	CNO - Customer maintenance	Other services	n/a (direct allocation to services that are not UFB FFLAS)	<ul style="list-style-type: none"> Billable to third party¹⁸ 	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to Other services and not to be included in the fibre BBM calculations.

4.1.5 Chargeable damages

The expense categories and allocation drivers used are shown in Figure 4.5.

Figure 4.5: Allocation drivers for CNO Chargeable damages [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
31	CNO - Chargeable damages - Fibre	CNO - Chargeable damages - Fibre	B1.1.6(1)(c)(x) (requires Commission approval)	None	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Shared between billable to third party (partially included in the fibre BBM calculations in the

¹⁹ n/a (direct allocation to services that are not UFB FFLAS)

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>IAV model) and fibre services (to be included in the fibre BBM calculations).</p> <ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: Treatment of chargeable damages is consistent across the 2 opex categories “CNO - Chargeable damages - Fibre “ and “CNO - Chargeable damages - Copper” The allocator is also consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on proportion of damages that are chargeable so is justifiable and reasonable
32	CNO - Chargeable damages - Copper	CNO - Chargeable damages - Copper	B1.1.6(1)(c)(x) (requires Commission approval)	None	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Shared between billable to third party (partially included in the fibre BBM calculations in the IAV model) and copper services (not to be included in the fibre BBM calculations). • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: Treatment of chargeable damages is consistent across the 2 opex categories “CNO - Chargeable damages - Fibre “ and “CNO - Chargeable damages - Copper” The allocator is also consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					reasonable: The allocator is based ultimately on data on proportion of damages that are chargeable so is justifiable and reasonable

4.1.6 Proactive Maintenance

The expense categories and allocation drivers used are shown in Figure 4.6.

Figure 4.6: Allocation drivers for CNO proactive maintenance [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
34	CNO - Chorus proactive maintenance (fibre) split by NMR categories	Proactive fibre maintenance	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
35	CNO - Chorus proactive maintenance (copper) split by NMR categories	Copper	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to copper services and not to be included in the fibre BBM calculations.
36	CNO - Chorus network proactive maintenance (copper)	Copper	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to copper services and not to be included in the fibre BBM calculations.

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
37	CNO - Chorus network proactive maintenance (core fibre)	Core fibre	B1.1.6(1)(c)(x) (requires Commission approval) in opex model	None	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Entirely allocated to core fibre services billable to third party and partially included in the fibre BBM calculations in the IAV model • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: Core fibre is used consistently for cost incurred for core fibre. It is also consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on identifying opex incurred for core fibre so is justifiable and reasonable
38	CNO - Chorus network proactive maintenance (shared)	Subscribers	B1.1.6(1)(c)(i)	None	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Shared between copper services, fibre services and core fibre services based on subscriber numbers • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: Subscribers is used consistently for opex categories where no causal evidence is available. It is also consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on subscriber data so is justifiable and reasonable

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
39	CNO - Chorus network proactive maintenance (power)	Power relationship driver	B1.1.6(1)(c)(viii)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO network proactive maintenance (power) in the same way as property power opex which makes sense as this is the cost to maintain property power B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property power opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on usage of property power opex by services so is justifiable and reasonable
40	CNO - Chorus network proactive maintenance (accommodation)	Accommodation relationship driver	B1.1.6(1)(c)(iv)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO network proactive maintenance (accommodation) in the same way as property accommodation opex which makes sense as this is the cost to maintain property accommodation. B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property accommodation opex and is consistent timewise as the same driver is used for all years

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<ul style="list-style-type: none"> B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on usage of property accommodation opex by services so is justifiable and reasonable
42	CNO - Chorus proactive maintenance overhead	Chorus proactive maintenance overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates proactive maintenance overhead based on weighted average of the other proactive maintenance allocation drivers which makes sense as proactive maintenance overhead can be assumed to be in line with other proactive maintenance spend B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on proactive maintenance overhead and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on weighted average of the other proactive maintenance allocation drivers so is justifiable and reasonable

4.1.7 Reactive Maintenance

The expense categories and allocation drivers used are shown in Figure 4.7

Figure 4.7: Allocation drivers for CNO reactive maintenance [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
44	CNO - Chorus reactive maintenance (fibre)	Fibre	n/a (direct allocation to UFB FFLAS services)		<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
45	CNO - Chorus reactive maintenance (fibre) split by TFC categories	Reactive fibre maintenance	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Costs in that expense category are shared between copper services, fibre services and core fibre services based on Chorus data on reactive maintenance spend by service B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on reactive maintenance and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on reactive maintenance spend by service so is justifiable and reasonable
46	CNO - Chorus network reactive maintenance (fibre)	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
47	CNO - Chorus network reactive maintenance (copper)	Copper	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to copper services and not to be included in the fibre BBM calculations.

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
48	CNO - Chorus network reactive maintenance (power)	Power relationship driver	B1.1.6(1)(c)(viii)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO network reactive maintenance (power) in the same way as property power opex which makes sense as this is the cost to maintain property power B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property power opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on usage of property power opex by services so is justifiable and reasonable
49	CNO - Chorus network reactive maintenance (accommodation)	Accommodation relationship driver	B1.1.6(1)(c)(iv)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CNO network reactive maintenance (accommodation) in the same way as property accommodation opex which makes sense as this is the cost to maintain property accommodation B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property accommodation opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					on usage of property accommodation opex by services so is justifiable and reasonable
51	CNO - Chorus reactive maintenance overhead	Chorus reactive maintenance overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates reactive maintenance overhead based on weighted average of the other reactive maintenance allocation drivers which makes sense as reactive maintenance overhead can be assumed to be in line with other reactive maintenance spend B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on reactive maintenance overhead and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on weighted average of the other reactive maintenance allocation drivers so is justifiable and reasonable

4.1.8 Property

The expense categories and allocation drivers used are shown in Figure 4.8.

Figure 4.8: Allocation drivers for CNO property [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
53	CNO - property - accommodation	Accommodation relationship driver	B1.1.6(1)(c)(iv)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates CNO property accommodation costs based on data on usage of property accommodation opex by services B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property accommodation opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on usage of property accommodation opex by services so is justifiable and reasonable
54	CNO - property - corporate	Corporate personnel	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates corporate property costs staff in the same way as corporate personnel which makes sense as corporate property is used by corporate personnel B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property overhead opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					reasonable: The allocator is based ultimately on data on allocation of corporate personnel so is justifiable and reasonable
55	CNO - property - power	Power relationship driver	B1.1.6(1)(c)(viii)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates CNO property power costs based on data on usage of property power opex by services B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property power opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on usage of property power opex by services so is justifiable and reasonable

4.1.9 Property - Rates

The expense categories and allocation drivers used are shown in Figure 4.9.

Figure 4.9: Allocation drivers for CNO Property - Rates [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
57	CNO - property - Rates - Infrastructure	Infrastructure rates driver	B1.1.6(1)(c)(x) (requires	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates rates in infrastructure between

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
			Commission approval)		<p>the 4 areas (Won, Lost, Non and National) with the final allocation to services done in the IAV model</p> <ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: This allocator is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on amount of rates per area so is justifiable and reasonable
58	CNO - property - Rates - Buildings	Accommodation relationship driver	B1.1.6(1)(c)(iv)	<ul style="list-style-type: none"> • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Allocates rates on CNO buildings in the same way as property accommodation opex which makes sense as CNO buildings on which the rates are paid are where the property accommodation opex is incurred • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property accommodation opex and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on usage of property accommodation opex by services so is justifiable and reasonable

4.1.10 Provisioning

The expense categories and allocation drivers used are shown in Figure 4.10.

Figure 4.10: Allocation drivers for CNO provisioning costs [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
61	CNO - Provisioning (before July 2017)	Provisioning pre-2017	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Provisioning costs are shared based on an analysis of cost centre costs B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on an analysis of cost centre costs. It is consistent timewise as the same driver is used for all years before 2017 (the use of different drivers between before and after 2017 is due to change in capitalisation rules for provisioning costs) B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an analysis of cost centre costs so is justifiable and reasonable
62	CNO - Provisioning (from July 2017)	Provisioning post-2017	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Provisioning costs are shared based on an analysis of cost centre costs (for non-fibre part) B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>an analysis of cost centre costs. It is consistent timewise as the same driver is used for all years before 2017 (the use of different drivers between before and after 2017 is due to change in capitalisation rules for provisioning costs)</p> <ul style="list-style-type: none"> B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an analysis of cost centre costs (for non-fibre part) so is justifiable and reasonable

4.1.11 Outsourcing

The expense categories and allocation drivers used are shown in Figure 4.11.

Figure 4.11: Allocation drivers for CNO outsourcing [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
64	CNO - outsourcing - copper direct	Copper	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to copper services and not to be included in the fibre BBM calculations.
65	CNO - outsourcing - fibre direct	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
66	CNO - outsourcing - shared	Maintenance overhead	B1.1.6(1)(c)(x) (requires	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates CNO - outsourcing - shared costs spend in the same way as overall maintenance opex

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
			Commission approval)		<p>which makes sense as spend of CNO - outsourcing - shared costs can reasonably be assumed to be in line with overall maintenance opex</p> <ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on overall maintenance opex spend and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on overall maintenance spend so is justifiable and reasonable
67	CNO - Outsourcing (own-use)	Outsourcing own	B1.1.6(1)(c)(ix)	<ul style="list-style-type: none"> • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Outsourcing cost are allocated based on an analysis of invoices from offshoring which is a logical way to allocate those costs • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: the allocation driver is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an analysis of invoices from offshoring so is justifiable and reasonable. An allocation based on analysis of invoice from offshoring team is cost-based,

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					sustainable and comprehensive so a very good allocation driver.
68	CNO - Outsourcing (agency)	Outsourcing agency	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to other services and not to be included in the fibre BBM calculations.

4.1.12 Miscellaneous

The expense categories and allocation drivers used are shown in Figure 4.12.

Figure 4.12: Allocation drivers for CNO miscellaneous [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
71	CNO - Fibre charges (core)	Core fibre	B1.1.6(1)(c)(x) (requires Commission approval) in opex model	None	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Entirely allocated to core fibre services and partially included in the fibre BBM calculations in the IAV model B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: Core fibre is used consistently for cost incurred for core fibre. It is also consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					identifying opex incurred for core fibre so is justifiable and reasonable
72	CNO - Fibre Route Survey	CNO - Fibre Route Survey	B1.1.6(1)(c)(x) (requires Commission approval)	None	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Fibre route survey costs are shared between other services (not to be included in the fibre BBM calculations) and fibre services (to be included in the fibre BBM calculations) based on the analysis of cost centres • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: This approach is consistent with other approaches based on analysis of cost centres. It is also consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an analysis of cost centres so is justifiable and reasonable • Assumed partly allocated to other services (not to be included in the fibre BBM calculations) and partly allocated to fibre services (to be included in the fibre BBM calculations).
73	CNO - Fibre charges (core)	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> • Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
74	CNO - wireless	Other services	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> • Directly attributable to non-FFLAS services. Entirely allocated to other services and not to be included in the fibre BBM calculations.

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
75	CNO - spare repair costs	Spare repair costs	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> • 100% copper unless evidence of use for fibre • Assumed entirely allocated to copper services and not to be included in the fibre BBM calculations. • Going forward data evidence of spare repair costs for fibre should be taken into account if available.
76	CNO - work for third party	Billable to third party	<p>B1.1.6(1)(c)(x) (requires Commission approval) in opex model</p> <p>B1.1.6(1)(c)(i) in IAV model</p>	<ul style="list-style-type: none"> • Other services¹⁹ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Entirely allocated to billable to third party and partially included in the fibre BBM calculations. These are allocated to services and areas using connections in the IAV model • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: Billable to third party is used consistently for cost that can be recovered from third party. It is also consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based on identifying costs billable to third party so is justifiable and reasonable
77	CNO - co-location	Co-location	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> • Directly attributable to non-FFLAS services. Entirely allocated to other services and not to be included in the fibre BBM calculations.
78	CNO - copper recovery	Other services	n/a (direct allocation to services that are not UFB FFLAS)	<ul style="list-style-type: none"> • Billable to third party¹⁸ 	<ul style="list-style-type: none"> • Directly attributable to non-FFLAS services. Entirely allocated to other services and not to be included in the fibre BBM calculations.

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
79	CNO - cancellations	Cancellations	B1.1.6(1)(c)(x) (requires Commission approval)	None	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Cancellations costs are shared between copper services (not to be included in the fibre BBM calculations) and fibre services (to be included in the fibre BBM calculations) based on the analysis of cost centres • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: This approach is consistent with other approaches based on analysis of cost centres. It is also consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an analysis of cost centres so is justifiable and reasonable
80	CNO - project opex	Project opex	B1.1.6(1)(c)(x) (requires Commission approval)	None	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: project opex costs are shared between services based on the analysis of cost centres • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: This approach is consistent with other approaches based on analysis of cost centres. It is also consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					analysis of cost centres so is justifiable and reasonable
81	CNO - project opex - billable to third party	Other services	n/a (direct allocation to services that are not UFB FFLAS)	<ul style="list-style-type: none"> Billable to third party¹⁸ 	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to other services and not to be included in the fibre BBM calculations.
82	CNO - project opex - Copper direct	Copper	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to copper services and not to be included in the fibre BBM calculations.
83	CNO - project opex - Fibre direct	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
84	CNO - project opex - shared	Accommodation relationship driver	B1.1.6(1)(c)(iv)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of shared CNO project opex in the same way as property accommodation opex which makes sense given work is mostly property and engineering B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on property accommodation opex and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on usage of property accommodation opex by services so is justifiable and reasonable

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
150	CNO - SLA credits	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.

4.2 CTO

The expense categories and allocation drivers used are shown in Figure 4.13.

Figure 4.13: Expense categories and allocation drivers for CTO opex costs [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
86	CTO - NPC	CTO overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Fibre 60 and Totex 40¹⁴ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates cost of CTO staff based on weighted average of the other CTO allocation drivers which makes sense as CTO staff are managing overall CTO spend B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: The approach is consistent with similar staff-based expense categories and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on the weighted average of the other CTO allocation drivers so is justifiable and reasonable

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
87	CTO - Fibre	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
88	CTO - Copper	Copper	n/a (direct allocation to services that are not UFB FFLAS)	None	<ul style="list-style-type: none"> Directly attributable to non-FFLAS services. Entirely allocated to copper services and not to be included in the fibre BBM calculations.
89	CTO - Common Costs	Totex	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Common costs²⁰ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: CTO common costs are allocated based on Totex which makes sense as CTO supports the entire organisation. The allocation to services based on totex is done in the IAV model. B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators using totex allocation is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on totex (=total opex and total capex) so is justifiable and reasonable for a common cost
90	CTO - Common - Faults/Tickets	Chorus reactive maintenance overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates CTO - Common - Faults/Tickets based on weighted average of the reactive maintenance allocation drivers which makes sense as

²⁰ B1.1.6(1)(c)(x) (requires Commission approval)

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>the CTO - Common - Faults/Tickets IT systems support reactive maintenance spend</p> <ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on reactive maintenance overhead and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on weighted average of the reactive maintenance allocation drivers so is justifiable and reasonable
91	CTO - Common - Revenue	Revenue	B1.1.6(1)(c)(iii)	<ul style="list-style-type: none"> • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: CTO common revenue costs are shared based on the revenue driver which makes sense as those IT systems support revenue collection • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on revenue and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on Chorus revenue so is justifiable and reasonable

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
92	CTO - Common - Schedules	Service Company Overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> CTO - Common - Schedules²¹ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates costs of CTO common schedules in the same way as opex payment to service companies for all other teams which makes sense as Schedules IT systems is used to manage work done by service companies B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on service company work and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on opex payment to service companies so is justifiable and reasonable
93	CTO - Common - S/O Volumes	Provisioning overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Allocates CTO - Common - S/O Volumes spend in the same way as overall provisioning opex which makes sense CTO - Common - S/O Volumes IT systems support provisioning activities B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on

²¹ B1.1.6(1)(c)(x) (requires Commission approval)

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>overall provisioning opex spend and is consistent timewise as the same driver is used for all years</p> <ul style="list-style-type: none"> • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on overall provisioning spend so is justifiable and reasonable
94	CTO - Common - Orders	Orders	B1.1.6(1)(c)(ix)	<ul style="list-style-type: none"> • CTO - Common - Orders²² • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: CTO - Common - Orders cost are shared based on orders which makes sense as CTO - Common - Orders can reasonably be assumed to be in line with orders data • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: This allocator is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on order data so is justifiable and reasonable
95	CTO - project opex	CTO - project opex	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: CTO - project opex costs are shared based on specific allocation data provided by Chorus subject matter experts • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year

²² B1.1.6(1)(c)(x) (requires Commission approval)

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>and between financial loss years: This allocator is consistent timewise as the same driver is used for all years</p> <ul style="list-style-type: none"> • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on specific allocation data provided by Chorus subject matter experts so is justifiable and reasonable

4.3 Marketing & Sales

The expense categories and allocation drivers used are shown in Figure 4.14.

Figure 4.14: Expense categories and allocation drivers for Marketing & Sales opex costs [Source: Analysys Mason, 2020]

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
98	Marketing & Sales - NPC	Future benefit	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Fibre 60 and Totex 40¹⁴ • Marketing personnel²³ • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Marketing and sales staff are allocated based on future benefit which is calculated based on total revenues over 12 years (i.e. distribution in 2012 will be based on revenues from 2012 to 2023). This captures the nature of marketing which is oriented towards future revenue. • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year

²³ B1.1.6(1)(c)(x) (requires Commission approval)

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>and between financial loss years: By its nature, this allocator is consistent with similar expense categories using future benefits and is consistent timewise as the same driver is used for all years</p> <ul style="list-style-type: none"> • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on Chorus revenue so is justifiable and reasonable
99	Marketing & Sales - Overhead portion of labour capitalised	CTO overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Part of labour capitalised corresponds to recovery of CTO-based overhead costs. Those are extracted here and allocated using CTO overhead • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators for Overhead portion of labour capitalised and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based on the analysis of CTO spend and aims to avoid an allocation inconsistency that would otherwise appear between the recovery of CTO-based overhead costs and other labour costs so is justifiable and reasonable
102	Marketing & Sales - Bad debts	Revenue	B1.1.6(1)(c)(iii)	None	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: bad debt costs are shared based on the revenue driver which makes sense as bad debts can reasonably be assumed to be in line with Chorus Revenue

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on revenue and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on Chorus revenue so is justifiable and reasonable Going forward, an analysis of bad debts by product types could be used instead if data is available.
103	Marketing & Sales - Market Research	Future benefit	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Market research Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: market research costs are allocated based on future benefit which is calculated based on total revenues over 12 years (i.e. distribution in 2012 will be based on revenues from 2012 to 2023). This captures the nature of marketing which is oriented towards future revenue. • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with similar expense categories using future benefits and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on Chorus revenue so is justifiable and reasonable

#	Expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
10 4	Marketing & Sales - Marketing and Communications	Future benefit	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Campaigns²⁴ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Marketing and communications costs are allocated based on future benefit which is calculated based on total revenues over 12 years (i.e. distribution in 2012 will be based on revenues from 2012 to 2023). This captures the nature of marketing which is oriented towards future revenue. B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with similar expense categories using future benefits and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on Chorus revenue so is justifiable and reasonable
10 5	Marketing & Sales - Marketing and Communications - Fibre	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.

4.4 Corporate

The expense categories and allocation drivers used are shown in Figure 4.15.

²⁴ B1.1.6(1)(c)(x) (requires Commission approval)

Figure 4.15: Allocation drivers for Corporate opex costs [Source: Analysys Mason, 2020]

#	BBM expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
107	Corporate - NPC	Corporate personnel	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Corporate personnel costs are shared based on an analysis of the corporate department activity by cost centre B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: the approach is consistent with other drivers based on analysis by cost centre and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based on an analysis by cost centre so is justifiable and reasonable
108	Corporate - Overhead portion of labour capitalised	CTO overhead	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Part of labour capitalised corresponds to recovery of CTO-based overhead costs. Those are extracted here and allocated using CTO overhead B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators for Overhead portion of labour capitalised and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based on the analysis of

#	BBM expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					CTO spend and aims to avoid an allocation inconsistency that would otherwise appear between the recovery of CTO-based overhead costs and other labour costs so is justifiable and reasonable
109	Corporate - one-off stand-up personnel costs	Corporate personnel	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Corporate personnel costs are shared based on an analysis of the corporate department activity by cost centre B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: the approach is consistent with other drivers based on analysis by cost centre and is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based on an analysis by cost centre so is justifiable and reasonable
112	Corporate - Regulatory Levies - Revenue based	Revenue	B1.1.6(1)(c)(iii)	<ul style="list-style-type: none"> Totex²⁵ Subscribers¹⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: revenue based regulatory levies are shared based on the revenue driver which makes sense as they are assessed based on Chorus Revenue B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on

²⁵ B1.1.6(1)(c)(x) (requires Commission approval)

#	BBM expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>revenue and is consistent timewise as the same driver is used for all years</p> <ul style="list-style-type: none"> • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on data on Chorus revenue so is justifiable and reasonable
113	Corporate - Regulatory Levies - Fibre direct	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> • Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.
116	Corporate - audit fees & expenses	Totex	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Fibre²⁶ • Revenue²⁷ • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Audit costs are allocated based on Totex which makes sense as audits support the entire organisation. The allocation to services based on totex is done in the IAV model. • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators using totex allocation is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on totex (=total opex and total capex) so is justifiable and reasonable for a common cost

²⁶ n/a (direct allocation to UFB FFLAS services)

²⁷ B1.1.6(1)(c)(iii)

#	BBM expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
118	Corporate - insurance - Material Damage & Business Interruption	NBV	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Corporate – insurance²⁸ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: insurance costs for material damage and business interruption are shared based on NBV (in the IAV model) which makes sense as those insurance costs cover assets B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators using NBV allocation is consistent timewise as the same driver is used for all years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on NBV so is justifiable and reasonable.
119	Corporate - insurance - General Liability Errors & Omission Directors & Officers Statutory	Totex	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Fibre²⁹ Corporate – insurance³⁰ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: general insurance coats are allocated based on Totex which makes sense as general insurance supports the entire organisation. The allocation to services based on totex is done in the IAV model. B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators using

²⁸ B1.1.6(1)(c)(x) (requires Commission approval)

²⁹ n/a (direct allocation to UFB FFLAS services)

³⁰ B1.1.6(1)(c)(x) (requires Commission approval)

#	BBM expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>totex allocation and is consistent timewise as the same driver is used for all years</p> <ul style="list-style-type: none"> • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on totex (=total opex and total capex) so is justifiable and reasonable
120	Corporate - insurance - Chorus benefit of life insurance for staff	Chorus - all NPC costs	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Corporate – insurance³¹ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: insurance on chorus staff is shared based on the weighted average of all drivers used to allocate staff costs which makes sense as life insurance for staff is linked to what staff is working on • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other staff based allocators and is consistent timewise as the same driver is used for all years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on what staff are working on so is justifiable and reasonable
122	Corporate - insurance	Corporate - all insurance costs	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Corporate – insurance³² • Subscribers¹⁵ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: This allocator is a weighted average of the specific insurance allocators defined above which is

³¹ B1.1.6(1)(c)(x) (requires Commission approval)

³² B1.1.6(1)(c)(x) (requires Commission approval)

#	BBM expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<p>used for the forecast period as the forecast insurance costs are not split by those specific categories</p> <ul style="list-style-type: none"> • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other insurance linked allocators and is consistent timewise as the same driver is used for all forecast years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on a weighted average of the specific insurance allocators defined above so is justifiable and reasonable
124	Corporate - legal costs	Corporate legal	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> • Subscribers¹⁵ • Totex³³ • Fibre³⁴ 	<ul style="list-style-type: none"> • B22.6 / B23.6 Rationale for the choice of this allocator: Corporate legal costs are shared based on an analysis of the legal department spend • B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on analysing the spend of a corporate department (e.g. legal, other, consultant) and is consistent timewise as the same driver is used for all forecast years • B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an

³³ B1.1.6(1)(c)(x) (requires Commission approval)

³⁴ n/a (direct allocation to UFB FFLAS services)

#	BBM expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					analysis of the legal department spend so is justifiable and reasonable
126	Corporate - consultants' costs	Corporate consultants	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ Totex 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Corporate consultants costs are shared based on an analysis of consultants spend B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on analysing the spend of a corporate department (e.g. legal, other, consultant) and is consistent timewise as the same driver is used for all forecast years B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an analysis of consultants spend so is justifiable and reasonable
128	Corporate - other costs	Corporate other	B1.1.6(1)(c)(x) (requires Commission approval)	<ul style="list-style-type: none"> Subscribers¹⁵ Totex³⁵ 	<ul style="list-style-type: none"> B22.6 / B23.6 Rationale for the choice of this allocator: Corporate other costs are shared based on an analysis of other costs spend B22.6.1 / B23.6.1 Demonstrating that the causal relationship or proxy cost allocator is consistent with similar measures, both within a financial loss year and between financial loss years: By its nature, this allocator is consistent with other allocators based on analysing the spend of a corporate department (e.g. legal, other, consultant) and is consistent timewise as the same driver is used for all forecast years

³⁵ B1.1.6(1)(c)(x) (requires Commission approval)

#	BBM expense categories	Allocation driver to services	Allocator type under B.1.16 of the IM	Alternative allocators considered	Comment
					<ul style="list-style-type: none"> B22.6.2 / B23.6.2 Evidence that supports that the allocator is objectively justifiable and demonstrably reasonable: The allocator is based ultimately on an analysis of other costs spend so is justifiable and reasonable
130	Corporate - Fibre direct	Fibre	n/a (direct allocation to UFB FFLAS services)	None	<ul style="list-style-type: none"> Directly attributable to FFLAS services. Entirely allocated to fibre services and to be fully included in the fibre BBM calculations.

5 Allocation of opex to services

In this section, we provide details on the final step of the opex allocation process.

Once the input opex has been aggregated/allocated in expense categories and appropriate allocation drivers have been identified for each expense category (as described in Section 4), opex in the expense categories is allocated to service categories via allocation drivers. Each of the 44 allocation drivers is mapped to one or more of the sixteen service categories, as shown in Figure 5.1.

The mapping is either direct (i.e. an allocation driver is 100% mapped to one service category) or partial (i.e. one allocation driver is distributed across two or more service categories). Where an allocation driver maps to two or more service categories, the proportion allocated to different service categories may change over time (as per clause B1.1.6(3) of the IM) in order to capture decreasing or increasing contribution to one of the many service categories. However, in the case of partial mappings changing over time, the allocation driver continues to be mapped to the same subset of service categories over time (i.e. no change in the service categories included in destination service categories of an allocation driver). The allocation process is repeated for each year and results in an output table of total opex for each service category in each year, as was shown in Figure 3.4 in Section 3.4. The BBM IAV model links to this output table.

Further detailed information on the considerations supporting mapping of allocation drivers to service categories is presented in Annex A.

Figure 5.1: Mapping of allocation drivers to service categories [Source: Analysys Mason, 2020]

Service categories → Allocation drivers ↓	FFLAS (fibre) directly attributed	FFLAS (fibre) not directly attributed	Non-FFLAS (copper) directly attributed	Non-FFLAS (copper) not directly attributed	Other services	Billable Provisioning	Billable third party	Core fibre (national)	Infrastructure Rates alloc by Won areas	Infrastructure Rates alloc by Lost areas	Infrastructure Rates alloc by Non areas	Infrastructure Rates alloc by National areas	Costs allocated based on 'capex spend for the year'	Costs allocated using totex	Costs allocated using NBV	Common costs
CNO (NFM part)																
Billable to third party	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-
CNO - Chargeable damages - Fibre	-	Partial	-	-	-	-	Partial	-	-	-	-	-	-	-	-	-
CNO - Chargeable damages - Copper	-	Partial (pre-2017)	-	Partial	-	-	Partial	-	-	-	-	-	-	-	-	-
CNO - Fibre Route Survey	-	-	-	-	Partial	-	-	Partial	-	-	-	-	-	-	-	-
Core fibre	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-
Proactive fibre maintenance	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reactive fibre maintenance	-	Partial	-	Partial	-	-	-	Partial	-	-	-	-	-	-	-	-
Copper	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Accommodation relationship driver	-	Partial	-	Partial	-	-	-	-	-	-	-	-	-	-	-	-

Service categories → Allocation drivers ↓	FFLAS (fibre) directly attributed	FFLAS (fibre) not directly attributed	Non-FFLAS (copper) directly attributed	Non-FFLAS (copper) not directly attributed	Other services	Billable Provisioning	Billable third party	Core fibre (national)	Infrastructure Rates alloc by Won areas	Infrastructure Rates alloc by Lost areas	Infrastructure Rates alloc by Non areas	Infrastructure Rates alloc by National areas	Costs allocated based on 'capex spend for the year'	Costs allocated using totex	Costs allocated using NBV	Common costs
Power relationship driver	-	Partial	-	Partial	-	-	-	-	-	-	-	-	-	-	-	-
Infrastructure rates driver	-	-	-	-	-	-	-	-	Partial	Partial	Partial	Partial	-	-	-	-
Subscribers	-	Partial	-	Partial	-	-	-	Partial	-	-	-	-	-	-	-	-
Provisioning pre-2017	-	Partial (pre-2017)	-	Partial (pre-2017)	Partial (pre-2017)	-	-	-	-	-	-	-	-	-	-	-
Provisioning post-2017	-	Partial (post-2017)	-	Partial (post-2017)	Partial (post-2017)	-	-	-	-	-	-	-	-	-	-	-
Fibre	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spare repair costs	-	-	-	Partial ³⁶	-	-	-	-	-	-	-	-	-	-	-	-
Co-location	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Cancellations	-	100% (except partial)	-	Partial in 2015 only	-	-	-	-	-	-	-	-	-	-	-	-

³⁶ Currently defaulting to 100% copper but built in a way to allocate to other services in the future when data is available to support it

Service categories →	Allocation drivers ↓		FFLAS (fibre) directly attributed	FFLAS (fibre) not directly attributed	Non-FFLAS (copper) directly attributed	Non-FFLAS (copper) not directly attributed	Other services	Billable Provisioning	Billable third party	Core fibre (national)	Infrastructure Rates alloc by Won areas	Infrastructure Rates alloc by Lost areas	Infrastructure Rates alloc by Non areas	Infrastructure Rates alloc by National areas	Costs allocated based on ' capex spend for the year'	Costs allocated using totex	Costs allocated using NBV	Common costs
		in 2015)																
Project opex	-	Partial	-	Partial	Partial	Partial	-	-	-	-	-	-	-	-	-	-	-	-
Chorus reactive maintenance overhead	Partial	Partial	Partial	Partial	Partial	-	-	-	Partial	-	-	-	-	-	-	-	-	-
Chorus proactive maintenance overhead	Partial	Partial	Partial	Partial	Partial	-	-	-	Partial	-	-	-	-	-	-	-	-	-
Maintenance overhead	Partial	Partial	Partial	Partial	Partial	Partial	-	-	Partial	-	-	-	-	-	-	-	-	-
Provisioning overhead	-	Partial	-	Partial	Partial	Partial	-	-	-	-	-	-	-	-	-	-	-	-
Service company overhead	Partial	Partial	Partial	Partial	Partial	Partial	-	-	Partial	-	-	-	-	-	-	-	-	-
CTO																		
CTO - project opex	Partial	Partial	-	Partial	-	-	-	-	-	-	-	-	-	-	-	-	-	Partial
CTO overhead	Partial	Partial	Partial	Partial	Partial	Partial	-	-	Partial	-	-	-	-	-	-	Partial	-	Partial
CNO (Customer care part)																		
CC Provisioning	-	Partial	-	Partial	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Service categories → Allocation drivers ↓	FFLAS (fibre) directly attributed	FFLAS (fibre) not directly attributed	Non-FFLAS (copper) directly attributed	Non-FFLAS (copper) not directly attributed	Other services	Billable Provisioning	Billable third party	Core fibre (national)	Infrastructure Rates alloc by Won areas	Infrastructure Rates alloc by Lost areas	Infrastructure Rates alloc by Non areas	Infrastructure Rates alloc by National areas	Costs allocated based on 'capex spend for the year'	Costs allocated using totex	Costs allocated using NBV	Common costs
Orders	-	Partial	-	Partial	-	-	-	-	-	-	-	-	-	-	-	-
Customer Supply & Billing	Partial	Partial	Partial	Partial	Partial	-	-	Partial	-	-	-	-	-	-	-	-
Outsourcing own	-	Partial	-	Partial	-	-	-	-	-	-	-	-	-	-	-	-
Outsourcing agency	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Marketing & Sales																
Revenue	-	Partial	-	Partial	Partial	-	-	Partial	-	-	-	-	-	-	-	-
Future benefit	-	Partial	-	Partial	Partial	-	-	Partial	-	-	-	-	-	-	-	-
Corporate																
Corporate personnel	-	Partial	-	-	-	-	-	-	-	-	-	-	-	Partial	-	-
NBV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Chorus - all NPC costs	Partial	Partial	Partial	Partial	Partial	-	-	Partial	-	-	-	-	-	Partial	-	Partial
Corporate – all insurance costs	Partial	Partial	Partial	Partial	Partial	-	-	Partial	-	-	-	-	-	Partial	Partial	Partial
Corporate legal	-	Partial	-	Partial	-	-	-	-	-	-	-	-	-	Partial	-	-

Service categories →	Allocation drivers ↓															
	FFLAS (fibre) directly attributed	FFLAS (fibre) not directly attributed	Non-FFLAS (copper) directly attributed	Non-FFLAS (copper) not directly attributed	Other services	Billable Provisioning	Billable third party	Core fibre (national)	Infrastructure Rates alloc by Won areas	Infrastructure Rates alloc by Lost areas	Infrastructure Rates alloc by Non areas	Infrastructure Rates alloc by National areas	Costs allocated based on ' capex spend for the year'	Costs allocated using totex	Costs allocated using NBV	Common costs
Corporate consultants	-	Partial	-	Partial	-	-	-	-	-	-	-	-	-	Partial	-	-
Corporate other	-	Partial	-	Partial	-	-	-	-	-	-	-	-	-	Partial	-	-
Totex	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-
Fibre 60 and Totex 40	-	Partial	-	-	-	-	-	-	-	-	-	-	-	Partial	-	-
Other services	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-

Annex A Processing of Chorus data to create allocation drivers

This annex describes how the data provided by Chorus was used to create the different allocation drivers (in compliance with notice to supply information B22):

- Network & Field Maintenance (CNO) allocation drivers in Section A.1
- CTO allocation drivers in Section A.2
- Customer Care allocation drivers in Section A.3
- Marketing & Sales allocation drivers in Section A.4
- Corporate allocation drivers in Section A.4.2

A.1 Network & Field Maintenance (CNO) allocation drivers

There are 24 allocation drivers associated with CNO:

- Billable to third party
- CNO - Chargeable damages - Fibre
- CNO - Chargeable damages - Copper
- CNO - Fibre Route Survey
- Core fibre
- Proactive fibre maintenance
- Reactive fibre maintenance
- Copper
- Accommodation relationship driver
- Power relationship driver
- Infrastructure rates driver
- Subscribers
- Provisioning pre-2017
- Provisioning post-2017
- Fibre
- Spare repair costs
- Co-location
- Cancellations
- Project opex

A.1.1 Billable to third party

This allocation driver uses a constant 100% allocation to service category “Billable third party” and does not require any input data.

