

The Manager
Spectrum Licensing Policy
Australian Communications and Media Authority
Online submission

Dear Manager

Submission to Five-year spectrum outlook 2024-29 and 2024-25 work program consultation

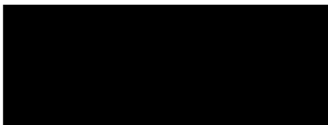
I am pleased to provide comment to the Australian Communications and Media Authority (ACMA), on behalf of the NSW Government on the *Five-year spectrum outlook 2024-29 and 2024-25 work program - consultation draft* (FYSO). The NSW Telco Authority has led this submission with input from the NSW Police Force (NSWPF), Transport for NSW (TfNSW) and the Department of Regional NSW.

The NSW Telco Authority has led this NSW Government submission in line with its responsibility under section 5(c) of the *Government Telecommunications Act 2018* to 'manage and administer applications on behalf of government sector agencies to the ACMA for, or in relation to, spectrum licences under the *Radiocommunications Act 1992*.'

Please find our detailed response to the consultation at Attachment 1 below.

Should you wish to discuss this submission, please contact Georgina Gold, A/Director Whole of Government Connectivity Leadership, NSWTA at [REDACTED]

Yours sincerely

A black rectangular box redacting the signature of Kylie De Courteney.

Kylie De Courteney
Managing Director, NSW Telco Authority

03/05/24

Attachment 1 – detailed feedback to the five-year spectrum outlook 2024-29 and 2024-25 work program - consultation draft

Regional Connectivity

The NSW Government acknowledges that there are numerous approaches to using spectrum allocations, governance and licensing conditions that can support regional connectivity in Australia. As such, it is necessary to be aware of all related Commonwealth and state and territory initiatives in that space.

For example, we recommend that the ACMA maintains awareness of outcomes of recommendations made in the report to the inquiry into co-investment in multi-carrier regional mobile infrastructure, entitled 'Connecting the country: Mission critical' (Report).

Recommendations 1 and 2 of the Report recommend using different spectrum governance and licensing conditions to support regional connectivity.

Recommendation 1

2.50 The Committee recommends the Australian Government review the implications of the current framework for the allocation, management, and use of spectrum for the provision of regional telecommunications services, giving consideration to issues such as non-use and area-wide licensing. The review should identify policy or regulatory changes to support increased coverage and competition in regional, remote and First Nations Australian communities.

Recommendation 2

2.137 The Committee recommends the Australian Government review current licensing arrangements to consider the merits of including licence conditions on mobile network owners and other spectrum licensees of terms and conditions that mandate open access and active sharing solutions in defined circumstances and or geographic locations.

The NSW Government supports the above recommendations and we suggest that the ACMA considers these options in the context of regional connectivity.

In our joint NSW Government submission to the ESL Stage 1 consultation, we submitted that:

...the inclusion of a 'use it or lose it' clause as a licence condition could be explored to allow smaller mobile network operators to use underutilised licenced spectrum where the primary licence holder has no plans to utilise the spectrum band in the near future. This would allow greater use of spectrum band and promote competition by allowing smaller mobile networks service regional areas.

This proposal is reflected in Recommendation 1 above. Rather than a 'use it or lose it' clause, a preferred option might be to apply a 'use it or share it' clause, meaning that if spectrum is not used in a certain area within a specified timeframe, then the ACMA would permit other service providers to use the spectrum.

The NSW Government is supportive of the allocation of mid-band 3.4-4.0 GHz spectrum offered via geographically disaggregated licences to promote innovative 5G services to regional and remote Australia.

In general, licences covering smaller areas with area-focused licenced conditions are likely to result in improved coverage to underserved locations and the ACMA should consider options to implement this. Whilst ACMA can only cancel the entire spectrum licence, a condition requiring the licence holder to geographically fragment their licence to areas served could be implemented. This would serve as one step in a graduated approach. Unused fragments could then be sold, traded or surrendered via existing mechanisms to other operators, either directly by the licence holder or by returning the licence to the ACMA.

In the same vein of geographically fragmented licences, another option to consider is the Ofcom model of Local Area Licences used in the UK. A similar model could be adapted for implementation in Australia to permit other operators to use licence holder's spectrum where it is not being used.

What is a Local Access licence¹?

