Australian Competition & Consumer Commission

NBN Co Cost Allocation Manual Review

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FINAL

McGrathNicol

Contents

Disclaimer

This report has been prepared for the Australian Competition and Consumer Commission ("ACCC") in accordance with Official Order 16149098.1 dated 18 December 2023. Accordingly, it should not be used for any other purpose or provided to any third party in full, part or summary, except as required by law, without our prior consent in writing. We acknowledge that the ACCC may publish our final report publicly, in accordance with the terms of our Official Order.

The analysis and conclusions presented in this report have been prepared based on information provided to us, which includes information which is confidential and commercially sensitive in nature. Except where specifically stated, we have not sought to establish the reliability of the sources of information presented to us by reference to independent evidence. Furthermore, we reserve the right to amend any conclusions, if necessary, should any further information become available.

We have not undertaken a comprehensive review of the accuracy or completeness of the actual allocation of costs in accordance with the Cost Allocation Manual, but only reviewed the compliance with the relevant provisions of NBN Co's Special Access Undertaking. Further, we have not undertaken any audit activities and as such we do not provide any assurance in respect of any data or information produced through the application of NBN Co's Cost Allocation Manual.

Neither the firm nor any member or employee of the firm undertakes responsibility in any way whatsoever to any person or organisation other than the ACCC in respect of the information set out in this report, including any errors, omissions or negligence however caused.

1 Executive Summary

As a provider of regulated telecommunication services in Australia, NBN Co is regulated by the Australian Competition and Consumer Commission ("ACCC") under the *Competition and Consumer Act 2010* ("CCA"). The CCA provides for the preparation of a Special Access Undertaking ("SAU") setting out the terms and conditions of access to NBN Co's regulated (or core) services. NBN Co also provide competitive services which are not regulated.

Clause 2G.6.3 of the SAU sets out the cost allocation principles for NBN Co to attribute and allocate costs to its core (regulated) and competitive (unregulated) services. NBN Co is required to prepare a Cost Allocation Manual ("CAM") to document its methodology for allocating costs in accordance with the cost allocation principles.

NBN Co's SAU was varied in October 2023 and subsequently, NBN Co lodged a proposed CAM for the ACCC's approval. McGrathNicol was engaged to assist the ACCC review NBN Co's proposed CAM to inform the proposed CAM in either the form proposed or with reasonable changes.

The scope of this review included an assessment of whether NBN Co's proposed CAM is consistent with the cost allocation principles in NBN Co's SAU

In addition to the above, our review also considered:

- the economic principles of efficient cost allocation, and provide an appropriate conceptual framework for mitigating the risk of cross-subsidy from NBN Co's core services to its competitive services;
- the transparency provided by NBN Co's CAM in respect of allocating costs between core and competitive services;
- whether NBN Co's CAM provides sufficient detail to allow the ACCC to replicate reported outcomes in the accounting separation, record keeping and reporting framework through application of the CAM; and
- whether the methodology in NBN Co's CAM and its approach to allocating costs between core and competitive services is rigorous and consistent with best practice regulation of utility businesses.

We note that a subsequent component of our engagement will involve review of NBN Co's accounting separation, record keeping and assurance procedures, which is outside the scope of this report.

Section 4.3 of this report provides our detailed analysis against the above scope.

Overall, the review found that the cost allocation methodology set out in NBN Co's proposed CAM appear consistent with the requirements of Clause 2G.6.3 of the SAU (i.e. the cost allocation principles). However, the review found the proposed CAM should be updated to demonstrate this consistency.

The key matters identified by the review for the ACCC's consideration included:

- the granularity of cost groups presented in NBN Co's proposed CAM (most notably employee benefits expense) and the need for further rationale in the CAM in respect of NBN Co's approach to disaggregation;
- the allocation of significant shared costs using a non-causal allocator based upon a basket of equally weighted proxy allocators, including the need for further explanation of the relationships between cost drivers and the associated proxy sub-allocators, and the addition of proportional cumulative capital expenditure value as a third equally weighted sub-allocator for non-causal cost allocation in the CAM;
- the allocation of significant shared costs using a causal allocator based on 'average estimated network data traffic', which is a proxy for actual network data traffic; and
- opportunities for NBN Co to increase the level of explanatory information in its CAM to provide readers with greater clarity of its cost allocation methodology and therefore its compliance with the requirements of the SAU.

Table 1 overleaf summarises our ratings of NBN Co's proposed CAM's consistency with the cost allocation principles set out in the SAU.

1 Executive Summary

Table 1: Summary of ratings of NBN Co's CAM's consistency with SAU cost allocation principles.

SAU Clause	Cost Allocation Principle	Rating
SAU Clause 2G.6.2(a)	Costs that are directly attributable to a Core Regulated Service will be allocated to that Core Regulated Service.	●
SAU Clause 2G.6.2(b)	Costs that are directly attributable to a Competitive Service will be allocated to that Competitive service.	
SAU Clause 2G.6.2(c)	Shared costs (i.e. costs that are not directly attributable to a Core Service or Competitive Service) will be allocated to reflect causal relationships between supplying services and incurring costs, unless establishing a causal relationship would require undue cost or effort in which case an alternative suitable allocator will be used.	●
SAU Clause 2G.6.2(d)	All costs will be allocated.	✓
SAU Clause 2G.6.2(e)	No cost should be allocated more than once to any service.	✓

Source: McGrathNicol.