Figure A.1 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.2 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.1.: Responses to the questions raised by the notice to supply information relative to driver “Billable to third party” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> Entirely allocated to billable to third party in the opex model. Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> Causal in the opex model. Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> CNO – Network integrity and quality – chargeable CNO – work for third party
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.2 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.2: The “Billable to third party” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	Billable third party
2	Billable to third party	2012	2012-2	100%
2		2013	2013-2	100%
2		2014	2014-2	100%
2		2015	2015-2	100%
2		2016	2016-2	100%
2		2017	2017-2	100%
2		2018	2018-2	100%
2		2019	2019-2	100%
2		2020	2020-2	100%
2		2021	2021-2	100%
2		2022	2022-2	100%
2		2023	2023-2	100%
2		2024	2024-2	100%
2		2025	2025-2	100%
2		2026	2026-2	100%
2		2027	2027-2	100%
2		2028	2028-2	100%
2		2029	2029-2	100%
2		2030	2030-2	100%

A.1.2 CNO - Chargeable damages - Fibre

This allocation driver uses a time-varying allocation to service categories “FFLAS (fibre) not directly attributed” and “Billable third party”.

The distribution is created using GL data from 4 GL codes:

- [
-
-
- **Chorus CI]**

Calculation steps:

1. “Billable third party” is equal to the “%age recovery”, calculated as:

$$[\text{Chorus CI}]$$

2. The balance is allocated to “FFLAS (fibre) not directly attributed”.

3. Allocations are held constant after 2023.

Figure A.3 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure A.4 showing the final allocator for each financial year.

Figure A.5 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.3: Responses to the questions raised by the notice to supply information relative to driver “CNO - Chargeable damages - Fibre” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.

Reference	Information requested	Comment
B9.2	Include an explanation if the cost allocator is based on extrapolated data	Allocations are held constant after 2023
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varied allocation based on historical general ledger accounts and new 5 year financial plan in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO – Chargeable damages – fibre
B22.5/B23.5	Allocator value for each financial loss year	See <hr/> Figure A.4 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure A.5 below

Figure A.4: The “CNO - Chargeable damages – Fibre” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

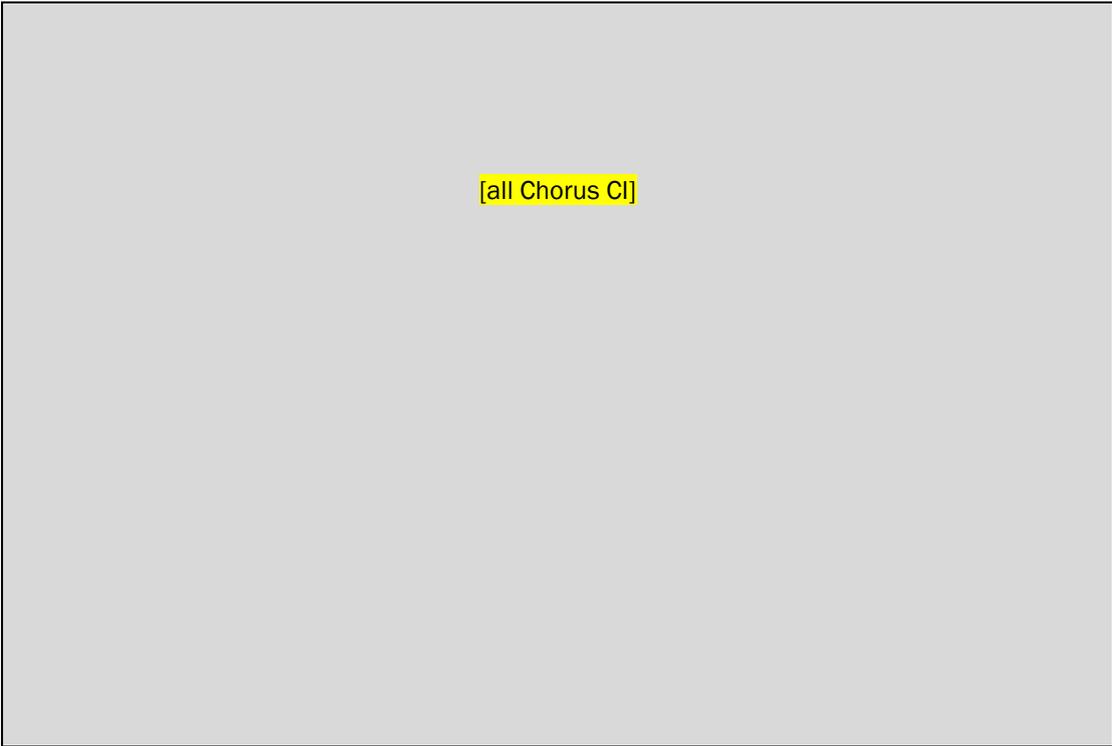
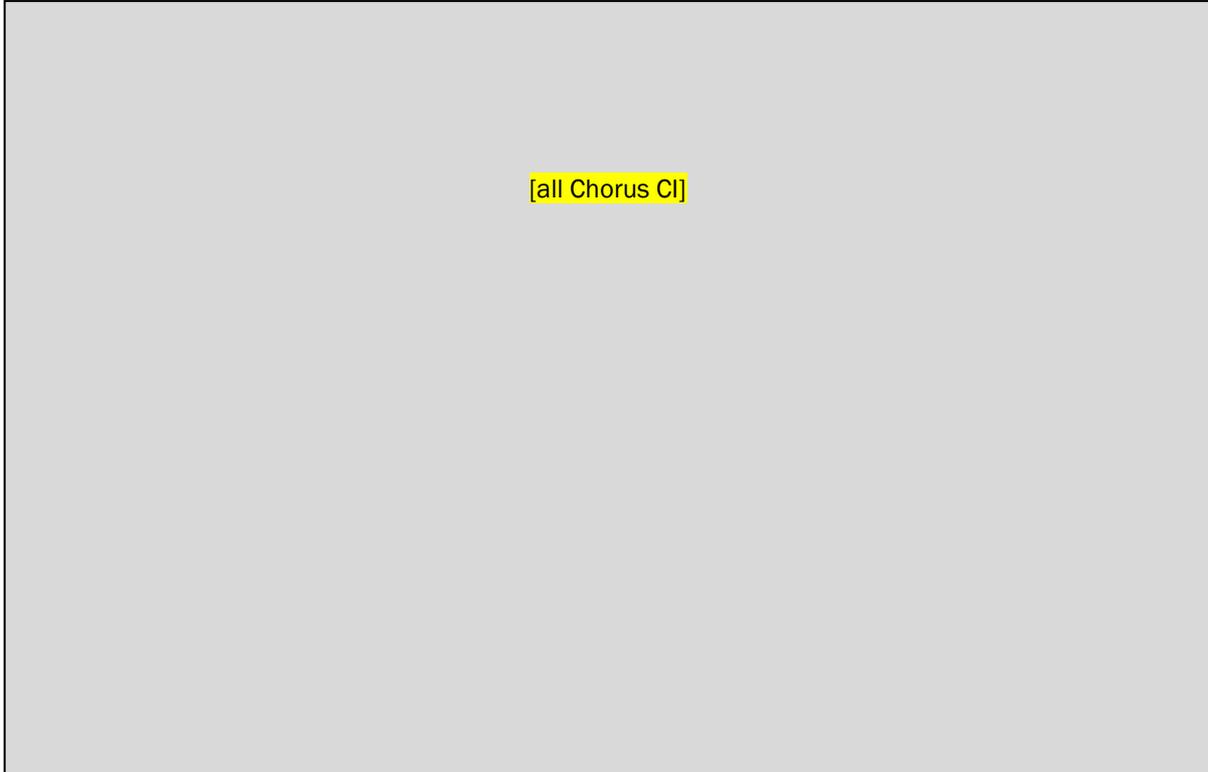


Figure A.5: Values used to calculate the “CNO - Chargeable damages – Fibre” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [Chorus CI all]



A.1.3 CNO - Chargeable damages - Copper

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Billable third party”.

The distribution is created using GL data from 4 GL codes:

- [
 -
 -
 -
- Chorus CI]

Calculation Steps

The GL account [Chorus CI] is divided into the three categories [

Chorus CI] The allocation driver percentages for “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Billable third party” are calculated as the proportion of each corresponding category to the total.

The steps below describe the calculation of each category:

1. [

5

Chorus CI]

6.The distribution is held constant after 2023.

Figure A.6 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.7 showing the final allocator for each financial year.

Figure A.8 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.6: Responses to the questions raised by the notice to supply information relative to driver “CNO – Chargeable damages – Copper” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	Between 2012 and 2017 some fibre related costs were included within “Copper Damages (71120)”. These costs are not directly observable and are estimated as follows. a. First the “average damage cost per line” in each year from 2018 to 2023 is

Reference	Information requested	Comment
		<p>calculated based on total “Fibre Damages (71125)” in that year divided by average contracted and voluntary FFLAS Fibre Services line numbers in the same year.</p> <p>b. Prior years are calculated based on the 2018 average, discounted at 2% per annum.</p> <p>c. Fibre Damages between 2012 and 2017 are then estimated based on the calculated average cost per line in each year multiplied by the average contracted and voluntary FFLAS Fibre Services lines in each year less any amount booked to “Fibre Damages (71125)”.</p> <p>The distribution is held constant after 2023.</p>
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varied allocation based on historical general ledger accounts and new 5 year financial plan in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO – Chargeable damages – Copper
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.7 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure A.8 below

Figure A.7: The “CNO – Chargeable damages – Copper” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

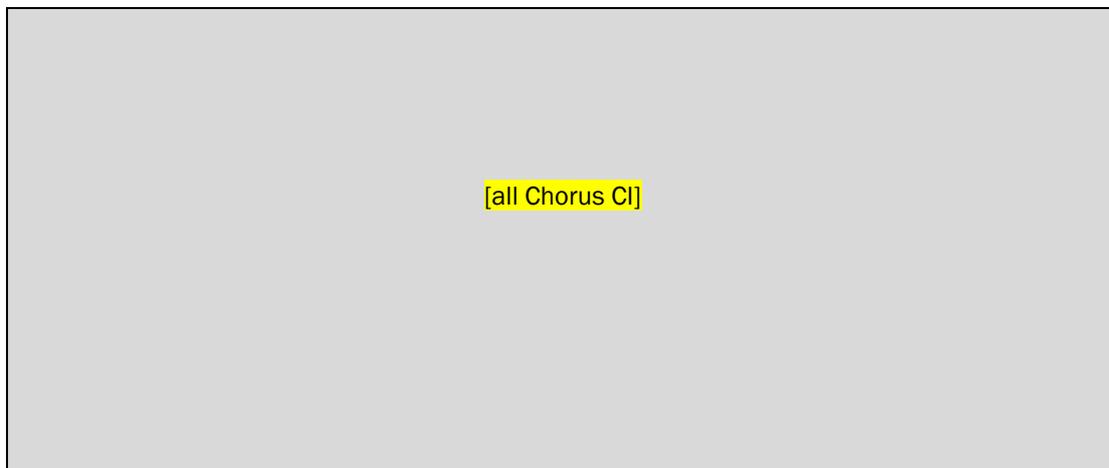
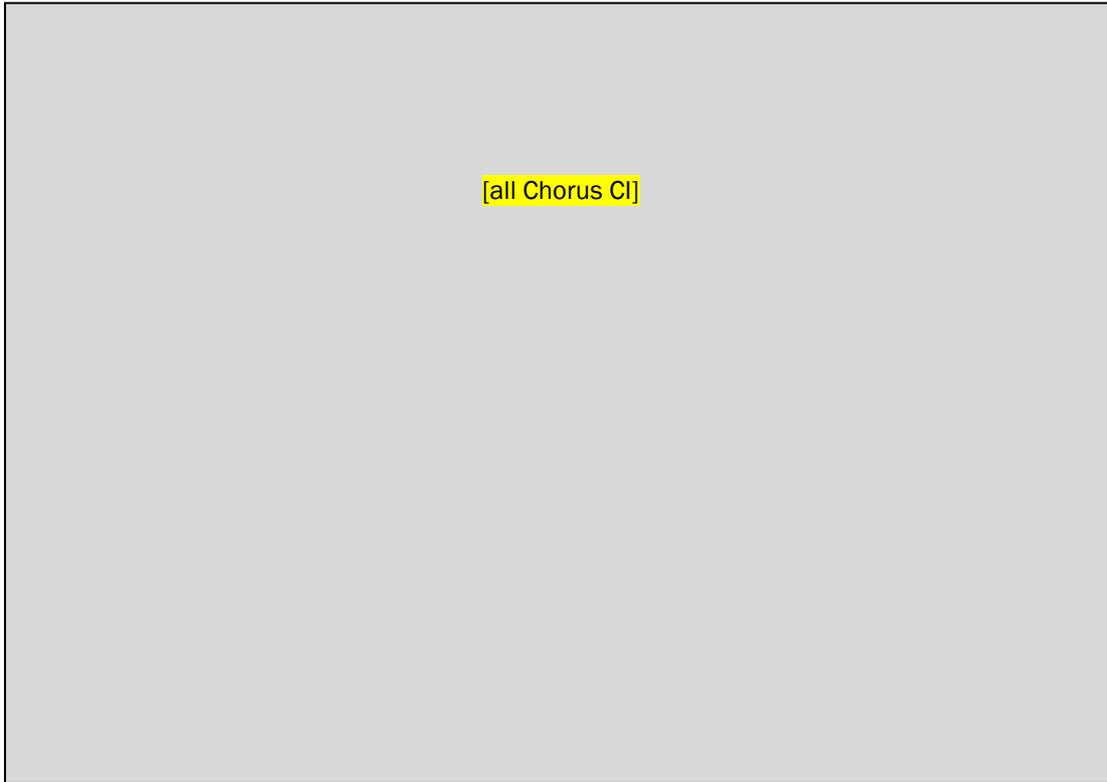


Figure A.8: Values used to calculate the “CNO – Chargeable damages – Copper” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.4 CNO - Fibre Route Survey

This allocation driver uses a time-varying allocation to service categories “Core fibre (national)” and “Other services”.

The distribution is created using GL data from 2 GL codes:

- [
- Chorus CI]

[Chorus CI] divided by [Chorus CI] gives the % of costs allocated to “Other services”, the rest being “Core fibre (national)”

Figure A.9 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure A.10 showing the final allocator for each financial year.

Figure A.11 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.9: Responses to the questions raised by the notice to supply information relative to driver “CNO – Fibre Route Survey” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varied allocation based on analysis of cost centres in historical general ledger accounts and new 5 year financial plan in the Opex model. • Partially included in the fibre BBM calculations in the IAV model
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO – Fibre Route Survey

Reference	Information requested	Comment
B22.5/B23.5	Allocator value for each financial loss year	See
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Figure A.10 below See
		Figure A.11 below

Figure A.10: The “CNO – Fibre Route Survey” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

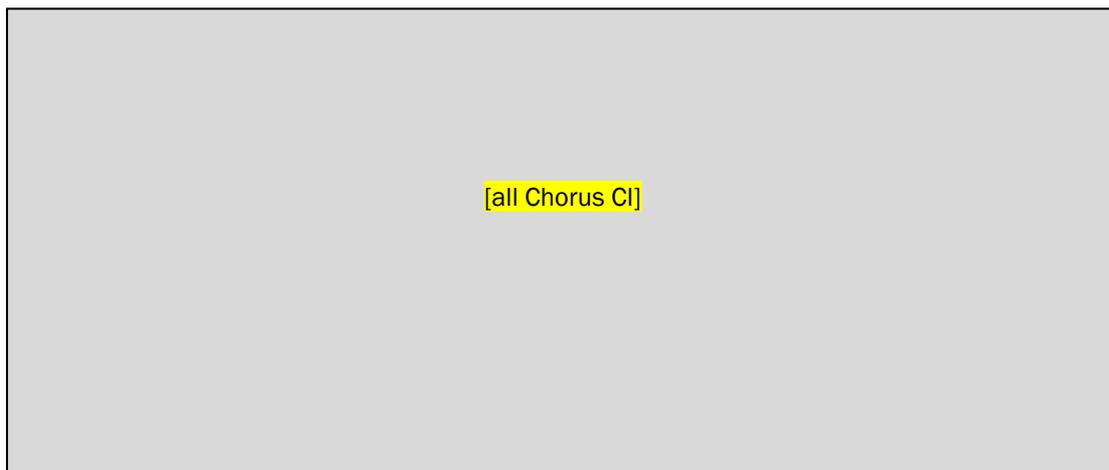
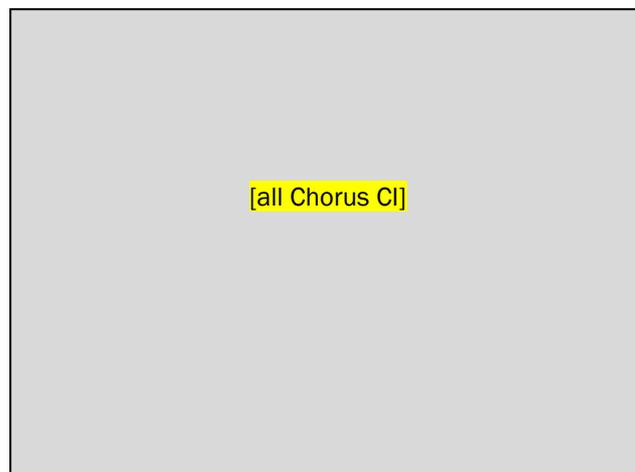


Figure A.11: Values used to calculate the “CNO – Fibre Route Survey” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.5 Core fibre

This allocation driver uses a constant 100% allocation to service category “Core fibre (national)” and does not require any input data.

Figure A.12 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.13 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.12: Responses to the questions raised by the notice to supply information relative to driver “Core fibre” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories

Reference	Information requested	Comment
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> Entirely allocated to core fibre in the opex model. Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> Causal in the opex model. Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> CNO - Chorus network proactive maintenance (core fibre) CNO - Fibre charges (core)
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.13 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.13: The driver “Core fibre” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	Core fibre (national)
6	Core fibre	2012	2012-6	100%
6		2013	2013-6	100%
6		2014	2014-6	100%
6		2015	2015-6	100%
6		2016	2016-6	100%
6		2017	2017-6	100%
6		2018	2018-6	100%
6		2019	2019-6	100%
6		2020	2020-6	100%
6		2021	2021-6	100%
6		2022	2022-6	100%
6		2023	2023-6	100%
6		2024	2024-6	100%
6		2025	2025-6	100%
6		2026	2026-6	100%
6		2027	2027-6	100%
6		2028	2028-6	100%
6		2029	2029-6	100%
6		2030	2030-6	100%

A.1.6 Proactive fibre maintenance

This allocation driver uses a constant 100% allocation to service category “FFLAS (fibre) directly attributed” and does not require any input data.

Figure A.14 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.15 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.14: Responses to the questions raised by the notice to supply information relative to driver “Proactive fibre maintenance” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	N/A – directly attributed
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	N/A – directly attributed
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	N/A – directly attributed
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	N/A – directly attributed
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A – directly attributed
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - Chorus proactive maintenance (fibre) split by NMR categories
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.15 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.15: The “Proactive fibre maintenance” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	FFLAS (fibre) directly attributed
7	Proactive fibre maintenance	2012	2012-7	100%
7		2013	2013-7	100%
7		2014	2014-7	100%
7		2015	2015-7	100%
7		2016	2016-7	100%
7		2017	2017-7	100%
7		2018	2018-7	100%
7		2019	2019-7	100%
7		2020	2020-7	100%
7		2021	2021-7	100%
7		2022	2022-7	100%
7		2023	2023-7	100%
7		2024	2024-7	100%
7		2025	2025-7	100%
7		2026	2026-7	100%
7		2027	2027-7	100%
7		2028	2028-7	100%
7		2029	2029-7	100%
7		2030	2030-7	100%

A.1.7 Reactive fibre maintenance

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Core fibre (national)”.

Allocations from 2016 to 2020 are based on six categories of data from one input file³⁷.

Calculation steps:

1. Two of the six categories labelled “Buildings” and “0” are ignored.
2. Each of the three service categories is mapped directly to one of the four remaining data categories as indicated by labelling.
3. The data category labelled “Maybe shared” is assumed to be shared 50% between “Non-FFLAS (copper) not directly attributed” and “FFLAS (fibre) not directly attributed”.
4. Allocation factors are then calculated as a percentage of the total.
5. Periods from 2012 to 2015 assume the same distribution as 2016, and periods from 2021 to 2023 assume the same distribution as 2020

³⁷ Analysis of maintenance costs FFLAS vs not 130820.xlsx

6. The distribution is held constant after 2023.

Figure A.16 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.17 showing the final allocator for each financial year.

Figure A.18 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.16: Responses to the questions raised by the notice to supply information relative to driver “Reactive fibre maintenance” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	Allocations from 2016 to 2020 are based on six categories of data from one input file ³⁸ . Periods from 2012 to 2015 assume the same distribution as 2016, and periods from 2021 to 2023 assume the same distribution as 2020. The distribution is held constant after 2023.
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on maintenance data from one input file in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.

³⁸ Analysis of maintenance costs FFLAS vs not 130820.xlsx

Reference	Information requested	Comment
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> CNO - Chorus reactive maintenance (fibre) split by TFC categories
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.17 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure A.18 below

Figure A.17: The “Reactive fibre maintenance” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

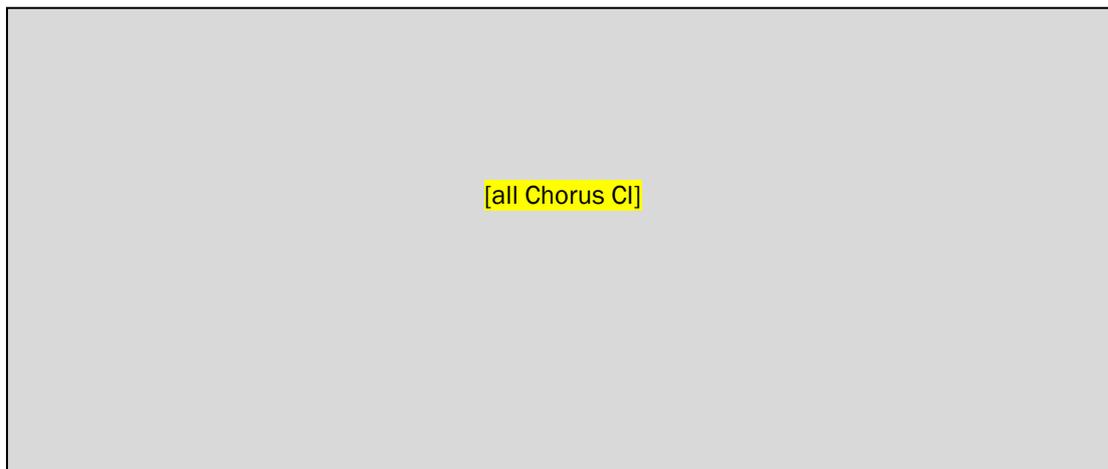


Figure A.18: Values used to calculate the “Reactive fibre maintenance” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.8 Copper

This allocation driver uses a constant 100% allocation to service category “Non-FFLAS (copper) directly attributed” and does not require any input data.

Figure A.19 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.20 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.19: Responses to the questions raised by the notice to supply information relative to driver “Copper” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	N/A – directly attributed
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	N/A – not attributed to FFLAS
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	N/A – directly attributed
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	N/A – directly attributed
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A – directly attributed
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC - copper operations • CNO - Chorus proactive maintenance (copper) split by NMR categories

Reference	Information requested	Comment
		<ul style="list-style-type: none"> • CNO - Chorus network proactive maintenance (copper) • CNO - Chorus network reactive maintenance (copper) • CNO - outsourcing - copper direct • CNO - project opex - Copper direct • CTO - Copper
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.20 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.20: The “Copper” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	Non-FFLAS (copper) directly attributed
9	Copper	2012	2012-9	100%
9		2013	2013-9	100%
9		2014	2014-9	100%
9		2015	2015-9	100%
9		2016	2016-9	100%
9		2017	2017-9	100%
9		2018	2018-9	100%
9		2019	2019-9	100%
9		2020	2020-9	100%
9		2021	2021-9	100%
9		2022	2022-9	100%
9		2023	2023-9	100%
9		2024	2024-9	100%
9		2025	2025-9	100%
9		2026	2026-9	100%
9		2027	2027-9	100%
9		2028	2028-9	100%
9		2029	2029-9	100%
9		2030	2030-9	100%

A.1.9 Accommodation relationship driver

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) directly attributed” and “FFLAS (fibre) not directly attributed”.

The distribution is created using specific data provided by Chorus in two input files³⁹

Calculation steps

1. Between 2012 and 2025, “Exchange based opex” is subtracted from “Total Accommodation”, with the balance representing “Non-exchange based opex”.
2. Percentages are calculated for “To be allocated on Spark site %age”, “To be allocated on Chorus site %age” and “Non-exchange based opex” as a proportion of “Total Accommodation”.
3. Each of the above percentages is then split between “Non-FFLAS (copper) directly attributed” and “FFLAS (fibre) not directly attributed” based on three sets of input percentages.
4. The distribution is held constant after 2025.

Figure A.21 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.22 showing the final allocator for each financial year.

Figure A.23 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.21: Responses to the questions raised by the notice to supply information relative to driver “Accommodation relationship driver” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause	This complies because it is based on data that provides a fact-based

³⁹ Electricity and Power allocation changes 230620 update FY20 update.xlsx
Property footprint allocation (M Bruce) (26062020).xlsx

Reference	Information requested	Comment
	B1.1.6(4) of Schedule B of Attachment B of the IM Determination	allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	The distribution is held constant after 2025
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on electricity and power opex allocations and property footprint allocations
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	B1.1.6(1)(c)(iv)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC - property – accommodation • CNO - Chorus network proactive maintenance (accommodation) • CNO - Chorus network reactive maintenance (accommodation) • CNO - property – accommodation • CNO - property - Rates – Buildings • CNO - project opex - shared
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.22 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure A.23 below

Figure A.22: The “Accommodation relationship driver” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

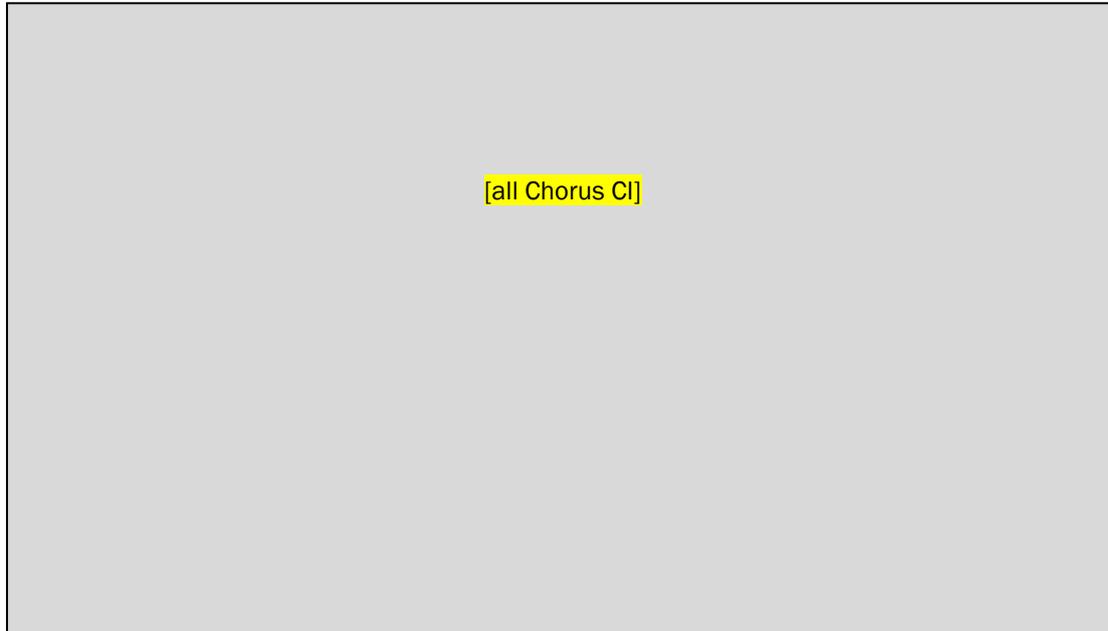
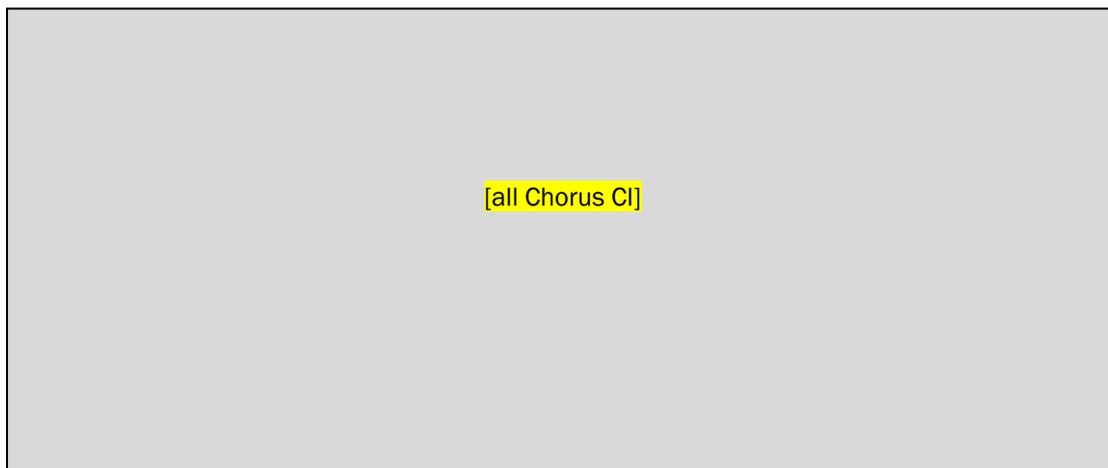
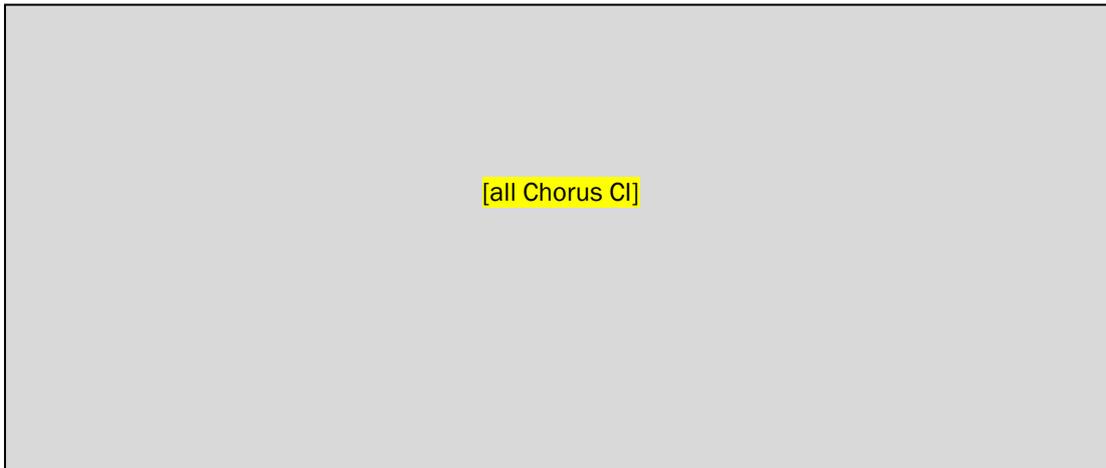


Figure A.23: Values used to calculate the “Accommodation relationship driver” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]





A.1.10 Power relationship driver

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) directly attributed” and “FFLAS (fibre) not directly attributed”.

