



nbn ’s submission to the ACMA on apparatus licences in the 3.4–4.0 GHz band in remote Australia, Licensing, allocation process, technical framework and pricing arrangements, March 2022 consultation paper

5 May 2022

Final



Thank you for the opportunity to comment on the issues set out in the *'Apparatus licences in the 3.4–4.0 GHz band in remote Australia, Licensing, allocation process, technical framework and pricing arrangements – consultation paper, March 2022'* and consultation package generally.

nbn's spectrum requirements and strategies have been developed to enable it to meet the Government's Statements of Expectations and the Statutory Infrastructure Provider (**SIP**) regime and our role as default SIP for Australia. This includes the Federal Government's expectation that **nbn** will assist in reliably and affordably meeting the current and future broadband needs of households and businesses, including regional and remote areas in Australia, and continue to upgrade the network technologies to support Retail Service Providers (**RSPs**) to meet demand from end users and improve customer experience.¹

As more Australians are changing the ways they work, with more people working from home due to the COVID-19 pandemic, **nbn's** fixed wireless (**FW**) and satellite network services play a critical role in meeting the digital connectivity needs and lifting the digital capability for all Australians. As of 28 April 2022, there were approximately 382,000 and 110,000 active FW and satellite services respectively.²

nbn is required by legislation to operate as a wholesale only, open access, non-discriminatory operator. In doing so, **nbn** has developed wholesale products that RSPs use as inputs to their own retail products. This is intended to level the playing field in the Australian telecommunications industry, enhancing competition and innovation, and providing greater choice for customers across the country.

The Federal Government and **nbn's** \$750m FW network investment

The recent announcement by the Federal Government of a \$750m investment for **nbn's** FW network, comprising of a Federal Government contribution of \$480m and \$270m by **nbn**, will allow **nbn** to fast-track an uplift of the performance of the FW network including the introduction of 5G technology in the millimetre wave (**mmWave**) and increased deployment of cmWave, as well as uplift satellite service performance. This investment will form part of the government and **nbn's** response to the 2021 Regional Telecommunications Review which recommended enhancements to **nbn's** FW and satellite services in response to a step-change in demand for data and broadband services in rural and regional areas.

The key benefits of the \$750m FW network investment are expected to be as follows:

- Improved performance of the entire expanded FW network, with the FW network capable of achieving 'typical wholesale busy period speeds' of at least 50Mbps (download).³
- Improved satellite network performance, due to decongestion of the more heavily used beams with ~120,000 satellite-only premises (including ~25,000 active users) able to access FW, once the FW footprint is expanded. We also anticipate that the satellite network will be capable of offering enhanced data limits for the Sky Muster and Sky Muster Plus product users.
- Subject to industry consultation, potential for RSPs to offer FW products with a possible maximum wholesale download speed of up to 100 Mbps across the entire footprint, with up to an estimated 85% of

¹ See NBN Co Ltd Statement of Expectations 26 August 2021 at <https://www.nbnco.com.au/content/dam/nbn/documents/about-nbn/policies/soe-shareholder-minister-letter-2021.pdf>

² <https://www.nbnco.com.au/corporate-information/about-nbn-co/corporate-plan/weekly-progress-report>

³ The 'typical busy period speed' will be an estimate based on a sample of nbn FW wholesale services and will measure the average speed at certain points in each hour of the busy period between 7-11pm to identify a 'typical busy period speed', in line with the methodology outlined in the ACCC's Broadband Speed Claims Industry Guidance Paper (October 2020).



the footprint also able to access potential maximum wholesale download speed of up to 250 Mbps. This limitation of 85% availability is directly related to **nbn**'s current spectrum holdings. **nbn**'s interest in acquiring more spectrum in the 3.4 – 4.0 GHz frequency range, to address the remaining 15%, is detailed further in this submission.⁴

- Upgrading the regional network will assist in bridging the digital divide, estimating that this initiative could support an additional \$6.1 billion in regional GDP over FY 2022 - 26.⁵

Our interest in the opportunity to acquire 3.4 – 4.0 GHz frequency range spectrum *in remote Australia* falls within the following categories:

- **Delivering all FW network customers in remote Australia the up to 250 Mbps capability.** Acquiring additional spectrum for geographic areas [C-i-C] [C-i-C] to address the estimated 15% of FW network customers that will be unable to access the up to 250 Mbps capabilities to be provided as part of the \$750m FW network investment. [C-i-C] [C-i-C]
- **Long-term customer experience requirements.** Acquiring additional spectrum more generally given the projected increase in traffic volume, the increase in FW customers and the need to meet growing customer experience requirements. The new version 4 WNTDs to be rolled out [C-i-C] [C-i-C] are compatible with this spectrum and the need to have an ecosystem that is compatible with acquired spectrum is critical to meeting demand in a timely and cost effective manner. Given the proposed long term tenure of these licenses, we also need to consider our future capacity requirements as part of our business case for acquiring spectrum in the upcoming allocations.
- [C-i-C] [C-i-C]

[C-i-C] [C-i-C]

This submission is to be read in conjunction with **nbn**'s submission to the AMCA on the draft Five Year Spectrum Outlook 2022-27.

We have provided additional comments on the questions set out in the consultation paper below.