1.5 A Local Access licence is a mechanism that enables the shared use of spectrum which is already licensed on a national basis to mobile network operators (MNOs), in locations where a particular frequency is not being used.

1.12 Incumbent users' rights to deploy services will not be diluted by our granting of a Local Access licence. The Local Access licensing approach is to allow spectrum that is not going to be used in the foreseeable future to be put to use. However, where Ofcom has granted a licence all parties will be required to cooperate and not cause interference to each other's networks as this is a condition included in both parties' licences.

In summary, the NSW Government supports using licence conditions to encourage more focused attention of service providers to areas that are poorly served. Licence conditions can require infrastructure and/or spectrum sharing. In addition, providing smaller licences or geographically fragmenting existing licences can enable increased service provision in regional areas where it is most needed.

Resilient communications

The NSW Government proposes that the most resilient way to provide communications is to have more than a single point of failure. To this end, we are supportive of mandating domestic roaming between spectrum licence holders. Having an established domestic roaming capability that is always available provides a greater resilience than a framework to establish emergency roaming on request. The associated costs would be lower than temporarily applied solutions due to costs needed to establish and remove the capability and define the required areas.

A roaming capability would be constantly available and to support coverage where there is more than one provider during an outage, offering increased public benefit and safety. Domestic roaming is a proven capability available in many markets internationally and is mandated in the United States² and New Zealand³.

In addition to supporting roll out obligations, roaming arrangements can assist responses to natural disasters by providing coverage to a licence holder's service using the third-party equipment. Having

¹ Ofcom, Local Access Licence: Guidance document

https://www.ofcom.org.uk/__data/assets/pdf_file/0037/157888/local-access-licence-guidance.pdf

² <https://www.fcc.gov/enforcement/adjudicatory-areas/wireless-roaming#> - 47 CFR § 20.12

³ https://comcom.govt.nz/__data/assets/pdf_file/0037/94897/2018-NZCC-14-Final-decision-on-consideration-of-deregulation-of-national-roaming-4-September-2018.PDF

existing arrangements for domestic roaming improves its ability to be used if required during an emergency without delays that may be required by having an emergency roaming arrangement.

Manual roaming can also improve the resilience of telecommunications. Using methods such as Restricted Local Operator Services (RLOS)⁴ in 3GPP technologies, end users can manually elect to join third party networks that may not be operated by their service provider. Such a service could be used as a mechanism in use-it-or-share-it (UIOSI) conditions and would help enable disaster responses by facilitating the local population joining a temporary network whilst the service they subscribe to is suspended. Notably, this model is only possible where there are multiple service providers operating in the area.

Spectrum sharing

The NSW Government supports facilitating sharing via a hybrid spectrum/apparatus licence approach. As mentioned above, we propose a 'use it or share it' clause in licences, where the ACMA would permit other service providers to use the incumbent's spectrum if specified usage levels are not met within a specified timeframe.

We would like to further see encouragement for licences to meet any rollout obligations by engaging with third parties to facilitate neutral hosting arrangements or manual roaming. Neutral hosting by third parties would be preferential to authorising separate services on the same spectrum. This will naturally expand the existing coverage of the incumbent licence holder and increase efficiency.

While spectrum sharing is a viable option, the conditions establishing it would need to include clauses to manage network overloading during times of increased use, such as natural disasters. Infrastructure sharing models present as a more sustainable option to increase coverage and competition.

Spectrum for government requirements

As submitted to previous ACMA consultations, the NSW Government is not satisfied that the ACMA appropriately prioritises public safety. We reiterate the importance of public safety communications in keeping the people and places of Australia safe and refer again to the spectrum requirements of an Australian public safety mobile broadband (PSMB) that have not been met.

Currently the PSMB has an allocation of 5+5 MHz of unusable spectrum in Band 27 where there is no existing or likely equipment ecosystem. Contemporary international benchmarking confirms that countries with mature or maturing PSMB capabilities have applied a quantum greater than 5 + 5 MHz for PSMB, whether this be as dedicated spectrum, commercial spectrum or a combination. For example, the United States, Canada, South Korea and Qatar have allocated 10 + 10 MHz of dedicated spectrum for PSMB.

As spectrum is a finite and highly valuable commercial commodity, PSMB must look to either the Australian Government or commercial markets to obtain access to the spectrum required for PSMB. The NSW Government urges the ACMA to consider valid, affordable spectrum options for an Australian PSMB.

