OPTUS

Submission in response to
ACCC Consultation paper

Record Keeping Rule – NBN service performance

Public Version

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INTRODUCTION

1. Optus welcomes the opportunity to comment on the ACCC's proposed Record Keeping Rule (RKR) on NBN service performance and considers the increased transparency and accountability such a framework can provide is long overdue.

2. Optus supports the ACCC's proposals and welcomes steps to introduce increased transparency over key consumer issues, such as dropouts and speed performance, as well as activities usually subject to WBA service level standards. Optus considers the metrics proposed will go some way to providing a more meaningful picture of real-world consumer experience and performance.

3. Optus notes that quality of service monitoring is common for essential service monopoly network providers who may otherwise not face sufficient competitive impetus to address and maintain quality of service.

4. Implementing the proposed RKR will provide greater transparency and accountability on NBN Co's service performance; will assist the ACCC in its functions under Part XIB and XIC of the Competition and Consumer Act, and provide visibility over factors that contribute to consumer experience which would ultimately be in the long-term interests of end-users.

PERFORMANCE REPORTING PROMOTES TRANSPARENCY

5. There are a number of reasons that would support the ACCC implementing a Service Performance RKR on NBN Co. This includes:

   (a) the information is relevant to the operation of other legislation (as required by the legislative criteria for making an RKR);[1]

   (b) the information will promote increased transparency and accountability over NBN Co's service performance.

Information relevant to the operation of other legislation

6. Optus submits there are a number of activities to which NBN Co's service performance information would be relevant to the operation of a number of different pieces of telecommunications specific legislation (as required by the legislative criteria in s. 151BU for making an RKR). In particular:

   (a) Activities under Part XIB, such as enforcing the anti-competitive conduct provisions in the telecommunications industry and its annual competitive safeguards report to the Minister, which relates to the operation of Part XIB and XIC and any other matters relating to competition in the industry. [2]

   (b) Activities under Part XIC, which could include declaring services, making access determinations, issuing binding rules of conduct or assessing a special

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[1] Section 151BU(4), Competition and Consumer Act (CAA).

[2] Section 151CL(1), CCA.

access undertaking (or variations to a special access undertaking), such as the current NBN Co submitted SAU variation being considered by the ACCC.

7. In undertaking activities under Part XIC, the ACCC must take into account the extent the activity will promote the long-term interests of end-users (LTIE), having regard to the additional objectives of promoting competition, achieving any-to-any connectivity and encouraging the efficient use of and investment in infrastructure.

8. Optus considers that the metrics proposed in the Service Performance RKR provide transparency over activities that can impact competition in downstream markets and the efficient use of, or investment in, infrastructure. For example, RSPs cannot offer higher speed, better value for money plans to customers whose lines are underperforming. Where NBN Co does not address issues promptly or proactively, RSPs need to expend resources raising or following up these issues.

9. These metrics can also provide transparency over broader consumer experience issues and could be used by the ACCC, in compilation with other data it has available to it, to identify such consumer experience issues and trends.

10. In addition, Optus notes that a key issue in ACCC/industry discussions leading up to the current consultation on NBN Co's proposed Special Access Undertaking (SAU) variation is ensuring there is clear linkages between price and quality of service. This consideration is also likely to be relevant to future regulatory processes regarding NBN Co prices and service standards relating to the SAU.

11. Therefore, the information provided under the RKR is likely to be used by the ACCC in future regulatory decisions and activities under Parts XIB and XIC of the CCA, including decisions and reports on competition and consumer issues in telecommunications markets.

An RKR can promote transparency and accountability

12. More broadly, Optus supports the ACCC's proposed RKR to provide increased transparency and accountability over NBN Co's service performance. Optus has long advocated throughout various ACCC consultations (such as, the ACCC's wholesale services standards inquiry) that there would be benefit for a service monitoring framework for NBN Co.

13. It is common for there to be quality of service monitoring regimes over essential service network providers, particularly where these providers are monopolies and do not face the same incentives as those in a competitive market to maintain or improve service standards. Service performance monitoring would provide transparency over performance, can highlight service issues impacting RSPs and consumer experience and supports accountability for NBN Co's role in service provision.