The distribution is created using specific data provided by Chorus in two input files⁴⁰

Calculation steps

1. Between 2012 and 2025, “Exchange based opex” is subtracted from “Total Electricity”, with the balance representing “Non-exchange based opex”.
2. The proportion of “Non-exchange based opex” is wholly allocated to “Non-FFLAS (copper) directly attributed”. Proportions from 2021 to 2025 cannot be calculated and are set to the 2020 value.
3. The balance of “Total Electricity” (which is equivalent to the proportion of “Exchange based opex”) is split between “Non-FFLAS (copper) directly attributed” and “FFLAS (fibre) not directly attributed” based on input percentages.
 - a. “Non-FFLAS (copper) directly attributed”= “Non-exchange based opex”+ (1-“Non-exchange based opex”) * copper access services split
 - b. “FFLAS (fibre) not directly attributed”= (1-“Non-exchange based opex”) * fibre access services split
4. The distribution is held constant after 2025.

Figure A.24 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.25 showing the final allocator for each financial year. Figure A.26

⁴⁰ Electricity and Power allocation changes 230620 update FY20 update.xlsx
Property Power allocation (M Bruce) (22062020).xlsx

a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.24: Responses to the questions raised by the notice to supply information relative to driver “Power relationship driver” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	The distribution is held constant after 2025
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on electricity and power allocation
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	B1.1.6(1)(c)(viii)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC - property – power • CNO - Chorus network proactive maintenance (power) • CNO - Chorus network reactive maintenance (power) • CNO - property - power
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.25 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.26 below

Figure A.25: The “Power relationship driver” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus Cl]

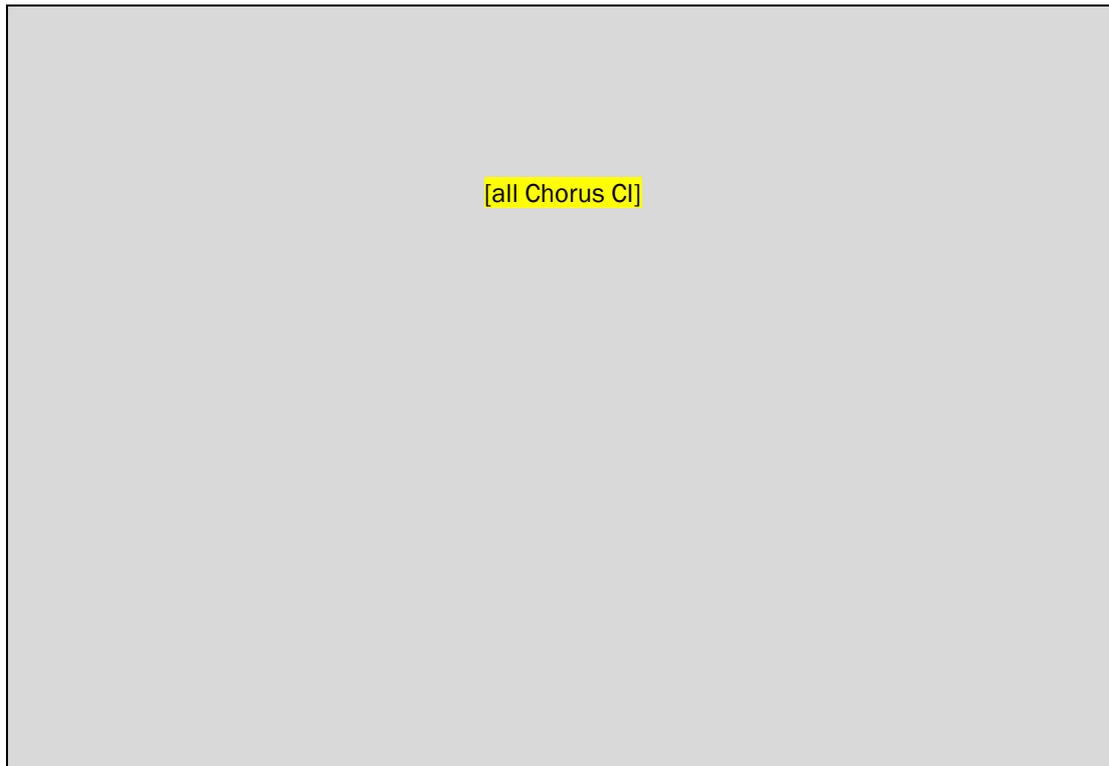
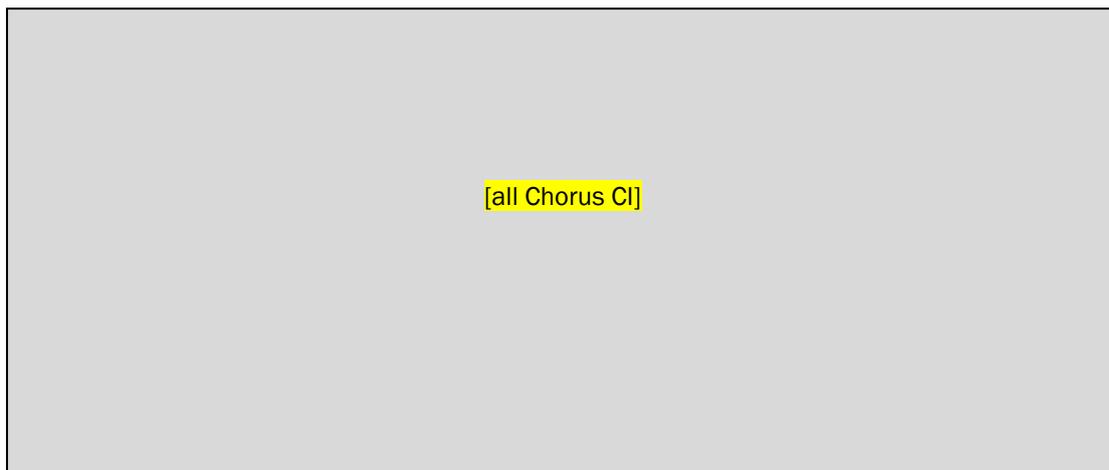


Figure A.26: Values used to calculate the “Power relationship driver” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.11 Infrastructure rates driver

This allocation driver uses a time-varying allocation to service categories “Infrastructure Rates alloc by Won areas”, “Infrastructure Rates alloc by Lost areas”, “Infrastructure Rates alloc by Non areas” and “Infrastructure Rates alloc by National areas”.

The distribution is created using specific data provided by Chorus in file “Infrastructure Rates alloc by ESA_v1b.xlsx”.

Calculation steps

1. Proportional splits are calculated from won, lost, non to total national infrastructure rates.
2. These are flatlined from 2026.

Figure A.27 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.28 showing the final allocator for each financial year. Figure A.29 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.27: Responses to the questions raised by the notice to supply information relative to driver “Infrastructure rates driver” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories
B9.2	Include an explanation if the cost allocator is based on extrapolated data	Proportional splits are calculated from won, lost, non to total national infrastructure rates. These are flatlined from 2026
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on won/lost/non/national areas in the Opex model. • Final allocation to services done in the IAV model based on GBV
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Causal in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(x) (requires Commission approval) in the IAV model.

Reference	Information requested	Comment
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - property - Rates - Infrastructure
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.28 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.29 below

Figure A.28: The “Infrastructure rates driver” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

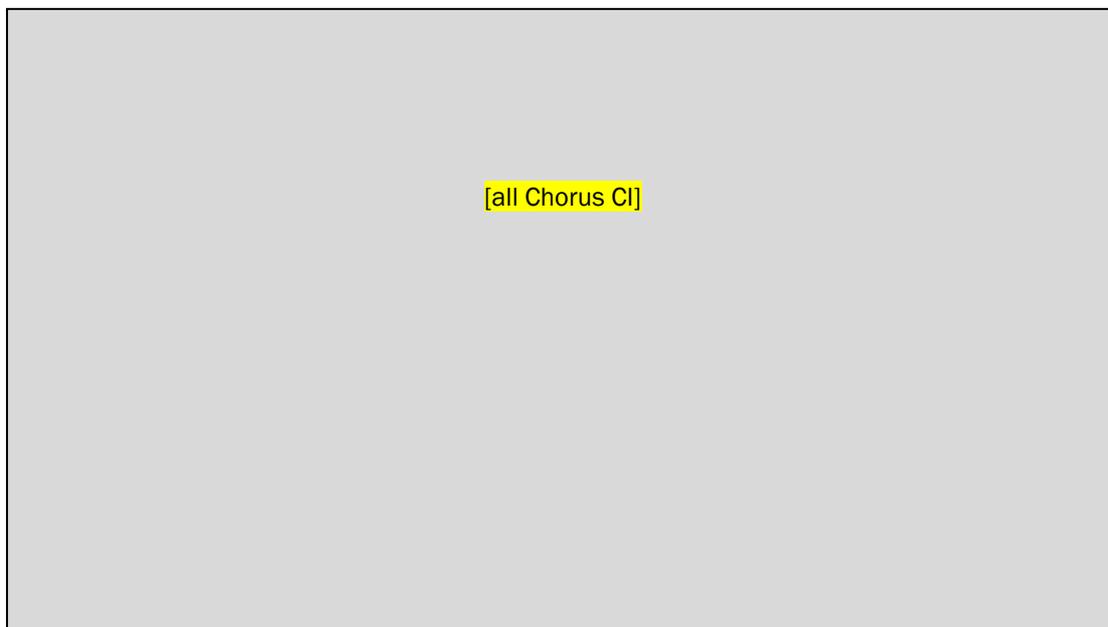
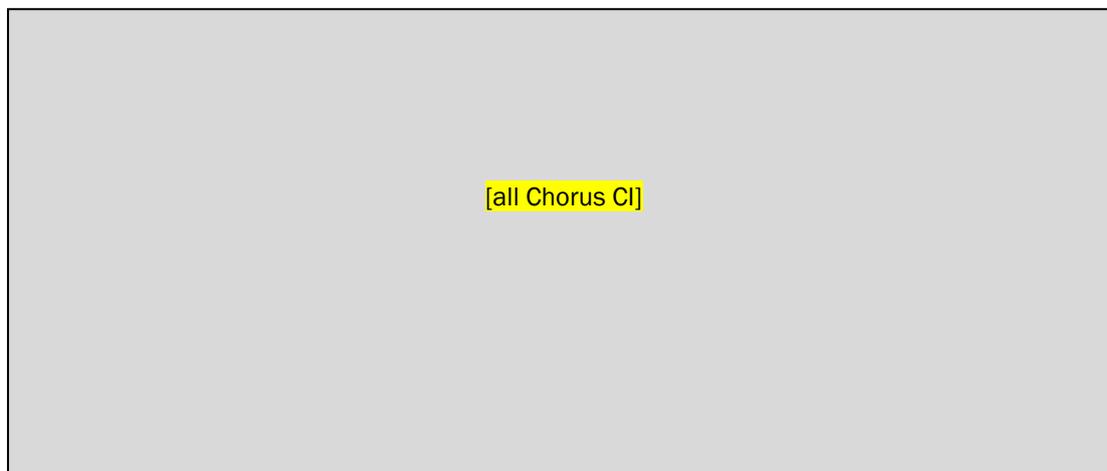


Figure A.29: Values used to calculate the “Infrastructure rates driver” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.12 Subscribers

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and Core fibre (national)”.

The distribution is created using data from the revenue and subscriber forecast⁴¹ from the main module of the BBM.

Calculation steps

1. End of period line demand figures are input from the revenue model for “Copper access services”, “Contracted FFLAS Fibre services”, “Voluntary FFLAS Fibre services”, and “Non-FFLAS Fibre services”.
2. Average of period values are calculated from the data described above. At the same time “Contracted” and “Voluntary” FFLAS are added to become one category, “FFLAS Fibre Services”.
3. For the calculation of average demand in 2012, “FFLAS Fibre services” and Non-FFLAS Fibre services assume zero demand at the start of 2012.
4. “Copper access services” average demand in 2012 is calculated as end of period demand, less 7/12 of the increase in end of period demand from 2012 to 2013.
5. The distribution of the allocation driver is calculated as the proportion of the average of period values to the total based on the following mapping

⁴¹ Chorus Integrated Demand Revenue Model_v4.3aa CC.xlsm

Opex Service category	Demand category
Non-FFLAS (copper) not directly attributed	Copper access services
FFLAS (fibre) not directly attributed	FFLAS Fibre services
Core fibre (national)	Non-FFLAS Fibre services

Figure A.30 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.31 showing the final allocator for each financial year. Figure A.32 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.30: Responses to the questions raised by the notice to supply information relative to driver “Subscribers” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> Time-varying allocation based on subscriber forecast in the Opex model. Partially included in the fibre BBM calculations in the IAV model .
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> Proxy (in the absence of any available data to create a causal allocator) in the opex model. Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> B1.1.6(1)(c)(i) in the opex model. B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> CNO - Chorus network proactive maintenance (shared)
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.31 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.32 below

Figure A.31: The “Subscribers” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

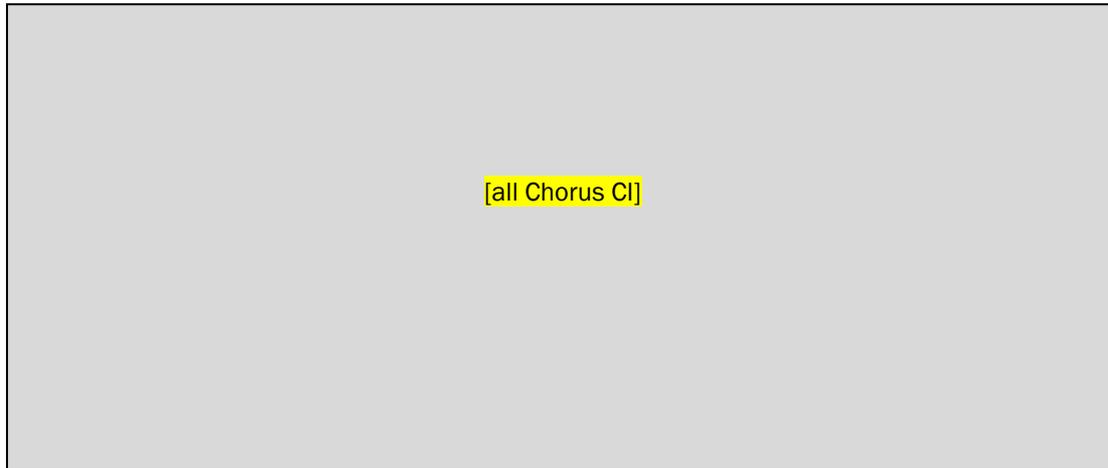
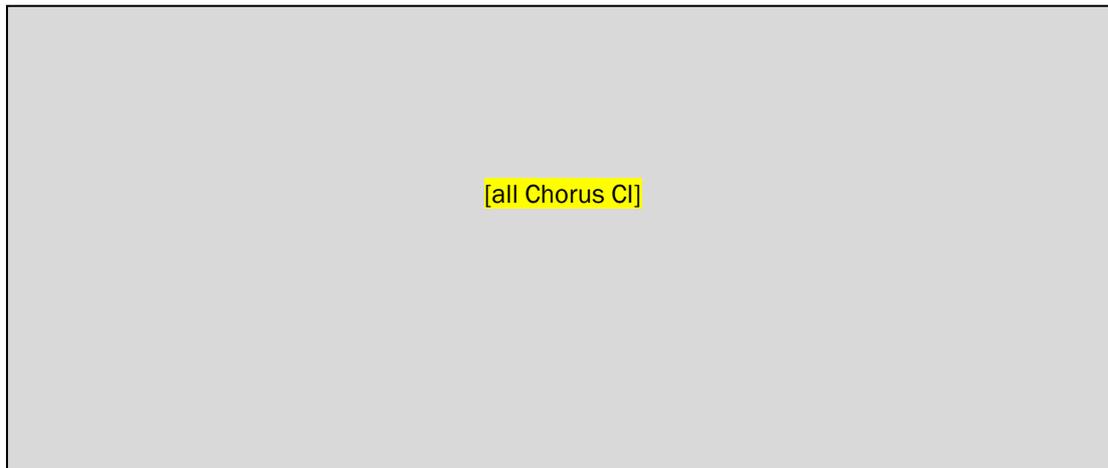


Figure A.32: Values used to calculate the “Subscribers” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.13 Provisioning pre-2017

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed”, “Other services”, “Billable Provisioning”, “Billable third party”, and “Core fibre (national)”.

Only “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Other services” receive an allocation greater than zero.

Calculation steps:

1. GL accounts from 2012 to 2017 are manually mapped into the following service categories as indicated by labelling

GL code [all CI]	GL account [all CI]	Service category
[]	[]	None
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	None
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Other services
[]	[]	FFLAS (fibre) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed

2. Allocation percentages are calculated for each service category as a proportion of the total, including a percentage for the accounts not mapped.
3. The proportion which is not mapped to a service category is spread across the remaining service categories based on a pro rata basis using the percentages calculated in step 2.
4. Periods after 2017 are given an allocation of zero across all service categories.

Figure A.33 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.34 showing the final allocator for each financial year.

Figure A.35 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.33: Responses to the questions raised by the notice to supply information relative to driver “Provisioning pre-2017” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on manual mapping of GL account to service category in the Opex model. • Partially included in the fibre BBM calculations in the IAV model .
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - Provisioning (before 2017)
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.34 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Reference	Information requested	Comment
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Figure A.35 and

Figure A.36 below

Figure A.34: The “Provisioning pre-2017” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

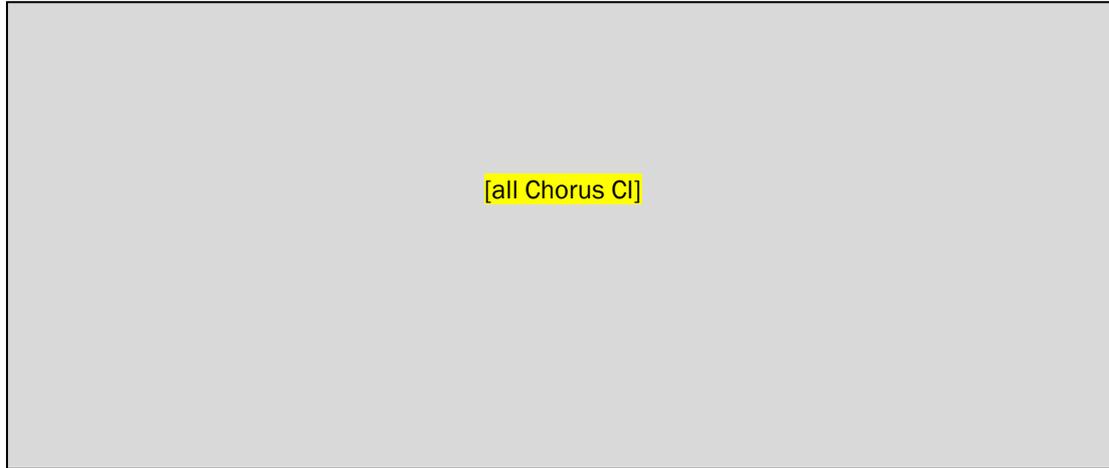


Figure A.35: Values used to calculate the “Provisioning pre-2017” allocator over time [1/2] (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]

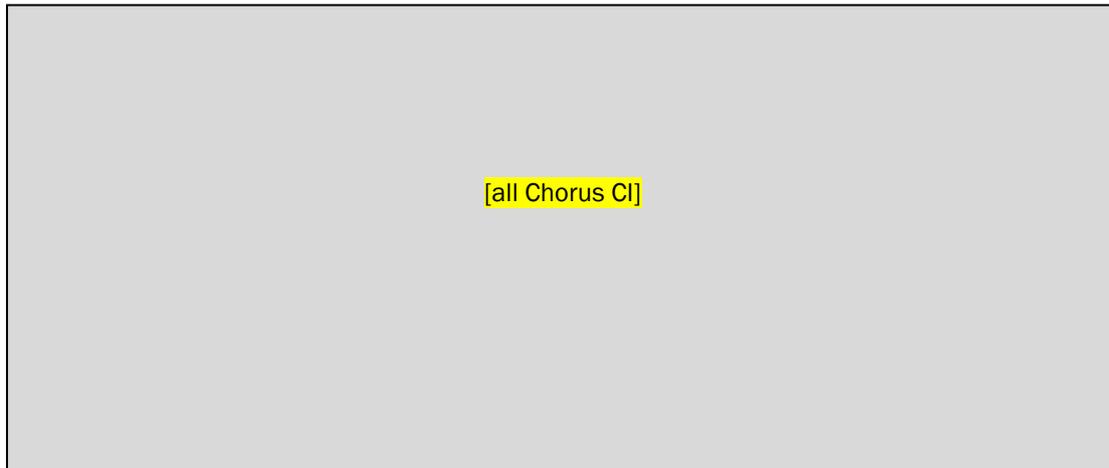


Figure A.36: Values used to calculate the “Provisioning pre-2017” allocator over time [2/2] (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]

[all Chorus CI]

A.1.14 Provisioning post-2017

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed”, “Other services”, “Billable Provisioning”, “Billable third party”, and “Core fibre (national)”.

Only “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Other services” receive an allocation greater than zero.

Calculation steps:

1. GL accounts from 2018 to 2020, and externally linked RESET forecasts⁴² from 2021 to 2025 are manually mapped into the following service categories as indicated by labelling

GL code [all CI]	GL account [all CI]	Service category
[]	[]	FFLAS (fibre) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	None
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Other services
[]	[]	FFLAS (fibre) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed
[]	[]	Non-FFLAS (copper) directly attributed

2. Allocation percentages are calculated for each service category as a proportion of the total, including a percentage for the accounts not mapped.
3. The proportion which is not mapped to a service category is spread across the remaining service categories based on a pro rata basis using the percentages calculated in step 2.
4. Periods before 2018 are given an allocation of zero across all service categories. The distribution is held constant after 2023.

Figure A.37 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure A.38 showing the final allocator for each financial year.

⁴² FY21 5YP opex output from RESET forecast files - 20200630 + Analysys Mason v2.xlsx

Figure A.39 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.37: Responses to the questions raised by the notice to supply information relative to driver “Provisioning post-2017” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	The distribution is held constant after 2023.
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on manual mapping of GL account to service category in the Opex model. • Partially included in the fibre BBM calculations in the IAV model .
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - Provisioning (from 2017)
B22.5/B23.5	Allocator value for each financial loss year	See
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	<p>Figure A.38 below</p> <p>See</p> <hr/> <p>Figure A.39 below</p>

Figure A.38: The “Provisioning post-2017” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

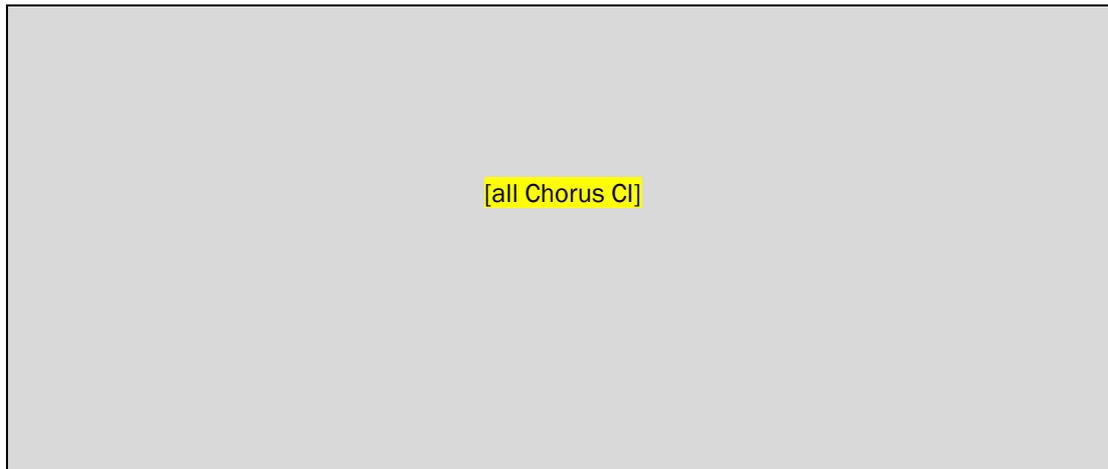


Figure A.39: Values used to calculate the “Provisioning post-2017” allocator over time [1/2] (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]

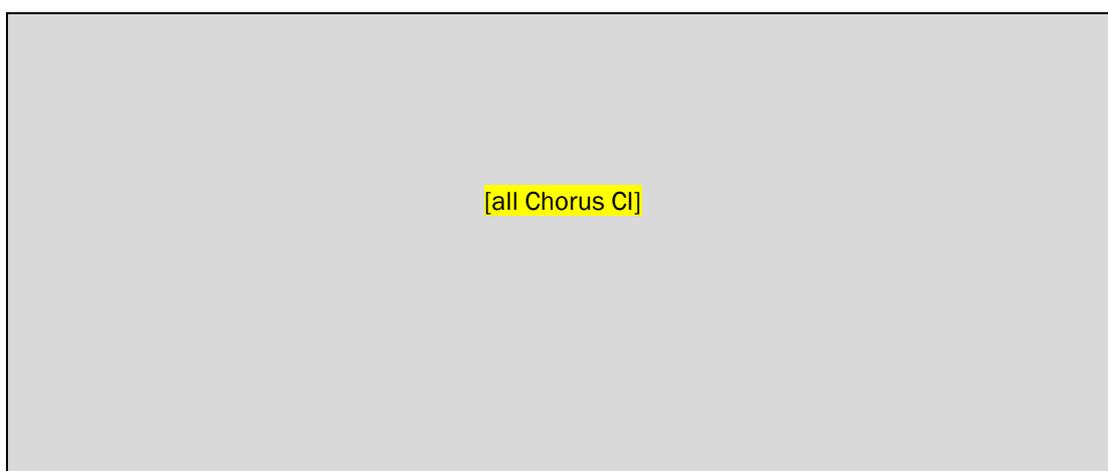
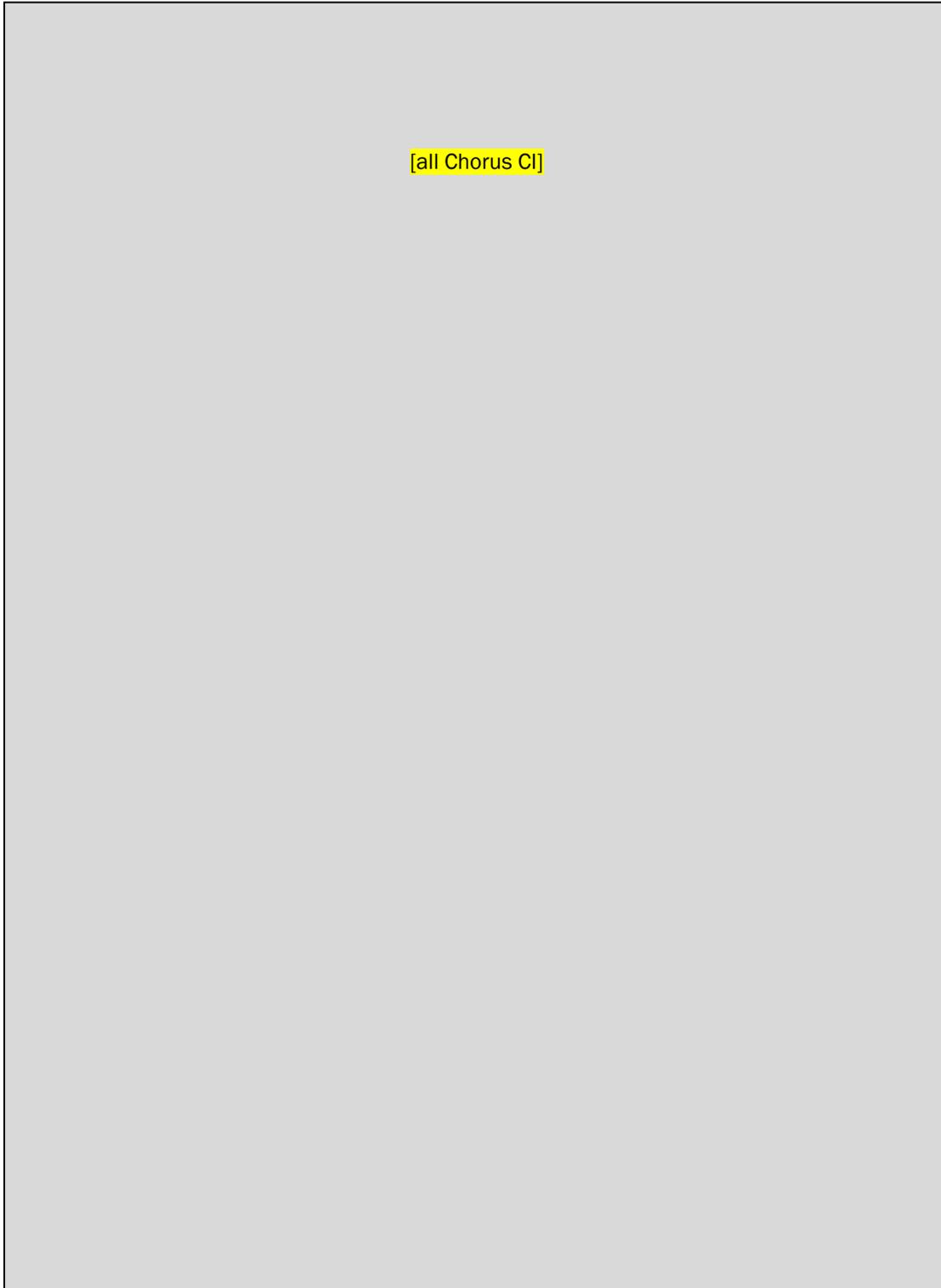


Figure A.40: Values used to calculate the "Provisioning post-2017" allocator over time [2/2] (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.15 Fibre

This allocation driver uses a constant 100% allocation to service category “FFLAS (fibre) directly attributed” and does not require any input data.