⁴ RLOS is described in ETSI TS 123 401 and is used to meet the requirements of the FCC in networks where domestic roaming arrangements haven't been established. It requires the user to accept connecting to the third party network. <https://www.fcc.gov/wireless/bureau-divisions/competition-infrastructure-policy-division/roaming-mobile-wireless>

In addition, the NSW Government asserts that the 50 MHz within the 4.9 GHz band under the PSER Class Licence should be maintained for public safety purposes. More detail is provided below.

4.0 GHz (4400-4990 MHz)

The NSWTA responded to the consultation on the 'Proposal to remake the Public Safety and Emergency Response Class Licence' (PSER Class Licence) in July 2023. The NSWTA asserted that the 50 MHz within the 4.9 GHz band under the PSER Class Licence should be maintained for public safety purposes. This sentiment is strongly supported by the NSWPF, which is the most prevalent user of this spectrum in NSW.

The NSWPF asserts that the current allocation of 50 MHz under the PSER Class Licence should remain for public safety and emergency response purposes. The NSWPF states that when evaluated under public interest criteria, the ACMA should consider the public benefits it generates and their enormous impact on the public safety under the existing arrangements. NSWPF is firmly of the view that the economic and social benefits delivered to the community by ESOs using this band outweigh any commercial interest associated with it.

NSWPF currently uses the PSER Class Licence for wideband air to ground wireless communication (aircraft to fixed and portable ground receiver stations) and fixed point to point and mesh networks services to support major events and critical incident responses.

NSWPF uses 5 MHz channels within the 4940 MHz to 4990 MHz band for airborne video surveillance to support the investigation of major crime, for emergency management and dignitary protection operations. At least one channel will be used for 2-3 hours daily. These channels may be used for much longer periods to support police operations and for dignitary protection. The current fixed receiver sites allow NSWPF aircrafts to operate across the Greater Metropolitan Area and west to Bathurst. NSWPF aircrafts do operate across the state and temporary receive sites may be set up in rural NSW if operationally necessary. The demand for live video streaming police operations is increasing and NSWPF is looking to expand its coverage area.

Various units within NSWPF use the 4.9 GHz band for point-to-point fixed links and MANET mesh networks. While these are irregularly deployed, they are designed to stand up ad hoc networks rapidly in the event of a serious incident to support police operations. NSWPF also uses these fixed links for policing during major events such as V8 Super Car events across the state. These systems are used jointly with other law enforcement agencies/units within the country. NSWPF has these systems installed in covert vehicles to immediately distribute the video products available.

The State Coroner of NSW has made following recommendation about audio and video surveillance in relation to the inquest into the deaths arose from the Lindt Café siege in Sydney:

Recommendation 13: Audio and video surveillance I recommend that the NSWPF review its personnel arrangements and structures for the monitoring of surveillance devices, including number of officers allocated to a listening or reviewing post for monitoring purposes and the demarcation of roles, including primary monitor, scribe/log keeper, and disseminator, **I also recommend that clear communication channels be established for reporting data captured during such surveillance, including via integrated electronic intelligence sharing platforms or applications.**⁵

⁵ State Coroner of NSW, May 2017, "Inquest into the deaths arising from the Lindt Café siege, Findings and Recommendations", pp. 22-23. [<https://www.lindtinquest.justice.nsw.gov.au/Documents/findings-and-recommendations.pdf>]

This recommendation was made with respect to the observation of time taken to set up adequate visual coverage of the incident scene. The report highlights the importance of situational awareness in the command centres with live video streaming with clear communications channels.

Therefore, due to its ad hoc and rapid deployment requirements, NSWPF strongly believes the continuation of PSER Class Licence. While NSWPF is generally supportive of enhancing use of this band to be more efficient and effective, ACMA should consider that with rising demand for live videos among ESOs including NSWPF, utilisation of this class licence band will continue to increase within next few years. The pressure on the band is amplified by the recent capacity of mobile phones to use 4.9 GHz, meaning that commercial operators could seek to acquire some or all of the band for mobile network use.