14. Optus notes that record keeping and reporting can be a significant burden to companies. However, we consider it is critical for there to be meaningful transparency over NBN Co's service performance. In relation to many of the new metrics proposed, Optus is aware that NBN Co has that data, it may simply need to be extracted or filtered and collated differently. In this case, we consider the benefits from increased transparency and accountability and the capability for this data to be used in the ACCC's other telecommunications-related regulatory activities and decision making outweighs any potential costs.

General comments on the proposed metrics

15.   Optus notes the ACCC is proposing a range of metrics covering existing service levels in the wholesale broadband agreement and additional metrics relevant to key consumer experience matters. Optus generally supports the metrics proposed and the ACCC's approach – for example, by requesting reporting based on business days, Optus considers this gives a more accurate reflection of NBN Co's real-world performance, rather than if reporting is based on whether NBN Co met the service level timeframes in the WBA. This is because the service level timeframes in the WBA can be subject to exclusions, conditions and stoppages.

16.   If there is disparity between the real-world data and whether NBN Co is meeting service levels under the WBA it could highlight where there is reliance on exceptions or exclusions under the service levels (noting that some of these may be for factors outside of NBN Co's control, such as council approval processes or waiting for the customer to reschedule an appointment). This increased transparency will provide the opportunity to query where processes and services standards could be improved, whether by NBN Co or in other ways.

17.   In some cases, the ACCC has suggested timeframes for some metrics that are different to timeframes for those metrics in the WBA Service level schedule. Generally, we don't have concerns with this approach and note that where the ACCC suggested timeframes are shorter than those in the WBA service level schedule these are more likely to be closer to consumer expectations.

18.   Optus notes the ACCC is also considering whether to disaggregate some metrics via technology (e.g. via service class or in a more general way) or geography. For some metrics technology disaggregation may highlight performance issues with one particular technology type. For example, there are well known performance issues with copper-based technologies, however, we consider reporting is useful for HFC and FTTP for comparison and to ensure, for example, that NBN network congestion does not contribute to poor performance for HFC services.

19.   Comments on the specific metrics proposed are contained in the following Table 1.

Table 1: ACCC Proposed Service Performance Metrics and Data Requirements and Optus comments

Performance metric/s	Proposed data requirements	Optus comment
Standard connections The number of days it takes NBN Co to connect premises. **Possible disaggregation** • Geographic location: NBN Co's stated Location of Premises: o Urban Area o Major Rural Area or Minor Rural Area o Remote Area o Isolated Area (applies to Satellite network only) o Limited Access Area (applies to Satellite network only) Service Class: This incorporates the relevant access network type and the extent of infrastructure already installed. Further information on NBN Co's Service Classes is in Part A of NBN Co's WBA Service Levels Schedule and dictionary.	**Connections not requiring NBN Co technicians** • Total number of connections not requiring a technician • Number of connections completed in 1 business day • Number of connections completed in 2 – 5 business days • Number of connections completed in 6+ business days. • Average time to complete all connections **Connections requiring NBN Co technicians** • Total number of connections requiring technicians • Number of connections completed in <= 5 business days • Number of connections completed in 6 – 10 business days • Number of connections completed in 11+ business days • Average time to complete all connections	Optus supports this metric and notes the timeframes proposed by the ACCC are more likely to be closer to consumer expectations than the timeframes proposed in the WBA service level schedule.
Priority Assistance (PA) connections The number of days it takes NBN Co to connect premises for medically vulnerable consumers. Possible disaggregation • Access network type: o Fibre to the Premises (FTTP) o Fibre to the Building (FTTB) o Fibre to the Node (FTTN) o Fibre to the Curb (FTTC) o Hybrid Fibre Coaxial (HFC) o Fixed Wireless o Satellite.	• Total number of PA connections • Number of PA connections completed within 24 hours • Number of PA connections completed between 24 and 48 hours • Number of PA connections completed in 48+ hours.	Optus supports this metric.

