



TELSTRA CORPORATION LIMITED

Response to ACCC's Consultation paper on Audit of Telecommunications Infrastructure Assets –
Record Keeping Rules

Public version

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Introduction

Telstra welcomes the opportunity to provide feedback on the ACCC's consultation on the Response to Audit of Telecommunications Infrastructure Assets – Record Keeping Rules Consultation Paper.

Telstra believes the regulatory environment should stay up to date with changes in the industry and continue to be fit-for-purpose. However, the proposed changes to the Record Keeping Rules risks increasing the regulatory burden and compliance cost for industry. As a matter of good regulatory practice, we consider it prudent that the ACCC at the same time as updating regulatory requirements seek to identify whether regulatory requirements can be simplified or otherwise removed. As part of this consultation, there is no wind-back of reporting obligations proposed and we consider this misses an important opportunity to appropriately design an information regime that balances the needs of the ACCC and supports the undertaking of analysis of relevant telecommunications markets with those of the operators who are bound by these requirements.

Whilst Telstra is generally not opposed to the new information requirements, we have 2 main concerns which are discussed below.

1. Changes to reporting of CAN infrastructure to include equipment at end-users' premises will increase the reporting burden of impacted record keepers. We discuss this in Section 2.
2. MNOs should not be required to disclose assumptions relied upon to determine coverage. Mapping coverage is complex, dynamic, and highly specialised and whilst there may be very slight differences and assumptions between carriers driven by their algorithms and computer mapping, these differences are slight and at the margins. Whilst coverage maps provided by MNOs can be compared at a broad level, direct comparisons between coverage maps are almost impossible at the granular level. We discuss the factors that influence coverage maps in more detail in Section 3.

01 Updating the list of reporting entities (Record-Keepers)

Telstra does not have a view on whether the five operators (noted in the consultation) or satellite service providers should be added to the list of record keepers and believes the ACCC is best placed to form a view on reporting entities.

02 Reporting on CAN infrastructure at end-users' premises

Telstra does not support the ACCC requiring record keepers to report on CAN infrastructure at end-users' premises on the basis that that the requirement would impose a significant impost on reporting entities and would not produce meaningful information for the ACCC.

2.1. Significant impost on reporting entities

In extending the reporting requirement the ACCC has assumed that *"information on the location of the end-users' side of the CAN is already present in carriers' existing information systems"*. In Telstra's view, this is not accurate. Telstra has numerous CAN network types, with information housed over multiple systems that have not necessarily been architected to record the level of detail the ACCC is requesting. In implementing the proposed changes, Telstra will incur additional cost and time to augment this in the aggregated form the ACCC is now requiring.

It is also unclear why the ACCC is seeking this information now, given nbn co is now the network wholesaler in the fixed line footprint for both residential homes and businesses. In fixed wireless areas,



we expect new players will continue to emerge with increasing connectivity options in the future for customers. In our view, the information provided under the current rules (including coverage extent and number of fixed wireless sites) is sufficient for the ACCC to observe market conditions. Given the impost producing this information will introduce for record keepers, the ACCC should monitor the situation first and only if there is significant concern that the information is insufficient should the ACCC require record keepers to prepare this information.

Secondly, the ACCC defines end-users' equipment as *“the part of the CAN that is located at or near an end-user's premises – and includes (without limitation) any premises connection device, outdoor unit or network termination device.”* Given the reporting obligation relates to CAN owned and operated by a record keeper, who owns the device at an end-user premises will in certain circumstances determine whether the infrastructure is caught by this new Rule. For example, for a fixed wireless service supplied by Telstra, if Telstra owns the modem, by definition the modem is considered as the Network Termination Device (NTD) and would be captured as part of end-user equipment. However, in the same instance, if the customer supplied their own modem (or ownership transferred from Telstra to the customer during the term of the service), it would be classified as CPE and thus, not captured by the RKR. This complexity will add cost and time to record keepers but more importantly, will also result in incomplete information being submitted to the ACCC of the type of services and level of connectivity options available to consumers. This may lead to incorrect decisions and conclusions by the ACCC.