The NSWTA is leading a NSW Government effort to formulate plans to better manage the 4.9 GHz band and achieve improved efficiency of use. Some responders to the 2023 ACMA consultation to the remake of the PSER Class Licence recommended increased management of the 4.9 GHz band, including through a band manager. The explanatory statement to the remake licence referred to such recommendations, and although the ACMA did not decide to implement a band manager, they noted that a more detailed, coordinated proposal would be considered.

Some submissions suggested the instrument should include the power for the ACMA to nominate a 'manager' to coordinate the operation of radiocommunications devices under the instrument within a particular State or Territory. The ACMA did not make any changes to the instrument as a result of these submissions. The ACMA considers that public safety agencies may be able to coordinate themselves without the need for the instrument to make provision for a manager to be appointed. However, the ACMA is willing to consider this suggestion further, if public safety agencies were to prepare a coordinated, detailed proposal.⁶

The NSWTA recommended "to introduce a phased coordination approach to match against the uptake in this band." With provisions for 5G in the class licence, the development of new technology to use the band and the rising demand for spectrum, use of the 4.9 GHz band will very likely increase and so will require a more coordinated approach to managing use. Accordingly, the NSW Government may approach the ACMA in the near future with a proposal.

Intelligent transport systems

On behalf of the NSW Government, TfNSW will predominantly assume the responsibility of ensuring the right governance, systems and spectrum is available to support effective operations of intelligent transport systems (ITS) as they begin implementation in Australia. In addition to 5.9 GHz spectrum available for ITS under the class licence, there will be several other spectrum considerations for applications such as e-Calls, internet applications and other vehicular communications systems applied by vehicle distributors.

The NSW Government trusts that the ACMA will continue to monitor developments in ITS, will consult as necessary and implement governance that enables effective engagement of related markets while ensuring that there is spectrum available to support vehicle and citizen safety.

Expiring spectrum licences

The NSW Government will provide a more detailed response to the expiring spectrum licences consultation; however, we offer these initial points.

⁶ [Explanatory Statement to the Radiocommunications \(Public Safety and Emergency Response\) Class Licence 2023.](#)

The NSW Government supports the consultation process for the 1800 MHz expiring spectrum licences. However, the ACMA should recognise that the band is vital for critical communications for transport operations and that the current timing of the consultation does not show adequate awareness of government funding cycles. In simple terms, if the spectrum was not reallocated to TfNSW, and to other transport agencies across Australia, there would be a huge risk to rail operations and to public safety because government transport agencies would not have sufficient time to procure alternative solutions through standard government processes.

The long-term affordable re-allocation of the 1800 MHz spectrum band is critical for the continued safe and efficient operation of rail services in Australia, as well as achieving national interoperability, productivity and decarbonisation objectives. The failure to renew all or part of the spectrum will have a whole of operations impact on passenger and freight services within NSW metro area.

Implementation Stage 1900 MHz (1880-1920 MHz)

In addition to the above regarding 1800 MHz, TfNSW is aligned in its approach to 1900 MHz spectrum with other state transport agencies as they seek implement this additional spectrum to enable interoperability of the Future Rail Mobile Communication System (FRMCS) across Australia.

The Australian Rail Association (ARA) in its submission to the ACMA on the *Replanning of the 1880 – 1920 MHz Band: Options Paper Consultation* advocated for preservation of existing allocations and spectrum in the 1900 MHz band to be made available for rail purposes in line with the EU's allocation. The rationale included:

Global System for Mobile Communications – Railway (GSM-R) is unlikely to be supported beyond 2030.

Compared to GSM-R, the FRMCS offers a higher quality of service and is more cost effective. The system is also planned to deliver more in terms of applications such as Automatic Train Operation (ATO) or the Connected Driver Advisory System (C-DAS).

To enable the parallel operation of GSM-R and FRMCS during an approximately 10-year migration phase, and to benefit from new railway critical applications during and beyond migration, access to a sufficient harmonised spectrum for RMR is essential.

The NSW Government supports the allocation of spectrum within the 1900 MHz band along with the existing 1800 MHz allocation to Australian rail agencies to enable implementation of the FRMCS and the improved capability capacity that it will bring.

RNSS retransmission technologies

The NSW Government supports the amended regulation to authorise scientific trials of radionavigation satellite service repeaters (RNSS) in tunnels to enable uncompromised communications for emergency management and public safety purposes. We welcome the introduction of long-term RNSS licences once consultation is complete.