

# **nbn Cost Allocation Manual**

November 2023



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## Version and date of effect

This Cost Allocation Manual is version 1.0. It was submitted to the ACCC on 16 November 2023 and takes effect on 16 February 2024, subject to clause 2G.6.3 of **nbn**'s Special Access Undertaking as varied on 17 October 2023. It will continue in effect until the earlier of 30 June 2032 or a replacement CAM coming into effect under clause 2G.6.3(d) of the SAU.

## Document history

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1.0	16 November 2023	Cost Allocation Manual submitted to the ACCC by <b>nbn</b> pursuant to clause 2G.6.3(a)(i) of the SAU (Proposed CAM)

## Disclaimer

This Cost Allocation Manual is for the purposes of **nbn**'s Special Access Undertaking (SAU), which is a regulatory undertaking given to the ACCC. The information in this document should not be relied on in any context not related to **nbn**'s SAU. The cost allocations made pursuant to this document are allocations for the purposes of **nbn**'s SAU only and may not be appropriate for any other purpose, context or circumstance.



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# Abbreviations

Unless the context provides otherwise, capitalised terms in this Submission have the same meaning as in the Dictionary set out in Attachment C to the SAU.

Shortened form	Longer form
<b>ACCC</b>	Australian Competition and Consumer Commission
<b>AER</b>	Australian Energy Regulator
<b>BBM</b>	Building Block Model
<b>CAG</b>	Cost Allocation Guidelines
<b>CAM</b>	Cost Allocation Manual
<b>Capex</b>	Capital Expenditure
<b>EE</b>	Enterprise Ethernet
<b>ERP</b>	Enterprise Reporting System
<b>FTTB</b>	Fibre-to-the-Building
<b>FTTC</b>	Fibre-to-the-Curb
<b>FTTN</b>	Fibre-to-the-Node
<b>FTTP</b>	Fibre-to-the-Premises
<b>HFC</b>	Hybrid Fibre Coaxial
<b>ICRA</b>	Initial Cost Recovery Account
<b>LTD</b>	Life to Date
<b>NBN</b>	National Broadband Network
<b>NBN Co</b>	National Broadband Network Company Pty Ltd
<b>NER</b>	National Electricity Rules
<b>Opex</b>	Operating Expenditure
<b>RSP</b>	Retail Service Provider
<b>SAU</b>	Special Access Undertaking
<b>TAND</b>	Transit Aggregation Nodes and Depots
<b>TC</b>	Traffic Class
<b>TIL</b>	Telecommunications Industry Levy
<b>TOW</b>	Ticket of Work
<b>YTD</b>	Year to Date



# 1 Introduction

## 1.1 Nature, scope and purpose

This document is the Cost Allocation Manual (**CAM**) for the purposes of clause 2G.6.3 of **nbn**'s Special Access Undertaking as varied on 17 October 2023 (**SAU**).

This CAM describes the detailed methodology pursuant to which **nbn** allocates costs between Core Regulated Services and Competitive Services in accordance with the cost allocation principles set out in clause 2G.6.2 of the SAU (**Cost Allocation Principles**).

As set out in clause 2G.6.3(h) of the SAU:

- costs are to be allocated in accordance with the Cost Allocation Principles in particular circumstances; and
- when allocating costs in accordance with the Cost Allocation Principles in those circumstances, **nbn** will apply, and the ACCC may have regard to, the CAM.

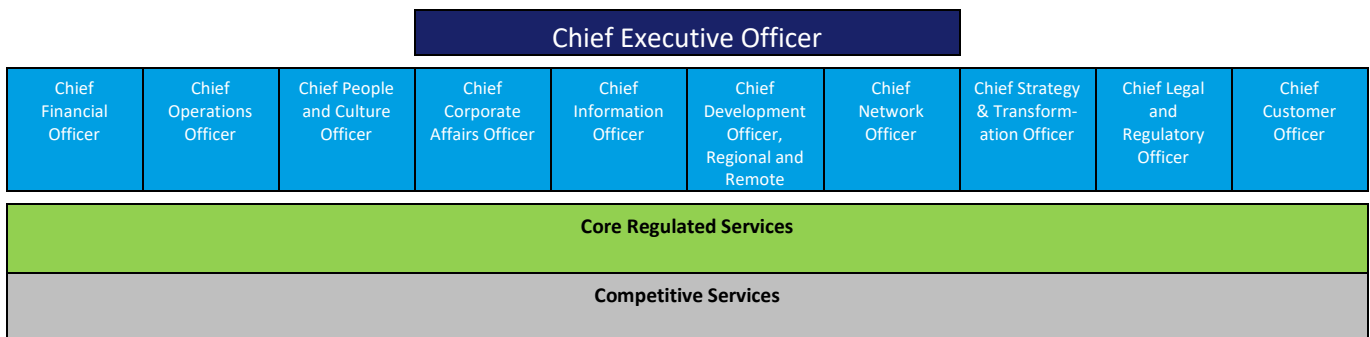
Capitalised terms used, but not explicitly defined, in this CAM have the meanings given to them in the SAU.

## 1.2 nbn's corporate and operational structure

Established in 2009 as a Government Business Enterprise (GBE), the principal responsibility of **nbn** is to operate and continue to build and upgrade the **nbn**<sup>®</sup> network in accordance with the expectations of the Government. This involves delivering wholesale broadband services across the country on a non-discriminatory basis, enabling the provision of services to consumers and businesses by retail service providers (**RSPs**).

**nbn**'s Core Regulated Services and Competitive Services are provided via the combined efforts of 10 business units, as illustrated below in Figure 1. **nbn**'s organisational structure is subject to change over time. Unless the change in structure impacts how costs are allocated as outlined in this CAM, organisational structure changes will not trigger an update to the CAM.