Our conclusions are reflected by the 'Rating' presented against each of the requirements of the SAU. This rating was determined in accordance with the framework described in **Table 2** below:

Table 2: Review of consistency with the cost allocation principles in the SAU.

Rating	Description
✓	The cost allocation methodology set out in the CAM is consistent with the SAU requirement.
●	The cost allocation methodology set out in the CAM appears consistent with the SAU requirement. However, the proposed CAM should be updated to demonstrate this consistency, including additional disclosures or explanation.
✗	The cost allocation methodology set out in the CAM is not consistent with the SAU requirement.

Source: McGrathNicol.

2 Summary of Recommendations

Table 3 below provides a summary of recommendations from our review with references to the relevant section of our detailed analysis.

Table 3: Summary of review recommendations.

Section	Recommendation
4.3.1.2	▪ The ACCC consider requesting NBN Co to update its CAM to disaggregate its employee benefits expense cost group, in accordance with the additional analysis provided as part of this review.
4.3.1.3	▪ The ACCC consider requesting NBN Co to provide further explanation for the level of disaggregation presented in the CAM, including that further disaggregation was explored by NBN Co, but it was found to have no impact on the ability to allocate a higher proportion of operating expenditure directly or based on causal allocators.
4.3.1.4	▪ The ACCC consider requesting NBN Co to provide information in respect of the materiality threshold underpinning its assertions of unduly high effort. Based on this information, the ACCC should consider the appropriateness of NBN Co's materiality threshold and associated impact on the proposed CAM's non-causal allocations.
4.3.2.2	▪ The ACCC consider requesting NBN Co to document additional rationale for its non-causal allocator in the CAM and/or supporting submission. This rationale should include further explanation of sub-allocators and the basis for their selection (including as proxies for cost drivers).
4.3.2.3	▪ The ACCC consider requesting NBN Co to adopt proportional cumulative capital expenditure (excluding non-causal capital expenditure) as a third equally weighted sub-allocator for non-causal cost allocation in its CAM.
4.3.2.4	▪ The ACCC consider requesting NBN Co to provide a cost estimate of preparing an estimate of actual data traffic for non-TC-4 and Satellite services. ▪ The ACCC consider the appropriateness of the six 'average estimated network data traffic' allocators in the context of both the total value of the allocated cost groups and NBN Co's above cost estimate.
4.3.3.3	▪ The ACCC consider requesting NBN Co to update its proposed CAM to explain that future depreciation and interest will be calculated and allocated to core and competitive services through the BBM.
4.3.3.4	▪ The ACCC consider requesting NBN Co to ensure external assurance for its annual expenditure reporting is considered as part of the Proposed Accounting Procedures, with the scope of this external assurance to include consideration of whether costs have been attributed and allocated in accordance with the approved CAM.

Source: McGrathNicol.

3 Introduction

3.1 ***Background***

NBN Co is a wholly-owned Commonwealth company ("Government Business Enterprise") responsible for the development, operation and maintenance of Australia's National Broadband Network. Given its position as a provider of regulated telecommunication services, the *Competition and Consumer Act* 2010 ("CCA") empowers the Australian Competition and Consumer Commission ("ACCC") to regulate the terms and conditions of access to NBN Co's services, including the price of these services.

Part XIC of the CCA provides for the preparation of a Special Access Undertaking ("SAU") setting out the terms and conditions under which NBN Co supplies wholesale services. Clause 2G.6.2 of the SAU sets out the cost allocation principles for NBN Co to attribute and allocate costs (set out in **section 4.2** below). These principles support efficient and transparent cost allocation procedures to incentivise outcomes that are consistent with the long-term interests of end-users.

Clause 2G.6.3 of the SAU requires NBN Co to prepare a Cost Allocation Manual ("CAM") which describes the detailed methodology upon which NBN Co's costs will be allocated between its core (i.e. regulated) and competitive services. We highlight that core services are subject to the SAU's regulatory requirements, including maximum regulated prices, price controls and benchmark service standards. In contrast NBN Co's competitive services operate outside of the SAU framework.

Based on the above, it is important for NBN Co's CAM to appropriately allocate costs between core and competitive services to mitigate the risk of cross-subsidisation leading to an unfair competitive advantage for NBN Co's competitive services or unduly high cost to consumers.

On 14 August 2023 NBN Co lodged a variation to its SAU with the ACCC seeking to incorporate fibre-to-the-node and other copper-based technologies to create a single regulatory framework. The variation also included significant changes to other key elements of the SAU, including, among other things, NBN Co's cost recovery framework.

Subsequent to the ACCC's acceptance of NBN Co's SAU variation in October 2023, NBN Co lodged a proposed CAM on 16 November 2023. The ACCC is required to assess the CAM and approve it either in the form proposed or with reasonable changes. McGrathNicol was engaged by the ACCC to assist with review of NBN Co's CAM, which will assist the ACCC in making its decision.

3.2 ***Objective and Scope***

The objective of our engagement was to advise the ACCC on matters relevant to the ACCC's assessment, including whether NBN Co's proposed CAM is consistent with the cost allocation principles in NBN Co's SAU

In addition to the above, our review also considered:

- the economic principles of efficient cost allocation, and provide an appropriate conceptual framework for mitigating the risk of cross-subsidy from NBN Co's core services to its competitive services;
- the transparency provided by NBN Co's CAM in respect of allocating costs between core and competitive services;
- whether NBN Co's CAM provides sufficient detail to allow the ACCC to replicate reported outcomes in the accounting separation, record keeping and reporting framework through application of the CAM; and
- whether the methodology in NBN Co's CAM and its approach to allocating costs between core and competitive services is rigorous and consistent with best practice regulation of utility businesses.