Performance metric/s	Proposed data requirements	Optus comment
Accelerated Connections The number of days it takes NBN Co to connect premises for retail service providers requesting faster connection of services. **Possible disaggregation** • Access network type.	• Total number of Accelerated Connections • Number of Accelerated Connections completed in <= 5 business days • Number of Accelerated Connections completed in 6 – 10 business days • Number of Accelerated Connections completed in 11+ business days.	Optus supports this metric. We note that accelerated connections have a connection timeframe of 4BD in the WBA service level schedule so consider this would be a more appropriate measure than 5BD. Accelerated connections have been intended to apply for new connections where the consumer did not have a legacy service in place, therefore there is significant consumer impact (the customer has no service) if there are delays in NBN Co completing this activity. In addition, under retail regulations the RSP may have obligations to supply the customer with an alternative service or compensation (for example, under the CSG Standard or under ACMA NBN consumer experience instruments).
'Right-first-time' installations and connections The number of network installations and service activations requiring follow up work or experiencing a fault shortly thereafter. **Possible disaggregation** • Access network type • Geographic location.	**New installations:** • Total number of new installations • Number of new installations that required follow up work within: o 5 business days o 6-10 business days o 11-20 business days. **Connections:** • Total number of new connections • The number of new connections that had a fault within: o 5 business days o 6-10 business days o 11-20 business days.	Optus considers this metric is particularly important although it is perhaps unclear if this is a connection metric or a fault metric (it may depend on whether the service has worked and then experienced a fault, or if the service has not worked even after an apparently successful connection). Optus notes that NBN Co has previously had New Service Never Worked fault categories for services that were recorded as having successful connections but which were, in fact, not working. The ACCC may simply need to consider how it defines this metric. In any event, Optus considers it is a poor experience if a consumer has their service connected and then experiences faults shortly after connection, so we think this metric provides

Performance metric/s	Proposed data requirements	Optus comment
		important transparency over the connection experience.
Service transfers The number of days taken by NBN Co to transfer services from one provider to another. **Possible disaggregation** • Access network type.	• Total number of service transfers • Number of service transfers completed within 1 business day • Number of service transfers completed within 2-3 business days • Number of service transfers completed in 4+ business days.	Optus notes the timeframe for service transfers is 4 hours in the WBA service level schedule. Therefore, Optus considers it appropriate to include 4 hours in these timeframes.
Connection appointment keeping timeframes The number of connection appointments that meet NBN Co's WBA service levels. **Possible disaggregation** • Access network type • Geographic location.	**Connection appointments with a particular time** • Total number of connection appointments with a particular time • Of these, the number of appointments where NBN Co: o Met the appointment time (or 15 minutes thereafter) that was **not** previously re-scheduled o Met the appointment time (or 15 minutes thereafter) that was previously re-scheduled o Did not meet the appointment window o Re-scheduled the appointment to a future date. **Connection appointments with a 4-hour period** • Total number of connection appointments with a 4-hour appointment window • Of these, the number of appointments where NBN Co: o Met the appointment window (or 15 minutes thereafter) that was **not** previously re-scheduled o Met the appointment window (or 15 minutes thereafter) that was previously re-scheduled o Did not meet the appointment window o Re-scheduled the appointment to a future date. **Connection appointments with a 4-5 hour period**	Optus supports this metric.

Performance metric/s	Proposed data requirements	Optus comment
	• Total number of connection appointments with a 4-5 hour appointment window • Of these, the number of appointments where NBN Co: o Met the appointment window that was **not** previously re-scheduled o Met the appointment window that was previously re-scheduled o Did **not** meet the appointment window o Re-scheduled the appointment to a future date. **Connection appointments with a 4-5 hour period (Minor rural areas, Remote areas, Isolated areas, or Limited Access Areas)** • Total number of connection appointments with a 4-5 hour appointment window • Of these, the number of appointments where NBN Co: o Met the appointment window (or 45 minutes thereafter) that was **not** previously re-scheduled o Met the appointment window (or 45 minutes thereafter) that was previously re-scheduled o Did not meet the appointment window o Re-scheduled the appointment to a future date.	
End-user faults and rectifications The number of end-user faults and how long it takes NBN Co to fix these. **Possible disaggregation** • Access network type • Geographic location.	**Faults not requiring technicians** • Total number of faults not requiring a technician • Of these, the number of faults rectified: o within 1 business day o between 1 and 3 business days o in 3+ business days. **Faults requiring technicians** • Total number of faults requiring technicians • Of these, the number of faults rectified:	Optus supports this metric.