Figure A.41 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.42 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.41: Responses to the questions raised by the notice to supply information relative to driver “Fibre”
[Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	N/A – directly attributed
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	N/A – directly attributed
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	N/A – directly attributed
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	N/A – directly attributed
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A – directly attributed
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC - fibre operations • CNO - Customer maintenance – Fibre • CNO - Chorus reactive maintenance (fibre) • CNO - Chorus network reactive maintenance (fibre) • CNO - outsourcing - fibre direct • CNO - Fibre charges • CNO - project opex - Fibre direct • CTO – Fibre • Marketing & Sales - Marketing and Communications – Fibre • Corporate - Regulatory Levies - Fibre direct • Corporate - Fibre direct • CNO - SLA credits

Reference	Information requested	Comment
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.42 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.42: The “Fibre” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	FFLAS (fibre) directly attributed
16	Fibre	2012	2012-16	100%
16		2013	2013-16	100%
16		2014	2014-16	100%
16		2015	2015-16	100%
16		2016	2016-16	100%
16		2017	2017-16	100%
16		2018	2018-16	100%
16		2019	2019-16	100%
16		2020	2020-16	100%
16		2021	2021-16	100%
16		2022	2022-16	100%
16		2023	2023-16	100%
16		2024	2024-16	100%
16		2025	2025-16	100%
16		2026	2026-16	100%
16		2027	2027-16	100%
16		2028	2028-16	100%
16		2029	2029-16	100%
16		2030	2030-16	100%

A.1.16 Spare repair costs

This allocation driver uses a 100% allocation to service category “Non-FFLAS (copper) not directly attributed” except for any identified to be part of another service category (currently none).

Figure A.43 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.44 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.43: Responses to the questions raised by the notice to supply information relative to driver “Spare repair costs” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	N/A – directly attributed

Reference	Information requested	Comment
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination	N/A – not attributed to FFLAS
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	N/A – directly attributed
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	N/A – directly attributed
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A – directly attributed
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> CNO - spare repair costs
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.44 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.44: The “Spare repair costs” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	Non-FFLAS (copper) not directly attributed
17	Spare repair costs	2012	2012-17	100%
17		2013	2013-17	100.0%
17		2014	2014-17	100%
17		2015	2015-17	100%
17		2016	2016-17	100%
17		2017	2017-17	100%
17		2018	2018-17	100%
17		2019	2019-17	100%
17		2020	2020-17	100%
17		2021	2021-17	100%
17		2022	2022-17	100%
17		2023	2023-17	100%
17		2024	2024-17	100%
17		2025	2025-17	100%
17		2026	2026-17	100%
17		2027	2027-17	100%
17		2028	2028-17	100%
17		2029	2029-17	100%
17		2030	2030-17	100%

A.1.17 Co-location

This allocation driver uses a constant 100% allocation to service category “Other services” and does not require any input data.

Figure A.45 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.46 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.45: Responses to the questions raised by the notice to supply information relative to driver “Co-location” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	N/A – directly attributed
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A – not attributed to FFLAS
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	N/A – directly attributed
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	N/A – directly attributed
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A – directly attributed
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - co-location
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.46 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.46: The “Co-location” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	other services
18	Co-location	2012	2012-18	100%
18		2013	2013-18	100%
18		2014	2014-18	100%
18		2015	2015-18	100%
18		2016	2016-18	100%
18		2017	2017-18	100%
18		2018	2018-18	100%
18		2019	2019-18	100%
18		2020	2020-18	100%
18		2021	2021-18	100%
18		2022	2022-18	100%
18		2023	2023-18	100%
18		2024	2024-18	100%
18		2025	2025-18	100%
18		2026	2026-18	100%
18		2027	2027-18	100%
18		2028	2028-18	100%
18		2029	2029-18	100%
18		2030	2030-18	100%

A.1.18 Cancellations

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed” and “FFLAS (fibre) not directly attributed”.

Calculation steps:

1. “CNO - cancellations” are extracted from the GL accounts for each year from 2012 to 2020.
2. “Fibre cancellations” from 2015 to 2020 are input via an external file⁴³.
3. In 2015 only, “Copper cancellations” are calculated as total “CNO - cancellations” less “Fibre cancellations”.
4. The allocation to “Non-FFLAS (copper) not directly attributed” is calculated as “Copper cancellation” (calculated in Step 3 above) divided by “CNO - cancellations”. Note this only produces a value in 2015.
5. The balance is allocated to “FFLAS (fibre) not directly attributed”

⁴³ Other information relied on by AM 110520 updated for FY20 actuals.xlsx

6. After 2020 the distribution is held constant.

Figure A.47 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure A.48 showing the final allocator for each financial year. Figure A.49 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.47: Responses to the questions raised by the notice to supply information relative to driver “Cancellations” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	See calculation steps above.
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on fibre and copper cancellations
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	B1.1.6(1)(c)(x) (requires Commission approval)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - cancellations
B22.5/B23.5	Allocator value for each financial loss year	See

Figure A.48 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.49 below

Figure A.48: The “Cancellations” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

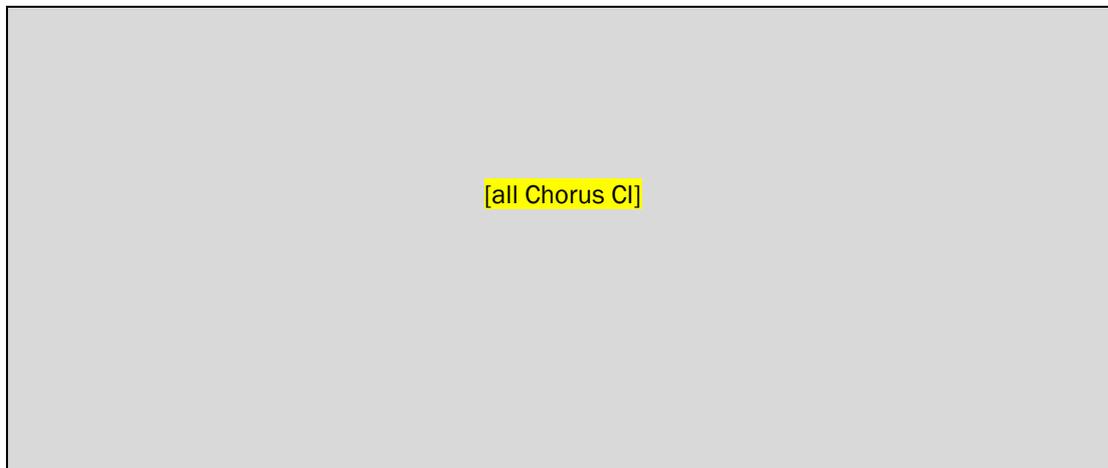
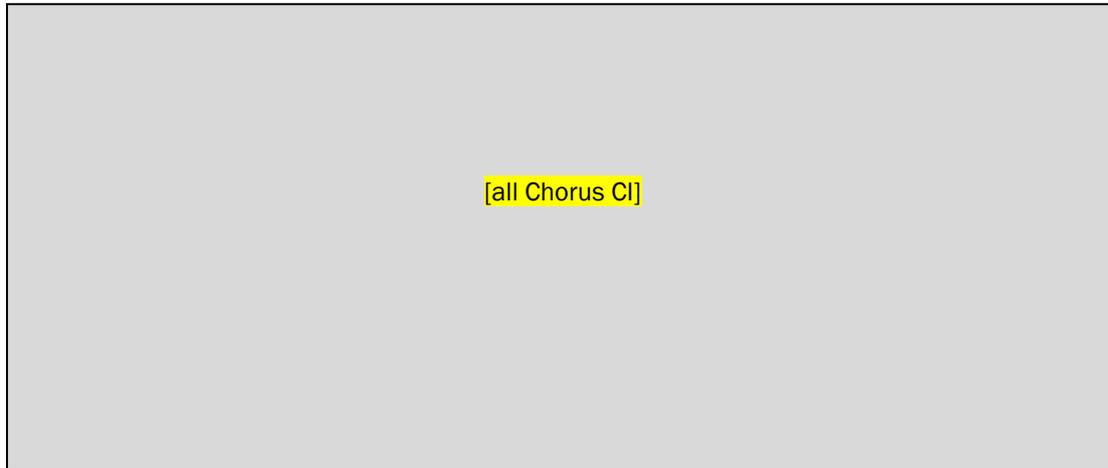


Figure A.49: Values used to calculate the “Cancellations” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.19 Project opex

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Billable third party”.

Calculation steps:

1. GL accounts from 2012 to 2020, and externally linked RESET forecasts from 2021 to 2025 are manually mapped into the following service categories as indicated by labelling

GL code [all CI]	GL account [all CI]	Service categories	Comment
[]	[]	Copper access services	
[]	[]	Copper access services Fibre access services	2012-2014 assumes 100% copper 2015-2020 uses data in input file ⁴⁴ 2021-2025 uses average value of 2015-2020 data
[]	[]	None	
[]	[]	None	
[]	[]	None	
[]	[]	None	
[]	[]	None	

⁴⁴ Project opex [

Chorus CI] historical reports + Analysys Mason ian edits FY20 actuals

[]	[]	Copper access services Fibre access services	2012-2014 assumes 100% copper 2015-2020 uses data in input file ⁴⁵ 2021-2025 uses average value of 2015-2020 data
[]	[]	Copper access services	
[]	[]	Other services	
[]	[]	Other services	
[]	[]	Copper access services	
[]	[]	None	
[]	[]	None	
[]	[]	Copper access services	
[]	[]	None	
[]	[]	Copper access services Fibre access services	2012-2014 assumes 100% copper 2015-2020 uses data in input file ⁴⁶ 2021-2025 uses average value of 2015-2020 data
[]	[]	Copper access services Fibre access services	2012-2014 assumes 100% copper 2015-2020 uses data in input file ⁴⁷ 2021-2025 uses average value of 2015-2020 data
[]	[]	None	

2. Allocation percentages are calculated for each service category as a proportion of the total, including a percentage for the accounts not mapped.

45 Project opex [(Chorus CI] historical reports + Analysys Mason ian edits FY20 actuals
 46 Project opex [(Chorus CI] historical reports + Analysys Mason ian edits FY20 actuals
 47 Project opex [(Chorus CI] historical reports + Analysys Mason ian edits FY20 actuals

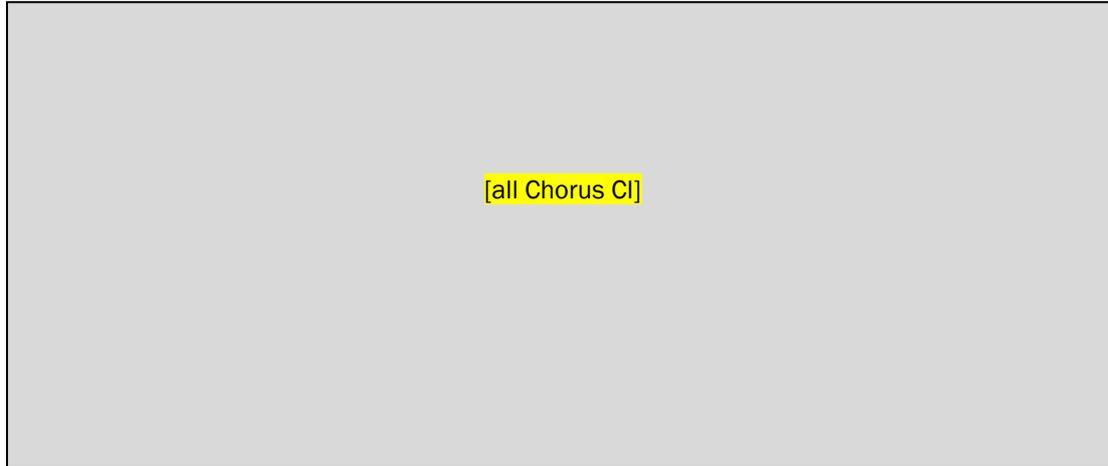
3. The proportion which is not mapped to a service category is spread across the remaining service categories based on a pro rata basis using the percentages calculated in step 2.
4. The distribution is held constant after 2025.

Figure A.50 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.51 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.50: Responses to the questions raised by the notice to supply information relative to driver “Project opex” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on a manual mapping of GL account to service category in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - project opex
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.51 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the “Unmixed expenses ADs” sheet in “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.51: The “Project opex” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.20 Chorus reactive maintenance overhead

This allocation driver uses a time-varying allocation to service categories “FFLAS (fibre) directly attributed”, “FFLAS (fibre) not directly attributed”, “Non-FFLAS (copper) directly attributed”, “Non-FFLAS (copper) not directly attributed” and “Core fibre (national)”.

Calculation steps:

1. Calculate the allocation of the following expense categories by getting the value per year of the expense category in the GL and multiplying by the distribution by service category of the allocation driver of that expense category

Expense category
CNO - Chorus reactive maintenance (fibre) split by TFC categories
CNO - Chorus network reactive maintenance (fibre)
CNO - Chorus network reactive maintenance (copper)
CNO - Chorus network reactive maintenance (power)
CNO - Chorus network reactive maintenance (accommodation)

2. Sum all above calculations
3. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 2

Figure A.52 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.53 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.52: Responses to the questions raised by the notice to supply information relative to driver “Chorus reactive maintenance overhead” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation proportional to allocation of component expense categories in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - Chorus reactive maintenance overhead • CTO - Common - Faults/Tickets
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.53 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the ‘Unmixed expenses ADs’ sheet in “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.53: The “Chorus reactive maintenance overhead” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.21 Chorus proactive maintenance overhead

This allocation driver uses a time-varying allocation to service categories “FFLAS (fibre) directly attributed”, “FFLAS (fibre) not directly attributed”, “Non-FFLAS (copper) directly attributed”, “Non-FFLAS (copper) not directly attributed” and “Core fibre (national)”.

Calculation steps:

1. Calculate the allocation of the following expense categories by getting the value per year of the expense category in the GL and multiplying by the distribution by service category of the allocation driver of that expense category

Expense category
CNO - Chorus proactive maintenance (fibre) split by NMR categories
CNO - Chorus network proactive maintenance (copper)
CNO - Chorus network proactive maintenance (core fibre)
CNO - Chorus network proactive maintenance (shared)
CNO - Chorus network proactive maintenance (power)
CNO - Chorus network proactive maintenance (accommodation)

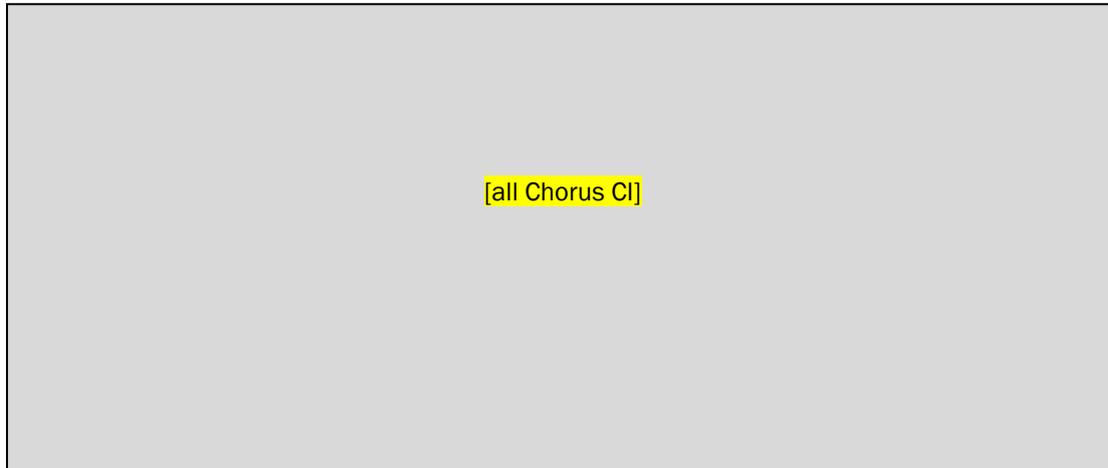
2. Sum all above calculations
3. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 2

Figure A.54 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.55 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.54: Responses to the questions raised by the notice to supply information relative to driver “Chorus proactive maintenance overhead” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation proportional to allocation of component expense categories in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - Chorus proactive maintenance overhead
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.55 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the ‘Unmixed expenses ADs’ sheet in “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.55: The “Chorus proactive maintenance overhead” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.22 Maintenance overhead

This allocation driver uses a time-varying allocation to service categories “FFLAS (fibre) directly attributed”, “FFLAS (fibre) not directly attributed”, “Non-FFLAS (copper) directly attributed”, “Non-FFLAS (copper) not directly attributed”, “Other services” and “Core fibre (national)”.

Calculation steps:

1. Get the total allocation used in Step 2 of Chorus reactive maintenance overhead
2. Get the total allocation used in Step 2 of Chorus proactive maintenance overhead
3. Calculate the allocation of the following expense categories by getting the value per year of the expense category in the GL and multiplying by the distribution by service category of the allocation driver of that expense category

Expense category
CNO - Fibre Route Survey

4. Sum all above calculations
5. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 4

Figure A.56 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure A.57 showing the final allocator for each financial year.

Figure A.58 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.56: Responses to the questions raised by the notice to supply information relative to driver “Maintenance overhead” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation proportional to allocation of component expense categories in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC - Assure • CNO - payment to service companies – maintenance • CNO - Network integrity and quality - non-chargeable • CNO - outsourcing – shared
B22.5/B23.5	Allocator value for each financial loss year	See

Figure A.57 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure A.58 below

Figure A.57: The “Maintenance overhead” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

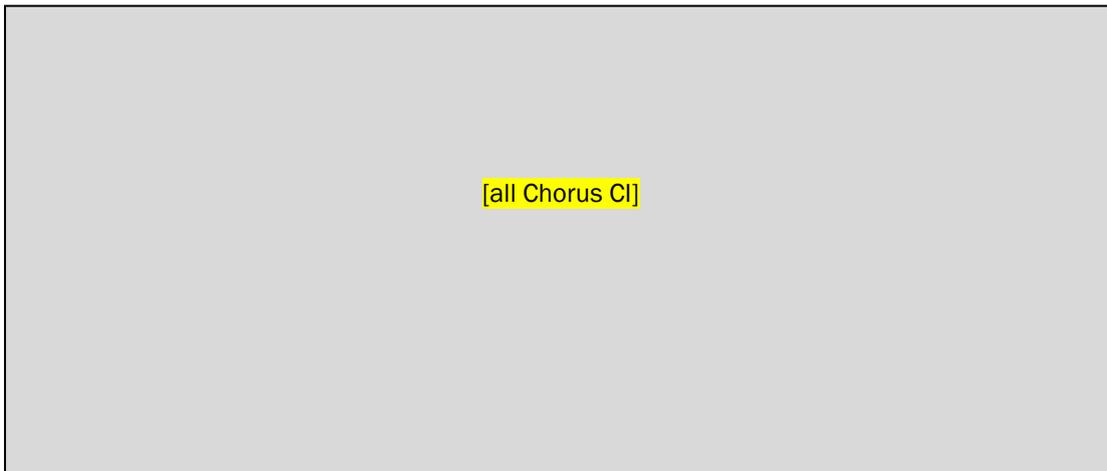
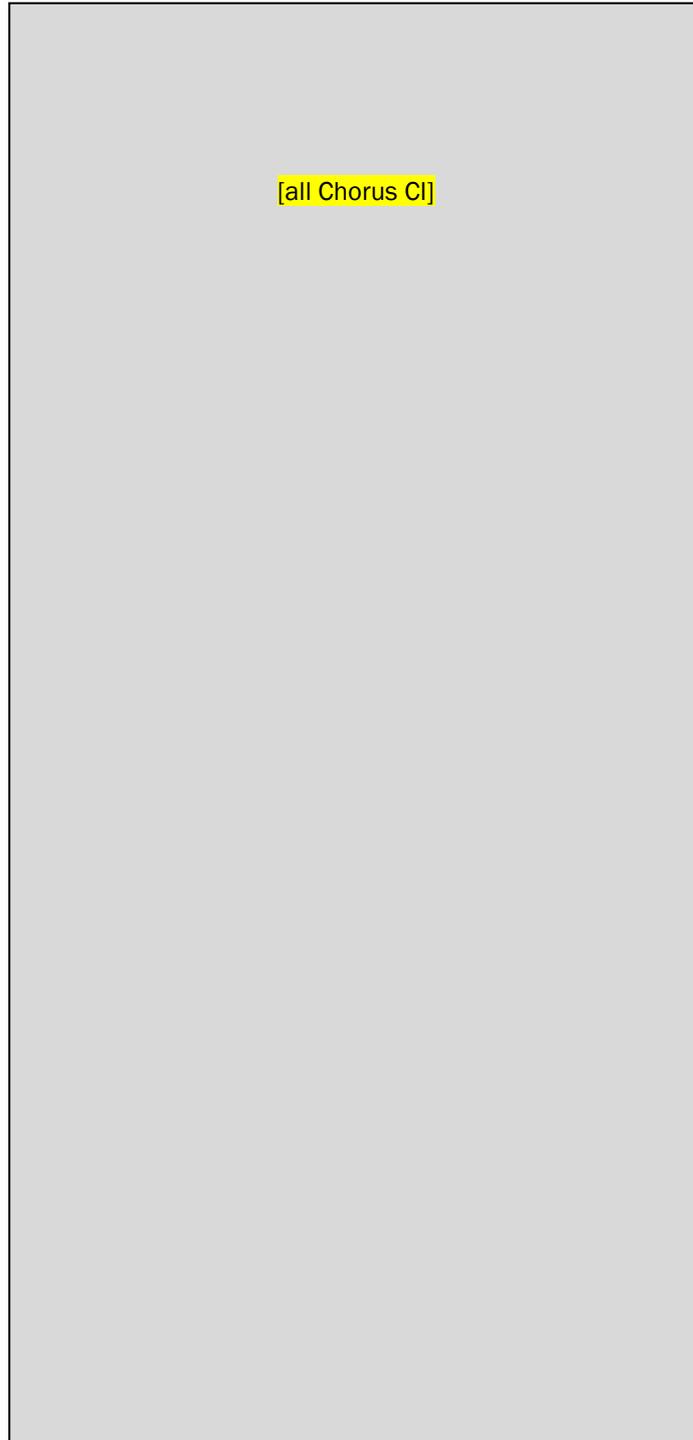


Figure A.58: Values used to calculate the “Maintenance overhead” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.23 Provisioning

overhead

This allocation driver uses a time-varying allocation to service categories, “FFLAS (fibre) not directly attributed”, “Non-FFLAS (copper) not directly attributed” and “Other services”.

Calculation steps:

1. Calculate the allocation of the following expense categories by getting the value per year of the expense category in the GL and multiplying by the distribution by service category of the allocation driver of that expense category

Expense category
CNO - Provisioning (before 2017)
CNO - Provisioning (from 2017)

2. Sum all above calculations
3. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 2

Figure A.59 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.60 showing the final allocator for each financial year. Figure A.61 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.59: Responses to the questions raised by the notice to supply information relative to driver “Provisioning overhead” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation proportional to allocation of component expense categories
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	B1.1.6(1)(c)(x) (requires Commission approval)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC – Provisioning • CNO - payment to service companies – provisioning • CTO - Common - S/O Volumes

Reference	Information requested	Comment
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.60 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.61 below

Figure A.60: The “Provisioning overhead” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

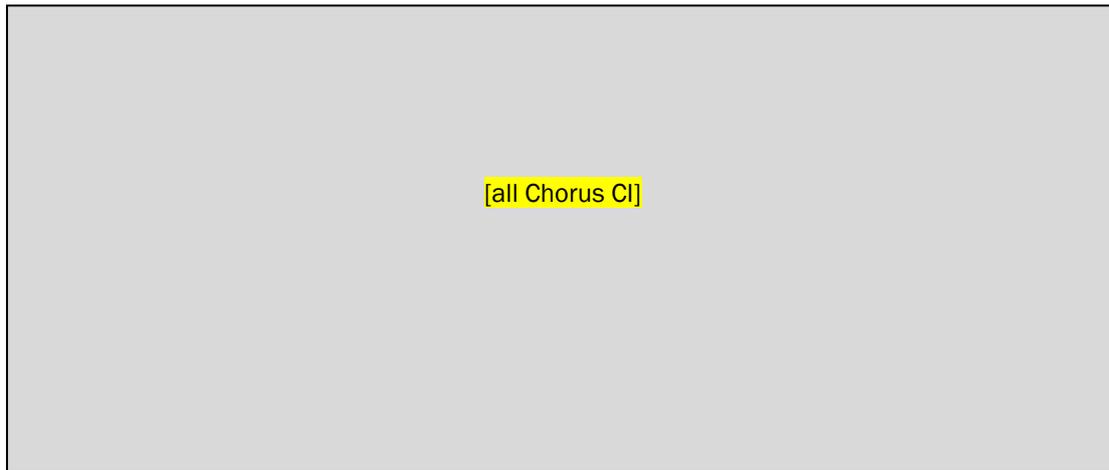
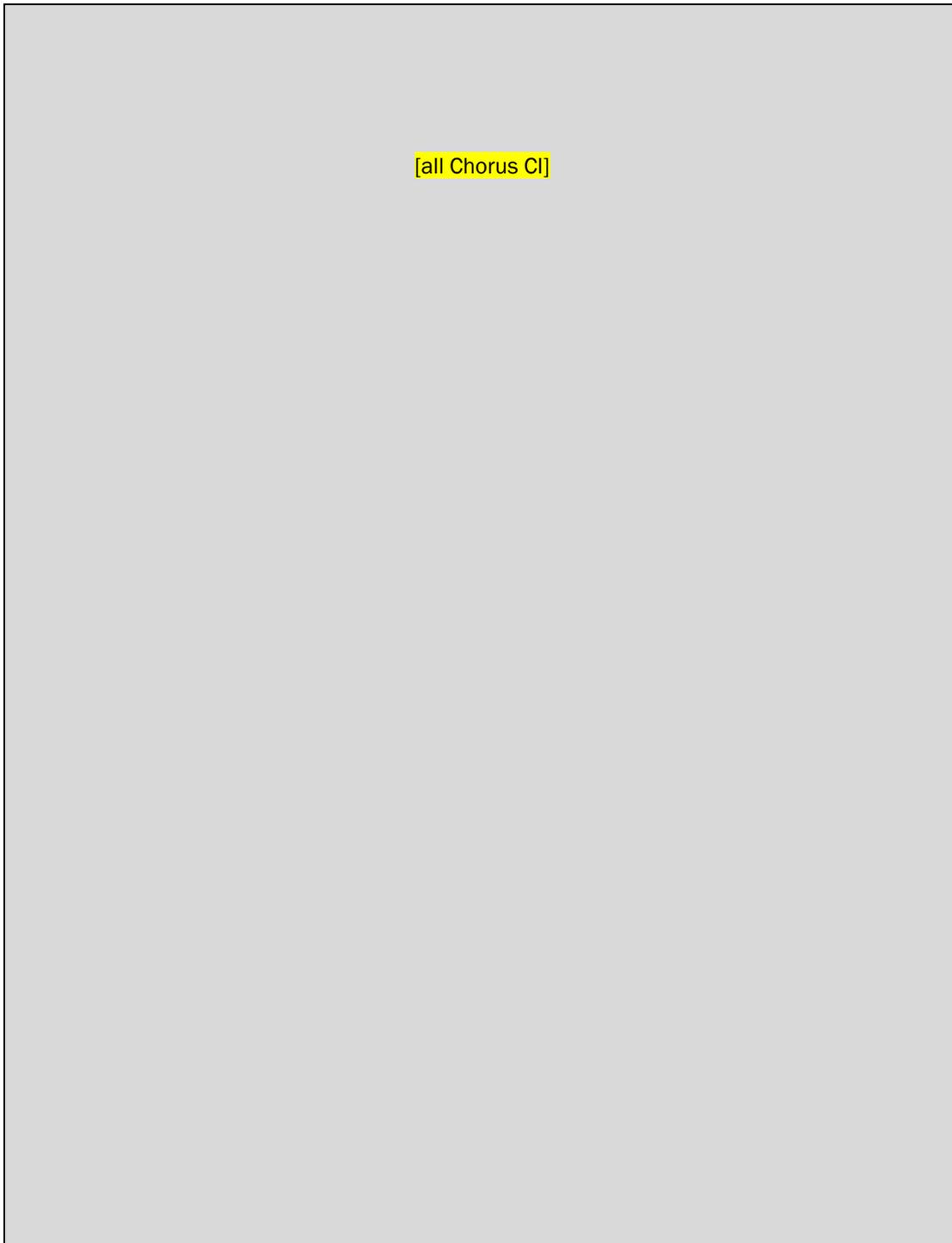


Figure A.61: Values used to calculate the "Provisioning overhead" allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.1.24 Service company overhead

This allocation driver uses a time-varying allocation to service categories “FFLAS (fibre) directly attributed”, “FFLAS (fibre) not directly attributed”, “Non-FFLAS (copper) directly attributed”, “Non-FFLAS (copper) not directly attributed”, “Other services” and “Core fibre (national)”.

Calculation steps:

1. Get the total allocation used in Step 2 of Provisioning overhead
2. Get the total allocation used in Step 4 of Maintenance overhead
3. Calculate the allocation of the following expense categories by getting the value per year of the expense category in the GL and multiplying by the distribution by service category of the allocation driver of that expense category

Expense category
CNO - payment to service companies - Customer maintenance

4. Sum all above calculations
5. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 4

Figure A.62 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.63 showing the final allocator for each financial year.

Figure A.64 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.62: Responses to the questions raised by the notice to supply information relative to driver “Service company overhead” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation proportional to allocation of component expense categories in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC – network • CNO - NPC - overall serco management • CNO - NPC - Operations & Optimisation • CNO - NPC overhead costs • CTO - Common - Schedules
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.63 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure A.64 below

Figure A.63: The “Service company overhead” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

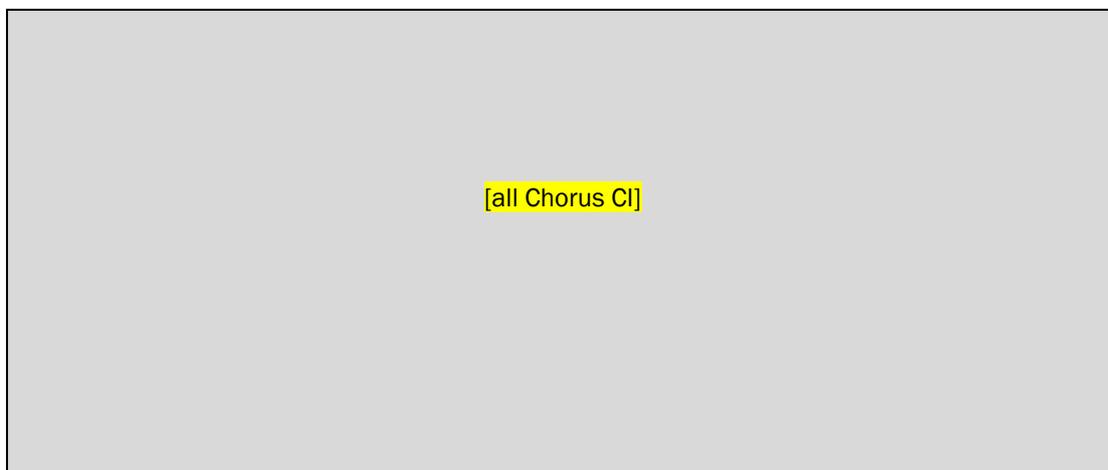
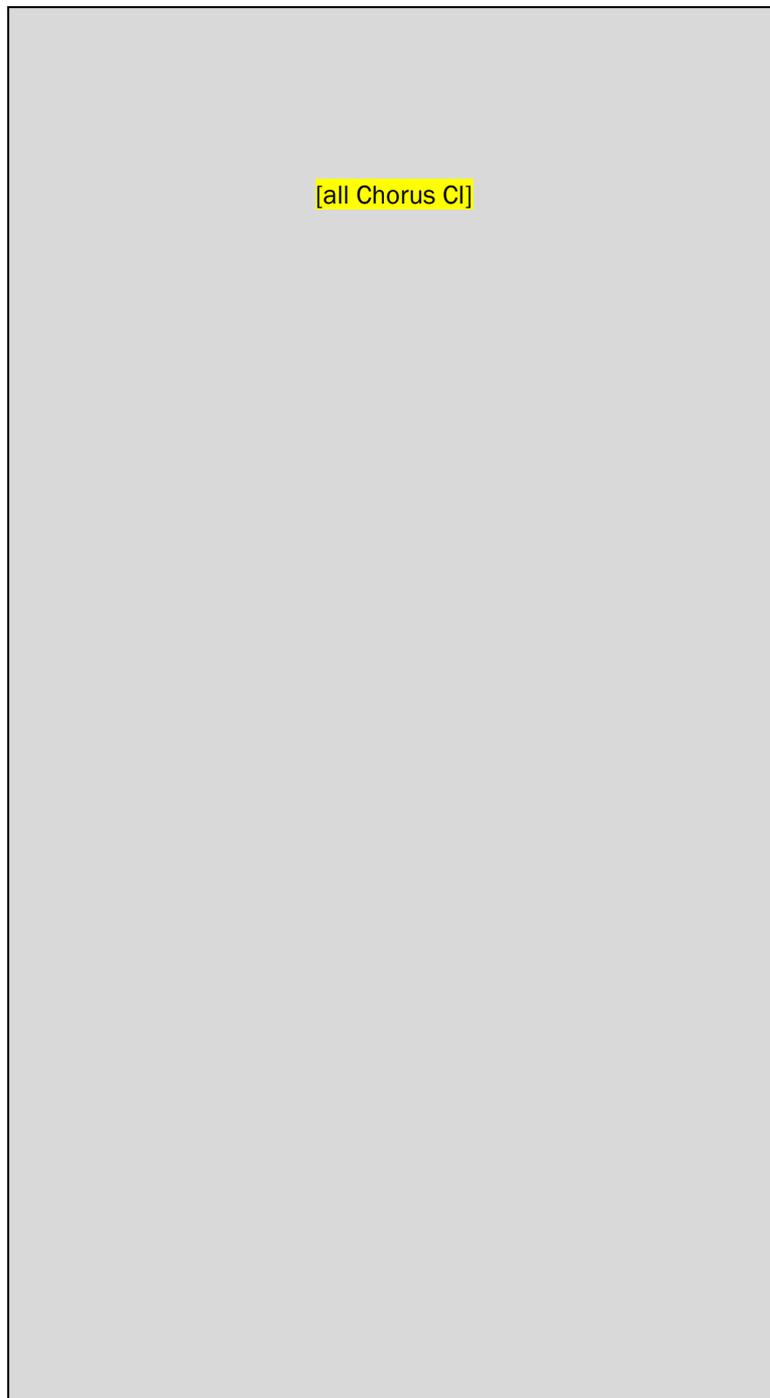


Figure A.64: Values used to calculate the "Service company overhead" allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.2 CTO allocation drivers

There are 2 allocation drivers associated with CTO:

- CTO - project opex
- CTO overhead

A.2.1 CTO - project opex

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Common costs”.