**Figure 1: nbn's organisational structure**





## 1.3 Accountabilities and responsibilities

Overall accountability for the governance and implementation of the CAM is with the Chief Financial Officer (CFO) of **nbn**.

The General Manager - Corporate Finance is responsible for:

- ensuring the CAM is updated, maintained and applied, including the internal monitoring and reporting of its application; and,
- working in close collaboration with other groups across **nbn** (including the Regulatory Affairs team) to communicate the requirements of the CAM and monitor **nbn**'s compliance with the CAM.



## 2 Service categories and the nbn<sup>®</sup> Network

### 2.1 Directly Attributable Capex services

The SAU splits **nbn**'s services into two categories for the purposes of cost allocation under the CAM:

- Core Regulated Services – these comprise all products and services supplied by **nbn** other than the Competitive Services; and
- Competitive Services – these currently comprise the following three services:
  - NBN Co Enterprise Ethernet (**EE**), which connects from a business premises to **nbn**'s fibre access node using a dedicated, high performance fibre optic cable.
  - NBN Co Business Satellite Service (**BSS**), which is an enterprise level satellite solution that combines access to satellite infrastructure with additional business services, such as a specialist Business Satellite Operations Centre to manage connections, service requests and services incidents.
  - NBN Co Satellite Mobility for Large Commercial Passenger Aircrafts (**Satellite Mobility**), which is a wholesale satellite access service that can be used for Wi-Fi services onboard passenger aircraft.

As depicted in Figure 2, below, pricing and costs for Competitive Services are excluded from the operation of the SAU's key regulatory mechanisms for the duration of the Subsequent Regulatory Period (which expires on 30 June 2032).

**Figure 2: Core Regulated Services and Competitive Services**





## 2.2 Relationship to the nbn® Network

As depicted in **Error! Reference source not found.** below, the **nbn**® network comprises seven access technologies (FTTP, FTTN, FTTB, FTTC, HFC, Fixed Wireless and Satellite), which are linked together via **nbn**'s Transit network. This provides connectivity from an end user's premises through to the relevant **nbn** Point of Interconnect (POI) where access seekers connect to the **nbn**® network.

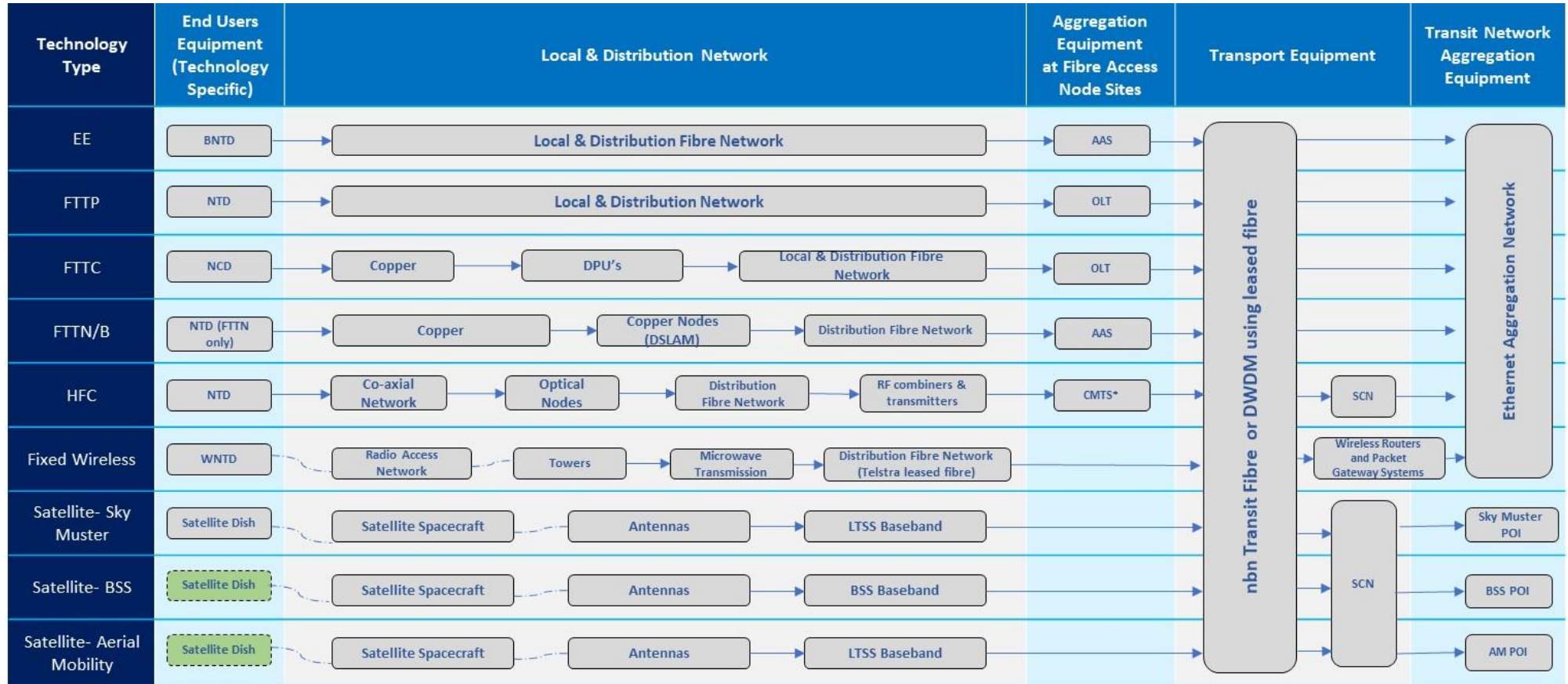
Only two of the access technologies (FTTP and Satellite) are used to supply both Competitive Services and Core Regulated Services:

- EE is provided on the FTTP access technology; and
- BSS and Satellite Mobility are provided on the Satellite access technology.