2.2. However, should the ACCC consider it necessary to impose these requirements, it should be clarified that reporting of CAN infrastructure for radio (fixed) and radio (satellite) end user premises must be equivalent to nbn infrastructure capability.

The ACCC specify that this requirement *“is intended to largely apply to nbn co but also to other providers with a similar type of fixed-line and wireless infrastructure, where the customer is in a fixed location.”* The RKR definitions for FTTC, FTTP, FTTB and FTTN explicitly restrict the requirements to those services that have the capability of delivering a superfast broadband services. However, for radio (fixed) and radio (satellite), the service capability of the infrastructure is not defined creating some ambiguity for record keepers. We request the ACCC expressly identify that any end user CAN infrastructure reporting requirements only relate to infrastructure that is aligned to the capability of nbn co (i.e. capable of supplying a superfast broadband services and exclude that infrastructure that is used to supply voice only and/or non superfastservices) to appropriately reflect the ACCC's intention. If this is not adopted, this will risk capturing additional/unnecessary services therefore increasing the burden on providers and potentially distorting analysis by the ACCC.

03 Mobile coverage map clarifications

3.1. MNOs should only be required to supply coverage maps by technology.

Telstra supports the ACCC's amendments to the Rules requiring MNOs to provide a single coverage map for each technology in operation (i.e. 3G,4G and 5G). Such an approach is consistent with how coverage mapping is displayed on our external website and is communicated to our customers.¹

3.2. Individual frequency maps are duplicative and the requirement for MNOs to supply should be discontinued.

If the ACCC proceeds to adopt a single coverage map per technology, they should also discontinue the current requirements (Rule 5(2)(ii)) that requires MNOs to supply individual frequency band coverage maps. Whilst multiple frequencies can be used to support a particular technology, MNOs typically deploy a primary coverage band (e.g. 850 MHz for 3G,700 MHz for 4G) and this defines the extent of geographic coverage. This primary band is then complemented by other bands (generally higher in frequency) that

¹ Telstra, [Our Coverage & Rollout Maps - Telstra](#)



are designed to provide additional capacity only and do not provide any coverage extension or any sort of contiguous coverage. Therefore, for the purpose of assessing full geographic coverage across Australia, individual frequency coverage maps are largely irrelevant. Continuing to supply this information will only duplicate information provided in the national technology map and the requirement for this should be removed for all MNOs.

If the ACCC is interested in detailed information regarding frequencies and where they are used to enhance capacity, the RKR already requires operators to provide the bands that are in use on each base station. This information (also available in the public domain) should be sufficient for the ACCC to understand our and other operators' use of spectrum by location.

3.3. Standard of Coverage

The ACCC currently considers there is no consistency in the standard of coverage maps reported under the Rules. Telstra does not have any concern with requiring MNOs to provide coverage maps of the same and identifiable standard and is able to supply both outdoor and external antenna coverage maps. This is consistent to how we represent coverage on our external website.

In relation to the definitions proposed by the ACCC, we consider the definition of external-antenna coverage should be altered slightly (proposed variation in bold) to capture coverage extension devices such as the Telstra Smart Antenna device and T-Go devices² which are not physically connected to devices.

*External-antenna coverage means the reach of mobile coverage that includes areas where the connection to the mobile network requires connectivity that has been extended through either an external antenna attached to the mobile device **or coverage extension device**.*

3.4. Reporting on cell type can be misleading

We do not support the ACCC's proposal to amend the Rules to require MNOs to identify the cell type (e.g. macro cell, small cell or other) for each of the active mobile sites in the networks.