The distribution is created using data in the Email "RE: [EXT] Cost Allocation - CTO" sent by Paul Kerr on 22/5/2020

Splits are held constant from 2021.

Figure A.65 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.66 showing the final allocator for each financial year. Figure A.67 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.65: Responses to the questions raised by the notice to supply information relative to driver “CTO-project opex” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	FY12 & FY13 data unavailable, so used FY14 allocations. Splits are held constant from 2021
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	B1.1.6(1)(c)(x) (requires Commission approval)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CTO - project opex
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.66 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.67 below

Figure A.66: The “CTO-project opex” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

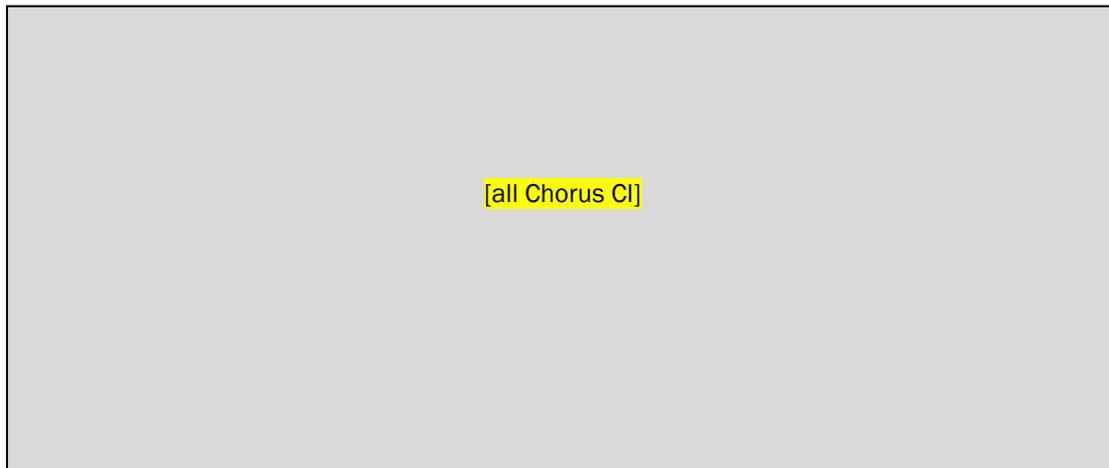
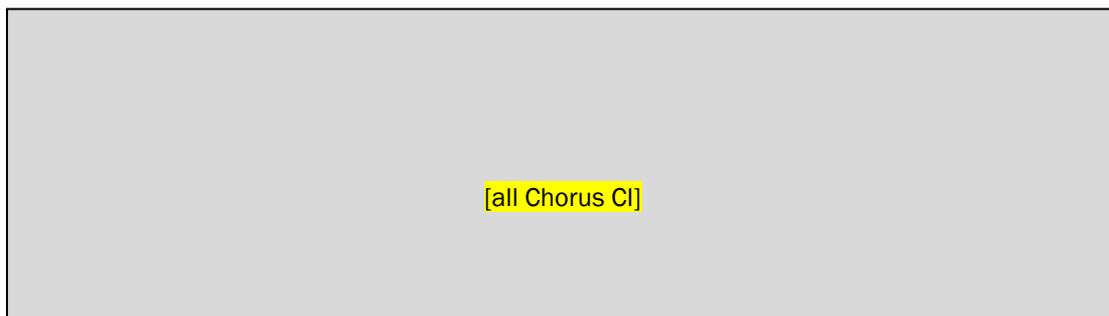


Figure A.67: Values used to calculate the “CTO-project opex” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.2.2 CTO - overhead

This allocation driver uses a time-varying allocation to service categories “FFLAS (fibre) directly attributed”, “FFLAS (fibre) not directly attributed”, “Non-FFLAS (copper) directly attributed”, “Non-FFLAS (copper) not directly attributed”, “Other services”, “Core fibre (national)”, “Costs allocated using totex” and “Common costs”

Calculation steps:

1. Calculate the allocation of the following expense categories by getting the value per year of the expense category in the GL and multiplying by the distribution by service category of the allocation driver of that expense category

Expense category
CTO - Fibre
CTO - Copper
CTO - Common costs
CTO - Common - Faults/Tickets
CTO - Common - Revenue
CTO - Common - Schedules
CTO - Common - S/O Volumes
CTO - Common - Orders
CTO - project opex

2. Sum all above calculations
3. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 2

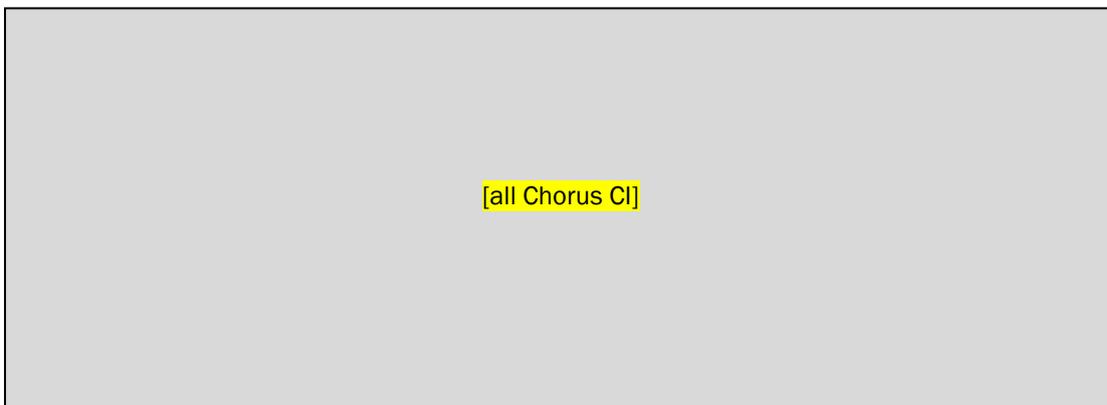
Figure A.68 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.69 showing the final allocator for each financial year. **Error! Reference source not found.** a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.68: Responses to the questions raised by the notice to supply information relative to driver “CTO – overhead” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation proportional to allocation of component expense categories in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.

Reference	Information requested	Comment
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - Overhead portion of labour capitalised • CTO - NPC • Marketing & Sales - Overhead portion of labour capitalised • Corporate - Overhead portion of labour capitalised
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.69 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the "Unmixed expenses ADs" sheet in "BBM Opex Allocation v3.31 - Numerical information".

Figure A.69: The "CTO - overhead" allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.3 CNO (Customer care part) unmixed expenses allocation drivers

There are five allocation drivers associated with CNO (Customer care part):

- CC Provisioning
- Orders
- Customer Supply & Billing
- Outsourcing own
- Outsourcing agency

A.3.1 CC Provisioning

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed” and “FFLAS (fibre) not directly attributed”.

The distribution is created using specific data provided by Chorus in file “Further labour cost analysis 050620 (updated version) + Analysys Mason + changes FY20 actuals.xlsx”.

The balance is assumed to be “Non-FFLAS (copper) not directly attributed”.

Constant allocations is assumed from 2021 onward.

Figure A.70 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.71 showing the final allocator for each financial year. Figure A.72 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.70: Responses to the questions raised by the notice to supply information relative to driver “CC Provisioning” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	Constant allocations is assumed from 2021 onward.
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on analysis of labour costs in the Opex model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	B1.1.6(1)(c)(x) (requires Commission approval)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> CNO - NPC - CC Provisioning
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.71 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.72 below

Figure A.71: The allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

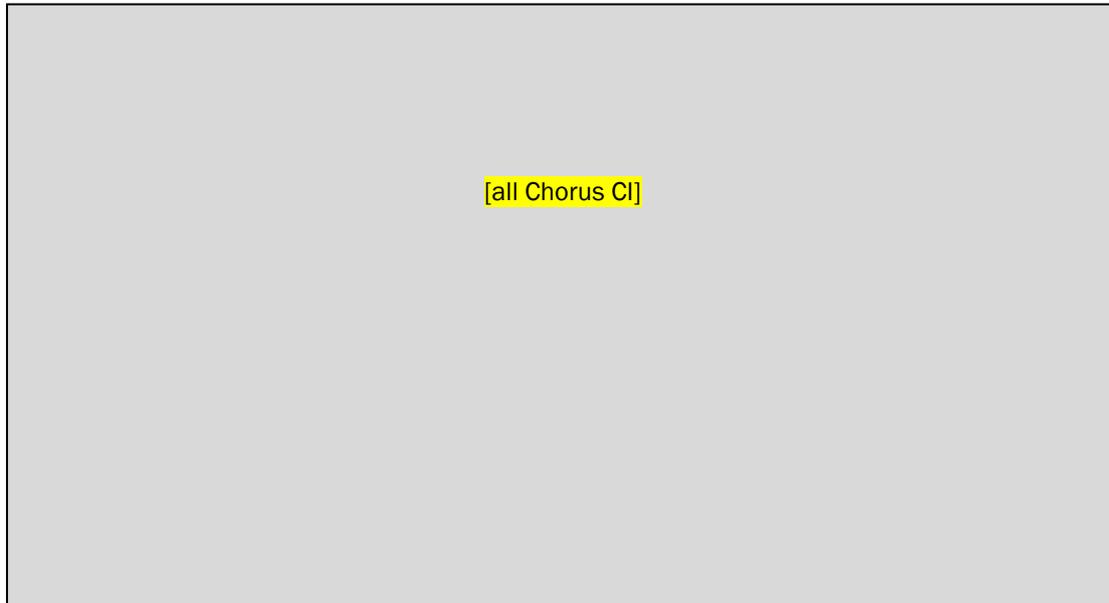
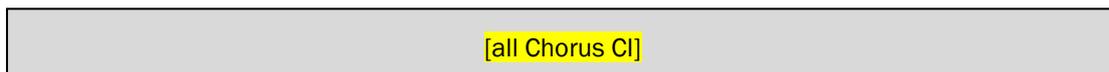


Figure A.72: Values used to calculate the allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.3.2 Orders

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed” and “FFLAS (fibre) not directly attributed”.

Calculation steps:

1. The number of copper and fibre orders per subscriber is calculated as follows:
 - a. Between 2012 and 2020, it is calculated as number of orders from input file⁴⁸ divided by the number of copper and fibre subscribers (from the data used for the subscriber allocation driver)
 - b. Years after 2020 assume the same number of orders per subscriber as 2020

⁴⁸ BRI-3757 BBM Allocator PSM Costs Order volumes 20200909 with AM analysis.xlsx

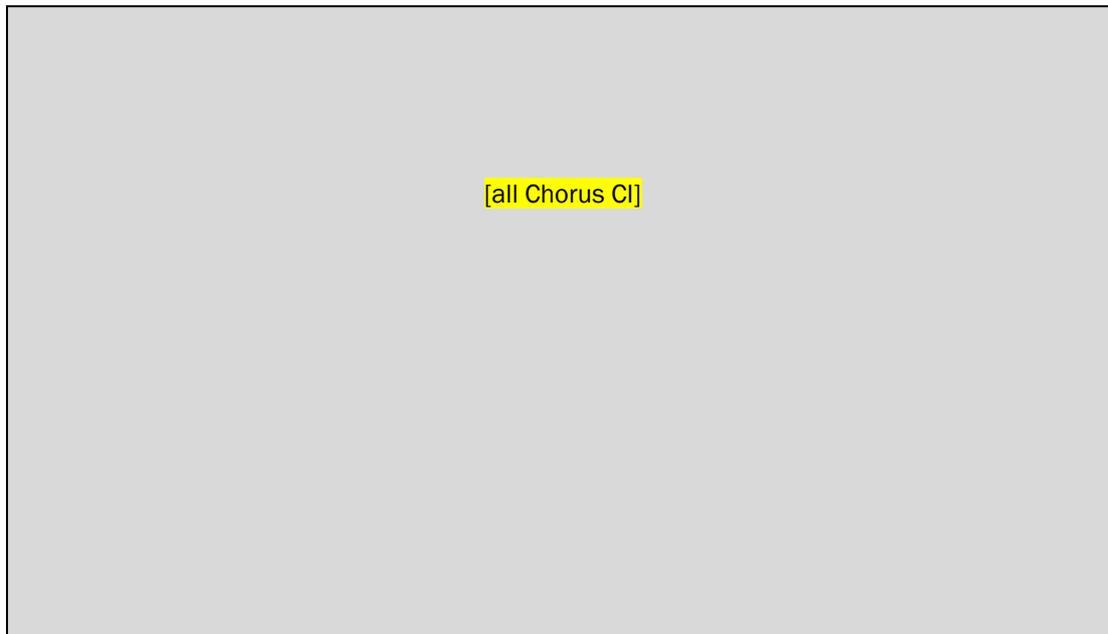
2. The number of copper and fibre orders is calculated by multiplying the number of copper and fibre orders per subscriber by the number of copper and fibre subscribers
3. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 2

Figure A.73 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.74 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.73: Responses to the questions raised by the notice to supply information relative to driver “Orders” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	Years after 2020 assume the same number of orders per subscriber as 2020
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on analysis of order data.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	B1.1.6(1)(c)(ix)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CTO - Common - Orders
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.74 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the ‘Unmixed expenses ADs’ sheet in “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.74: The allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.3.3 Customer Supply & Billing

This allocation driver uses a time-varying allocation to service categories “FFLAS (fibre) directly attributed”, “FFLAS (fibre) not directly attribute”, “Non-FFLAS (copper) directly attributed”, “Non-FFLAS (copper) not directly attributed”, “Other services” and “Core fibre (national)”.

Calculation steps:

1. For 2012-2020, calculate the split by activity of the FTE in the Customer Supply & Billing from an input file from Chorus⁴⁹ and map it to an allocation driver

Activity	Allocation drivers	Comment
CNO - NPC - Assure	Maintenance overhead	
CC Provisioning	CC Provisioning	
Customer care - Outsourcing - mixed	Outsourcing own Outsourcing agency	Split of percentage from input file between own-use and agency using distribution of outsourcing costs between own-use and agency
FFLAS	Fibre	

⁴⁹ Further labour cost analysis 050620 (updated version) + Analysys Mason + changes FY20 actuals

Revenue	Revenue	
Copper	Copper	

2. Calculate the weighted average of the above allocation drivers weighted by the split calculated in Step 1

3. The distribution is held constant after 2020.

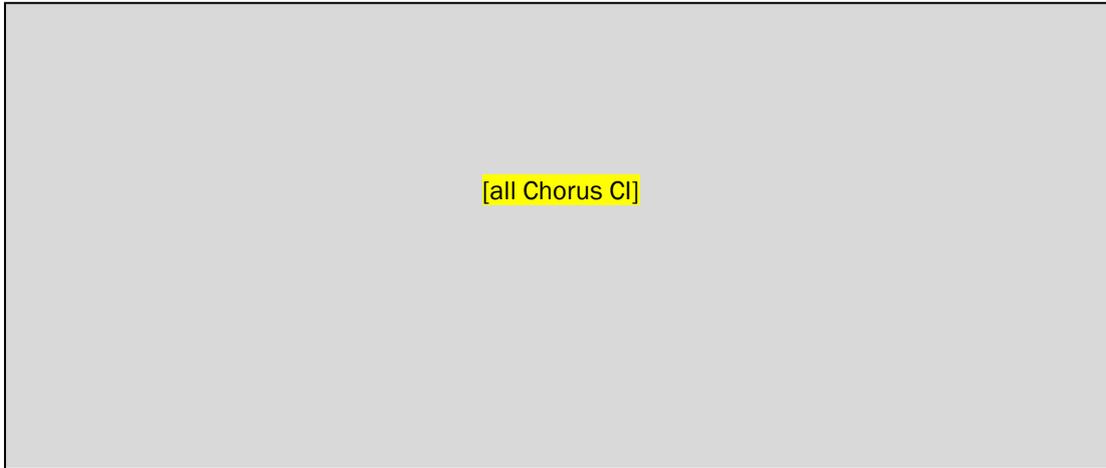
Figure A.75 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.76 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.75: Responses to the questions raised by the notice to supply information relative to driver “Customer Supply & Billing” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	<ul style="list-style-type: none"> • The distribution is held constant after 2020.
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on analysis of labour costs in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC - Customer Supply & Billing
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.76 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the ‘Unmixed expenses ADs’ sheet in “BBM Opex

Reference	Information requested	Comment
		Allocation v3.31 - Numerical information".

Figure A.76: The “Customer Supply & Billing” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.3.4 Outsourcing own

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed” and “FFLAS (fibre) not directly attributed”

Calculation steps:

1. The number of hours of offshoring per subscriber is calculated as follows:
 - a. Between 2013 and 2020, it is calculated as number of orders from input file⁵⁰ divided by the number of copper and fibre subscribers (from the data used for the subscriber allocation driver)
 - b. Prior years assume the same number of orders per subscriber as 2013
 - c. Years after 2020 assume the same number of orders per subscriber as 2020
2. The number of copper and fibre hours is calculated by multiplying the number of copper and fibre hours per subscriber by the number of copper and fibre subscribers
3. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 2

Figure A.77 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

⁵⁰ Item 41 CustomerCare Offshoring Opex Allocation - Updated 13Aug20 (calculated)

Figure A.78 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.77: Responses to the questions raised by the notice to supply information relative to driver “Outsourcing own” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	Prior years assume the same number of orders per subscriber as 2013 Years after 2020 assume the same number of orders per subscriber as 2020
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on analysis of data on orders per subscriber
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Prior years assume the same number of orders per subscriber as 2013 Years after 2020 assume the same number of orders per subscriber as 2020
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	B1.1.6(1)(c)(ix)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - Outsourcing (own-use)
B22.5/B23.5	Allocator value for each financial loss year	See

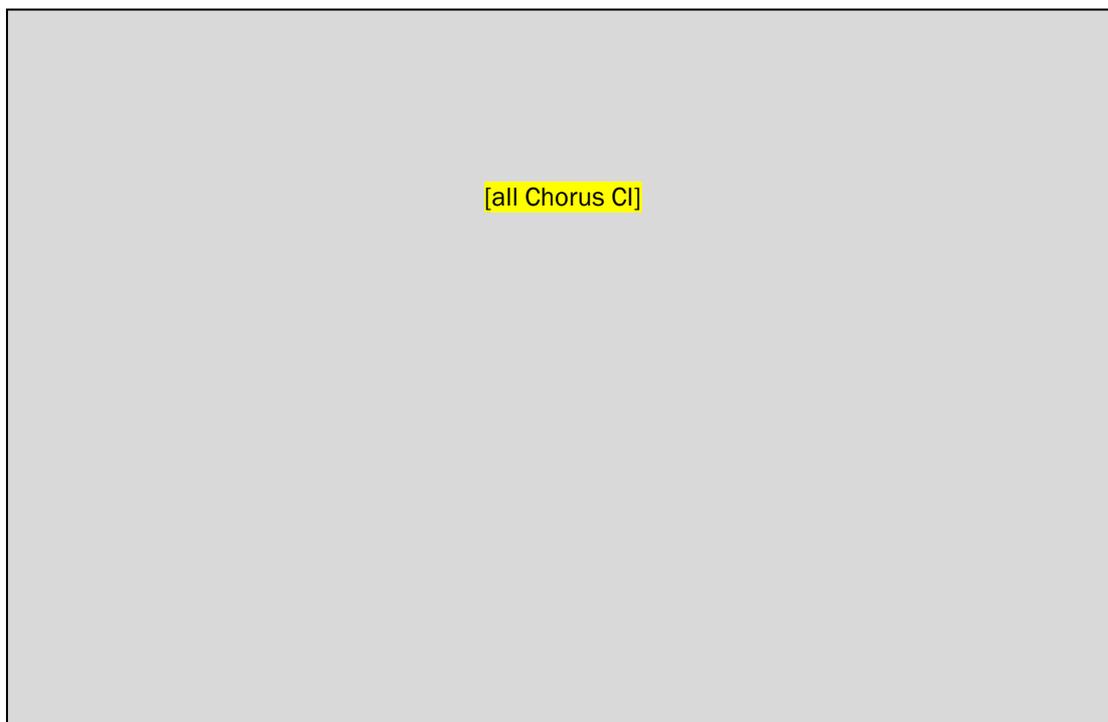
B40 Breakdown by allocator type of the allocator values used to calculate each allocator over time

Figure A.78 below

Data too large to provide a screenshot. See relevant section on the “Unmixed expenses ADs” sheet in “BBM Opex

Reference	Information requested	Comment
		Allocation v3.31 - Numerical information".

Figure A.78: The “Outsourcing own” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.3.5 Outsourcing agency

This allocation driver uses a constant 100% allocation to service category “Other services” and does not require any input data.

Figure A.79 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.80 showing the final allocator for each financial year.

Figure A.79: Responses to the questions raised by the notice to supply information relative to driver “Outsourcing agency” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	N/A – directly attributed
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A – not attributed to FFLAS
B9.2	Include an explanation if the cost allocator is based on extrapolated data	
B22.1/B23.1	What is the name of the allocator type?	N/A – directly attributed
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	N/A – directly attributed
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A – directly attributed
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - Outsourcing (agency)
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.80 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.80: The “Outsourcing agency” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	Other services
35	Outsourcing agency	2012	2012-35	100%
35		2013	2013-35	100%
35		2014	2014-35	100%
35		2015	2015-35	100%
35		2016	2016-35	100%
35		2017	2017-35	100%
35		2018	2018-35	100%
35		2019	2019-35	100%
35		2020	2020-35	100%
35		2021	2021-35	100%
35		2022	2022-35	100%
35		2023	2023-35	100%
35		2024	2024-35	100%
35		2025	2025-35	100%
35		2026	2026-35	100%
35		2027	2027-35	100%
35		2028	2028-35	100%
35		2029	2029-35	100%
35		2030	2030-35	100%

A.4 Marketing & Sales allocation drivers

There are 2 allocation drivers associated with Marketing & Sales:

- Revenue
- Future benefit

A.4.1 Revenue

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed”, “Other services” and Core fibre (national)”.

The distribution is created using data from the revenue and subscriber forecast⁵¹ from the main module of the BBM.

Calculation steps:

1. Revenue figures are input from the revenue model for “Copper access services”, “Other Non-Fibre services”, Fibre FFLAS services” and “Fibre Non-FFLAS services”.

⁵¹ Chorus Integrated Demand Revenue Model_v4.3aa CC.xlsm

2. The allocation percentages for the above are calculated as share of the total revenue
3. The distribution of the allocation driver is calculated based on the following mapping

Opex Service category	Revenue category
Non-FFLAS (copper) not directly attributed	Copper access services
FFLAS (fibre) not directly attributed	Fibre FFLAS services
Other services	Other Non-Fibre services
Core fibre (national)	Fibre Non-FFLAS services

Figure A.81 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.82 showing the final allocator for each financial year. Figure A.83 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.81: Responses to the questions raised by the notice to supply information relative to driver “Revenue” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Revenue in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(iii). • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CTO - Common – Revenue • Marketing & Sales - Bad debts • Corporate - Regulatory Levies - Revenue based

Reference	Information requested	Comment
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.82 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.83 below

Figure A.82: The “Revenue” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

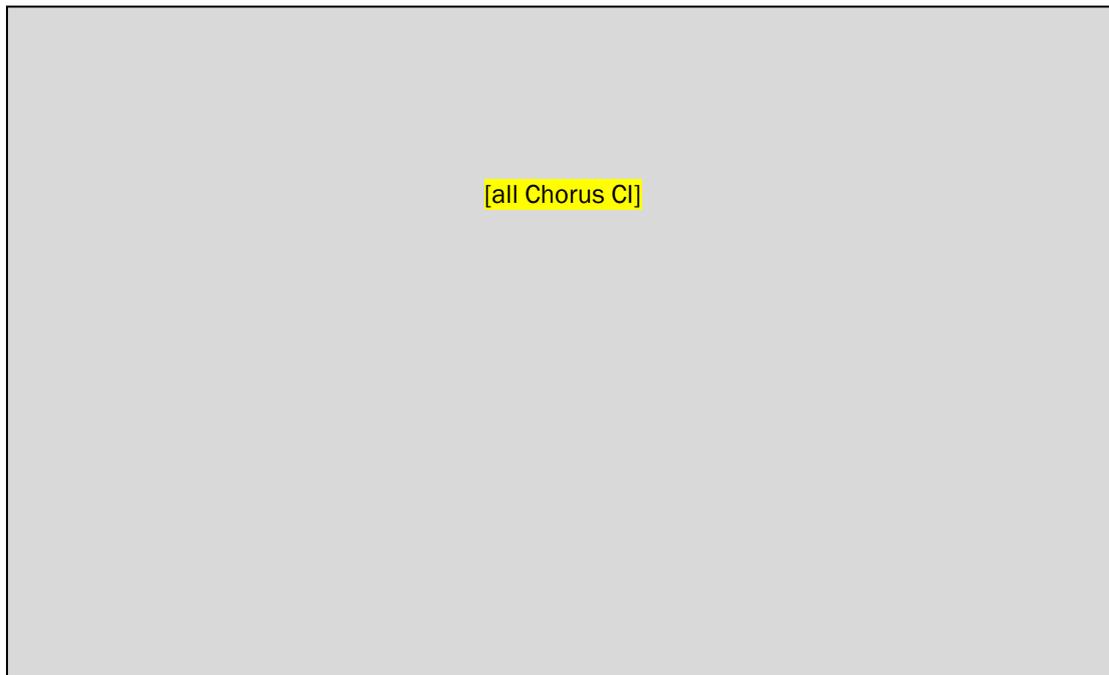
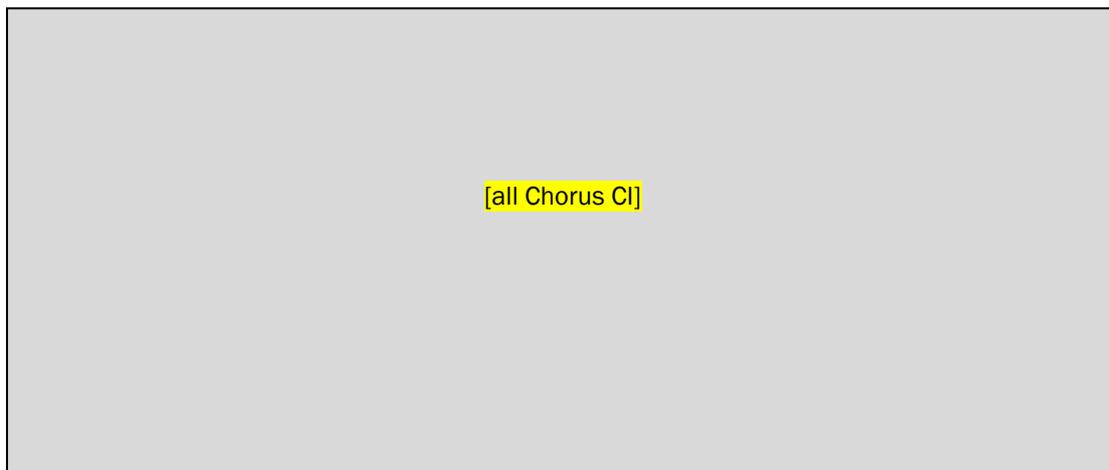


Figure A.83: Values used to calculate the “Revenue” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.4.2 Future benefit

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed”, “Other services” and Core fibre (national)”.

The distribution is created using data from the revenue and subscriber forecast⁵² from the main module of the BBM.

Calculation steps:

1. Revenue figures are input from the revenue model for “Copper access services”, “Other Non-Fibre services”, Fibre FFLAS services” and “Fibre Non-FFLAS services”.
2. Future revenues over the next 12 years are calculated
3. The allocation percentages for the above are calculated as share of the total future revenue
4. The distribution of the allocation driver is calculated based on the following mapping

Opex Service category	Revenue category
Non-FFLAS (copper) not directly attributed	Copper access services
FFLAS (fibre) not directly attributed	Fibre FFLAS services
Other services	Other Non-Fibre services
Core fibre (national)	Fibre Non-FFLAS services

Figure A.84 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure A.85 showing the final allocator for each financial year. Figure A.86 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.84: Responses to the questions raised by the notice to supply information relative to driver “Future benefit” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.