Figure 3: Network Diagram by technology



**Legend**  
 = Third party owned  
 \*CMTS are located at POI sites



## 3 Cost Allocation Principles

As stated above, this CAM describes the detailed methodology pursuant to which **nbn** allocates costs between Core Regulated Services and Competitive Services in accordance with the Cost Allocation Principles.

The Cost Allocation Principles are as follows:

- costs that are directly attributable to a Core Regulated Service will be allocated to that Core Regulated Service;
- costs that are directly attributable to a Competitive Service will be allocated to that Competitive Service;
- shared costs (i.e., costs that are not directly attributable to a Core Regulated 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;
- all costs will be allocated; and
- no cost should be allocated more than once to any service.

**nbn** has adopted the following definitions of directly attributable and shared costs for the purposes of this CAM:

- **directly attributable or directly attributed** — an item is directly attributable or directly attributed to Core Regulated Services or Competitive Services if it is wholly and exclusively associated with that category of services.
- **shared costs** — costs that are not directly attributable to a Core Regulated Service or Competitive Service.



# 4 Detailed Methodology for cost allocation

## 4.1 Overview of approach

nbn utilises an Enterprise Resource Planning (ERP) financial management system to capture, control and report financial information at a General Ledger account level through the use of specific account numbers and cost centres. nbn’s accounting system is based on a modular suite structure, which utilises specific modules or sub-ledger systems to record and report underlying cost, revenue, asset and liability information. These modules and sub-ledgers interface into the General Ledger but typically contain more detailed financial information. The most significant modules/sub-ledgers utilised by nbn include:

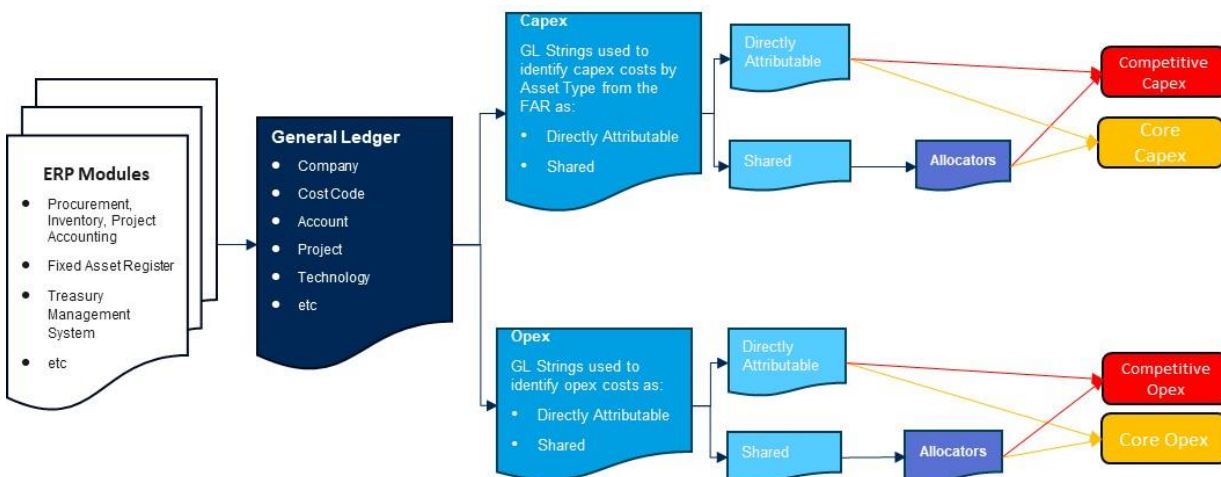
- Modules for Procurement, Inventory and Project Accounting
- Fixed Asset Register
- Treasury Management System
- Lease Management System
- Billing and Revenue Management System

nbn’s General Ledger Accounting String (or Chart of Accounts) is divided into 6 utilised segments<sup>1</sup> (Company, Cost Code, Account, Project, Technology, and inter-company) containing 30 digits that aid the classification and allocation of costs, revenues, assets and liabilities. nbn maintains its Chart of Accounts on a "By Nature" basis; that is, posting accounts reflect the nature of the cost or revenue incurred or the asset or liability recorded.

Australian accounting standards are used to determine whether expenditure is categorised as capital expenditure or operating expenditure. All actual cost information utilised for the purposes of cost allocation is extracted from nbn’s core financial systems, which are subject to independent external audit procedures.

As depicted in Figure 4, nbn's cost allocation approach is similar for all costs, with the General Ledger (GL) Strings and the Fixed Asset Register providing the information to categorise costs as either directly attributable or shared.

Figure 4. Overview of cost allocation methodology



<sup>1</sup> Two spare General Ledger Accounting Strings exist, Spare 1 and Spare 2, to allow for future functionality.



## 4.2 Capital expenditure

### 4.2.1 Directly attributable capital expenditure

**nbn** has structured its accounting systems such that capital expenditure costs (e.g., costs incurred as part of constructing the **nbn**<sup>®</sup> network) are recorded within a project accounting module of the ERP. This occurs at a granular project level based upon the nature of the capital delivery program. **nbn** manages separate capital expenditure programs to track the costs of acquiring and constructing assets that are specifically attributable to each of the three competitive services (EE, BSS and Satellite Mobility).

Once projects are completed and the constructed assets are brought into use within the network, **nbn** capitalises the costs from each project within the Fixed Asset Register. The Fixed Asset Register records capital expenditure into specific fixed asset categories by asset type (Account), 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.

Capital expenditure is determined to be either shared or directly attributable based upon information recorded in the Fixed Asset Register. Specifically, this assessment is performed based upon the type of project the costs were incurred against, the nature of asset type bought or constructed, and the service technology allocated to the asset.