Technical framework

1. Do you have any comments, and supporting additional information, on the proposed technical framework, including the revised AWL LCD, draft RALI MS 47, and updated RALI FX3 and FX19?
2. Do you have any comments on the other issues referred to in the technical framework that have not been resolved in the TLG, such as WBB coexistence with radio altimeters?

[C-i-C] [C-i-C]

We support the proposed nominal assignment priority scheme so that potential licensees have some scope to obtain licences contiguous in frequency and geography with any existing holdings in the band, either via spectrum

⁴ Any new speed tiers or changes to FW products is subject to consultation with industry which may alter the design, contractual terms, product specifications and/or go-to-market approach.

⁵ [\\$750 million investment to 5G-enable nbn® Fixed Wireless to deliver faster speeds to regional Australia | nbn \(nbnco.com.au\)](#)

or apparatus licensing. We note that our interest is in spectrum in the 3.4 – 3.6 GHz frequency range [C-i-C] [C-i-C] to leverage off our existing network ecosystem and enable deployment and an improved customer experience for our FW customers.

We note that our FW network deployment has the characteristics of wide area wireless broadband services being over large, often contiguous geographical areas. However, we also see that area-wide apparatus licences can be used to facilitate our FW network. For example, as demonstrated in our acquisition of our 28GHz mmWave holdings.

Allocation process

3. Do you have any comments on our proposal to use a multi-stage administrative allocation for apparatus licences in the 3.4–4.0 GHz band in remote Australia? Please provide any additional information in support of your views.
4. Do you have any views on the appropriateness of an allocation quantum policy? If an allocation quantum policy is adopted, do you have any views on whether that quantum should be 100 MHz or 150 MHz or some other quantum per single HCIS level 0 cell?

nbn agrees that the total level of demand across all of the geographies making up the remote areas in which spectrum will be made available is unclear. Therefore, we support the use of an allocation quantum policy as opposed to an allocation limit.

If an allocation quantum policy is adopted, **nbn** considers that the ACMA should consider a larger quantum of 200 MHz per single HCIS level 0 cell in areas where demand is anticipated to be lower.

[C-i-C] [C-i-C]

We consider this in line with the Minister's Policy Statement (MPS)⁶ as it would support a variety of use cases, support digital connectivity and investment in regional Australia, support the deployment of new and innovative technology, including 5G; and promote competitive markets.

- As the single national wholesale network operator, we note that our capacity intensive use case, the Government's Statement of Expectations and our obligation as SIP results in our network carrying the majority of fixed line broadband traffic in regional and some remote areas and that we do not hold spectrum in lower bands such as 700 MHz, 800-900 MHz, 1.8 GHz and 2.1 GHz. A quantum of 200 MHz, being one third of the overall spectrum available in this band, would leave a significant volume of 400 MHz of spectrum available for other, less bandwidth intensive use-cases, even where stronger demand may exist.
- 5G technology and other compatible 3.4-4.0 GHz frequency range technologies will offer narrower bandwidth options, as little as 5 MHz, and TDD synchronisation capability to meet reliability and capacity demands of such use-cases, potentially facilitating the coexistence of multiple (more than two) spectrum users within a given geographic area.

We support the use of an 'allocation window' and the proposed allocation principles in circumstances where there is competing demand for spectrum in a geographic area within the allocation window. Given the uncertainties in terms of demand across remote areas, we also support the proposal that a licensee may seek a

⁶ <https://www.infrastructure.gov.au/department/media/news/ministerial-policy-statement-34-40-ghz-spectrum-band> The 4 communications policies specified in the MPS cover: supporting the deployment of new and innovative technology, including 5G; supporting a range of use cases and users; supporting digital connectivity and investment in regional Australia; and promoting competitive markets.



quantum of spectrum in excess of an allocation quantum policy and that the ACMA then considers relevant matters as cited by the applicant and whether those matters justify issuing a licence for a larger quantum of spectrum.

Tenure and renewal

5. Do you have any comments on our licence tenure and renewal policy for AWLs in the 3.4–4.0 GHz band in remote areas?

We support the proposal that the duration for AWLs be limited to 31 December 2030 aligning with the expiration of 3.4 GHz spectrum licence to facilitate potential replanning or defragmentation activity.

We support the ACMA, similar to the approach taken for 26/28 GHz AWLs, including an advisory note on each AWL that notes that when deciding whether to renew a licence, we may have regard to whether the spectrum has been used and if there is unmet demand in the 3.4–4.0 GHz band. We note that activities such as network planning, resource planning and where required, vendor selection and the acquisition of relevant equipment, generally means that spectrum is unable to be used immediately following acquisition.

We also support reviewing the tenure policy for remote area AWLs in line with consideration of whether to renew expiring 3.4 GHz spectrum licences expected to begin in 2024. We would like to flag that long term certainty regarding our spectrum holdings are of significant importance given that our upgrade options and decisions typically involving significant large costs are informed by the available ecosystem and technology options which are limited by the spectrum that is available for use.

Pricing

6. We are proposing \$/MHz/pop tax arrangements for AWLs in this band, similar to AWLs in the 26/28 GHz band, and similar to other area-based licences such as PMTS B apparatus licences, because we believe it to be a simple pricing arrangement well-suited to area-based licences no matter the size of the licence or where it is located. Do you have any other pricing alternatives, or suggestions that may improve upon our proposal?

We support the proposed pricing arrangements and the proposed option of paying the transmitter licence tax upfront or in annual instalments.

Public



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