We note that a subsequent component of our engagement will involve review of NBN Co's accounting separation, record keeping and assurance procedures, which is outside the scope of this report.

3 Introduction

3.3 *Information sources*

The information provided for the purposes of our review was limited to:

- Information provided by the ACCC, including:
  - NBN Co's proposed CAM (dated 16 November 2023);
  - Documentation prepared by NBN Co in support of its proposed CAM (NBN Co Supporting Submission: Proposed Cost Allocation Manual, dated November 2023);
  - A report from FarrierSwier's review of NBN Co's proposed CAM dated 16 November 2023 (publicly available on the ACCC's website);
  - Submissions to the ACCC's consultation paper (29 November 2023) for the NBN Co CAM; and
  - Technical analysis prepared by the ACCC, including by its economics and telecommunications subject matter experts.
- Information provided directly by NBN Co, including:
  - Verbal and written responses to McGrathNicol's review of the CAM; and
  - Supporting information, including illustrative data in relation to cost groups and allocators used by NBN Co in the CAM (based on FY23).
- Information otherwise publicly available in respect of NBN Co, its CAM and SAU, including as published on the ACCC's and NBN Co's websites.

3.4 *Methodology*

Our review was conducted based on the following activities:

- Review of NBN Co's CAM (dated 16 November 2023) and supporting documentation;
- Review of submissions to the ACCC's consultation paper on NBN Co's proposed CAM released on 29 November 2023;
- Environmental scan of comparable regulated businesses, including both in Australia and internationally, to identify better practice;
- Based on this review, preparation of question sets for discussion with, or written response from, NBN Co;
- Meetings with NBN Co to discuss the question sets;
- Review of written responses from NBN Co in respect of the question sets;
- Analysis of supporting information provided by NBN Co, including in respect of its cost groups and allocators; and
- Documenting our conclusions against the review's objective and scope (set out in **Section 3**) by way of preparing this report.

Although we have thoroughly analysed NBN Co's proposed CAM, we have presented our report on an exception's basis, where relevant. Based on this approach, we have excluded detailed commentary in respect of those findings which appear to be compliant or consistent with the criteria specified above.

Accordingly, we have only identified issues which we believe are pertinent to ACCC's decision-making in determining any recommended changes which will improve or enhance NBN Co's CAM.

4 Detailed Analysis

4.1 *Overview*

This section summarises our analysis and conclusions in respect of the review's objective and scope set out in **Section 2** above, including:

- **Section 4.3**: Review of consistency with the cost allocation principles in the SAU; and
- **Section 4.4**: Review of consistency with the economic principles of efficient cost allocation.

Our conclusions are reflected by the 'Rating' presented against each of the requirements of the SAU. This rating was determined in accordance with framework described in **Table 4** below:

Table 4: Review of consistency with the cost allocation principles in the SAU.

Rating	Description
✓	The cost allocation methodology set out in the CAM is consistent with the SAU requirement.
●	The cost allocation methodology set out in the CAM appears consistent with the SAU requirement. However, the proposed CAM should be updated to demonstrate this consistency, including additional disclosures or explanation.
✘	The cost allocation methodology set out in the CAM is not consistent with the SAU requirement.

Source: McGrathNicol.

Whilst **section 4.4** sets out our analysis and conclusions in respect of the economic principles of efficient cost allocation, we have not expressed a rating against these criteria.

4.2 *SAU Cost allocation principles*

Clause 2G.6.2 of the SAU sets out the cost allocation principles for NBN Co to attribute and allocate costs. These cost allocation principles, which form the normative basis for our assessment of the appropriateness of NBN Co's CAM are set out in **Table 5** below:

Table 5: SAU cost allocation principles.

SAU Clause	Cost Allocation Principle
SAU Clause 2G.6.2(a)	Costs that are directly attributable to a Core Regulated Service will be allocated to that Core Regulated Service.
SAU Clause 2G.6.2(b)	Costs that are directly attributable to a Competitive Service will be allocated to that Competitive service.
SAU Clause 2G.6.2(c)	Shared costs (i.e. costs that are not directly attributable to a Core Service or Competitive Service) will be allocated to reflect causal relationships between supplying services and incurring costs, unless establishing a causal relationship would require undue cost or effort in which case an alternative suitable allocator will be used.
SAU Clause 2G.6.2(d)	All costs will be allocated.
SAU Clause 2G.6.2(e)	No cost should be allocated more than once to any service.

Source: NBN Co Special Access Undertaking (SAU) (Second Variation Version) p. 273, August 2023.

4 Detailed Analysis

4.3 ***Review of consistency with the cost allocation principles in the SAU.***

4.3.1 SAU Clause 2G.6.2(a) and SAU Clause 2G.6.2(b)

Cost allocation principle	Rating
▪ **SAU Clause 2G.6.2(a):** Costs that are directly attributable to a Core Regulated Service will be allocated to that Core Regulated Service. ▪ **SAU Clause 2G.6.2(b):** Costs that are directly attributable to a Competitive Service will be allocated to that Competitive service.	●

4.3.1.1 ***Overview***

We have assessed SAU Clauses 26.6.2(a)-(b) collectively on the basis that they are complementary cost allocation principles for core and competitive services respectively.

NBN Co's alignment with the direct attribution principles is detailed in section 4.2.1 (capital expenditure) and section 4.3.1 (operating expenditure) of the proposed CAM.