- Capital expenditure incurred against capital projects for Competitive Services is directly attributable to the Competitive Service, unless the assets created are shared in nature (e.g., fibre cable assets constructed to deliver an EE service are considered shared capital expenditure and treated as a shared cost because they will also be utilised for Core Regulated Services in the future).
- Capital expenditure on asset types associated with technologies used solely to provide Core Regulated Services (i.e., FTTN, FTTB, FTTC, HFC and Fixed Wireless) is directly attributable to Core Regulated Services.
- Capital expenditure on asset types associated with FTTP and Satellite technologies is directly attributable if the asset category is solely used to deliver either Core Regulated Services or Competitive Services. For example, standard (non-EE) FTTP customer connection assets are only recorded for non-EE connections and are therefore directly attributable to Core Regulated Services.

The directly attributable capital expenditure categories are described in Table 1 below.

**Table 1: Directly attributable capital expenditure categories**

Cost Group	Description	Cost Type	Causal relationship	Allocator
Customer Connection Assets (except EE)	Costs to complete installation at an end user premises. This includes modem and network termination devices required.	Directly attributable to Core	N/A	N/A
Customer Connection Assets (EE services)	Direct capital costs of installing and activating the EE service at the end user premises. Includes customer connection, and installation of a business network termination device required to deliver EE services.	Directly attributable to Competitive	N/A	N/A
FTTN/B network assets	Capital expenditure on copper specific network infrastructure including copper nodes, cards and cabinets, and copper cable and joints used in the delivery of services via the FTTN/B network.	Directly Attributable to Core	N/A	N/A
FTTC network assets	Capital expenditure on copper specific network infrastructure including Distribution Point Units (DPUs), and copper cable and joints used in the delivery of services via the FTTC network.	Directly Attributable to Core	N/A	N/A
HFC network assets	Capital expenditure on HFC specific network infrastructure including coaxial cables, amplifiers and taps, optical nodes, radio frequency combiners and Cable Modem Termination system (CMTS) assets used in the delivery of services via the HFC network.	Directly Attributable to Core	N/A	N/A
Fixed Wireless network assets	Capital expenditure on Fixed Wireless specific network infrastructure including RAN and microwave transmission antennae and backhaul assets used in the delivery of services via the Fixed Wireless network.	Directly Attributable to Core	N/A	N/A
Telstra Infrastructure Ownership assets	Legacy infrastructure assets acquired from Telstra under the Telstra Arrangements, including Lead in Conduits, copper assets, HFC assets and poles used to transport cabling to the end user premises.	Directly Attributable to Core	N/A	N/A
Satellite (excluding BSS and Satellite Mobility)	Costs to complete installation of a Satellite service at an end user premises.	Directly Attributable to Core	N/A	N/A
Business Satellite Services	Direct capital costs identified within BSS projects capitalised in the fixed asset register.	Directly Attributable to Competitive	N/A	N/A
Satellite Mobility	Direct capital costs identified within Satellite Mobility projects capitalised in the fixed asset register.	Directly Attributable to Competitive	N/A	N/A
Transit (Non-Competitive)	Expenditure on fibre aggregation equipment that solely supports technology specific data aggregation outside of any Competitive services, such as Optical Line Terminals (OLTs).	Directly Attributable to Core	N/A	N/A

## 4.2.2 Shared capital expenditure

Shared capital expenditure is capital expenditure that is not directly attributable to a Core Regulated Service or Competitive Service. Consistent with the Cost Allocation Principles, this shared capital expenditure is allocated to reflect causal relationships between supplying services and incurring costs (using an allocator for each asset type), unless establishing a causal relationship would require undue cost or effort in which case an alternative suitable allocator is used.

The shared capital expenditure categories and associated allocators are set out in Table 2 below. Further detail on the allocators is set out in Appendix A.


**Table 2: Shared capital expenditure categories and allocators**

Cost Group	Description	Cost Type	Causal relationship	Allocator
Fibre network assets (excluding customer connections)	Capital expenditure related to construction of fibre optic cable network. All Fixed Line technologies utilise at least part of the fibre network to provide data transmission to the POIs.	Shared	Fibre network asset costs are driven by growing capacity demand and upgrade activity across the network.	Average estimated network data traffic - YTD (all Fixed Line services)
Civil infrastructure assets (excluding customer connections)	This expenditure consists of supporting civil infrastructure assets, such as ducts and pits, that are used to transport Fixed Line broadband data between the transit network and the technology specific local networks.	Shared	Construction of civil infrastructure network assets is driven by growing capacity demand and upgrade activity across the network.	Average estimated network data traffic - YTD (all Fixed Line services)
Satellite (Shared)	Capital expenditure on satellite specific equipment that is used to support both core and competitive satellite services, including radio frequency (RF) management, disaster response equipment, baseband and RF Gateway assets.	Shared	Expenditure on satellite infrastructure is driven by growing capacity demand on the Satellite network.	Average estimated network data traffic - YTD (all Satellite services)
Transit (Shared)	This cost group contains transit equipment that is used to support all network technologies, such as Ethernet Aggregation, switches at POIs, Dense Wavelength Division Multiplexing (DWDM) transmission over transit fibre cables, Optical Distribution Frames and network management assets.	Shared	An increase in demand for bandwidth capacity by active services would require additional expenditure on shared transit assets.	Average estimated network data traffic - YTD (all services)
Network facilities	Capitalised building improvements at nbn's Transit Aggregation Nodes and Depots (TAND's), e.g., boom gates, office equipment etc	Shared	No causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue (all services) – YTD
Non-network assets	Assets used to run the administrative side of nbn – e.g. Office buildings and leasehold improvements, furniture and equipment, IT equipment and licensed software.	Shared	No causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue – YTD (all services)
Transit (Access Aggregation Switch)	Capital expenditure to increase the number of AAS racks in the network is required to support the aggregation of FTTN, FTTB and EE services.	Shared	Expenditure is correlated with the number of required ports, which is linked to the number of EE services and volume of FTTN/B data.	Average estimated network data traffic - YTD (FTTN, FTTB and EE services)

## 4.3 Operating expenditure

### 4.3.1 Directly attributable operating expenditure

Directly attributable operating expenditure is determined from the data stored within nbn's General Ledger, which classifies operating expenditure by Account, Cost Code (cost centre), and Technology.