Performance metric/s	Proposed data requirements	Optus comment
	o within 2 business days o within 2 and 3 business days o in 3+ business days.	
Priority Assistance (PA) faults The number service faults for medically vulnerable consumers and how long it takes NBN Co to fix these. **Possible disaggregation** • Access network type.	**PA faults not requiring technicians** • Total number of PA faults not requiring a technician • Of these, the number of faults rectified: o within 24 hours o between 24 and 48 hours o in 48+ hours. **PA faults requiring technicians** • Total number of PA faults requiring technicians • Of these, the number of faults rectified: o within 24 hours o between 24 and 48 hours o in 48+ hours.	Optus supports this metric

End-user performance incidents	Total number of services that exceeded the performance incidents thresholds	Optus supports this metric.
The number of services meeting NBN Co's performance incidents thresholds and how long it takes to fix these in accordance with NBN Co's WBA service levels.	• Total number of these services that had previous performance incidents requiring rectification in the previous 12 months (services with recurring performance incidents)	**Network Activity**
Services subject to NBN Co's performance incidents service level arrangements apply to those on the FTTN and HFC networks.	• Total number of services experiencing performance incidents that were rectified by the applicable service level timeframes	Optus also considers there should be additional reporting on Network Activity. Network Activity is action NBN Co has determined is necessary to fix a line rate so a product can achieve the relevant PIR/CIR objective or to rectify a Performance Incident NBN Co has determined will not be addressed by standard Performance Incident rectification activities (see definition of Network Activity in the WBA Dictionary). It is likely these consumers are having poor NBN experience if the PIR objective of their line cannot be achieved.
Possible disaggregation • Access network type • Geographic location.	• Total number of services experiencing performance incidents that were rectified and **did not meet** the rectification timeframes where rectification exceeded the timeframe by: o < 5 business days o 5 < 10 business days o >= 10 business days.	There are no service level timeframes relating to those tickets where NBN Co determines it must do Network Activity, only a broad performance objective in the WBA service level Schedule in relation to achieving the TC-4 Target Network Activity Date. (The TC-4 Target Network Activity Date is, where the Network Activity Designation Date is: • between 1 December 2020 and 30 June 2021, the target date is 500 Business Days; and • after 1 July 2021, the target date is 375 Business Days. See Definition of TC-4 Target Network Activity Date, WBA Dictionary).

		Optus considered there should be reporting on a range of data related to completed Network Activity and open Network Activity. For example: • The number of services with open Network Activity (total); • The number of services with open Network Activity, where the Network Activity Designation Date is between 1 December 2020 and 30 June 2021; • The number of services with open Network Activity, where the Network Activity Designation Date is before 1 December 2020. Optus considers increased transparency is needed over the time taken to complete Network Activity given the lengthy target dates. For example: • The number of services where Network Activity was completed (during the reporting period) within the following timeframes from the service's Network Activity Designation Date to resolution: - < 50 Business Days; - 50<100 Business Days; - 100<150 Business Days; - 150<200 Business Days; - 200<300 Business Days;