NBN Co applies the following methodology for direct attribution of capital expenditure:

- NBN Co records capital expenditure (e.g. costs incurred as part of constructing the nbn network) within a project accounting module of its Enterprise Resource Planning ("ERP") system.
- Separate capital expenditure programs track the costs of acquiring and constructing assets that are specifically attributable to each of the three competitive services (i.e. Enterprise Ethernet, Business Satellite Services and Satellite Mobility). Capital expenditure incurred against projects for competitive services is directly attributable to the competitive service, unless the assets created are shared in nature (e.g., fibre cable (excluding lead in cable) is constructed to deliver both nbn Ethernet and/or Enterprise Ethernet services. Construction activity is considered shared capital expenditure and treated as a shared cost.
- Capital expenditure on asset types associated with technologies used solely to provide core services (i.e., Fibre-to-the-Node, Fibre-to-the-Building, Fibre-to-the-Curb, Hybrid Fibre Coaxial and Fixed Wireless) is directly attributable to core services.
- Capital expenditure on asset types associated with Fibre-to-the-Premises and Satellite technologies is directly attributable if the asset category is solely used to deliver either core services or competitive services.
- Once projects are completed and the constructed assets are brought into use within the network, NBN Co capitalises the costs from each project within its Fixed Asset Register by recording the specific fixed asset categories by asset type, project and technology.
- Capital expenditure that cannot be directly attributed to a specific technology (e.g. office equipment such as laptops which are technology agnostic) is classified within the Fixed Asset Register as No Technology.

NBN Co applies the following methodology for direct attribution of operating expenditure:

- Directly attributable operating expenditure is determined from NBN Co's General Ledger, which classifies operating expenditure by Account, Cost Code (cost centre), and Technology. Cost centres are used to enable reporting of total costs (across all account codes by nature) by business unit and function.
- Operating expenditure associated with technologies used solely to provide core services are directly attributable to core services.
- Operating expenditure in respect of Satellite technology is directly attributable using cost codes that identify whether the operating expenditure was undertaken to support competitive services or core services. Certain Satellite technology related costs are recorded against shared satellite costs codes and are therefore treated as shared.
- There are no cost codes that separately report Enterprise Ethernet operating expenditure. Consequently, all operating expenditure recorded against the Fibre-to-the-Premises technology is treated as shared.

Overall, our review concluded that NBN Co's proposed CAM appears consistent with the direct attribution principles across both capital and operating expenditure.

4.3.1.2 *Granularity of cost groups*

Despite the above conclusion, we highlight that 22 (39%) of the 56 cost groups detailed in NBN Co's CAM were directly attributable to core or competitive service. These 22 directly attributable cost groups account for a relatively low proportion (23%) of NBN Co's FY23 illustrative costs. The remaining 77% of NBN Co's illustrative FY23 costs were shared costs, allocated through the use of causal or non-causal allocators.

From a conceptual standpoint, the proportion of direct and shared costs is not necessarily an indicator of an issue with the design of NBN Co's CAM, and therefore non-compliance with the SAU requirements. However, it may suggest there could be opportunity for NBN Co to disaggregate its cost groups (specifically its shared costs) further, to a granularity which would allow greater direct attribution.

In response to queries regarding the granularity of its cost groups, NBN Co advised that further disaggregation was possible in its accounting system and was considered. However, NBN Co determined that further disaggregation was unlikely to improve direct attribution beyond what was presented in the proposed CAM. Accordingly, the aggregation of similar cost groups was considered to streamline the CAM's presentation.

This matter was explored in detail in respect of NBN Co's employee benefits expense, which is a single shared (non-causal) cost group in NBN Co's proposed CAM. Through the review process NBN Co prepared additional analysis which divided its employee benefits expense by cost centre, and ultimately into six cost categories.

In preparing this additional analysis, NBN Co identified additional employee benefits expense which could be directly attributable to competitive services or allocated shared costs. Whilst the amount was relatively immaterial in the context of NBN Co's illustrative FY23 costs, disaggregating the employee benefits expense cost group in this manner would provide greater clarity to readers of the CAM and demonstrate the robustness of NBN Co's cost allocation methodology.

Recommendation

- The ACCC consider requesting NBN Co to update its CAM to disaggregate its employee benefits expense cost group, in accordance with the additional analysis provided as part of this review.

4.3.1.3 *Rationale for the level of disaggregation*

In written responses provided for the review, NBN Co explained that further disaggregation of cost groups in the CAM was not likely to improve the direct attribution or causal allocation of costs, and therefore not likely to materially impact the allocation of costs between core and competitive services.

This explanation is not evident in the proposed CAM, but may be valuable for demonstrating to readers that NBN Co's approach is robust.

Recommendation

- The ACCC consider requesting NBN Co to provide further explanation for the level of disaggregation presented in the CAM, including that further disaggregation was explored by NBN Co, but it was found to have no impact on the ability to allocate a higher proportion of operating expenditure directly or based on causal allocators.

4.3.1.4 *Materiality threshold*

NBN Co advised that its proposed CAM does not separately identify costs associated with its competitive Enterprise Ethernet service on the basis that it would represent unduly high effort for an immaterial result.

Based on the information provided we do not query NBN Co's assertion. However, it is noted that NBN Co's proposed CAM does not provide information for the materiality threshold which underpins this conclusion and in general. It may benefit readers for NBN Co to provide information in respect of this materiality threshold in the CAM.