- Operating expenditure associated with technologies used solely to provide Core Regulated Services (i.e., FTTN, FTTB, FTTC, HFC and Fixed Wireless) is directly attributable to Core Regulated Services.



- **nbn** utilises Cost Codes (cost centres) to manage its business. Cost centres are used to enable reporting of total costs (across all account codes by nature) by business unit and function. Operating expenditure in respect of the Satellite Technology is directly attributable using Cost Codes that identify whether the operating expenditure was undertaken to support Competitive Services (BSS or Satellite Mobility) or Core Regulated Services. Certain Satellite technology related costs are recorded against shared Satellite costs codes and are therefore treated as shared between BSS, Satellite Mobility and other services provided using Satellite.

There are no Cost Codes that separately report EE operating expenditure. Consequently, all operating expenditure recorded against the FTTP Technology is treated as shared and is allocated between EE and non-EE services provided using FTTP Technology.

The directly attributable operating expenditure categories are described in Table 3 below.

**Table 3: Directly attributable operating expenditure categories**

Cost Category	Description	Cost Type	Causality Relationship	Allocator
All costs recorded directly against the BSS and Satellite Mobility cost centres	Direct BSS and mobility operational costs are captured within specific BSS and Mobility cost centres. These costs include, Satellite outsourced services, Network assurance, Other network costs and Employee benefits expense.	Directly Attributable to Competitive.	N/A	N/A
<b>Network Costs</b>				
<i>Network Power</i>	Electricity costs to power <b>nbn</b> equipment at network sites other than Telstra exchanges, applying to FTTN, FTTB, FTTP (Temporary Fibre Access Nodes in Greenfield developments which house OLT equipment which are not used to aggregate EE services), HFC and Fixed Wireless.	Directly Attributable to Core.	N/A	N/A
<i>Spectrum / Apparatus Licences – Fixed Wireless</i>	Costs of acquiring access to radio spectrum for the Fixed Wireless network.	Directly Attributable to Core.	N/A	N/A
<i>Site and network access – Fixed Wireless</i>	Costs for Fixed Wireless sites, which includes rental payments and outgoings, electricity (excluding network power costs) and facility maintenance.	Directly Attributable to Core.	N/A	N/A
<i>Satellite Outsourced Services – Satellite (ex BSS and Satellite Mobility)</i>	Cost of managing Satellite services by third party contractors (excluding outsourced service costs allocated to BSS or Mobility cost centres – which are already deemed to be directly attributable due to the cost centre allocation).	Directly Attributable to Core.	N/A	N/A
<b>Assurance and Maintenance Costs</b>				
<i>Service Assurance - FTTx (ex FTTP), HFC, Fixed Wireless</i>	Costs incurred by <b>NBN</b> to deliver required levels of service and connectivity. These are linked to service faults and may require on premises testing and rectification. These costs are recorded by technology based upon the network technology used to deliver the service that required the assurance work. As no competitive services are delivered over FTTN, FTTB, FTTC, HFC or Fixed Wireless technology, the costs recorded against these technologies are directly attributable to Core Services.	Directly Attributable to Core.	N/A	N/A
<i>Service Assurance - Satellite (ex BSS and Satellite Mobility)</i>	Service assurance costs for BSS and Satellite Mobility have been outsourced and are covered under the outsourced services costs included in the BSS and Satellite Mobility cost centres. The	Directly Attributable to Core.	N/A	N/A



Cost Category	Description	Cost Type	Causality Relationship	Allocator
	remaining Satellite service assurance costs are therefore all directly attributable to Core Services.			
<i>Network Assurance FTTx (ex FTTP), HFC, Fixed Wireless</i>	Costs to meet the required level of network assurance within the shared parts of networks.  These costs are recorded by technology based upon the network technology used to deliver the service that required the network assurance work. As no competitive services are delivered over FTTN, FTTB, FTTC, HFC or Fixed Wireless technology, the costs recorded against these technologies are directly attributable to Core Regulated Services.	Directly Attributable to Core.	N/A	N/A
<i>Network Maintenance - FTTx (ex FTTP), HFC, Fixed Wireless</i>	Costs incurred to perform both proactive and reactive maintenance upon the network.  These costs are recorded by technology based upon the network technology used to deliver the service that required the maintenance work. As no competitive services are delivered over FTTN, FTTB, FTTC, HFC or Fixed Wireless technology, the costs recorded against these technologies are directly attributable to Core Regulated Services.	Directly Attributable to Core.	N/A	N/A
<i>Service Rebates (Connect &amp; Assure)</i>	Amounts <b>nbn</b> pays to RSPs for missed Service Level targets.	Directly attributable to Core.	N/A	N/A
<i>End User Not in Attendance costs (ex EE and Satellite)</i>	The cost of truck rolls where the end-user is not at the premises when the technician arrives which cannot be recovered or capitalised (excludes EE and all satellite services which have different customer connection processes).	Directly Attributable to Core.	N/A	N/A

### 4.3.2 Shared operating expenditure

Shared operating expenditure is operating expenditure that is not directly attributable to a Core Regulated Service or Competitive Service, but which is allocated between different such categories of services. Consistent with the Cost Allocation Principles, shared operating expenditure is allocated to reflect causal relationships between supplying services and incurring costs (using an allocator for each operating expenditure category), unless establishing a causal relationship would require undue cost or effort in which case an alternative suitable allocator is used.