Performance metric/s	Proposed data requirements	Optus comment
		- 300<375 Business Days; - 375<500 Business Days; - >500 Business Days.
Network faults The number of network faults and how long it takes NBN Co to fix these. **Possible disaggregation** • Access network type • Geographic location.	Total number of network faults • Total number of network faults estimated to affect: o <100 services o 100 < 200 services o 200 < 400 services o 400 <500 services o >= 500 services • Total number of network faults rectified in: o <3 hours o 3<9 hours o >=9 hours	Optus supports this metric.
Recurring service faults The number of services experiencing recurring faults in a certain period. **Possible disaggregation** • Access network type • Geographic location.	The total number of services experiencing 3+ faults in any 60-day period (where the 3rd or any subsequent fault occurs during the reporting period) • The total number of services experiencing 4+ faults in any 12-month period (where the 4th or any subsequent fault occurs during the reporting period).	Optus supports this metric. Optus considers this information should capture instances where a service experiences separate faults within the relevant time period and where multiple faults might relate to the same issue (e.g. where a fault ticket is resolved but the issue continues and another fault is raised).
Fault rectification appointment keeping timeframes The number of fault rectification appointments that meet NBN Co's WBA service levels. **Possible disaggregation** • Access network type • Geographic location.	**Fault rectification appointments with a particular time** • Total number of fault rectification appointments with a particular time • Of these, the number of appointments where NBN Co: o Met the appointment time (or 15 minutes thereafter) and that was **not** previously re-scheduled o Met the appointment time (or 15 minutes thereafter) and that was previously re-scheduled	Optus supports this metric.

Performance metric/s	Proposed data requirements	Optus comment
	o Did not meet the appointment window	
	o Re-scheduled the appointment to a future date.	
	Fault rectification appointments with a 4 hour period	
	• Total number of fault rectification appointments with a 4-hour appointment window	
	• Of these, the number of appointments where NBN Co:	
	o Met the appointment window (or 15 minutes thereafter) and that was **not** previously re-scheduled	
	o Met the appointment window (or 15 minutes thereafter) and that was previously re-scheduled	
	o Did not meet the appointment window	
	o Re-scheduled the appointment to a future date.	
	Fault rectification appointments with a 4-5 hour period	
	• Total number of fault rectification appointments with a 4-5 hour appointment window	
	• Of these, the number of appointments where NBN Co:	
	o Met the appointment window and that was **not** previously re-scheduled	
	o Met the appointment window and that was previously re-scheduled	
	o Did not meet the appointment window	
	o Re-scheduled the appointment to a future date.	
	Fault rectification appointments with a 4-5 hour period (Minor rural areas, Remote areas, Isolated areas, or Limited Access Areas)	
	• Total number of fault rectification appointments with a 4-5 hour appointment window	
	• Of these, the number of appointments where NBN Co:	
	o Met the appointment window (or 45 minutes thereafter) window and that was **not** previously re-scheduled	

Performance metric/s	Proposed data requirements	Optus comment
	o Met the appointment window (or 45 minutes thereafter) window and that was previously re-scheduled o Did not meet the appointment window o Re-scheduled the appointment to a future date.	
Dropouts The number of services experiencing a minimum number of dropouts, the duration of dropouts and how long NBN Co takes to fix these. **Possible disaggregation** • Access network type • Geographic location.	• Total number of services experiencing the following number of dropouts (lasting 30 seconds or more): o < 5 dropouts within a 24 hour period o 5 to < 7 dropouts within a 24 hour period day o >7 dropouts within a 24 hour period • Total number of services experiencing >= 5 dropouts where the longest dropout was: o 2 < 4 minutes o 4 < 8 minutes o 8 < 10 minutes o >= 10 minutes.	Optus considers this is an important metric as the frequency and duration of dropouts can have a significant impact on user experience (a matter the ACCC recognises in its Measuring Broadband Australia program). Optus notes that defining a dropout as lasting 30 seconds or more (not defined by reference to a timeframe in the WBA) is consistent with the ACCC's approach in the Measuring Broadband Australia program. Optus is aware that NBN Co has the data for copper-based services and HFC services as this data is used to meet criteria for raising performance incidents and faults. In relation to the number of dropouts in a 24-hour period, the ACCC may wish to consider aligning the proposed number of dropouts with performance incident and fault criteria. Optus supports reporting on the duration of dropouts and queries with the ACCC whether these figures should align with duration categories in the ACCC's MBA program report i.e. 30-60 seconds, 1-3 minutes, 3-10 minutes, more than 10 minutes (See Figure 13, December 2022 report). Again, there is no reason NBN Co would not be able to provide this given the data NBN Co has available to it for fault acceptance.

Performance metric/s	Proposed data requirements	Optus comment
		Optus notes there has also been a recently introduced Trouble Ticket Dispute. This is where a dropout lasts for more than 30 minutes. NBN Co may consider it a no connectivity fault (that is, the service is off-line). The ACCC may also want to consider whether this category should be reported on as if services are off-line for 30 minutes (or more) it is likely to be a considerable disruption to the user's experience.