Recommendation

- The ACCC consider requesting NBN Co to provide information in respect of the materiality threshold underpinning its assertions of unduly high effort. Based on this information, the ACCC should consider the appropriateness of NBN Co's materiality threshold and associated impact on the proposed CAM's non-causal allocations.

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4.3.2 SAU Clause 2G.6.2(c)

Cost allocation principle	Rating
▪ **SAU Clause 2G.6.2(c):** Shared costs (i.e. costs that are not directly attributable to a Core Service or Competitive Service) will be allocated to reflect causal relationships between supplying services and incurring costs, unless establishing a causal relationship would require undue cost or effort in which case an alternative suitable allocator will be used.	●

4.3.2.1 Overview

Sections 4.2.2 (capital expenditure) and 4.3.2 (operating expenditure) of the proposed CAM documents the causal or non-causal allocator assigned to each shared cost group. For causally allocated shared cost groups, the causal relationship is also identified and explained. For non-causally shared cost groups, NBN Co provides analysis to support its conclusion that there is no clear causal allocator and thus the non-causal allocator should be applied. The process used by NBN Co to determine the appropriate allocator for each shared cost group is further detailed in NBN Co's supporting submission.

NBN Co's proposed CAM sets out 11 causal allocators and one non-causal allocator.

Based on FY23 illustrative data provided by NBN Co for our review we highlight that:

- 34 (61%) of the 56 cost groups set out in NBN Co's CAM are shared costs. As noted in **section 4.3.1.2** above, these 34 shared cost groups accounted for 77% of NBN Co's illustrative FY23 costs;
- Of the 34 shared cost groups, 25 (74%) were causally allocated to core and competitive services. Causally allocated shared costs represented 51% of NBN Co's illustrative FY23 total costs; and
- The remaining nine non-causally allocated shared costs represented 26% of NBN Co's illustrative FY23 total costs.

NBN Co's non-causally allocated shared costs were a significant proportion of NBN Co's illustrative FY23 total costs and accordingly, we considered its non-causal allocator in detail below.

NBN Co uses one allocator for all non-causal cost groups. This allocator is a weighted average of two sub-allocators: 'Active premises (Lifetime to Date) (All services)'; and 'Telecommunications Revenue (Year to Date) (All services)'. Given their equal weighting, each sub-allocator has a 50% impact on the overall allocation.

4.3.2.2 Rationale behind non-causal allocators

The requirement of SAU Clause 2G.6.2 is for non-causal costs to be allocated using an 'alternate suitable allocator' and accordingly, onus is placed on NBN Co to demonstrate that its chosen non-causal allocator represents an 'alternate suitable allocator'.

NBN Co's supporting submission (p. 9) describes the sub-allocators identified above (i.e. Active Premises and Telecommunications Revenue) as "both commonly used non-causal allocators". There is no further discussion of the suitability of the non-causal allocator and accordingly, does not sufficiently demonstrate the suitability of its non-causal allocator.

NBN Co's written responses to the review described that:

- 'Average of Active Premises – Lifetime to Date (LTD) (all services)' is a proxy for the number of users, which represents volume of services; and
- 'Telecommunications Revenue – Year to Date (YTD) (all services)' is a proxy for the value placed on NBN Co's services by users as indicated by the price paid for each type of service and the respective demand for each service.

NBN Co referred to CitiPower (discussed in detail below) as an example of the use of proxy allocators to allocate non-causal cost groups.

This level of explanation is not evident in the proposed CAM or NBN Co's supporting submission, but is of use to readers. As such, we consider that it would be a valuable addition for demonstrating NBN Co's shared costs have been allocated appropriately.

Recommendation
▪ The ACCC consider requesting NBN Co to document additional rationale for its non-causal allocator in the CAM and/or supporting submission. This rationale should include further explanation of sub-allocators and the basis for their selection (including as proxies for cost drivers).

4 Detailed Analysis

*4.3.2.3 **Conceptual basis for non-causal allocator (and sub-allocators)***

Following from **section 4.3.2.2,** McGrathNicol tested the appropriateness of NBN Co's non-causal allocator by considering other potential non-causal allocators. Our analysis included consideration of replacing NBN Co's non-causal allocator with an alternative, and the addition of a third (or more) equally weighted sub-allocator(s).

As noted above, CitiPower was referred to as an example for NBN Co's non-causal allocator throughout the review. Based on its Cost Allocation Method (dated August 2020), CitiPower allocates shared network costs with Powercor using three equally weighted sub-allocators:

- Customer Numbers;
- Distribution Revenue; and
- Value of the RAB.[1]

Although non-causal allocators inherently lack a causal basis for their selection, we understand that CitiPower's approach is an example for the use of proxy allocators relating to cost drivers. That is, CitiPower's customer numbers and distribution revenue were discussed as proxy allocators for customers (or volume) and value (or price) drivers respectively. This aligns with NBN Co's "Average of Active Premises – Lifetime to Date (LTD) (all services)' and 'Telecommunications Revenue – Year to Date (YTD) (all services)'. CitiPower's value of RAB was considered a proxy allocator for its expenditure / capital base, and we note that NBN Co's methodology does not include an equivalent.

Table 6 below compares NBN Co's and CitiPower's sub-allocators against underlying cost drivers.

Table 6: Comparison of NBN Co and CitiPower sub-allocators

Driver	NBN Co	CitiPower
Customers	"Average of Active Premises – Lifetime to Date (LTD) (all services)'	Customer Numbers
Value	'Telecommunications Revenue – Year to Date (YTD) (all services)'	Distribution Revenue
Expenditure/Capital Base	N/A	Value of RAB

Source: McGrathNicol.