The shared operating expenditure categories and associated allocators are set out in Table 2 below. Further detail on the allocators is set out in Appendix B.





Table 4: Shared operating expenditure categories and allocators

Cost Category	Description	Cost Type	Causality Relationship	Allocator
<b>Network Costs</b>				
Telstra Infrastructure Leases – racks	This category of costs is for leasing rack space within Telstra exchanges. <b>nbn</b> locates transit equipment in these racks which perform aggregation or DWDM transmission roles in the network.	Shared.	Telstra rack space costs are correlated with the number of racks required by <b>nbn</b> . The number of racks is driven by the level of transmission capacity required to service the active users in a SAM/area.	Average estimated network data traffic – YTD (Fixed Line and Fixed Wireless)
Telstra Infrastructure Leases – ducts	This category of costs is for leasing Telstra duct and pit infrastructure through which <b>nbn</b> cabling and equipment can be routed. This occurs across the Fixed Line network.	Shared.	The scale of the leasing payments is linked to the original Telstra brownfield network that has been declared Ready for Service. The volume of ducts and pits grew during the rollout but is now stable.	Ready to Connect (Fixed Line) – LTD (all services)
Telstra Infrastructure Leases – Dark fibre	This category of costs is for leasing Telstra dark fibre that is used to provide connectivity between <b>nbn</b> POIs and Aggregation nodes with point-to-point fibre. These leased dark fibres form part of <b>nbn</b> 's transit network.	Shared.	The volume of dark fibre assets leased remains stable and is linked to the size and scale of the network required to facilitate the demanded volume of data.	Average estimated network data traffic – YTD (Fixed Line and Fixed Wireless)
Pole Rental	In certain areas, nbn connects its local fixed line networks and lead ins via aerial equipment utilising telecommunications poles. Most of these poles are not nbn-owned and nbn has entered into Pole Rental agreements with the infrastructure owners. Although pole lead-ins and local connections are not used to deliver EE or Satellite products, poles may be used in the distribution fibre network and therefore the cost has been treated as a shared cost.	Shared.	These costs are driven by the volume of poles rented at agreed rates (i.e., not related to individual services), and is linked to the size and scale of the network required to facilitate the demanded volume of data.	Average estimated network data traffic – YTD (all Fixed Line services).
Managed Service Backhaul	Costs of leasing backhaul links from third-party providers that are used as part of nbn's distribution and transit network.	Shared.	The distribution fibre network and transit network provide the core site transport and network capability required to deliver all networks.  An increase in bandwidth capacity of active services would require additional backhaul capacity.	Average estimated network data traffic - YTD (all services).
Rack Power - transit	Electricity costs to power <b>nbn</b> equipment in Telstra exchanges under the Telstra Arrangements. This is the equipment operated in the rack space leased from Telstra above. Rather than procure separate power to these exchanges – <b>nbn</b> has agreed to pay a proportion of Telstra's energy costs at these locations.	Shared.	The transit network provides the core site transport and network capability required to deliver all networks. It delivers the sites, racks and power within sites, capacity between sites, and the aggregation of all access types for the access seekers (i.e., RSP's).  An increase in bandwidth capacity of active services would require additional racks to accommodate the additional active equipment required, which would lead to higher power consumption.	Average estimated network data traffic – YTD (all services).



Cost Category	Description	Cost Type	Causality Relationship	Allocator
<i>Spectrum / Apparatus Licences – Satellite, BSS, Mobility</i>	Costs of acquiring access to radio spectrum for the Satellite, BSS & Mobility networks.	Shared.	<p>The cost of each spectrum licence is a fixed amount per annum.</p> <p>Each of the Satellite, BSS &amp; Mobility services are provisioned an allocation of spectrum within the Mhz band the licence applies to, matching the capacity needs of the services.</p> <p>The proportion of the total fixed cost that each service – Satellite, BSS and Mobility – consume increases with bandwidth.</p>	Average estimated network data traffic – YTD (Satellite, BSS and Mobility - LTD)
<i>Site and network access – Satellite</i>	Costs incurred to access and operate Satellite earth stations, which includes rental payments and outgoings, electricity (excluding network power costs) and facility maintenance.	Shared.	Site and network access costs for Satellite services increase with the size and scale of the Satellite network.	Average estimated network data traffic – YTD (Satellite, BSS and Mobility)
<i>Site and network access – Transit</i>	Costs for Transit Aggregation Nodes and Depots (TAND), which includes rental payments and outgoings, electricity (excluding network power costs) and facility maintenance.	Shared.	Site and network access costs for nbn’s 10 TAND sites are linked to the delivery of transit services and are therefore correlated to the scale of data traffic carried via the transit network.	Average estimated network data traffic – YTD (all services)
<b>Assurance and Maintenance Costs</b>				
<i>Service Assurance - FTTP</i>	EE services are delivered over FTTP technology, and any service assurance costs are therefore recorded against FTTP alongside core FTTP services.	Shared.	<p>Third Party provider costs charged to nbn are driven by the “Tickets of Work” (TOW) for active services (hours / action) multiplied by relevant cost as agreed in a Schedule of Rates (SOR).</p> <p>TOW data not available by FTTP and EE split</p>	Active Premises – LTD (FTTP and EE)
<i>Network Assurance - FTTP</i>	<p>Costs to meet the required level of network assurance within the shared parts of the FTTP network.</p> <p>EE services are delivered over FTTP technology, and any network assurance costs are therefore recorded against FTTP alongside core FTTP services.</p>	Shared.	<p>Costs are driven by “Tickets of Work” (TOW) raised in respect of FTTP network elements shared by EE and FTTP services. Costs increase with network degradation / age etc and usage of the network.</p> <p>TOW data not available by FTTP and EE split</p>	Average estimated network data traffic - YTD (FTTP and EE)
<i>Network Assurance - Satellite</i>	<p>Costs to meet the required level of network assurance within the shared parts of the Satellite network.</p> <p>BSS and mobility services are delivered over nbn’s satellite network.</p>	Shared.	<p>Costs are driven by contractual managed service agreements with outsourced suppliers, which increase with network degradation / age etc and usage of the network.</p> <p>No data available for number of externally managed faults.</p>	Average estimated network data traffic - YTD (all Satellite services).
<i>Network Assurance - Transit</i>	nbn network wide faults, that are not related to network usage, impacting all services.	Shared.	<p>These costs are driven by network wide “Tickets of Work” (TOW) (i.e., not related to individual services, and increase as a function of increasing network degradation / age etc and usage of the network.</p> <p>TOW data not available for Competitive Services split.</p>	Average estimated network data traffic – YTD (all services).