Telstra uses a mix of different network technologies to extend our network and provide coverage and capacity to our mobile customers. The option to install small cell vs macro cell or other is carefully selected by each MNO to meet the needs of customers – i.e. whether it is to provide coverage for several kilometres or in fill coverage/in building coverage. The type of solution selected will be impacted by a range of factors including cost of mobile site, its deployment, including terrain, remoteness, availability of physical, electrical and transmission infrastructure and requirements for site access.

The ACCC considers that reporting on cell type would provide a more accurate comparison of network infrastructure in a particular area and provide a more meaningful picture of the primary focus of investments. It would not be accurate to simply correlate cell type with investment trends as each deployment is situation dependant and costs for each deployment can vary significantly depending on the situation. The availability of coverage is the best indicator as to a carrier's investment focus. For example, if a carrier has sufficient macro coverage and/or capacity, the need to deploy a single or multiple small cell will vary.

Finally, in relation to radio (mobile networks), the ACCC already has very granular information such as detailed information on the geographic extent of the network, frequencies employed and mobile sites, therefore we consider detail on type of cell type is of limited utility to the ACCC in understanding the extent of mobile infrastructure and providing analysis of the state of competition in mobile markets.

² Telstra offer a range of Network Coverage Extension Devices including TMSA and T-Go devices, [Network coverage extension devices \(telstra.com.au\)](https://www.telstra.com.au/network-coverage-extension-devices)



3.5. Telstra does not support disclosing the assumptions relied upon by MNOs to determine coverage when providing coverage maps

We understand the ACCC is seeking information on assumptions used by MNOs when determining coverage maps as it may assist the ACCC in making more direct comparisons across networks. We do not support disclosure of the assumptions used by MNOs and overall the differences in predicted coverage maps due to any differing algorithm assumptions is likely to be minimal.

Coverage is determined by three main factors including barriers to signal reach such as terrain and penetration, carrier (and customer specific factors) including frequencies in use, antenna technology vendor capability and customer (device factors). Cellular coverage is extremely complex to predict and measure with numerous factors/assumptions in play that we must meticulously build into coverage prediction models with sophisticated algorithms that have been refined over years as technology changes and with feedback from real world testing factored in. These are updated in a dynamic way. There are no 'assumptions' as such that can be readily identified but rather a series of decisions/complex modelling supplemented by real world testing. It is incorrect to think of coverage maps as built off a set of assumptions. Differences between carriers represented coverage has less to do with 'assumptions' made than actual real-world differences affecting coverage and the effects of any assumptions made are likely to be very minimal.

The key factors that influence coverage map are:

1. Barriers to signal reach and penetration

There are a range of environmental influences between the tower and users, such as terrain, vegetation density and type, building density (e.g. how densely packed buildings and other structures are) and any other physical obstructions to signal that may exist. Some of these such as terrain are reasonably well known and can factor into prediction models, but micro terrain (earthmoving and removal for cuttings etc), vegetation and building density are both less well known and do change over time making them far more difficult to accurately predict. These environmental influences make outdoor coverage a challenge to accurately predict.

2. Carrier (and customer) specific factors

Mobile technology, and its part in determining coverage, is extremely complex. How well or how far mobile coverage can extend (often referred to as propagation) depends on:

- the frequencies in use – lower frequencies propagate better going further and penetrating better into buildings and each carrier use different frequencies.
- the type and configuration of antenna technology used including such things as antenna use their beamwidth and gain, use of and evolution of MIMO (multiple in and multiple out) antenna technology etc all of which varies from carrier to carrier and for the radio network vendors each use.
- features/capabilities implemented by the carrier/vendor, for example whether a carrier uses a vendor who has software/firmware to support range extension and whether this is implemented.

3. Customer/device factors include:

- Sensitivity of device used. Telstra encourages development of "blue tick" devices that are more sensitive and we range more of these compared to other carriers.
- How devices are used is also important – coverage for the same person/location with the same device will be very different for them standing compared to sitting or even how they stand relative to the site serving.



04 Report formatting

4.1. Level of aggregation and further description of infrastructure reported

Telstra has no concerns with providing information in an individual electronic file, representing the aggregate national extent of a network and that record keepers provide a detailed description of each element depicted in the maps.