Outages
The number of intentional outages (planned + emergency), the duration of outages, the approximate number of services impacted by outages and notification timeframes for providers.
Possible disaggregation
• Access network type
• Geographic location.
	Planned outages
	• The number of planned outages
	• For each planned outage:
	o The (estimated) number of services affected
	o Whether the outage started and finished within:
	    o 1 day
	    o 2 and 3 days
	    o 3+ days
	
	o Whether the majority of the outage took place between:
	o 12.00am – 8.00am
	o 8.00am – 5.00pm
	o 5.00pm – 11.59pm
	
	• The percentage of planned outages where NBN Co provided retail service providers with:
	o < 1 business day's notice
	o 1 < 5 business day's notice
	o 5 < 10 business day's notice
	o >= 10 business day's notice.
	• The percentage of planned outages which occurred entirely within the proposed scheduled window as contained in the planned outage notice
		Optus considers reporting on outages is an important metric as these can cause considerable disruption to a user's experience.
		
		Network Availability
		Optus notes that planned outages do not count towards Network Availability. The ACCC may wish to consider additional reporting related to Network Availability. Optus would support such reporting.

Performance metric/s	Proposed data requirements	Optus comment
	• The number of services affected by a planned outage which experienced a previous outage in the last 12 months (services experiencing recurring outages) **Emergency outages** • The number of emergency outages • For each emergency outage: o The (estimated) number of services affected o Whether the outage was rectified within: o 1 day o 2 and 3 days o 3+ days • Whether the majority of the outage took place between: o 12.00am – 8.00am o 8.00am – 5.00pm o 5.00pm – 11.59pm • The percentage of emergency outages where NBN Co was able to provide notice to providers prior to the outage.	

Network speed capability	Fixed line speed capabilities (FTTB/C/N)	Optus considers reporting on network speed capability to be very important as it directly impacts consumer experience and is related to NBN Co's expenditure.
Information on attainable download and upload speeds of NBN Co's services provided over copper and HFC networks.	• The estimated number of fixed line premises capable of achieving a maximum data transfer rate of: o < 25 Mbps Peak Information Rate (PIR) downlink o 25 < 50 Mbps PIR downlink o 50 < 75 Mbps PIR downlink o 75 < 100 Mbps PIR downlink o 100 Mbps < 1 Gbps downlink o >= 1 Gbps PIR downlink.	**FTTB/C/N Capabilities** Optus assumes this is intended to report data on line capability obtained by NBN Co after a premises has been connected to the NBN and should not include estimated maximum speeds for premises that have never been connected to the NBN. As such, NBN Co should be reporting on actual number of lines and the maximum data transfer rate for those lines. We note this line capability figure is normally provided as a range (e.g. 72-76 Mbps downlink) so the ACCC may want to consider whether regard is had to the upper or lower number in the range.
Estimated – The estimated number of premises at which NBN Co has made available its Fixed Line Network capable of achieving the maximum data transfer rate. **Actual** – The number of premises at which NBN Co supplied an Ordered Product over its Fixed Line Network capable of achieving the maximum data transfer rate.	• The estimated number of fixed line premises, as a proportion of the total fixed line network premises, capable of achieving a maximum data transfer rate of: o < 25 Mbps PIR downlink o 25 < 50 Mbps PIR downlink o 50 < 75 Mbps PIR downlink o 75 < 100 Mbps PIR downlink o 100 Mbps < 1 Gbps downlink o >= 1 Gbps PIR downlink.	Optus considers the PIR ranges should take into account where NBN Co only commits to providing a PIR of 12/1 for certain technologies if premises are in areas of co-existence. Optus also considers there should be clear transparency over any lines underperforming below 12/1 Mbps outside of co-existence areas. Therefore, we consider the ranges reported on should include, for example:
Possible disaggregation • Applicable access network type (FTTB, FTTC, FTTN and HFC) • Geographic location	• The actual number of fixed line premises capable of achieving a maximum data transfer rate of: o < 25 Mbps PIR downlink o 25 < 50 Mbps PIR downlink o 50 < 75 Mbps PIR downlink o 75 < 100 Mbps PIR downlink o 100 Mbps < 1 Gbps downlink o >= 1 Gbps PIR downlink.	• <12 Mbps PIR downlink; and • 12<25 Mbps PIR downlink We consider such an approach provides greater transparency for lines that may not be performing to consumer expectations but are not considered underperforming by NBN Co.
	• The actual number of fixed line premises capable of achieving a maximum data transfer rate of: o < 5 Mbps PIR uplink o 5 < 10 Mbps PIR uplink o 10 < 20 Mbps PIR uplink	