The conceptual basis of allocating shared costs using a basket of proxy allocators is considered reasonable for NBN Co's CAM.

However, the addition of a capital base proxy to the current mix of sub-allocators (similar to CitiPower) would strengthen the relationship between non-causal cost groups and underlying cost drivers (to the extent practical).[2]

Expenditure / capital base proxies considered as part of this review included (but was not limited to) the proportion of:

- directly attributable cost;
- proportional value of the core and competitive asset base; and
- Cumulative capital expenditure.

In response to our queries, NBN Co advised that directly attributable cost would not be a sound expenditure / capital base proxy allocator because:

[1] CitiPower Cost Allocation Method, August 2020, https://www.aer.gov.au/system/files/CitiPower%20-%20Cost%20Allocation%20Method%20-%20August%202020.pdf

[2] We note introducing a third sub-allcocator would also reduce the sensitivity of NBN Co's non-causal allocator to any one proxy (i.e. three equally weighted sub-allocators with 33% impact on the allocation, compared to the current two equally weighted sub-allocators with 50% impact on the allocation).

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- directly attributable cost represents only 23% of the value of NBN Co's illustrative FY23 total cost and is therefore not reflective of its total costs;
- using directly attributable cost as a non-causal allocator may disproportionately skew the allocation to competitive services as operating expenditure is more readily identifiable for competitive services than core; and
- a substantially greater amount of operating expenditure may be directly attributable to Business Satellite Services (BSS) and the Satellite Mobility competitive services due to the large amount of outsourcing associated with these services. Accordingly, the percentage of directly attributable costs for competitive services may be disproportionate to the actual costs incurred.

Based on our analysis of the above factors, we agree with NBN Co's conclusion that directly attributable cost would not be a sound expenditure / capital base proxy allocator. This view was predominantly based on the first point that directly attributable cost is a relatively small percentage of total expenditure at this time. We note that this view would change if a larger proportion of NBN Co's costs were able to be directly attributed.

We subsequently considered a proxy allocator based on the proportional value of the core and competitive asset base (as recorded in the BBM), which would be consistent with CitiPower's approach set out above. However, our review determined that adding RAB value to the non-causal allocator would likely drive more cost towards core services (i.e. away from competitive).

Although we consider that the impact of using the asset base as a non-causal allocator (i.e. whether it directs cost towards core or competitive services) should not be the determinant of its appropriateness, the existing asset base is overwhelmingly allocated to core services and relates to NBN Co's previous CAM. As such, adopting asset base value as an allocator would not start from an equal position, and future costs would substantially flow to core services.

To mitigate this unequal starting position, we propose the expenditure/capital base non-causal sub-allocator should be based on cumulative direct and causally allocated capital expenditure (i.e. excluding non-causally allocated capital expenditure[3]), beginning from the date of the new CAM (1 July 2023). This approach would ensure that the non-causal allocator reflects capital expenditure behaviours over time.

In practice, this would require NBN Co to calculate cumulative capital expenditure from the date of the new CAM by recording the core and competitive opening balance[4], adding capital expenditure and subtracting capital depreciation or disposals during the relevant year to arrive at a closing balance (i.e. the opening balance in the following year). The closing balance would then be used to calculate the core and competitive proportions for non-causal allocation purposes.

Recommendation

- The ACCC consider requesting NBN Co to adopt proportional cumulative capital expenditure (excluding non-causal capital expenditure) as a third equally weighted sub-allocator for non-causal cost allocation in its CAM.

*4.3.2.4 **Causal allocation based on average estimated network data traffic***

NBN Co's proposed CAM includes six causal allocator which are variations of 'average estimated network data traffic' based on the specific service to which the allocation relates (e.g. 'all Fixed Line services' or 'Fiber-to-the-Premises and Enterprise Ethernet'). Collectively, these allocators are used to allocate:

- Five capital expenditure cost groups which represent 27.9% of NBN Co's illustrative FY23 total costs; and

[3] It is noted that NBN Co has two non-causally allocated capital expenditure cost groups (representing 5.8% of NBN Co's illustrative FY23 costs). If not excluded, it would be circular for these non-causal cost groups to be allocated based on the proportional cumulative capital expenditure. We note that based on illustrative FY23 cost data excluding non-causally allocated costs do not materially impact the proportional allocation to core and competitive services.

[4] We note that in the first year of the new CAM the opening core and competitive capital expenditure balances would be zero. This cumulative capital expenditure (excluding non-causal capital expenditure) will be similar in nature to a new RAB roll-forward, commencing from 1 July 2023, solely for cost allocation purposes.

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- 14 operating expenditure cost groups which represent 10.6% of NBN Co's illustrative FY23 total costs.

According to NBN Co's proposed CAM, the average estimated network data traffic is calculated based on the estimated maximum data traffic.

The ACCC provided McGrathNicol with technical engineering advice which indicated that there was a significant variance between the average estimated network data traffic per NBN Co's proposed approach (i.e. based on estimated maximum data traffic), compared with actual data traffic.

In response to queries regarding this matter, NBN Co advised that traffic data across access technologies is not captured consistently to allow for a reliable contemporaneous peak network traffic measure to be calculated. Specifically, NBN Co currently possesses the capability to measure TC-4 traffic data on Fixed Line and Fixed Wireless technologies, but does not have similar capability for non-TC-4 and Satellite services. NBN Co advised that developing this capability would involve significant effort and capital expenditure.