Cost Category	Description	Cost Type	Causality Relationship	Allocator
<i>Network Maintenance - FTTP</i>	Costs attributable to both proactive and reactive maintenance for degradation of the FTTP network, which are forecast on a similar basis to Network Assurance.	Shared.	Costs are driven by maintenance "Tickets of Work" (TOW) raised in respect of elements shared by EE and FTTP services over the FTTP network. Costs increase with network degradation / age etc and usage of the network.  TOW data not available by FTTP and EE split	Average estimated network data traffic - YTD (FTTP and EE)
<i>Network Maintenance - Transit</i>	Transit costs attributable to both proactive and reactive maintenance for degradation of networks, which are forecast on a similar basis to Network Assurance.	Shared.	These costs are driven by network wide maintenance "Tickets of Work" (TOW) (i.e., not related to individual services), and increase as a function of increasing network degradation / age etc and usage of the network.  TOW data not available for Competitive Services	Average estimated network data traffic - YTD
<i>Network Maintenance - Poles</i>	Costs incurred to inspect and maintain telecommunication poles.  In certain areas, nbn connects its local fixed line networks and lead ins via aerial equipment utilising poles.  Although pole lead-ins and local connections are not used to deliver EE or Satellite products, poles may be used in the distribution fibre network and therefore the maintenance cost has been treated as a shared cost.	Shared.	These costs are driven by the volume of poles serviced at agreed rates (i.e. not related to individual services), and is linked to the size and scale of the network required to facilitate the demanded volume of data.	Average estimated network data traffic - YTD (all Fixed Line services)
<b>Other Network Costs</b>				
<i>Freight Distribution and Supply Chain</i>	Costs for delivery of inventory, warehouse operations and freight, related to the management of inventory used to build and maintain the network, based on contracted rates with vendors.	Shared.	Total costs of freight and supply are driven by increasing capacity of the network i.e., supporting the capex costs of network capacity upgrades and maintenance.	Directly Attributable Capex – YTD (all services)
<i>Vendor Support Contract Costs</i>	Costs related to warranty support payments and other services to third parties related to equipment that forms part of the <b>nbn</b> <sup>®</sup> network. Consists of contracts with multiple vendors, independent of volume of support or equipment faults.	Shared.	Costs are driven by increasing physical size/number of active network connections.	Active Premises – LTD (all services)
<i>Other costs (including fleet vehicles)</i>	Costs include fleet vehicles, security, damages and recoverable works that are based on contracted rates with vendors.	Shared.	Costs are driven by increasing physical size of the <b>nbn</b> <sup>®</sup> network or number of active network connections.	Active Premises – LTD (all services)
<b>Employee benefits expense</b>	Labour costs for <b>nbn</b> 's internal workforce (including internal field technicians) required for the day-to-day operating of <b>nbn</b> , comprising Full Time Equivalents (FTEs) and Temporary Staff Arrangements (TSAs).	Shared.	<b>nbn</b> 's workforce does not utilise timesheets to capture time spent on operating tasks by service. Any labour effort expended directly towards the completion of capital expenditure items is already capitalised and recorded within the associated projects.  Remaining labour costs (Employee benefits expenses) do not have a clear causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue – YTD (all services).
<b>Other Operating Costs</b>				



Cost Category	Description	Cost Type	Causality Relationship	Allocator
Outsourced and corporate services	This relates to work associated with outsourced accounts payable functions, IT helpdesk functions and extended workforce arrangements, and costs associated with external legal and consulting services.	Shared.	Different cost items are influenced by a range of factors including levels of ongoing transformation and the level of required support for capital works. No clear causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue – YTD (all services).
IT and Software Costs	IT and Software requirements for network build and operation for employees and network assets.	Shared.	IT and Software costs are a function of nbn’s operating environment to build, maintain and operate the network and are linked to factors such as network scale and labour force size (number of software licences required). No clear causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue – YTD (all services).
Marketing and Product Costs	Costs for Advertising & Media, Customer Marketing Programs, Direct Marketing & Partnerships, and Other Marketing and Product Costs.	Shared.	Marketing and product costs are a function of the unique volume of marketing campaigns per Core and Competitive services x average cost by marketing channel, which drive increased activations and/or revenue. No clear causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue – YTD (all services).
Occupancy Costs	Costs of office accommodation, rental, and non-network facilities.	Shared.	Facilities costs are a function of nbn’s operating environment i.e., building vs running nbn and other associated factors such as labour force size. No clear causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue – YTD (all services).
Telecommunications Industry Levy (TIL)	nbn’s share of TIL applying to all services.	Shared.	The TIL share is a function of nbn’s eligible industry revenues i.e., net sales revenue	Telecommunications Revenue
Insurance	Insurance costs to protect nbn and its assets, including professional indemnity, directors’ and officers’ insurance, general and public liability, and cyber liability.	Shared.	Costs driven by increasing premiums and perceived risk for areas such as cyber and property insurance, the exposure of which to nbn increases as a function of nbn’s company size (corporate systems, asset coverage etc) and other external, uncontrollable, events. Cost items influenced by a several factors concurrently, with no delineation between Core and Competitive Service insurance risks. No clear causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue – YTD (all services).
Other Internal Expenses	Costs associated with corporate wide accounting, tax and audit fees, recruitment costs, training and development, corporate communications, office supplies and subscriptions, travel and entertainment and other.	Shared.	No clear causal allocator.	Average of Active Premises – LTD (all services) and Telecommunications Revenue – YTD (all services).