Performance metric/s	Proposed data requirements	Optus comment
	o >= 20 Mbps PIR uplink **Fixed line speed capabilities (HFC)** • The actual number of HFC services that cannot reliably attain the full ordered bandwidth data transfer rate of: o 25 Mbps downlink o 50 Mbps downlink o 100 Mbps downlink o 250 Mbps downlink o 500 Mbps downlink o 1 Gbps downlink. • The actual number of HFC services that cannot reliably attain the full ordered bandwidth data transfer rate of: o 5 Mbps uplink o 10 Mbps uplink o 20 Mbps uplink o 40 Mbps uplink o > 40 Mbps uplink.	Optus also considers that lines in co-existence areas should be reported on separately from lines that are not in co-existence areas. This may be another option for disaggregation. For FTTB technology, Optus submits the ACCC should consider whether to require reporting of the line capability to the wall socket not just to the network boundary point in the basement. While in-building wiring is not NBN Co's responsibility it can impact line performance substantially. Reporting on line capability taking into account the in-building wiring may assist in providing transparency over actual line capability and could provide visibility as to whether in-building wiring is or becomes a technical limitation affecting consumer experience. We understand NBN Co has this information available. **HFC Capabilities** In relation to Fixed Line Speed Capabilities (HFC), we are not clear what the ACCC means by "reliably attain". We would welcome clarification on this point (for example, if this means a service that attains the speed for a certain percentage of time each 24-hour period or similar). We also consider numbers less than 12Mbps downlink and between 12-25Mbps should also be reported for HFC.

Network speed capability on NBN Co's fixed wireless network	The percentage of fixed wireless cells with an average monthly busy hour cell performance in the following specified **downlink** performance categories:	Optus supports this metric.
Information on the attainable download and upload speeds and traffic performance during average busy hour relating to NBN Co's Fixed Wireless cell network.	• <3 Mbps • 3 to < 6 Mbps • 6 to <12 Mbps • 12 to <25 Mbps • 25 to <50 Mbps • >= 50 Mbps. The average number of hours a day cells spent in each of the following **downlink** performance categories: • < 3 Mbps • 3 to < 6 Mbps • 6 to <12 Mbps • 12 to <25 Mbps • 25 to <50 Mbps • >= 50 Mbps The percentage of fixed wireless cells with an average monthly busy hour cell performance in the following specified **uplink** performance categories: • <2 Mbps • 2 to <5 Mbps • 5 Mbps to < 10 Mbps • 10 to <20 Mbps • >= 20 Mbps. The percentage of NBN Co Wireless Network cells connected to backhaul transmission links with an average busy hour link packet loss of less than 0.25%. The following data: • Total Fixed Wireless cells • Total Fixed Wireless congested cells.	The ACCC may also want to consider whether greater transparency is (or will be) needed over NBN Co's Fair Use Policy for Fixed Wireless users given the impact this can potentially have on fixed wireless users. This extent of any application of the Fair Use Policy also goes to whether the fixed wireless network is meeting users' needs. For example, the ACCC may wish to consider data on the following: • The number of users per cell per month that exceed the threshold in the NBN Co Fixed Wireless Fair Use Policy. • The number of these users that NBN Co throttles their service (per month) under the Fair Use Policy. • The average number of days per cell per month that users were throttled under the Fair Use Policy.