Based on the above, we understand that NBN Co's proposed 'average estimated network data flow' allocator is a proxy for actual network data traffic, which would be the best causal allocator if able to be reliably measured by NBN Co.

As noted above, NBN Co has referred to significant effort and capital expenditure which would be required to build the capability to implement an allocator based on actual network data traffic. No further information was provided to quantify this effort or cost at this time.

Given that the 'average estimated network data traffic' allocators collectively allocate a significant proportion (38.5%) of NBN Co's illustrative FY23 total costs, we consider it warranted that NBN Co provide the ACCC with further detail to support the appropriateness of these causal allocators. This detail should include an estimate of the effort or cost associated with preparing an estimate of actual data traffic for non-TC-4 and Satellite services.

Recommendation

- The ACCC consider requesting NBN Co to provide a cost estimate of preparing an estimate of actual data traffic for non-TC-4 and Satellite services.

Recommendation

- The ACCC consider the appropriateness of the six 'average estimated network data traffic' allocators in the context of both the total value of the allocated cost groups and NBN Co's above cost estimate.

4.3.3 SAU Clause 2G.6.2(d)

Cost allocation principle	Rating
▪ **SAU Clause 2G.6.2(d):** All costs will be allocated.	✓

4.3.3.1 Overview

The SAU sets out particular definitions of capital expenditure and operating expenditure that cover both core and competitive services. In their response to McGrathNicol's information request, NBN Co advised that all capital and operating expenditure (as defined in the SAU) is allocated in full.

Section 4.1 of the proposed CAM provides an overview of NBN Co's cost allocation methodology, including its use of an Enterprise Resource Planning ("ERP") financial management system to capture, control and report financial information at a General Ledger account level. Coupled with NBN Co's Fixed Asset Register, the General Ledger provides the information to categorise costs as either directly attributable or shared.

4.3.3.2 Reconciliation of operating expenditure to statutory accounts

As part of the review NBN Co provided information demonstrating how its regulatory operating expenditure in accordance with the SAU (in the form of the FY23 illustrative data) reconciles to its statutory accounts (i.e. Statement of Profit, Loss and Other Comprehensive Income in its 2022-23 Annual Report). We note that NBN Co's 2022-23 statutory accounts were audited by the Australian National Audit Office ("ANAO").

We reviewed and were able to follow this reconciliation, determining that all operating expenditure (other than depreciation and interest discussed below) was allocated.

4.3.3.3 Depreciation, Interest and the Building Block Model

The proposed CAM does not discuss the allocation of future depreciation or interest. NBN Co advised that in its view, there is no need to allocate statutory depreciation or interest because the SAU includes a Building Block Model ("BBM") methodology that provides specifically for how depreciation of the Regulatory Asset Base ("RAB") is to be calculated and prescribes a debt to equity mix, and the cost of debt, which drives the calculation of interest in the BBM and allocation to core and competitive.

However, McGrathNicol understands that the calculation of depreciation and interest in the BBM is a function of the opening RAB plus capital expenditure in each year over the regulatory period. This capital expenditure is allocated between core and competitive services in accordance with the CAM and by inference, the CAM underpins the allocation of future depreciation and interest in the BBM.

We do not consider that this issue results in non-compliance with SAU Clause 2G.6.2(d) for all costs to be allocated. However, for completeness, there would be value in NBN Co updating its proposed CAM to note that depreciation and interest are allocated in accordance with the BBM.

Recommendation
▪ The ACCC consider requesting NBN Co to update its proposed CAM to explain that future depreciation and interest will be calculated and allocated to core and competitive services through the BBM.

4.3.3.4 Expenditure reporting

Section 5.2 of the proposed CAM states that NBN Co has implemented appropriate processes and controls to satisfy itself that costs have been correctly attributed to the relevant service, and that it is subject to expenditure reporting to the ACCC in accordance with clause 2F.7 of the SAU. This expenditure reporting may be subject to external audit in accordance with Australian Accounting Standards, which could include an assessment of the attribution and allocation of costs in accordance with the approved CAM.

NBN Co is required to provide this expenditure reporting to the ACCC by 31 October each year. From discussion with NBN Co we understand that the exact nature, content and format of this expenditure reporting has yet to be decided, in part due to the recent SAU variation. Once established, the ACCC may wish to request this expenditure reporting to be audited.

To obtain additional comfort that NBN Co complies with SAU clause 2G.6.2(d), the scope of this audit should include an assessment of whether costs have been attributed and allocated in accordance with the approved CAM.

We highlight that Proposed Accounting Procedures are required to be produced by NBN Co by April 2024, and is expected to provide details of these assurance arrangements.

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Recommendation
▪ The ACCC consider requesting NBN Co to ensure external assurance for its annual expenditure reporting is considered as part of the Proposed Accounting Procedures, with the scope of this external assurance to include consideration of whether costs have been attributed and allocated in accordance with the approved CAM.

4.3.4 SAU Clause 2G.6.2(e)

Cost allocation principle	Rating
▪ **SAU Clause 2G.6.2(e):** No cost should be allocated more than once to any service.	✓

As discussed above, NBN Co's ERP system and chart of accounts are used to attribute or allocate costs using 30-digit account strings. Section 4.1 of NBN Co's proposed CAM describes how these systems interface into NBN Co's general ledger. The general ledger is divided into six categories (Company, Cost Code, Account, Project, Technology and Inter-company) and is maintained on a "By Nature" basis. That is, NBN Co's accounts reflect the nature of the cost or revenue incurred, or the asset or liability recorded.