⁵² Chorus Integrated Demand Revenue Model_v4.3aa CC.xlsm

Reference	Information requested	Comment
	B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	
B9.2	Include an explanation if the cost allocator is based on extrapolated data	<ul style="list-style-type: none"> N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> Time-varying allocation based on mapping of expense categories to revenue in the Opex model. Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> Causal in the opex model. Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> Marketing & Sales – NPC Marketing & Sales - Market Research Marketing & Sales - Marketing and Communications
B22.5/B23.5	Allocator value for each financial loss year	See
		Figure A.85 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.86 below

Figure A.85: The “Future benefit” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

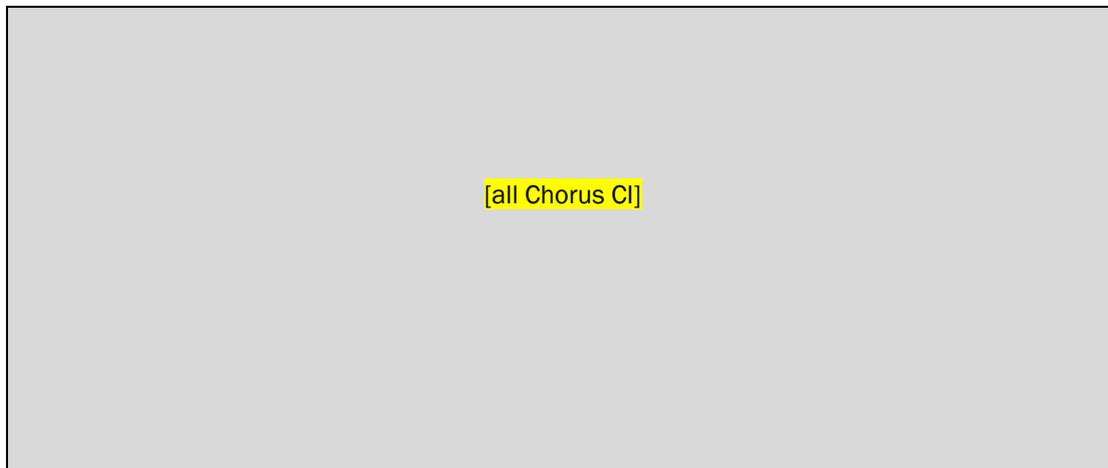
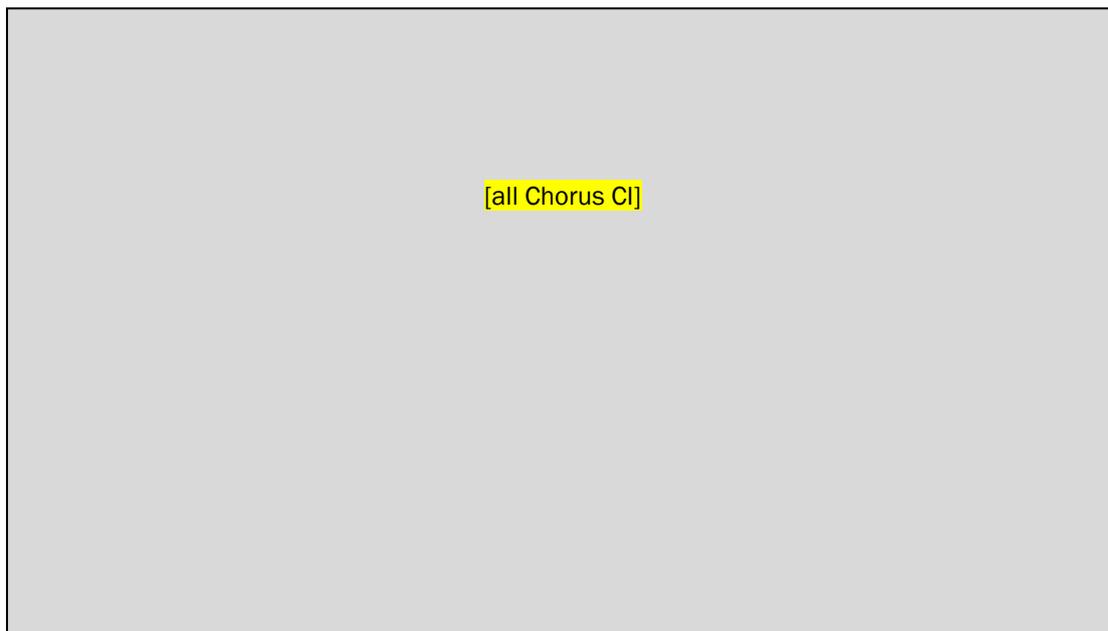


Figure A.86: Values used to calculate the “Future benefit” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.5 Corporate allocation drivers

There are 11 allocation drivers associated with Corporate:

- Corporate personnel
- NBV

- Chorus - all NPC costs
- Corporate - all insurance costs
- Corporate legal
- Corporate consultants
- Corporate other
- Common costs
- Totex
- Fibre 60 and Totex 40
- Other services

A.5.1 Corporate personnel

This allocation driver uses a time-varying allocation to service categories “FFLAS (fibre) not directly attributed” and “Costs allocated using totex”.

Calculation steps

1. The total opex per cost center per year is extracted from the GL
2. The allocation between Fibre and Totex for each cost center is provided by an email from Chorus
3. The information in Steps 1 and 2 is combined to calculate a cost for fibre or for totex per year which is then converted to a % distribution
4. The distribution is assumed constant after 2021

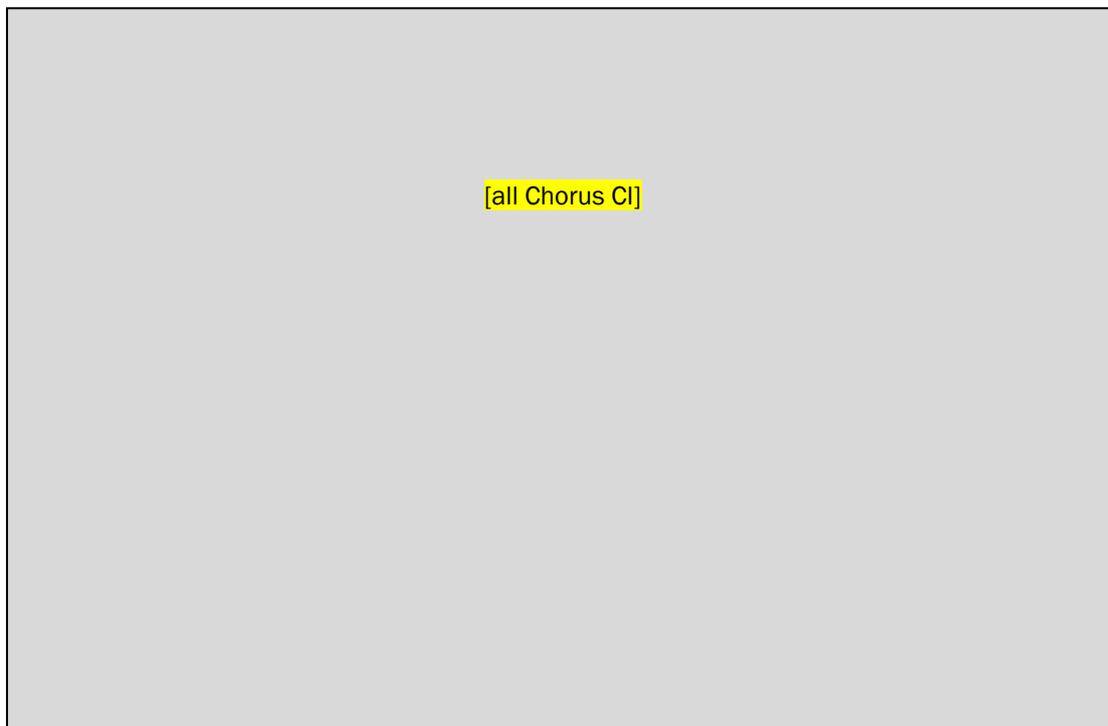
Figure A.87 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.88 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.87: Responses to the questions raised by the notice to supply information relative to driver “Corporate personnel” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	The distribution is assumed constant after 2021
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on opex per cost centre in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.

Reference	Information requested	Comment
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(i) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC - property – overhead • CNO - property – corporate • Corporate – NPC • Corporate - one-off stand-up personnel costs
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.88 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the ‘Unmixed expenses ADs’ sheet in ‘BBM Opex Allocation v3.31 - Numerical information’.

Figure A.88: The “Corporate personnel” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.5.2 NBV

This allocation driver uses a constant 100% allocation to service category “Costs allocated using NBV” and does not require any input data.

Figure A.89 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.90 showing the final allocator for each financial year.

Figure A.89: Responses to the questions raised by the notice to supply information relative to driver “NBV”
[Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Direct allocation to “NBV” in the Opex model. • Insurance costs for material damage and business interruption are shared based on NBV (in the IAV model) which makes sense as those insurance costs cover assets.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Causal in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(x) (requires Commission approval) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • Corporate - insurance - Material Damage & Business Interruption
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.90 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.90: The “NBV” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	Costs allocated using NBV
48	NBV	2012	2012-48	100%
48		2013	2013-48	100%
48		2014	2014-48	100%
48		2015	2015-48	100%
48		2016	2016-48	100%
48		2017	2017-48	100%
48		2018	2018-48	100%
48		2019	2019-48	100%
48		2020	2020-48	100%
48		2021	2021-48	100%
48		2022	2022-48	100%
48		2023	2023-48	100%
48		2024	2024-48	100%
48		2025	2025-48	100%
48		2026	2026-48	100%
48		2027	2027-48	100%
48		2028	2028-48	100%
48		2029	2029-48	100%
48		2030	2030-48	100%

A.5.3 Chorus - all NPC costs

This allocation driver uses a time-varying allocation to service categories, “FFLAS (fibre) directly attributed”, “FLAS (fibre) not directly attributed”, “Non-FFLAS (copper) directly attributed”, “Non-FFLAS (copper) not directly attributed”, “Other services”, “Core fibre (national)”, “Costs allocated using totex” and “Common costs”

Calculation steps:

1. Calculate the allocation of the following expense categories by getting the value per year of the expense category in the GL and multiplying by the distribution by service category of the allocation driver of that expense category

Expense category
CNO - NPC - network
CNO - NPC - property - accommodation
CNO - NPC - property - power
CNO - NPC - property - overhead
CNO - NPC - billing agency
CNO - NPC - Assure
CNO - NPC - copper operations
CNO - NPC - fibre operations

CNO - NPC - Provisioning
CNO - Overhead portion of labour capitalised
CNO - NPC - CC Provisioning
CNO - NPC - Customer Supply & Billing
CNO - NPC - overall serco management
CNO - NPC - Operations & Optimisation
CNO - NPC overhead costs
CTO - NPC
Marketing & Sales - NPC
Marketing & Sales - Overhead portion of labour capitalised
Corporate - NPC
Corporate - Overhead portion of labour capitalised

2. Sum all above calculations

3. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 2

Figure A.91 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.92 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.91: Responses to the questions raised by the notice to supply information relative to driver “Chorus - all NPC costs” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation proportional to allocation of component expense categories in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.

Reference	Information requested	Comment
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. B1.1.6(1)(c)(x) (requires Commission approval) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> Corporate - insurance - Chorus benefit of life insurance for staff
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.92 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the 'Unmixed expenses ADs' sheet in "BBM Opex Allocation v3.31 - Numerical information".

Figure A.92: The "Chorus - all NPC costs" allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.5.4 Corporate - all insurance costs

This allocation driver uses a time-varying allocation to service categories, "FFLAS (fibre) directly attributed", "FLAS (fibre) not directly attributed", "Non-FFLAS (copper) directly attributed", "Non-FFLAS (copper) not directly attributed", "Other services", "Core fibre (national)", "Costs allocated using totex", "Costs allocated using NBV" and "Common costs"

Calculation steps:

1. Calculate the allocation of the following expense categories by getting the value per year of the expense category in the GL and multiplying by the distribution by service category of the allocation driver of that expense category

Expense category
Corporate - insurance - Material Damage & Business Interruption
Corporate - insurance - General Liability Errors & Omission Directors & Officers Statutory
Corporate - insurance - Chorus benefit of life insurance for staff

2. Sum all above calculations
3. Allocation percentages are calculated for each service category as a proportion of the total as calculated in Step 2
4. The distribution is assumed constant after 2021

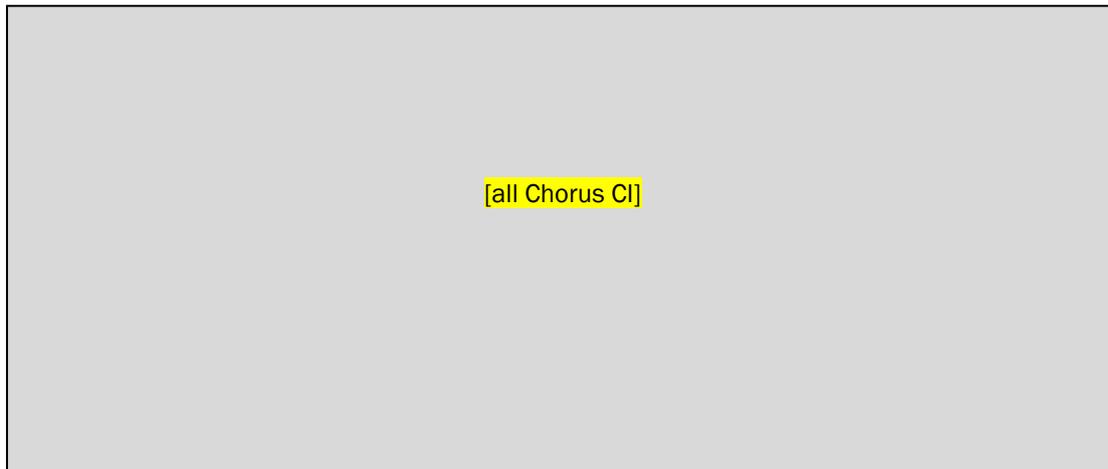
Figure A.30 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.94 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.93: Responses to the questions raised by the notice to supply information relative to driver “Corporate – all insurance costs” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	The distribution is assumed constant after 2021
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation proportional to allocation of component expense categories in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(x) (requires Commission approval) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • Corporate - insurance
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.94 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Data too large to provide a screenshot. See relevant section on the ‘Unmixed expenses ADs’ sheet in “BBM Opex

Reference	Information requested	Comment
		Allocation v3.31 - Numerical information".

Figure A.94: The “Corporate – all insurance costs” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



A.5.5 Corporate legal

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Costs allocated using totex”.

Calculation steps

1. The allocation by broad category (Copper, Fibre, Shared, FPP and Unknown) and by year is extracted from a file provided by Chorus⁵³
2. The distribution of the allocation driver is calculated based on the following mapping

Opex Service category	Broad category
Non-FFLAS (copper) not directly attributed	Copper
FFLAS (fibre) not directly attributed	Fibre
Costs allocated using totex	Shared

3. The distribution is assumed constant after 2021

Figure A.95 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

⁵³ Proposed Allocation of GL 81600 Legal costs FY12-20.xlsx

Figure A.96 showing the final allocator for each financial year. Figure A.97 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.95: Responses to the questions raised by the notice to supply information relative to driver “Corporate legal” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	The distribution is assumed constant after 2021
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on data provided by Chorus in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(x) (requires Commission approval) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • Corporate - legal costs

Reference	Information requested	Comment
B22.5/B23.5	Allocator value for each financial loss year	See
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	<p>Figure A.96 below</p> <p>See Figure A.97 below</p>

Figure A.96: The “Corporate legal” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

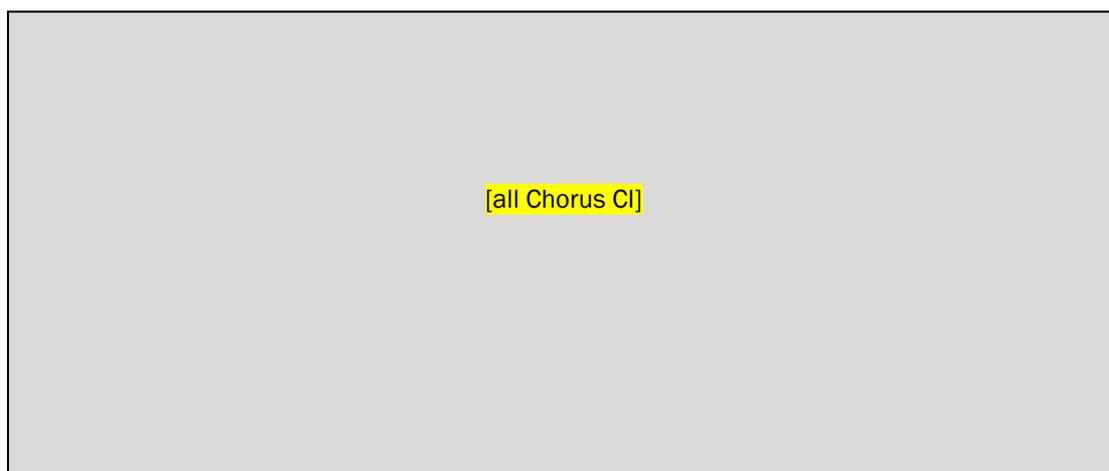
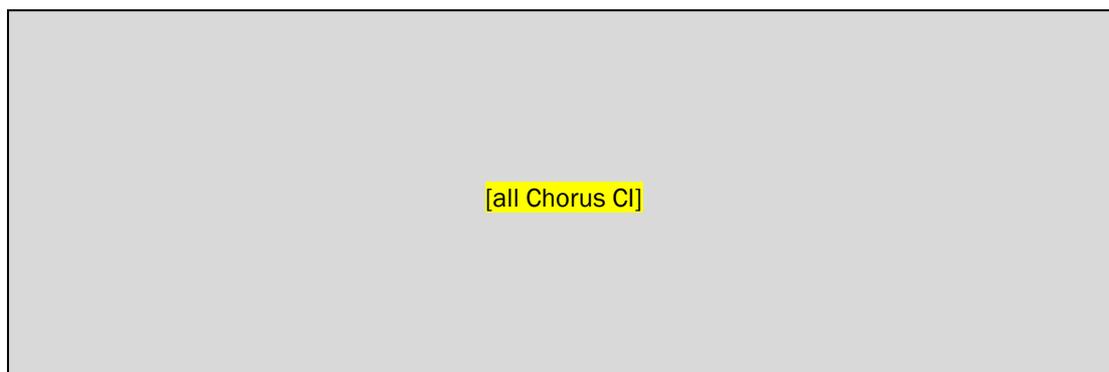


Figure A.97: Values used to calculate the “Corporate legal” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.5.6 Corporate consultants

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Costs allocated using totex”.

Calculation steps

1. The allocation by broad category (Copper, Fibre, Shared, Don’t Know and CHECK) and by year is extracted from a file provided by Chorus⁵⁴
2. The distribution of the allocation driver is calculated based on the following mapping

Opex Service category	Broad category
Non-FFLAS (copper) not directly attributed	Copper
FFLAS (fibre) not directly attributed	Fibre
Costs allocated using totex	Shared

3. The distribution is assumed constant after 2021

Figure A.98 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.99 showing the final allocator for each financial year.

Figure A.100 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

⁵⁴ Corporate costs allocation review.xlsx

Figure A.98: Responses to the questions raised by the notice to supply information relative to driver “Corporate consultants” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	The distribution is assumed constant after 2021
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on data provided by Chorus in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(x) (requires Commission approval) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • Corporate - consultants' costs
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.99 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure A.100 below

Figure A.99: The “Corporate consultants” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

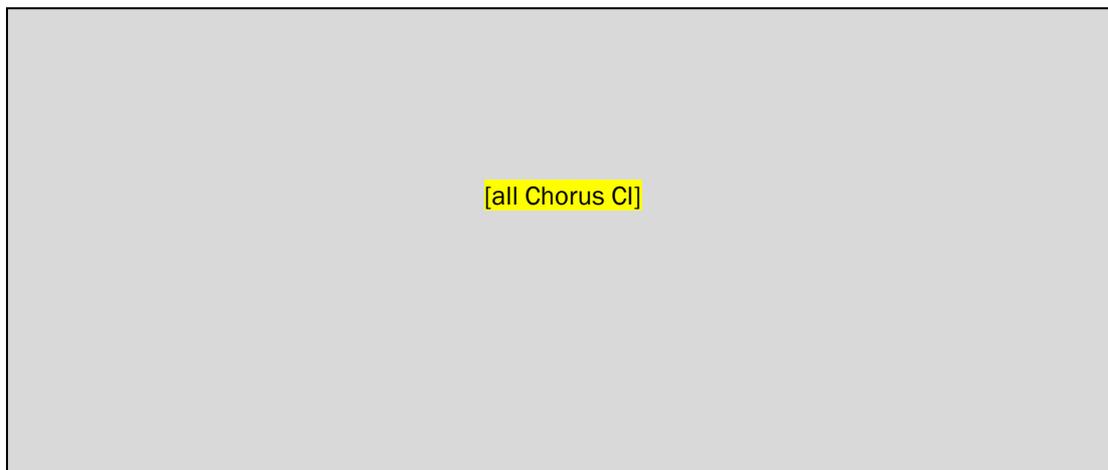
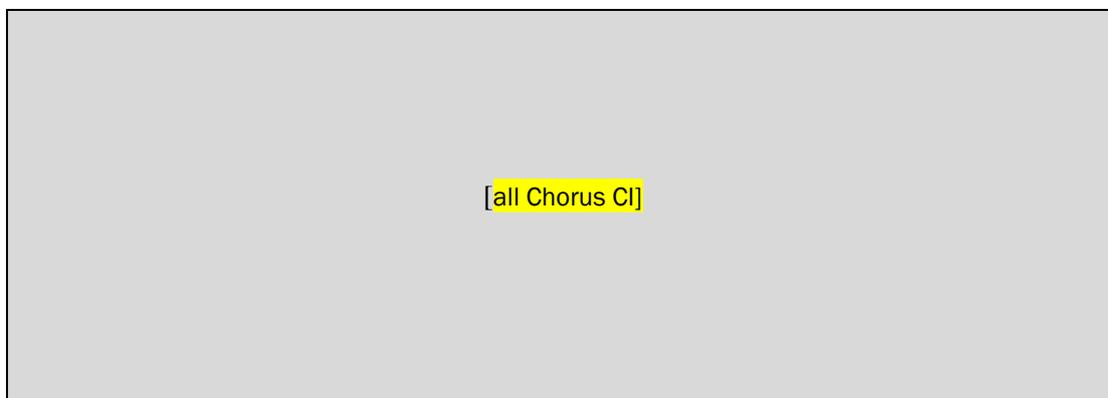


Figure A.100: Values used to calculate the “Corporate consultants” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.5.7 Corporate other

This allocation driver uses a time-varying allocation to service categories “Non-FFLAS (copper) not directly attributed”, “FFLAS (fibre) not directly attributed” and “Costs allocated using totex”.

Calculation steps

1. The allocation by broad category (Copper, Fibre, Shared, Don’t Know and CHECK) and by year is extracted from a file provided by Chorus⁵⁵

⁵⁵ Corporate costs allocation review.xlsx

2. The distribution of the allocation driver is calculated based on the following mapping

Opex Service category	Broad category
Non-FFLAS (copper) not directly attributed	Copper
FFLAS (fibre) not directly attributed	Fibre
Costs allocated using totex	Shared

3. The distribution is assumed constant after 2021

Figure A.101 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.102 showing the final allocator for each financial year. Figure A.103 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure A.101: Responses to the questions raised by the notice to supply information relative to driver “Corporate other” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	The distribution is assumed constant after 2021
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Time-varying allocation based on data provided by Chorus in the Opex model. • Partially included in the fibre BBM calculations in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(x) (requires Commission approval) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • Corporate - other costs
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.102 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure A.103 below

Figure A.102: The “Corporate other” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

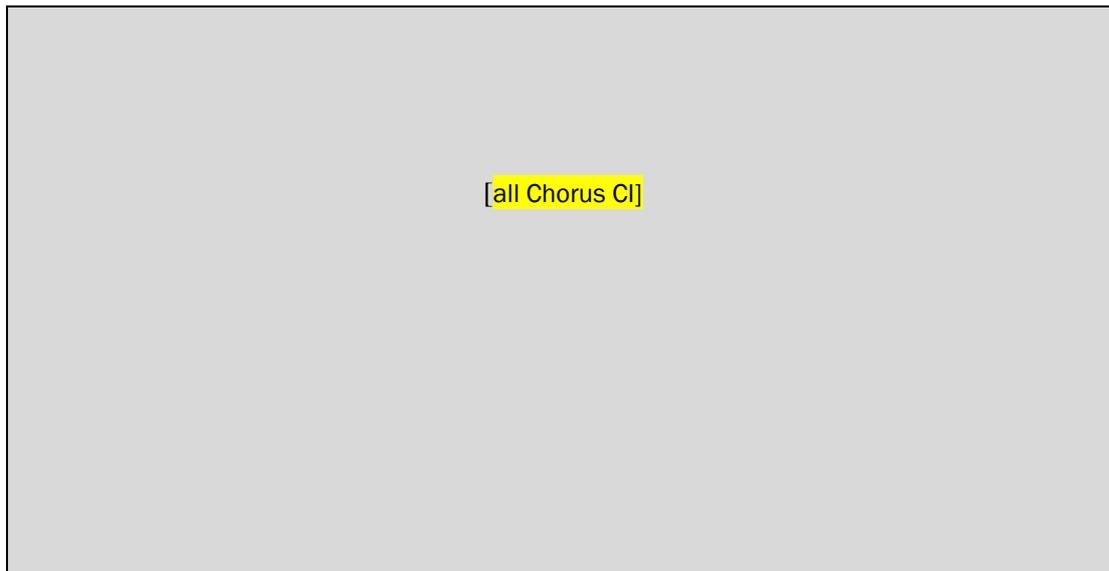


Figure A.103: Values used to calculate the “Corporate other” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



A.5.8 Totex

This allocation driver uses a constant 100% allocation to service category “Costs allocated using totex” and does not require any input data.

Figure A.104 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.105 showing the final allocator for each financial year.

Figure A.104: Responses to the questions raised by the notice to supply information relative to driver “Totex” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	Refer to Section 4 for an explanation of how the cost allocator was chosen for each operating cost it was applied to.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	This complies because it is based on data that provides a fact-based allocation of the cost between the different service categories.
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	<ul style="list-style-type: none"> • Direct allocation to “Totex” in the Opex model. • The allocation to services based on totex is done in the IAV model.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	<ul style="list-style-type: none"> • Causal in the opex model. • Proxy in the IAV model.
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	<ul style="list-style-type: none"> • B1.1.6(1)(c)(x) (requires Commission approval) in the opex model. • B1.1.6(1)(c)(x) (requires Commission approval) in the IAV model.
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CTO - Common Costs • Corporate - audit fees & expenses • Corporate - insurance - General Liability Errors & Omission Directors & Officers Statutory
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.105 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.105: The “Totex” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	Costs allocated using totex
67	Totex	2012	2012-67	100%
67		2013	2013-67	100%
67		2014	2014-67	100%
67		2015	2015-67	100%
67		2016	2016-67	100%
67		2017	2017-67	100%
67		2018	2018-67	100%
67		2019	2019-67	100%
67		2020	2020-67	100%
67		2021	2021-67	100%
67		2022	2022-67	100%
67		2023	2023-67	100%
67		2024	2024-67	100%
67		2025	2025-67	100%
67		2026	2026-67	100%
67		2027	2027-67	100%
67		2028	2028-67	100%
67		2029	2029-67	100%
67		2030	2030-67	100%

A.5.9 Other services

This allocation driver uses a constant 100% allocation to service category “Other services” and does not require any input data.

Figure A.106 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure A.107 showing the final allocator for each financial year.

Figure A.106: Responses to the questions raised by the notice to supply information relative to driver “Other services” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	N/A – directly attributed
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A – not attributed to FFLAS
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	N/A – directly attributed

Reference	Information requested	Comment
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	N/A – directly attributed
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A – directly attributed
B22.4/B23.4	List of all operating cost categories to which this allocator is applied	<ul style="list-style-type: none"> • CNO - NPC - billing agency • CNO - payment to service companies - Customer maintenance • CNO - Customer maintenance – Copper • CNO - Customer maintenance • CNO – wireless • CNO - copper recovery • CNO - project opex - billable to third party
B22.5/B23.5	Allocator value for each financial loss year	See Figure A.107 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	N/A – directly attributed

Figure A.107: The “Other services” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021]

AD index	Allocation driver	Years	Ref	Other services
69	Other services	2012	2012-69	100%
69		2013	2013-69	100%
69		2014	2014-69	100%
69		2015	2015-69	100%
69		2016	2016-69	100%
69		2017	2017-69	100%
69		2018	2018-69	100%
69		2019	2019-69	100%
69		2020	2020-69	100%
69		2021	2021-69	100%
69		2022	2022-69	100%
69		2023	2023-69	100%
69		2024	2024-69	100%
69		2025	2025-69	100%
69		2026	2026-69	100%
69		2027	2027-69	100%
69		2028	2028-69	100%
69		2029	2029-69	100%
69		2030	2030-69	100%

Annex B Processing of splitting mixed expenses categories into their expenses categories components

This annex describes how we split mixed expenses categories into their expenses categories components in the “Mixed expenses ADs” sheet. On that sheet, the mixed expenses are in three groups. We discuss each group as follows in the sections below:

- Allocation drivers used to allocate CNO Mixed expenses into their expenses categories components are discussed in Section B.1
- Allocation drivers used to allocate CTO Mixed expenses into their expenses categories components in Section B.2
- Allocation drivers used to allocate Marketing & Sales Mixed expenses into their expenses categories components in Section B.3
- Allocation drivers used to allocate Corporate Mixed expenses into their expenses categories components in Section B.4

B.1 CNO Mixed expense to expense allocation drivers

In the subsections below we discuss the six Mixed expense to expense allocation drivers associated with CNO, which are:

- CNO - NPC mixed
- CNO - payment to service companies - mixed
- CNO - Network integrity and quality - mixed
- CNO - Chorus network proactive maintenance
- CNO - Chorus network reactive maintenance
- CNO - property - Rates – mixed
- CNO - Outsourcing - mixed

B.1.1 CNO - NPC mixed

There is one mixed expense category associated with CNO NPC: CNO - NPC mixed.

This allocation driver uses a time-varying allocation to 12 expense category components.

Note: part of the objective of this allocation driver is to take into account the fact that part of the labour cost recoveries (a negative cost) corresponds to overhead and needs to be allocated using the CTO overhead allocation driver rather than CNO drivers. This is because those overhead costs are already included (as positive costs) in CTO GL. In other words, we are netting off the “Overhead portion of labour capitalised” by using the same driver for the positive costs (in the CTO GL accounts) and the negative costs (included in the labour cost recoveries).

Calculation steps:

1. For 2012-2020, an opex value for each expense category component is calculated from an input file⁵⁶ as follows

Corresponding header in input file	Mapped expense category component
NFM - NPC - network	CNO - NPC - network
NFM - NPC - property - accommodation	CNO - NPC - property - accommodation
NFM - NPC - property - power	CNO - NPC - property - power
NFM - NPC - property - overhead	CNO - NPC - property - overhead
NFM - NPC - billing agency	CNO - NPC - billing agency
NFM - NPC - Telecom Property Services Agreement	CNO - NPC - billing agency
NFM - NPC - Assure	CNO - NPC - Assure
NFM - NPC - copper operations	CNO - NPC - copper operations
NFM - NPC - fibre operations	CNO - NPC - fibre operations
NFM - NPC - Provisioning	CNO - NPC - Provisioning
NFM - Overhead portion of labour capitalised	CNO - Overhead portion of labour capitalised
Customer Care - NPC - Provisioning	CNO - NPC - CC Provisioning
Customer Care - NPC - Assure	CNO - NPC - Assure
Customer Care - NPC - Customer Supply & Billing	CNO - NPC - Customer Supply & Billing
Customer Care - NPC - Operations & Optimisation	None
Customer Care - NPC - TPSA	CNO - NPC - billing agency
Customer Care - Overhead portion of labour capitalised	CNO - Overhead portion of labour capitalised

2. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
3. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless a normalised distribution identical to the 2020 one

Figure B. provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure B.2 showing the final allocator for each financial year. Figure B.3 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

⁵⁶ Further labour cost analysis 050620 (updated version) + Analysys Mason + changes FY20 actuals

Figure B.1: Responses to the questions raised by the notice to supply information relative to driver “CNO – NPC mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	This allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • CNO – NPC – network • CNO – NPC – property – accommodation • CNO – NPC – property – power • CNO – NPC – property – overhead • CNO – NPC – billing agency • CNO – NPC – Assure • CNO – NPC – copper operations • CNO – NPC – fibre operations • CNO – NPC – Provisioning • CNO – Overhead portion of labour capitalised • CNO – NPC – CC Provisioning • CNO – NPC – Customer Supply & Billing
B22.5/B23.5	Allocator value for each financial loss year	See

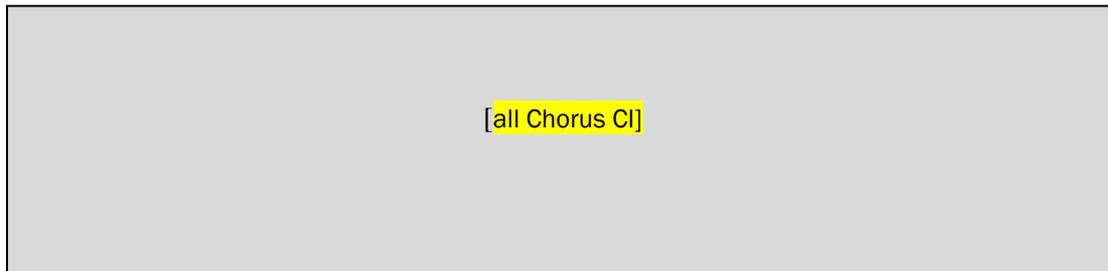
Figure B.2 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure B.3 below

Figure B.2: The “CNO – NPC mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



Figure B.3: Values used to calculate the “CNO – NPC mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.1.2 CNO - payment to service companies - mixed

There is one mixed expense category associated with CNO payments to service companies: CNO - payment to service companies - mixed.