Performance metric/s	Proposed data requirements	Optus comment
	• Total LOC IDs of Fixed Wireless congested cells • Total Fixed Wireless backhaul links • Total Fixed Wireless congested backhaul links • Total LOC IDs of congested Fixed Wireless FW backhaul links • List of Priority Forecast Upgrade cells.	
NBN Co traffic delay NBN Co's network performance regarding data delays.	**Data delay performance** • The number of exceedances of traffic frame delay equal to or above 5 milliseconds on the fixed line network during the busy hour period (7.00pm – 11.00pm). • Number of exceedances of traffic frame delay variation equal to or above 3 milliseconds on the fixed line network during the busy hour period (7.00pm – 11.00pm).	Optus supports this metric. Optus notes this would be an important quality of service metric in relation to real time communications and the experience users can have with activities requiring real time communications. We understand that NBN Co does have this type of quality-of-service information available to it. Optus considers the ACCC may want to consider disaggregation by technologies and/or geographic areas to highlight if there are any significant differences in user experience.
Shared network resource utilisation The number of times NBN Co's shared network resource exceeds a certain threshold and the duration of the exceedance. **Possible disaggregation** • Access network type • Geographic location	The number of times a shared network resource exceeded a utilisation threshold of 70%. The number of times a shared network resource exceeded a utilisation threshold of 90%. The number of times a shared network resource exceeded a utilisation threshold of 95%. For each instance where the utilisation threshold is exceeded (as applicable in the Wholesale Broadband Agreement or Special Access Undertaking), the average time taken (in business days) to return the utilisation of the relevant shared network resource below the utilisation threshold.	Optus supports this metric.

Performance metric/s	Proposed data requirements	Optus comment
Fibre to the premises (FTTP) upgrade Progress of NBN Co's FTTP upgrade program.	The number of premises in the following stages of the FTTP upgrade program: • design • construction • passed • connected • active.	Optus supports greater transparency over upgrade programs, however, some of these programs are quite different in nature – for example, opt-in for the consumer (Fibre Connect) as compared with NBN-initiated forced upgrade (COAT Program). We consider of particular importance would be the NBN initiated forced upgrade programs where NBN Co has identified that the only way to improve line performance is to upgrade the line to FTTP.
The number of services where rebates were payable to retail service providers Number of services for which an NBN Co rebate was payable under its WBA. **Possible disaggregation** • Access network type	• Number of services for which a rebate was payable by NBN Co for the following rebate categories: o Missed connections o failed connections o first missed connection appointments o subsequent missed connection appointments o service fault o enhanced fault rectification o first missed fault rectification appointments o subsequent missed fault rectification appointments o FTTB/N/C PIR Objective o FTTB/N/C connection performance o wireless speed. • Number of services for which a rebate was capped (as applicable) by the above categories.	Optus supports this metric. Optus particularly supports the number of services that receive a capped rebate payment. Optus notes in relation to PIR Objective rebates that a rebate is only paid where a fault is raised on the service. As there are limits on the ability of RSPs to be able to raise faults without customer contact, the ACCC may want to consider reporting on the number of services that were eligible for a PIR Objective rebate but that did not receive one (because a fault was not raised). The ACCC may also wish to consider reporting on the timeliness of rebate payments. For example: • Number of rebates (or percentage of rebates) paid that month where payment was within the next billing cycle (after the rebate was applicable);

Performance metric/s	Proposed data requirements	Optus comment
		• Number of rebates (or percentage of rebates) paid that month where payment was between 2-4 billing cycles (after the rebate was applicable); • Number of (or percentage of rebates) paid that month where payment was more than 4 billing cycles (after the rebate was applicable). This would provide transparency over the timeliness of NBN Co rebates as these are supposed to be paid in the next billing cycle after the rebate is applicable (i.e. the event that attracts the rebate has occurred).
Corrective action for the non-achievement of performance objectives NBN Co's activities and performance to fulfil its corrective action objectives. **Possible disaggregation** By service activity – connections, transfers, faults, and performance incidents.	• Corrective action by each activity including: o Summary of reasons for the non-achievement of performance objectives o The number of corrective action plans provided to retail service providers o The broad types of corrective action proposed o The average time taken to undertake the corrective action.	Optus supports this metric.