4.2. Change in the methodology used in preparing reports

We have no concern with the requirements identified in Rule(8) that a record-keeper must advise the ACCC in writing of any variation in the assumptions and/or methodology employed from those adopted in producing the report for the reporting period immediately prior to that year.



Appendix 1: Response to consolidated list of questions

ACCC Question	Telstra Response
1) Is it appropriate to include Aussie Broadband, DGtek, FibreconX, Leading Edge and Springfield City Group in the list of record-keepers set out in Part 1 to Schedule 1 to the Rules?	<p>Telstra does not have a view on whether these operators should be added to the list of record keepers and believes the ACCC is best placed to form a view.</p> <p>We consider the situation is dynamic, with new infrastructure providers entering consistently. This list should be reviewed on regular basis to ensure that the ACCC has the most up to date information available.</p>
2) Are there other providers that should be included in the list of record-keepers? Are there any record-keepers that should be removed from the list at Schedule 1?	<p>Telstra does not have a view on whether these operators should be added to the list of record keepers and believes the ACCC is best placed to form a view.</p>
3) Should satellite service providers be included in the list of record-keepers? If so, which providers should be included?	<p>Telstra does not have a view on whether these operators should be added to the list of record keepers and believes the ACCC is best placed to form a view.</p>
4) Should relevant record-keepers be required to provide information on the location of end-user's end of the CAN? Are the proposed amendments to the RKR appropriate to achieve this?	<p>No.</p> <p>Changes to reporting of CAN infrastructure to include equipment at end-users' premises will significantly increase the reporting burden of operators.</p> <p>See Section 2 for further discussion.</p>
5) Do you have any comments on the requirement for relevant record-keepers to provide a single coverage map for each mobile technology in operation?	<p>Telstra supports this approach and it is our preference to provide a single coverage map for each mobile technology in operation.</p>
6) Do you have any comments on the requirement for relevant record-keepers to report both outdoor and external-antenna mobile coverage? Are the definitions of outdoor coverage and external-antenna coverage in the draft Rules at Attachment A correct?	<p>Telstra can provide both outdoor and external-antenna mobile coverage.</p> <p>A slightly amended definition of external antenna coverage is provided below which captures coverage extension devices.</p> <p><i>External-antenna coverage means the reach of mobile coverage that includes areas where the connection to the mobile network requires</i></p>



	<p>connectivity <i>that has been extended through either an external antenna attached to the mobile device or coverage extension device.</i></p>
<p>7) Should record-keepers be required to report on the assumptions they use to calculate coverage for mobile networks? If not, why not?</p>	<p>No.</p> <p>Differences between carriers represented coverage has less to do with “assumptions” made than actual real-world differences affecting coverage and the effects of any assumptions made are likely to be very minimal.</p> <p>See section 3.5</p>
<p>8) Do you have any comments on the requirements for relevant record-keeper to report on the type of cell operating at each site? Is the cell-type classification proposed in the draft adequate?</p>	<p>Telstra does not support this requirement as we consider the data can lead to incorrect conclusions.</p> <p>Mobile carriers make decisions on the most appropriate method of enhancing/providing coverage/capacity. The type of cell is irrelevant to the customer experience obtained.</p> <p>See Section 3.4</p>
<p>9) Should record-keepers be required to provide one individual file representing the national geographic extent of their networks? Are the proposed amendments to the RKR appropriate to achieve this?</p>	<p>Telstra has no concerns with providing information in an individual electronic file, representing the aggregate national extent of a network.</p>
<p>10) Are the proposed amendments to Rule 7 adequate to ensure a comprehensive interpretation of maps provided under the Rules?</p>	<p>Yes</p>
<p>11) Are the proposed amendments to Rule 8 adequate to ensure the at changes in methodology are not misinterpreted by the ACCC?</p>	<p>Yes</p>