This allocation driver uses a time-varying allocation to 3 expense category components.

Calculation steps:

1. For 2012-2020, an opex value for each expense category component is calculated from the GL by taking the total to be allocated and multiplying it by the allocation percentage of each GL amount for the following GL codes mapped to the relevant expense category component

GL code [all CI]	Mapped expense category component
[]	CNO - payment to service companies - provisioning
[]	CNO - payment to service companies - maintenance
[]	CNO - payment to service companies - maintenance
[]	CNO - payment to service companies - Customer maintenance

- The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
- For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless a normalised distribution identical to the 2020 one

Figure B.4 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure B.5 showing the final allocator for each financial year.

Figure B.4: Responses to the questions raised by the notice to supply information relative to driver “CNO – payment to service companies – mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> CNO – NPC – payment to service companies - provisioning CNO – NPC – payment to service companies - maintenance

Reference	Information requested	Comment
B22.5/B23.5	Allocator value for each financial loss year	<ul style="list-style-type: none"> CNO – NPC – payment to service companies – Customer maintenance <p>See</p>
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	<p>Figure B.5 below</p> <p>See Figure B.6 below</p>

Figure B.5: The “CNO – payment to service companies – mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

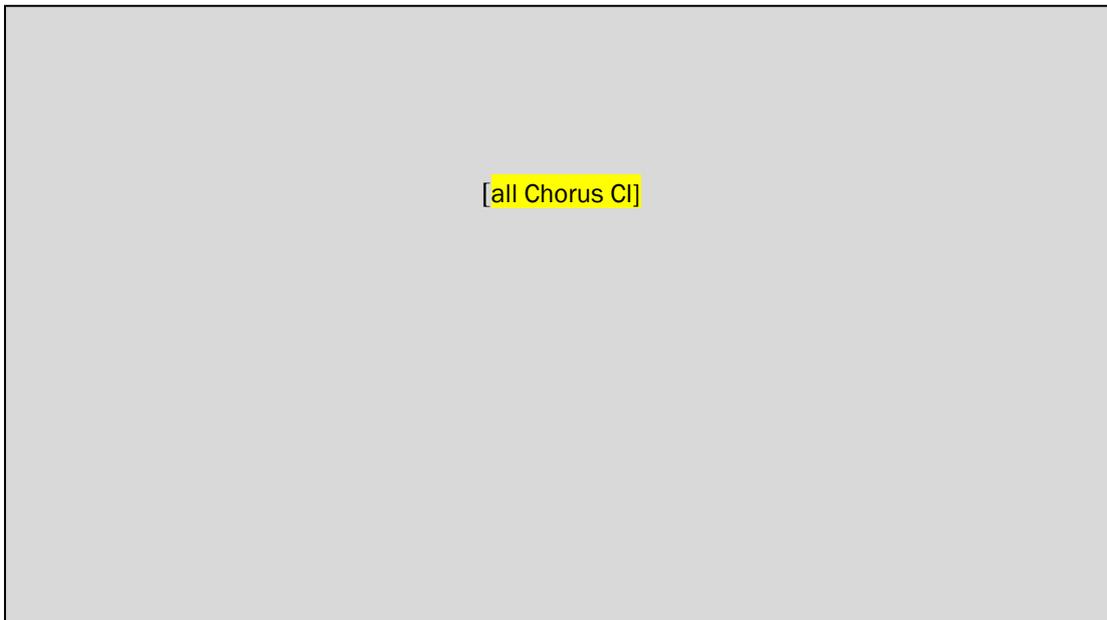
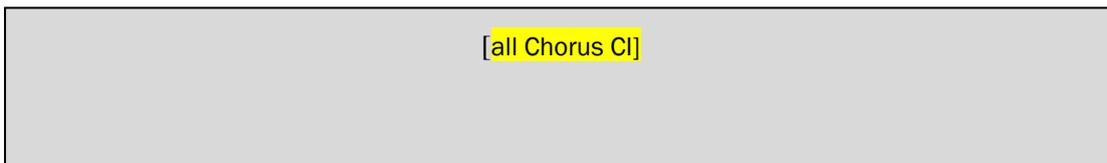


Figure B.6: Values used to calculate the “CNO – payment to service companies – mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.1.3 CNO - Network integrity and quality - mixed

There is one mixed expense category associated with CNO Network integrity and quality: CNO - Network integrity and quality - mixed.

This allocation driver uses a time-varying allocation to 2 expense category components.

Calculation steps:

1. For 2012-2020,
 - a. an opex value for expense category component “CNO - Network integrity and quality - chargeable“ is calculated from the GL by adding the opex from the following GL codes mapped to the relevant expense category component

GL code [all CI]	GL account [all CI]	Mapped expense category component
[]	[]	CNO - Network integrity and quality - chargeable
[]	[]	CNO - Network integrity and quality - chargeable

- b. the opex value for “CNO - Network integrity and quality - non-chargeable” is calculated as the total opex to be allocated less the opex allocated in step 1a above
2. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
3. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories.

Figure B.7 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure B.8 showing the final allocator for each financial year.

Figure B.9 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure B.7: Responses to the questions raised by the notice to supply information relative to driver “CNO – Network integrity and quality – mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • CNO - Network integrity and quality - chargeable • CNO - Network integrity and quality - non-chargeable
B22.5/B23.5	Allocator value for each financial loss year	See Figure B.8 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure B.9 below

Figure B.8: The “CNO – Network integrity and quality – mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

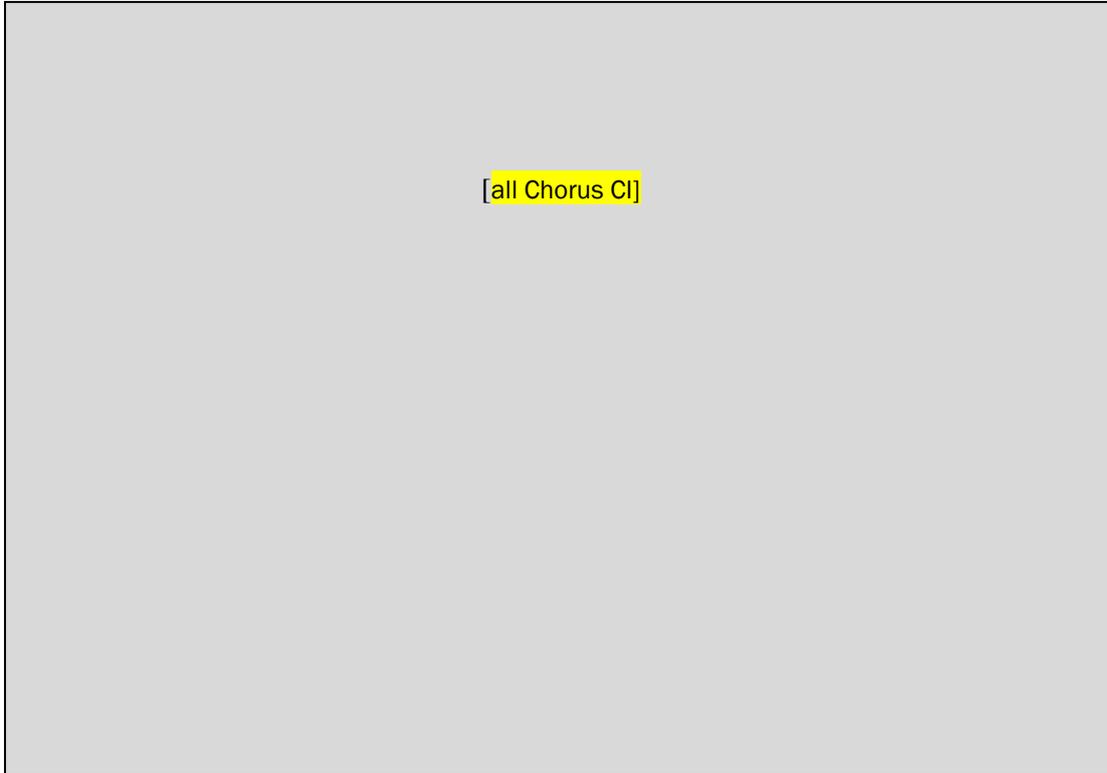
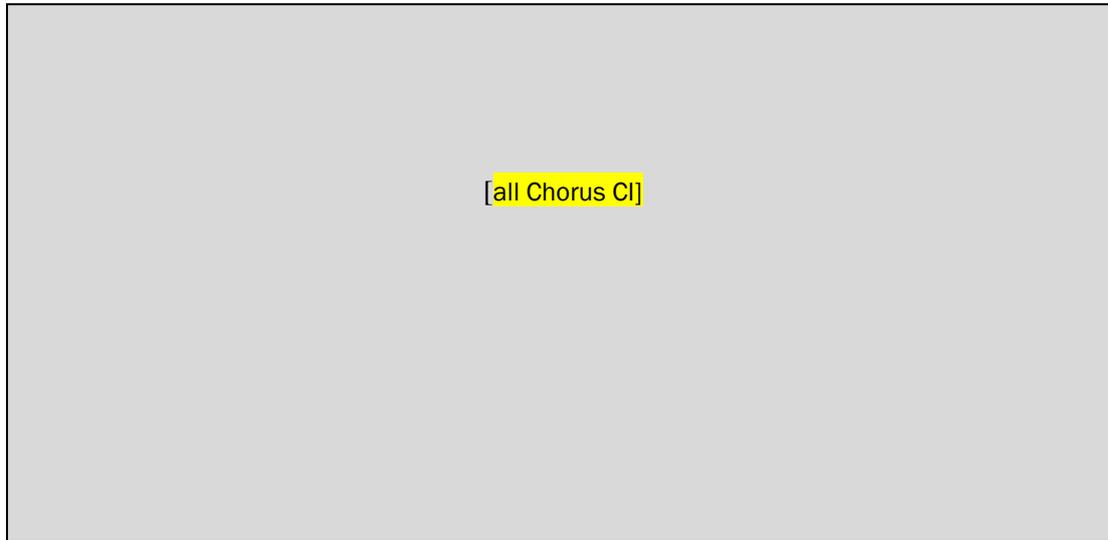


Figure B.9: Values used to calculate the “CNO – Network integrity and quality – mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.1.4 CNO - Chorus network proactive maintenance

There is one mixed expense category associated with Chorus network proactive maintenance: CNO - Chorus network proactive maintenance.

This allocation driver uses a time-varying allocation to 5 expense category components.

Calculation steps:

1. For 2013-2020, an opex value for each expense category component is calculated from an input file⁵⁷ as follows

Corresponding header in input file	Mapped expense category component
Copper	CNO - Chorus network proactive maintenance (copper)
Core Fibre	CNO - Chorus network proactive maintenance (core fibre)
Core Fibre (and core copper)	CNO - Chorus network proactive maintenance (shared)
Power	CNO - Chorus network proactive maintenance (power)
Accommodation	CNO - Chorus network proactive maintenance (accommodation)
Shared - both copper and fibre access	CNO - Chorus network proactive maintenance (shared)
0	CNO - Chorus network proactive maintenance (copper)

2. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components

⁵⁷ NMR allocation 250520 updated for FY20 actuals (calculated)

3. For 2012, the allocation percentages are the same as for 2013
4. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. The model does nevertheless calculate allocation percentages as the 2018-2020 three-year average distribution, which is then held constant from 2021-2030.

Figure B.10 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure B.11 showing the final allocator for each financial year. Figure B.12 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure B.10: Responses to the questions raised by the notice to supply information relative to driver “Chorus network proactive maintenance” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	For 2012, the allocation percentages are the same as for 2013
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • CNO - Chorus network proactive maintenance (copper) • CNO - Chorus network proactive maintenance (core fibre) • CNO - Chorus network proactive maintenance (shared) • CNO - Chorus network proactive maintenance (power) • CNO - Chorus network proactive maintenance (accommodation)

Reference	Information requested	Comment
B22.5/B23.5	Allocator value for each financial loss year	See Figure B.11 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure B.12 below

Figure B.11: The “Chorus network proactive maintenance” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

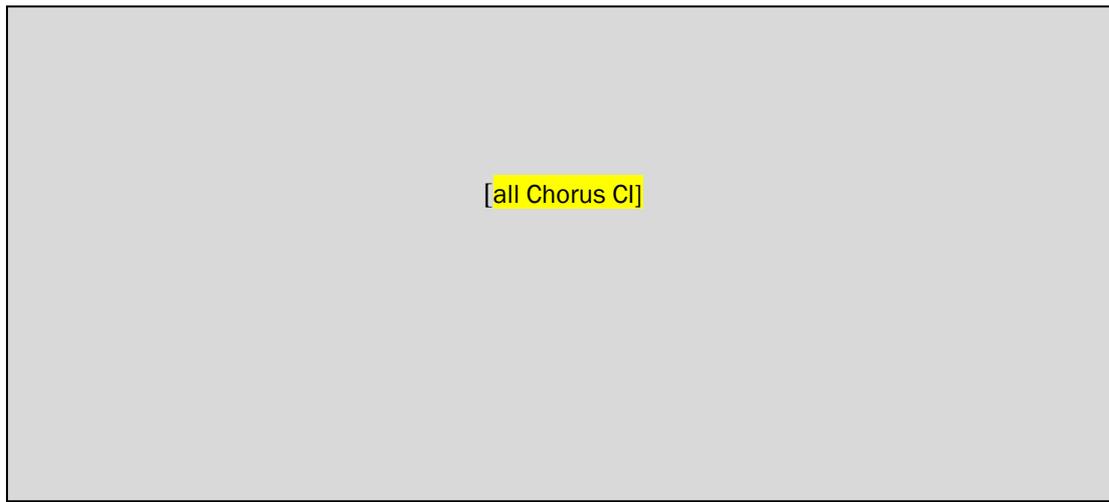
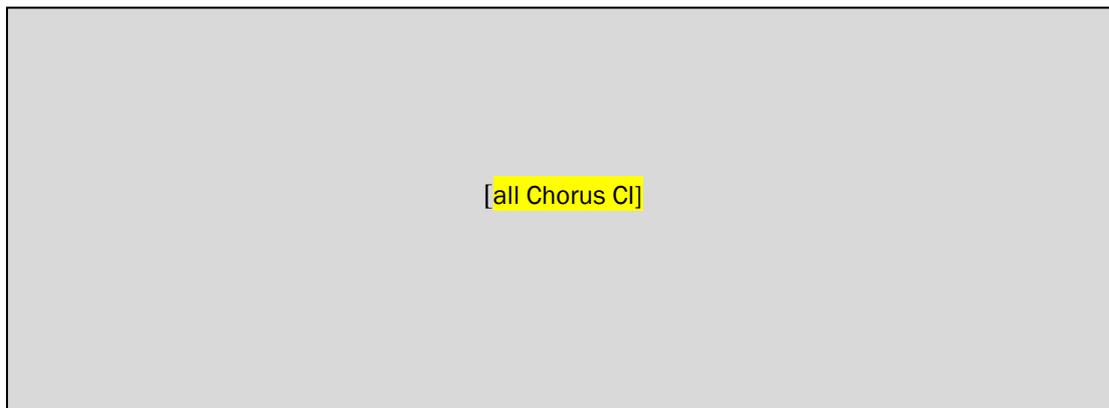


Figure B.12: Values used to calculate the “Chorus network proactive maintenance” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.1.5 CNO - Chorus network reactive maintenance

There is one mixed expense category associated with Chorus network reactive maintenance: CNO - Chorus network reactive maintenance.

This allocation driver uses a time-varying allocation to 4 expense category components.

Calculation steps:

1. For 2013-2017, an opex value for each expense category component is imported directly from an input file⁵⁸ as follows
2. For 2018-2020, an opex value for each expense category component is calculated from an input file⁵⁹ as follows

Corresponding header in input file	Mapped expense category component	Comment
Buildings	CNO - Chorus network reactive maintenance (accommodation)	
Core Fibre	CNO - Chorus network reactive maintenance (fibre)	
Feeder Fibre	CNO - Chorus network reactive maintenance (fibre)	
Maybe shared	CNO - Chorus network reactive maintenance (fibre) CNO - Chorus network reactive maintenance (copper)	Shared 50%-50% between the two
Might be Legacy Fibre products	CNO - Chorus network reactive maintenance (fibre)	
ok	CNO - Chorus network reactive maintenance (copper)	
0	None	Ignored

3. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
4. For 2012, the allocation percentages are assumed to be 100% to “CNO - Chorus network reactive maintenance (copper)”
5. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless a normalised distribution that assumes decreasing allocation to copper.
 - a. “CNO - Chorus network reactive maintenance (copper)” and “CNO - Chorus network reactive maintenance (power)” are manual inputs
 - b. In 2021, “CNO - Chorus network reactive maintenance (accommodation)” assumes the average distribution for 5-year period 2016-2020. This distribution is flatlined from 2022 onward.

⁵⁸ Item 34 and 35 - Interim response - Maintenance costs for AM (interim) + Analysys Mason.xlsx

⁵⁹ Analysis of maintenance costs FFLAS vs not 130820

- c. “CNO - Chorus network reactive maintenance (fibre)” inherits the unallocated balance of the three other categories.

Figure B.13 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure B.14 showing the final allocator for each financial year. Figure B.15 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure B.13: Responses to the questions raised by the notice to supply information relative to driver “Chorus network reactive maintenance” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	For 2012, the allocation percentages are assumed to be 100% to “CNO - Chorus network reactive maintenance (copper)”
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • CNO - Chorus network reactive maintenance (copper) • CNO - Chorus network reactive maintenance (power) • CNO - Chorus network reactive maintenance (accommodation) • CNO - Chorus network reactive maintenance (fibre)
B22.5/B23.5	Allocator value for each financial loss year	See Figure B.14 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure B.15 below

Figure B.14: The “Chorus network reactive maintenance” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

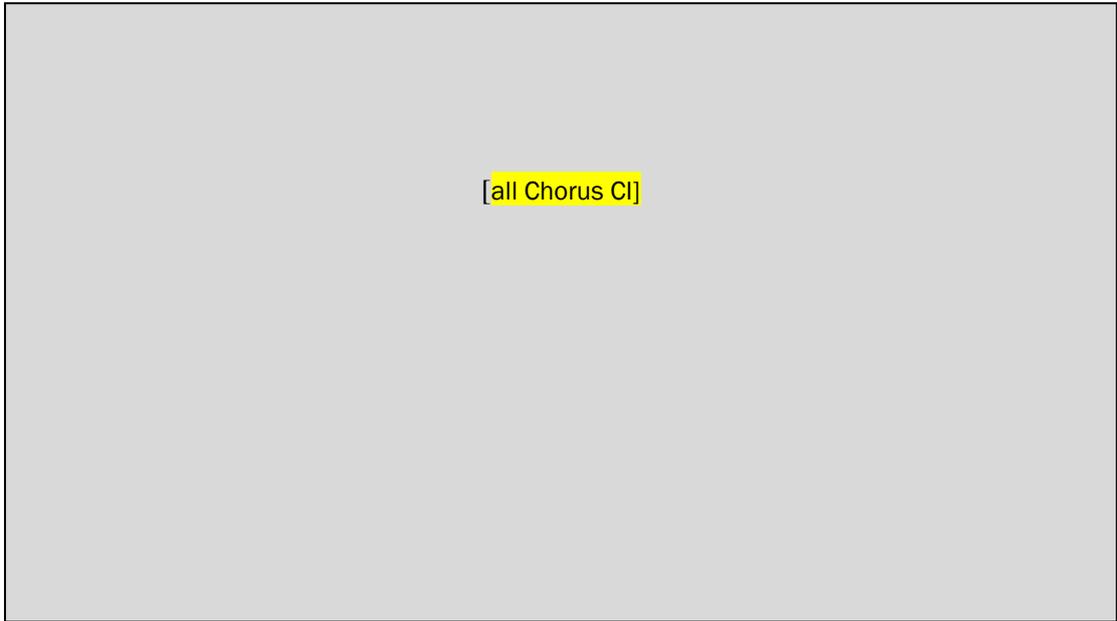
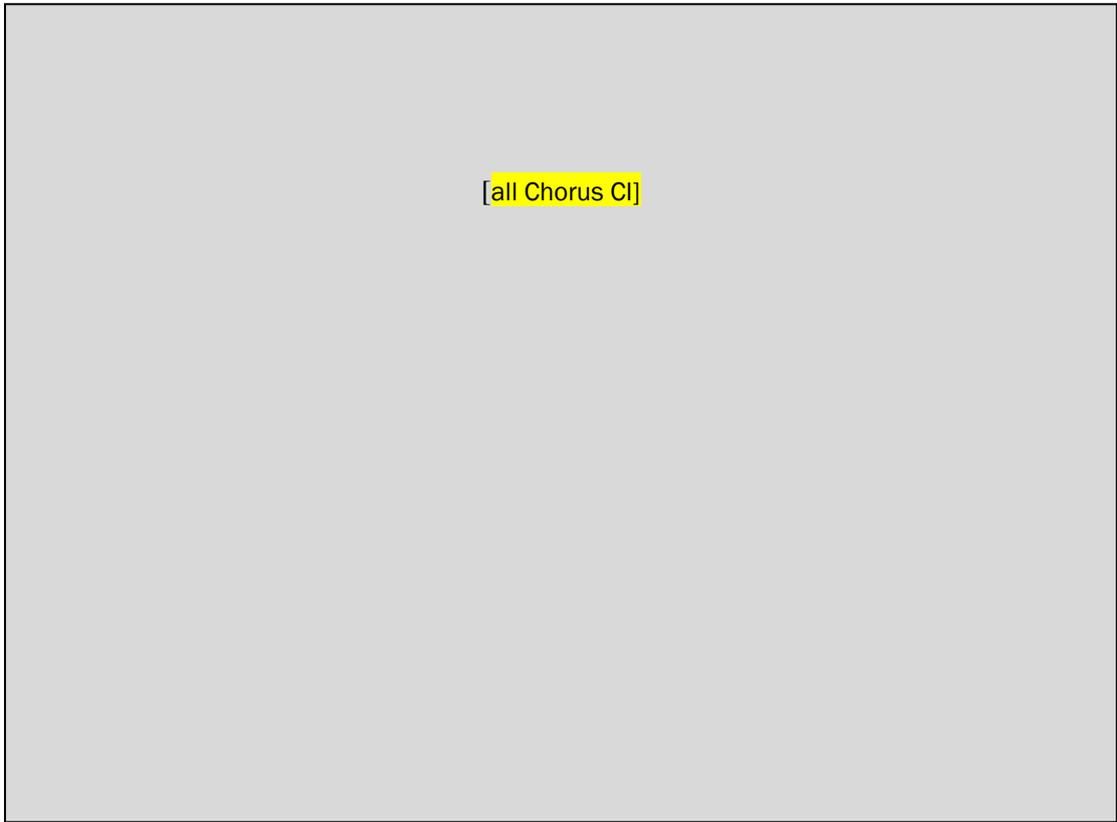


Figure B.15: Values used to calculate the “Chorus network reactive maintenance” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.1.6 CNO - property - Rates - mixed

There is one mixed expense category associated with Chorus property rates: CNO - property - Rates - mixed.

This allocation driver uses a time-varying allocation to 2 expense category components.

Calculation steps:

1. For 2012-2020
 - a. an allocation percentage for expense category component “CNO - property - Rates - Infrastructure” is imported directly from an input file⁶⁰
 - b. the allocation percentage value for “CNO - property - Rates - Buildings” is calculated 100% less the percentage allocated in step 1a above
2. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless a normalised distribution that uses data from the input file until 2025 followed by a constant allocation equal to the one in 2025

Figure B.16 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure B.17 showing the final allocator for each financial year.

Figure B.18 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

⁶⁰ Infrastructure Rates alloc by ESA_v1b.xlsx

Figure B.16: Responses to the questions raised by the notice to supply information relative to driver “CNO – property – Rates – mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • CNO - property - Rates – Infrastructure • CNO - property - Rates - Buildings
B22.5/B23.5	Allocator value for each financial loss year	See Figure B.17 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure B.18 below

Figure B.17: The “CNO – property – Rates – mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

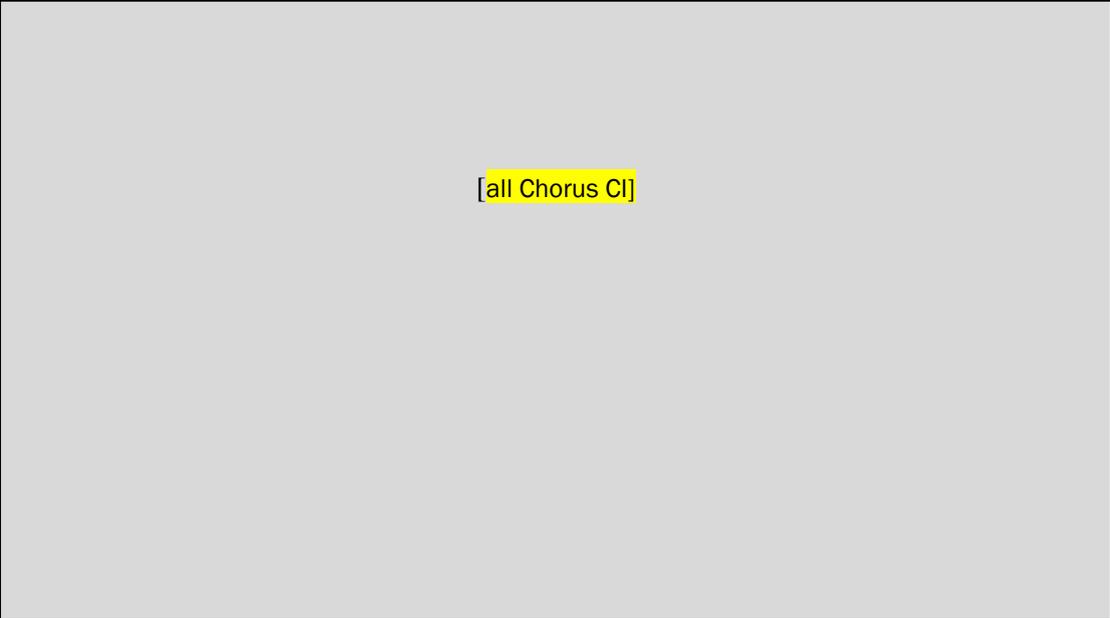
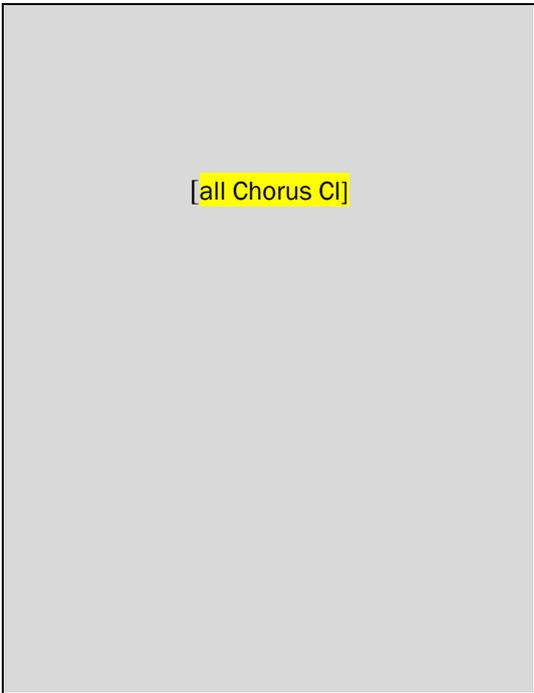


Figure B.18: Values used to calculate the “CNO – property – Rates – mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.1.7 CNO - Outsourcing - mixed

There is one mixed expense category associated with CNO Outsourcing: CNO - Outsourcing - mixed.

This allocation driver uses a time-varying allocation to 2 expense category components.

Calculation steps:

1. For 2013-2017
 - a. an opex value for expense category component “CNO - Outsourcing (agency)” is imported directly from an input file⁶¹
 - b. the opex value for expense category component “CNO - Outsourcing (own-use)” is calculated as the total opex in the input file less the opex value allocated in step 1a above
2. For 2012, the opex values for the 2 expense category components are calculated assuming the same allocation percentages as for 2013
3. For 2018-2020, the opex values for the 2 expense category components are calculated by multiplying the opex to be allocated (from the GL) by the allocation percentages calculated from the input file data for 2018-2020
4. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
5. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless a normalised distribution identical to the 2020 one

Figure B.19 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure B.20 showing the final allocator for each financial year.

⁶¹ Item 41 CustomerCare Offshoring Opex Allocation - Updated 13Aug20 (calculated)

Figure B.21 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure B.19: Responses to the questions raised by the notice to supply information relative to driver “CNO – Outsourcing – mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	For 2012, the opex values for the 2 expense category components are calculated assuming the same allocation percentages as for 2013
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)

Reference	Information requested	Comment
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • Customer Care - Outsourcing (own-use) • Customer Care - Outsourcing (agency)
B22.5/B23.5	Allocator value for each financial loss year	See Figure B.20 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure B.21 below

Figure B.20: The “CNO – Outsourcing – mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

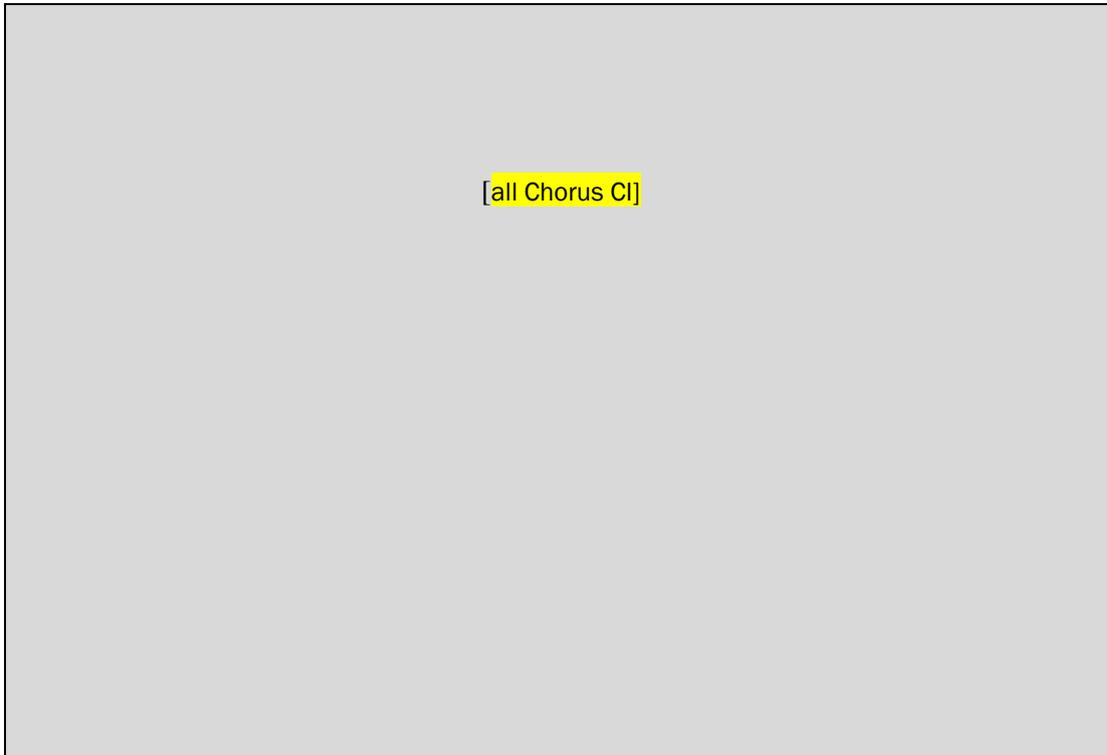
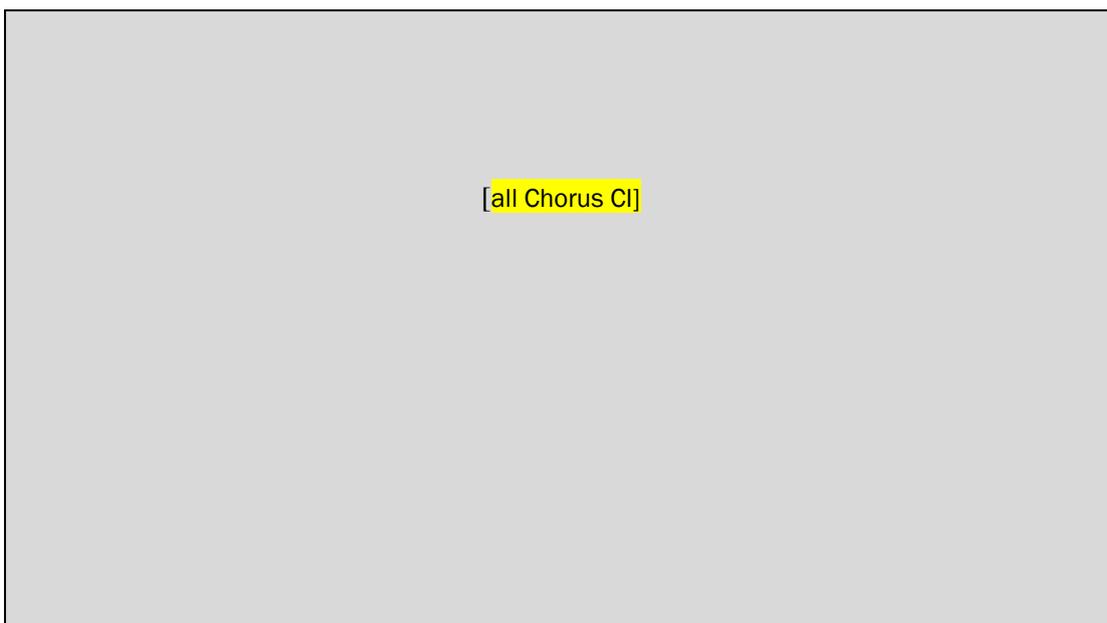


Figure B.21: Values used to calculate the “CNO – Outsourcing – mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.2 CTO Mixed expense allocation drivers

There is one mixed expenses category associated with CTO: CTO - mixed.