## 5 Record maintenance and compliance

### 5.1 Record maintenance

**nbn** will maintain records of cost attributions and shared costs as follows:

- financial records will be kept in **nbn**'s financial systems;
- **nbn**'s annual audited financial statements and underlying accounting records will form the basis of the information to which the CAM will be applied; and
- financial models applied to allocate costs to Core and Competitive Services will be retained by **nbn** in accordance with **nbn**'s financial records retention policy.

These records will be maintained by **nbn** to:

- demonstrate the attribution of costs to, or allocation of costs between, Core and Competitive Services in accordance with the CAM; and
- allow attributions and allocations to be audited or otherwise reviewed by a third-party independent auditor, as required.

### 5.2 Compliance monitoring

**nbn** has implemented a number of processes and controls to monitor compliance with the CAM. Through these processes and controls, **nbn** will satisfy itself that costs have been correctly attributed to the relevant service category and that the cost allocators have been correctly calculated and applied in a manner which reflects the methodology outlined in this CAM.

#### Expenditure reporting and external audit

Under clause 2F.7 of the SAU, **nbn** is required to report on its expenditure to the ACCC by 31 October each year. The report and associated working papers are reviewed annually by the Finance and Regulatory teams during the preparation process. The report is also reviewed and endorsed by **nbn**'s Management.

In addition, financial information in the expenditure report may be subject to an external audit in accordance with Australian Auditing Standards, which would include an assessment of the attribution and allocation of costs in accordance with the approved CAM.

#### Processes and procedures

As part of the expenditure report **nbn** will recalculate and review cost allocation percentages on an annual basis, as well as review its categorisation of costs as directly attributed or shared to ensure the CAM continues to meet the Cost Allocation Principles.



# Appendix A Definitions of shared cost allocators

## Ready-to-Connect – Lifetime-to-Date (LTD)

### Description

A measure of the share of available footprint by technology/service that is used to allocate network costs driven by the total size of the **nbn** network footprint.

### Definition

The count of number of premises that have a Ready-to-Connect status at the end of the financial year.

For Core Regulated Services, a premises is Ready-to-Connect when a **nbn** service order can be placed, i.e., RSPs are able to begin selling services over the **nbn**<sup>®</sup> network, and the service can be connected within an area that has been declared ready for service.

For Competitive Services the number of premises Ready-to-Connect equals the number of Active Premises.

### Allocator calculation

Calculated as the percentage of premises Ready-to-Connect by technology/service of the total number of Ready-to-Connect premises for all technologies/services.

## Active Premises - Lifetime-to-Date (LTD)

### Description

A measure of the share of end-users on the **nbn**<sup>®</sup> Network by technology/service that is used to allocate network costs driven by the number of end-users.

### Definition

Count of premises that have at least one active Access Virtual Circuit (AVC) service (or equivalent for Competitive Services) at the end of the financial year.

### Allocator calculation

Calculated as the percentage of active premises by technology/service of the total number of active services for all technologies/services.

## Average estimated network data traffic (YTD)

### Description

A measure of the share of the maximum data traffic for active services per technology/service that may flow through the **nbn**<sup>®</sup> Network, used to allocate costs that are driven by data traffic.



## Definition

The estimated maximum data traffic of the ordered speed of active services that may flow through the **nbn**<sup>®</sup> Network as at the end of the financial year.

## Allocator calculation

Calculated as the percentage of Average estimated network data traffic by technology/service of the total Average estimated network data traffic' for all technologies/services.

Where the Average estimated network data traffic per technology/service is calculated as the SIO weighted average of available ordered speed tier mix data by provisioned broadband service multiplied by Active Premises – LTD by technology/services in a financial year.

## Directly Attributable Capex – Year-to-Date (YTD)

### Description

Represents the portion of capex per technology/service directly attributed to a technology/service in a financial year.

### Definition

Capital expenditure by project and asset type (bought or constructed) recorded in **nbn**'s Fixed Asset Register, which has been assessed as directly attributable to the technology/services.

### Allocator calculation

Calculated as the percentage of directly attributable capex of the directly attributable capex for all technologies/services.

## Telecommunications Revenue – Year-to-Date (YTD)

### Description

Represents the relative value placed on each of **nbn**'s services by consumers that is used to allocate shared costs (and the TIL Levy) with no identified causal driver.

### Definition

The sum of recurring and non-recurring revenues for all technologies / services sold by **nbn** in a financial year. This will be based on the Revenue definition in the SAU applied to the information in **nbn**'s audited financial accounts.

### Allocator calculation

Calculated as the percentage of Telecommunications Revenue earned by technology/service of the total Telecommunications Revenue per technology/service.

## Allocators applying to specific technologies / services

Once each cost type is determined to be a shared cost it is then assigned an allocator, and it may then be further assigned as applying only to certain technologies/services, as named within brackets following the identification of an allocator. For example, an allocator may be applied over services provided by FTTP technology only.

For clarity, if an allocator does not specify technologies/services within brackets following the allocator identification, it is shared across all technologies/services.