Figure 4 from NBN Co's proposed CAM illustrates how costs are allocated to either core or competitive services based on:

- Whether it is capital or operating expenditure;
- Whether it is a directly attributable or shared cost; and
- For shared costs, based on the cost group's assigned allocator.

NBN Co's proposed CAM reflects a logical breakdown of its costs such that no cost should be allocated more than once to any service.

We refer to our commentary in **section 4.3.3.2** above, reflecting that we were able to use information provided by NBN Co to reconcile its statutory accounts (set out in its 2022-23 Annual Report) to its regulatory accounts (provided in the FY23 illustrative data). As noted in this commentary, NBN Co's statutory accounts are subject to annual audit by the ANAO, which could provide a level of comfort that costs have not been allocated more than once.

If further comfort is sought by the ACCC, our commentary above also discusses that the ACCC could seek NBN Co's annual expenditure reporting to be subjected to an assurance review, including to assess compliance with the CAM.

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4.4 *Review of consistency with the economic principles of efficient cost allocation.*

Table 7 below provides our review of consistency with the economic principles of efficient cost allocation, in accordance with Scope Item 2 set out in **section 3.2.**

Table 7: Review of consistency with the economic principles of efficient cost allocation.

Economic Principle	Analysis
Whether the CAM is consistent with the economic principles of efficient cost allocation and provide reasonable safeguards against inefficient and / or anti-competitive cross subsidy from NBN Co's monopoly services to its competitive services	▪ Our analysis against this economic principle focused on how cost categories were devised and whether the cost categories allow for efficient direct and in-direct allocation of costs. ▪ We note that if costs categories not suitably disaggregated (i.e. the cost category are 'too high level' and contain many sub-categories) the relationship between these cost categories and the underlying activities or function may not be clear. As a result, it may not be possible for the cost category to be directly attributed or for causal relationships to be established, leading to the cost category being classified as a non-causal shared cost. ▪ Conceptually, non-causal shared costs present the highest risk of inefficient cost allocation, due to the absence of causal relationships between the cost being allocated and underlying revenue-generating activity. ▪ As discussed in **section 4.3.1.2**, a high proportion of NBN Co's FY23 illustrative costs are non-causally allocated, which may in part stem from the high level aggregation of cost groups. Our discussion noted there may be opportunity for greater disaggregation. However, whilst NBN Co possesses the capability in its accounting system to disaggregate further, NBN Co asserts that doing so would not likely result in increased direct cost attribution. ▪ Although we continue to consider whether further disaggregation of cost groups may increase direct attribution, we understand from the example of NBN Co's employee benefits expense the result may be immaterial in the context of NBN Co's total cost, and may represent a significant effort by NBN Co ▪ We refer to our recommendations in **section 4.3.1.2** which is relevant to this criteria.
Whether the CAM includes sufficient detail to provide transparency over how costs are allocated between NBN Co's core and competitive services and its business units delivering these services	▪ Throughout our commentary in **section 4.3** we identified opportunities for NBN Co to enhance the detail provided in its proposed CAM to improve transparency. These opportunities included: – rationale for its non-causal allocator (including use of proxy allocators); and – explanation of the allocation of depreciation and interest expense in the BBM. ▪ In addition to the above, in discussion and written responses NBN Co indicated that it would add information in the CAM (in the form of additional sections or footnotes) to explain: – NBN Co will provide annual expenditure reporting to the ACCC, and that this expenditure reporting will be accompanied by information on allocator percentages (rather than being included in the CAM which is a framework document); – core and competitive services are defined in the SAU and may change over time as determined by the ACCC; and – governance and compliance arrangements underpinning the CAM will be addressed in detail by NBN Co internal documents. ▪ We acknowledge NBN Co's proposed additions to the CAM which should increase the level of transparency for readers. We encourage NBN Co to consider other opportunities for enhancement in the same vein.

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Economic Principle	Analysis
Whether the CAM include sufficient detail to replicate reported outcomes in the accounting separation, record keeping and reporting framework through application of the CAM.	▪ Assuming NBN Co's CAM is supplemented by allocator data and regulatory account information provided as part of NBN Co's annual expenditure reporting, sufficient information should be available for the ACCC to verify the accuracy of NBN Co's cost allocations to core and competitive services. ▪ We highlight that accounting separation and assurance documentation is required to be produced by NBN Co by April 2024, and is expected to provide further information to confirm NBN Co's cost allocation is verifiable and repeatable.
Whether the cost allocation methodology in the proposed CAM and its approach to allocators for costs directly attributable and shared between NBN Co's monopoly and competitive services are rigorous and consistent with best practice regulation of utility businesses.	▪ We refer to our commentary in **section 4.3.2.3** regarding NBN Co's proposed non-causal allocator. ▪ As discussed, NBN Co has adopted a non-causal allocator based on two sub-allocators which follow CitiPower's example. These sub-allocators are proxies for common cost drivers, including customers and value. In contrast to NBN Co, CitiPower adopted a third proxy allocator representing its expenditure / capital base. ▪ Our review determined that adopting a third expenditure / capital base proxy allocator based upon cumulative capital expenditure (excluding non-causal capital expenditure) from the date of the CAM would best align with CitiPower's approach. ▪ We refer to our recommendations in **section 4.3.2.3** which is relevant to this criteria.

Source: McGrathNicol.