This allocation driver uses a time-varying allocation to 9 expense category components.

Calculation steps:

1. For 2012-2020, an opex value for each expense category component is imported directly from an input file⁶² and from the GL⁶³ as follows

Mapped expense category component	Source
CTO - Fibre	Input file
CTO - Copper	Input file
CTO - Common costs	Input file
CTO - Common - Faults/Tickets	Input file
CTO - Common - Revenue	Input file
CTO - Common - Schedules	Input file
CTO - Common - S/O Volumes	Input file
CTO - Common - Orders	Input file
CTO - project opex	GL

2. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
3. For 2012, the opex values for the 9 expense category components are calculated assuming the same allocation percentages as for 2013
4. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless data for 2021-2025 from the input file

Figure B.22 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

Figure B.23 showing the final allocator for each financial year. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

⁶² CTO BBM opex category allocator review - with updated allocators 210520 + Analysys Mason.xlsxx

⁶³ Actual data in GL until 2020 followed by assumption that project opex is same in future years as in 2020

Figure B.22: Responses to the questions raised by the notice to supply information relative to driver “CTO – mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	For 2012, the opex values for the 9 expense category components are calculated assuming the same allocation percentages as for 2013
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • CTO - Fibre • CTO - Copper • CTO - Common costs • CTO - Common - Faults/Tickets • CTO - Common - Revenue • CTO - Common - Schedules • CTO - Common - S/O Volumes • CTO - Common – Orders • CTO - project opex
B22.5/B23.5	Allocator value for each financial loss year	See

Figure B.23 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See Figure B.24 below

Figure B.23: The “CTO – mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

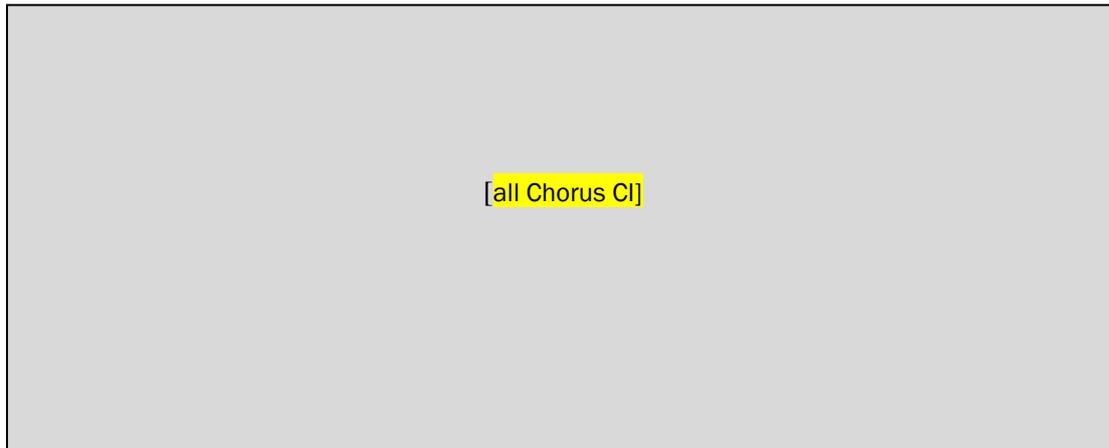
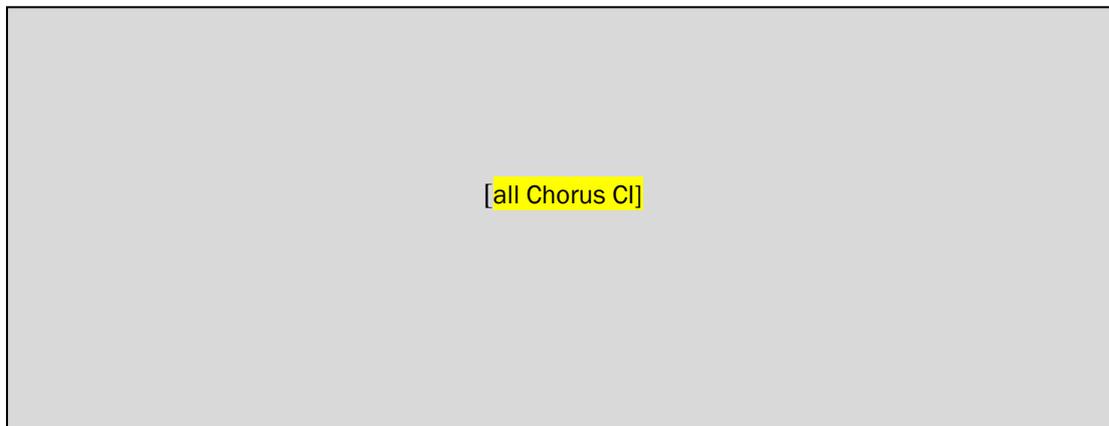


Figure B.24: The “CTO – mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]



B.3 Marketing & sales mixed expenses allocation drivers

There is one mixed expenses category associated with Marketing & sales: Marketing & Sales - NPC mixed.

This allocation driver uses a time-varying allocation to 2 expense category components.

The objective of this allocation driver is to take into account the fact that part of the labour cost recoveries (a negative cost) corresponds to overhead and needs to be allocated using the CTO overhead allocation driver rather than Marketing & Sales drivers. This is because those overhead costs are already included (as positive costs) in CTO GL. In other words, we are netting off the “Overhead portion of labour capitalised” by using the same driver for the positive costs (in the CTO GL accounts) and the negative costs (included in the labour cost recoveries).

Calculation steps:

1. For 2012-2020
 - a. an opex value for expense category component “Marketing & Sales - Overhead portion of labour capitalised” is imported directly from an input file⁶⁴
 - i. this opex value (a negative value) is the share of recovered labour that corresponds to overhead and needs to be allocated using the CTO overhead allocation driver
 - b. the opex value for expense category component “Marketing & Sales - NPC” is calculated as the total net personnel costs opex in the input file less the opex value allocated in step 1a above
 - i. this opex value is the difference between the total net personnel costs (a positive, calculated as gross labour minus recovered labour) and the share of recovered labour that corresponds to overhead (a negative value).
2. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
3. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless a normalised distribution identical to the 2020 one

Figure B.25 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure B.26 showing the final allocator for each financial year.

⁶⁴ Corporate and MandS timesheet analysis + Analysys Mason - FY20 actuals (calculated)

Figure B.27 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure B.25: Responses to the questions raised by the notice to supply information relative to driver “Marketing & Sales – NPC mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • Marketing & Sales - NPC • Marketing & Sales - Overhead portion of labour capitalised
B22.5/B23.5	Allocator value for each financial loss year	See Figure B.26 below
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure B.27 below

Figure B.26: The “Marketing & Sales – NPC mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

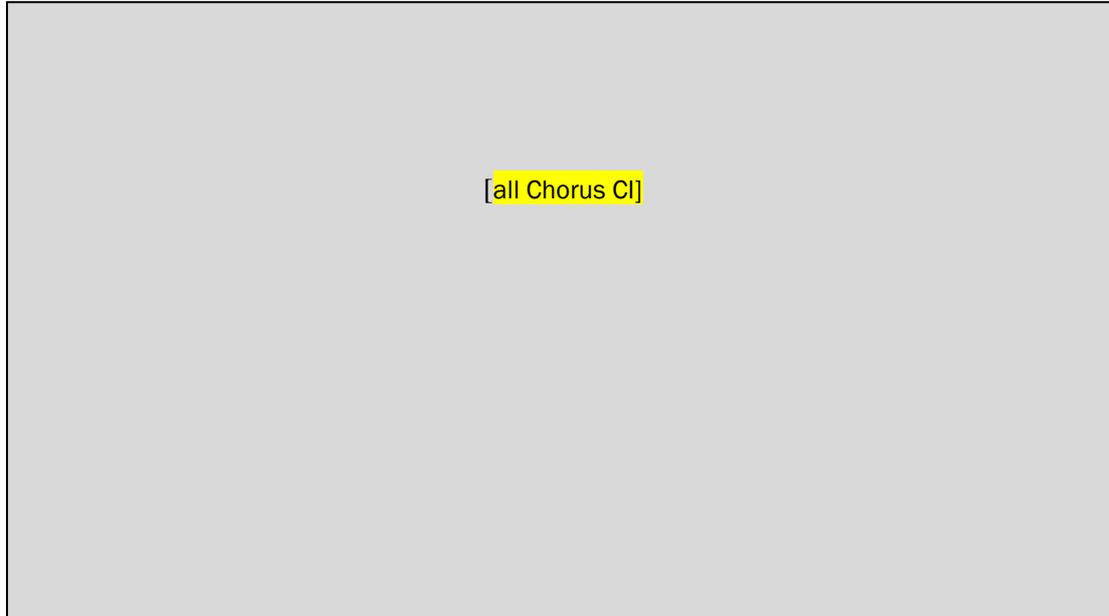


Figure B.27: Values used to calculate the “Marketing & Sales – NPC mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.4 Corporate mixed expense allocation drivers

In the subsections below we discuss the three Mixed expense to expense allocation drivers associated with Corporate, which are:

- Corporate - NPC mixed
- Corporate - Regulatory Levies – mixed

- Corporate - insurance - mixed

B.4.1 Corporate - NPC mixed

There is one mixed expenses category associated with Corporate NPC: Corporate - NPC mixed.

This allocation driver uses a time-varying allocation to 3 expense category components.

The objective of this allocation driver is to take into account the fact that part of the labour cost recoveries (a negative cost) corresponds to overhead and needs to be allocated using the CTO overhead allocation driver rather than Corporate drivers. This is because those overhead costs are already included (as positive costs) in CTO GL. In other words, we are netting off the “Overhead portion of labour capitalised” by using the same driver for the positive costs (in the CTO GL accounts) and the negative costs (included in the labour cost recoveries).

In addition, initial set-up costs for Chorus in 2012 are separated into a separate expense category

Calculation steps:

1. For 2012-2020
 - a. an opex value for expense category component “Corporate - Overhead portion of labour capitalised” is imported directly from an input file⁶⁵
 - i. this opex value (a negative value) is the share of recovered labour that corresponds to overhead and needs to be allocated using the CTO overhead allocation driver
 - b. the opex value for expense category component “Corporate - NPC” (for 2013-2020) and for “Corporate - one-off stand-up personnel costs” (for 2012) is calculated as the total net personnel costs opex in the input file less the opex value allocated in step 1a above

this opex value is the difference between the total net personnel costs (a positive, calculated as gross labour minus recovered labour) and the share of recovered labour that corresponds to overhead (a negative value).

2. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
3. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless a normalised distribution identical to the 2020 one

Figure B.28 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure B.29 showing the final allocator for each financial year.

⁶⁵ Corporate and MandS timesheet analysis + Analysys Mason - FY20 actuals (calculated)

Figure B.30 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure B.28: Responses to the questions raised by the notice to supply information relative to driver “Corporate – NPC mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • Corporate - NPC • Corporate - Overhead portion of labour capitalised • Corporate - one-off stand-up personnel costs
B22.5/B23.5	Allocator value for each financial loss year	See Figure B.29 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure B.30 below

Figure B.29: The “Corporate – NPC mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

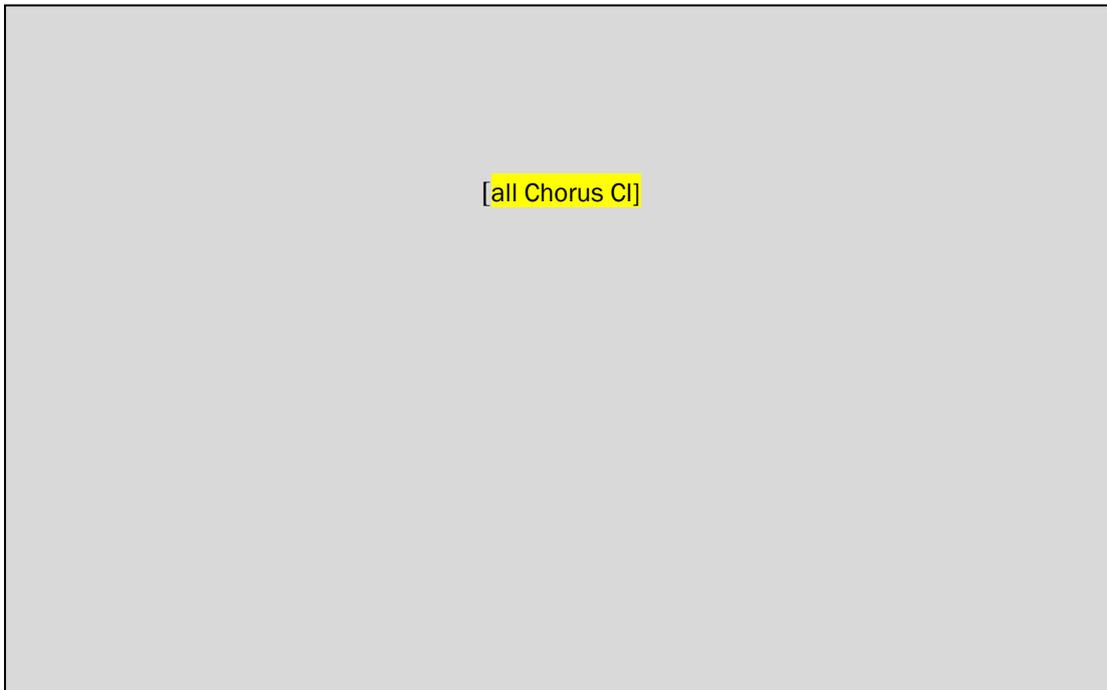
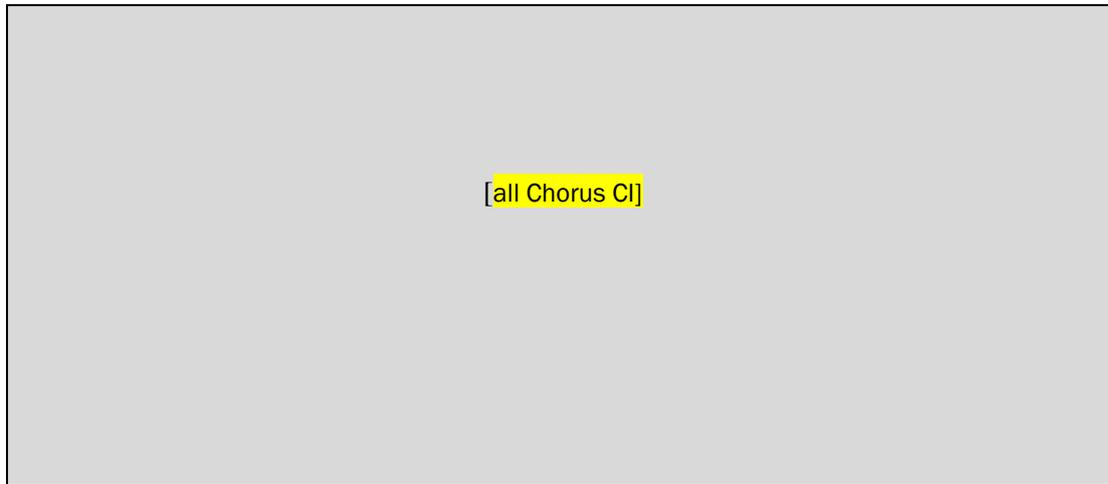


Figure B.30: Values used to calculate the “Corporate – NPC mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.4.2 Corporate - Regulatory Levies – mixed

There is one mixed expenses category associated with Regulatory Levies: Corporate - Regulatory Levies - mixed.

This allocation driver uses a time-varying allocation to 2 expense category components.

Calculation steps:

1. For 2012-2020
 - a. an allocation percentage for expense category component “Corporate - Regulatory Levies – Fibre direct“ is imported directly from an input file⁶⁶
 - b. the allocation percentage value for expense category component “Corporate - Regulatory Levies - Revenue based“ is calculated as 100% less the allocation percentage allocated in step 1a above
2. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
3. For 2021-2030, the driver is unused as the new five-year plan provides directly unmixed categories. There is nevertheless data for 2021-2024 in the input file.

Figure B.31 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with

⁶⁶ Proposed Allocation Of Corporate Regulatory Levies v1b.xlsx

Figure B.32 showing the final allocator for each financial year.

Figure B.31: Responses to the questions raised by the notice to supply information relative to driver “Corporate – Regulatory Levies – mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • Corporate - Regulatory Levies - Fibre direct • Corporate - Regulatory Levies - Revenue based

Reference	Information requested	Comment
B22.5/B23.5	Allocator value for each financial loss year	See
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	Figure B.32 below See Figure B.33 below

Figure B.32: The “Corporate – Regulatory Levies – mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

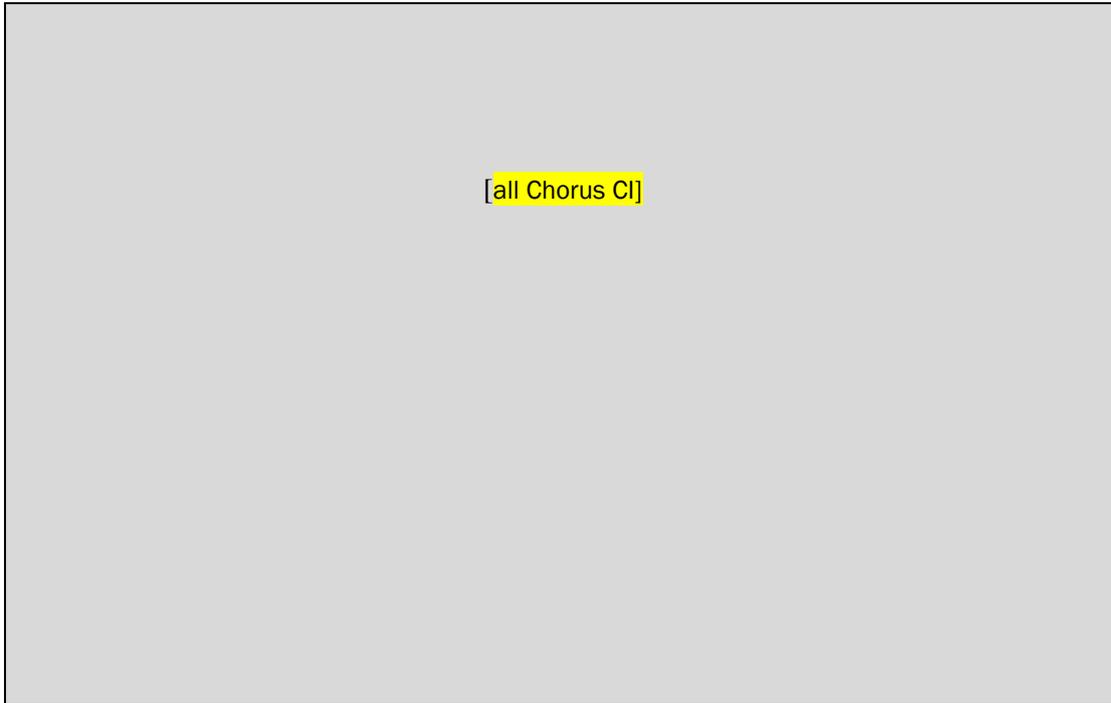
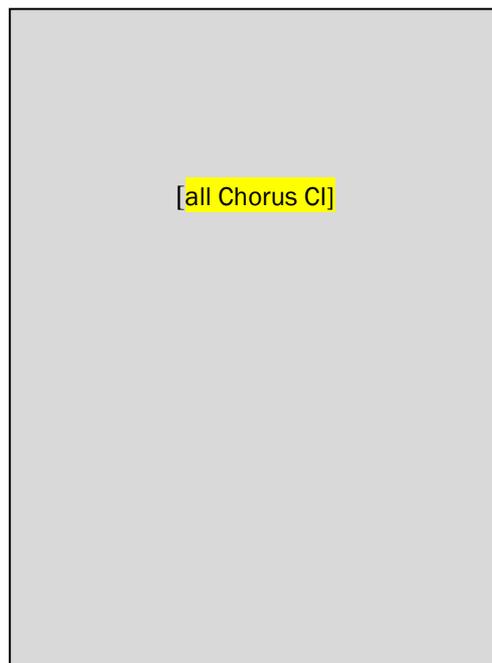


Figure B.33: Values used to calculate the “Corporate – Regulatory Levies – mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



B.4.3 Corporate - insurance – mixed

There is one mixed expenses category associated with Corporate insurance: Corporate - insurance - mixed.

This allocation driver uses a time-varying allocation to 3 expense category components.

Calculation steps:

1. For 2012-2020
 - a. an insurance amount is imported for expense category components “Insurance - Material Damage & Business Interruption” and “Insurance - General Liability Errors & Omission Directors & Officers Statutory” from an input file⁶⁷
 - b. In 2012, this amount is adjusted by 7/12 to reflect the date Chorus separated from Telecom New Zealand
 - c. The amount for component “Corporate - insurance - Chorus benefit of life insurance for staff” is calculated as the total insurance opex from the GL less the 2 components defined above
2. The allocation percentages are calculated as the opex for each expense category component divided by the total allocated to all expense category components
3. For 2021-2030, the driver is unused as the new five-year plan uses instead the category Corporate – insurance.

Figure B.34 provides responses to the questions raised by the notice to supply information relative to this allocation driver, with Figure B.35 showing the final allocator for each financial year.

⁶⁷ Proposed allocation of Corporate Insurance 79000.xlsx

Figure B.36 a screen shot of the information used to calculate the allocation driver. The data is also provided in the excel spreadsheet “BBM Opex Allocation v3.31 - Numerical information”.

Figure B.34: Responses to the questions raised by the notice to supply information relative to driver “Corporate – insurance – mixed” [Source: Analysys Mason, 2021]

Reference	Information requested	Comment
B6.3.1	Explain how the cost allocator was chosen	The cost allocator was chosen in order to disaggregate costs that were under the same general account, in order to be able to use different allocation drivers for each of the components.
B6.3.2	Explain how the cost allocator complies with clause 3.2.1(11) of Attachment B of the IM Determination and clause B1.1.6(4) of Schedule B of Attachment B of the IM Determination.	N/A
B9.2	Include an explanation if the cost allocator is based on extrapolated data	N/A
B22.1/B23.1	What is the name of the allocator type?	Time-varying allocation based on data provided by Chorus.
B22.2/B23.2	Is the allocator based on a causal relationship or equal to a proxy cost allocator?	Causal
B22.3/B23.3	Which of the allocator types is the allocator, of those listed in clause B1.1.6(1)(c)(i)-(ix) of Schedule B of Attachment B of the IM Determination to which it relates?	N/A (allocators used to unmix expense categories are different from the cost allocators listed in the IM)
B22.4/B23.4	List of all operating cost categories to which this allocator is applied [the expense category components]	<ul style="list-style-type: none"> • Corporate - insurance - Material Damage & Business Interruption • Corporate - insurance - General Liability Errors & Omission Directors & Officers Statutory • Corporate - insurance - Chorus benefit of life insurance for staff
B22.5/B23.5	Allocator value for each financial loss year	See Figure B.35 below

Reference	Information requested	Comment
B40	Breakdown by allocator type of the allocator values used to calculate each allocator over time	See

Figure B.36 below

Figure B.35: The “Corporate – insurance – mixed” allocator value for each financial loss year (Notice to supply information reference B22.5/B23.5) [Source: Analysys Mason, 2021] [all Chorus CI]

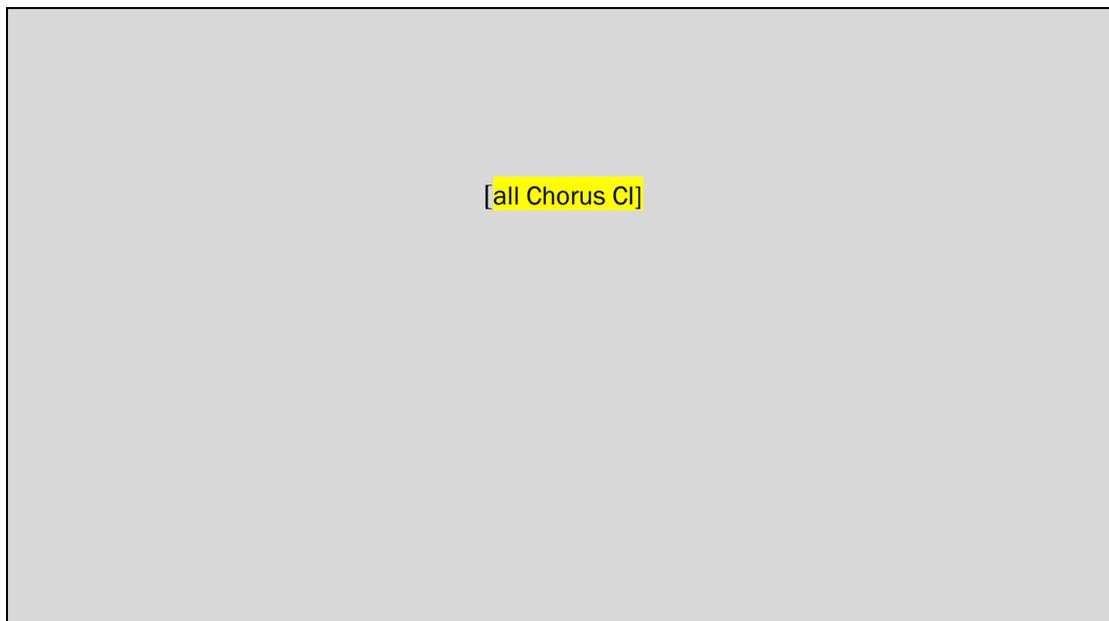
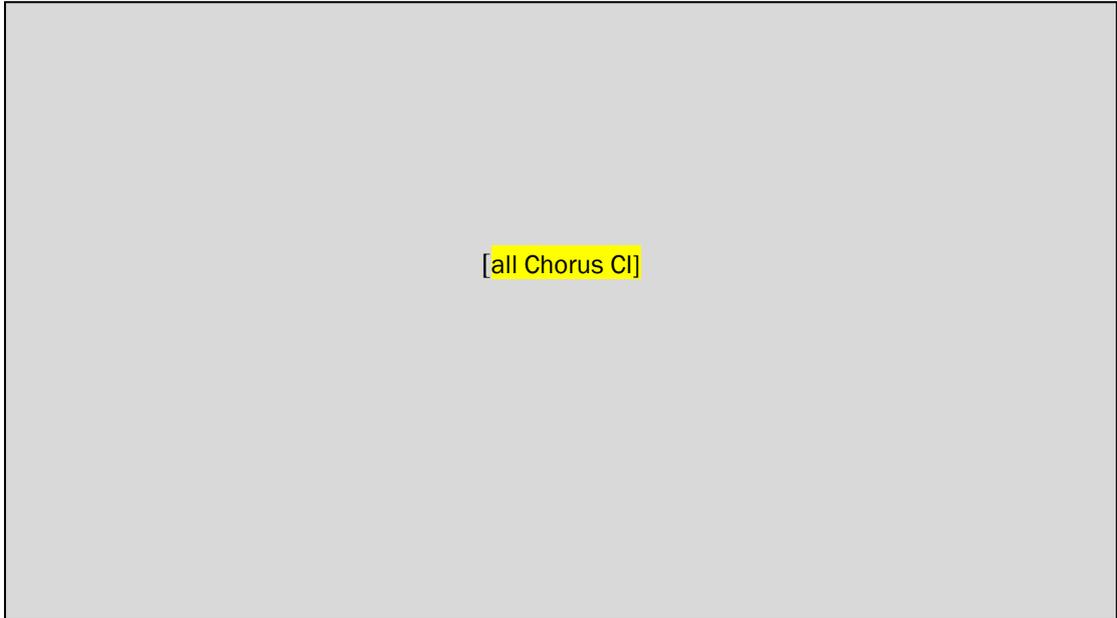


Figure B.36: Values used to calculate the “Corporate – insurance – mixed” allocator over time (Notice to supply information reference B40) [Source: Analysys Mason, 2021] [all Chorus CI]



Annex C Glossary

This glossary provides a brief definition of the acronyms and terms used in this report.

Acronyms and terms	Definition
Allocation drivers	In this context, a means to allocate the opex categories (which themselves combine GL data) to service categories
BBM	Building Block Model (a means of setting a regulatory revenue cap based on a Regulated Asset Base)
Cost centres	Cost centres are individual accounts to which costs are booked in the GL. Cost centres (and their meaning) can change over time.
Component opex categories	A component opex category is an opex category that is part of or a component of a mixed opex category. It is extracted from the mixed opex category and then used in a similar way to an ordinary opex category for further allocation
CTO	CTO is a department within Chorus. It corresponds largely to the IT group considered during the FPP opex allocation
Customer Care	Customer Care is a department within Chorus. It corresponds partly to Customer Services group considered during the FPP opex allocation
Customer Services	Customer Services was a department within Chorus considered during the FPP opex allocation. Its functions have now been split between Customer Care (where the majority now lies), Marketing & Sales, Corporate/Strategy, and CNO
Forecast opex accounts	Forecast opex accounts are inputs to the opex allocation that forecast the future Chorus opex at the level of individual GL accounts
FPP	Final Pricing Principle - a process used to set certain regulated prices by the Commerce Commission (in this context, a previous project related to UCLL and UBA where the opex was categorised).
GL	General Ledger
IAV	Initial Asset Value
Mixed opex categories	"Mixed" opex categories are characterised by the fact that they are not being used to allocate opex directly. They act as an intermediate step between the GL and other opex categories. The reason for this is that there might be a collection of GL accounts that need to be added up and then split in a different way in order to be allocated realistically. "Mixed" opex categories are a way to do that in a consistent future-proof manner.
NBV	Net Book Value
NFM	Network & Field Maintenance is a department within Chorus. It corresponds more or less to the Network Operations group considered during the FPP opex allocation.
NPC	Net Personnel Costs
Expense categories	A mutually exclusive and complete division of the operating costs into categories suitable for allocation between in-scope fibre services and other services in the BBM calculations.
Overhead allocation drivers	Overhead allocation drivers are used to allocate opex categories corresponding to overhead or indirect activities. These drivers take into account a subset of the opex allocation, and allocate based on that (for example, CTO overhead allocates opex based on all other CTO-related opex). To do that, the overhead allocation drivers are

Acronyms and terms	Definition
	calculated as the weighted average of other drivers used to allocate the opex in question. Essentially, it is a composite allocation driver.
Service categories	Service categories are the group of services to which opex is allocated. They determine the granularity of the opex allocation output.
Totex	Total opex and annualised capex
TPSA	Telecom Property Services Agreement