

NSW Government submission

Five-year spectrum outlook 2025-30 and 2025-26 work program consultation

April 2025

The NSW Government appreciates the opportunity to provide feedback on the Australian Communications and Media Authority (ACMA) Five-Year Spectrum Outlook 2025-30 (FYSO) and 2025-26 work program consultation. NSW Telco Authority (NSWTA) has led this submission with input from the Department of Primary Industries and Regional Development (DPIRD) and Transport for NSW (TfNSW).

Executive Summary

The key positions being advanced in this submission include:

- Spectrum is essential to government service delivery and its allocation must be prioritised over commercial interests
- A Commonwealth-led state and territory forum on strategic spectrum planning is called for so decisions on spectrum allocation are made in the public interest, supporting operational critical communications across emergency services, transport and other essential services.
- Spectrum for essential government services should be based on cost recovery, with payment by instalments to align to government budget processes.
- Dedicated spectrum for Public Safety Mobile Broadband (PSMB) is an essential need that will strengthen the provision of critical communications. ACMA has set-aside Band 27 spectrum for PSMB, but it is currently unusable, while the preferred and functional Band 26 was auctioned to commercial carriers. It is important that ACMA continues to recognise this need, and any allocations made for PSMB are easily deployable and supported by the broader telecommunications industry.
- The 1800 MHz spectrum band should be preserved for critical NSW government communications. In addition, the 1900 MHz spectrum band should be allocated to the NSW Government to enable public safety and interoperability of the Future Rail Mobile Communication System (FRMCS) across Australia.
- Roaming agreements between mobile operators to enable always-on roaming for emergency services and temporary disaster roaming (TDR) for general public in emergency scenario continue to be fundamental to supporting both ESOs and our broader community's connectivity.
- Regional connectivity can be further enhanced through spectrum sharing with the establishment of a secondary licensing framework to encourage new providers into underserved areas.

Introduction

Spectrum is a scarce and highly valuable resource, with a competitive market driven by the rapid growth and increasing reliance on telecommunications for commercial and digital government services, all of which require access to spectrum. As Australia continues to transition towards more advanced technologies, the need for spectrum will continue to increase, reinforcing its critical role for both essential public services and economic development.

As a strategic asset and enabler of both government and commercial services, it is vital that the allocation, licensing and management of spectrum is efficient and effective. The *Radiocommunications Act 1992* (Cth) sets out how this is achieved; through the promotion of

the long-term public interest from the use of the spectrum through the management of the spectrum in a manner that:

- (a) *facilitates the efficient planning, allocation and use of the spectrum; and*
- (b) *facilitates the use of the spectrum for:*
 - (i) *commercial purposes; and*
 - (ii) *defence purposes, national security purposes and other non-commercial purposes (including **public safety and community purposes**); **emphasis added** and*
- (c) *supports the communications policy objectives of the Commonwealth Government.*

This approach sees the public interest serviced by balancing the needs of stakeholders e.g. consumers, businesses, industry and government agencies in terms of the allocation, management and licensing of spectrum. For NSW, this means ensuring guaranteed, affordable access to spectrum to support public safety and the delivery of essential government services such as transport, health and social services, utilities, education and environmental management.

The NSW Government asserts that public safety and essential government services should be awarded a higher priority in spectrum allocation and/or management decisions.

As the NSW Government's requirement for spectrum continues to grow, equating the spectrum interests of states and territories with commercial licensees without due regard to the importance of public safety and essential service delivery has resulted in public safety services at risk of being left in spectrum deficit, especially with respect to operational communications and emergency response.

Given the complexity of the current system, securing spectrum for essential government services will become harder. We therefore recommend that the ACMA review its approach to spectrum management and licensing so that public safety is given priority to commercial purposes. This will secure the future delivery of essential government services. In this respect, NSW agrees with our Victorian counterparts that this could be achieved through legislative and/or regulatory changes that prioritise spectrum and ensure its affordability for public safety and essential government services and actively plan for expected growth in demands for spectrum for these purposes.

The NSW Government presents alternative approaches to spectrum management and licensing to meet the needs of states and territories; key of which is closer and earlier engagement between the ACMA and the states and territories and greater involvement as a crucial partner in spectrum forward planning for state and territory governments.

Spectrum for government requirements

Spectrum is a critical resource for government, enabling the delivery of a range of essential government services that keep people and places safe, provide affordable public transport options and manage power, water and waste. If continuing access to spectrum is not safeguarded, the ability of state and territory governments to deliver these critical services would be severely affected. For example, as new transport routes are established, radio communication connectivity between vehicles and stationary infrastructure, including signals and level crossings, will be required to reduce accidents and improve safety. Effective

management and allocation of spectrum for government services is needed to maximise its benefits across these sectors for the people of NSW.

This requires prioritisation of state government requirements for the spectrum to support public safety through essential government services now and into the future and that guaranteed, affordable access to spectrum for state and territory governments **should take precedence** over commercial interests.

Enhanced engagement with state and territory governments

The NSW Government seeks more active collaboration and early involvement in strategic planning with the ACMA regarding spectrum needs for essential government services. While the ACMA actively consults on a wide range of spectrum related topics, by this stage ACMA's positioning is advanced, and together with the relatively short consultation timeframes, there is limited opportunity to prepare a meaningful and/or collective (state-wide or multi-jurisdictional) response to the consultation.

This submission calls for an ongoing Commonwealth-led state and territory forum to allow for more effective consultation and input from state and territory governments. The forum would have a strategic policy focus and would enable influence early in ACMA's planning stage. This approach was endorsed by state and territory governments in the Spectrum Working Group Options Paper which was presented to the Regional Connectivity Ministers' Roundtable (RCMR) on 23 October 2024 and is currently being considered by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA).

The upcoming expiries of prime spectrum bands is of deep interest to NSW, and we advocate for a major restacking across multiple bands to free up a national allocation of spectrum to meet public safety demands. Appreciating this is technically complex, a strategic, long-term approach is required. NSW recommends the Commonwealth, in collaboration with states and territories, codesigns an essential services spectrum strategy to specifically set out and address the spectrum needs and challenges of Commonwealth, state and territory governments.

This approach would provide the following benefits:

- Facilitate early and better understanding of both ACMA and state and territory priorities and support improved planning for spectrum requirements to meet the needs of public safety and essential government services.
- Recognise that state and territory governments operate differently from, and perform separate but critical functions, to commercial entities, so should be treated differently in spectrum allocation processes.
- Greater collaboration and/or alignment between the Commonwealth, states and territories in determining most suitable approach for spectrum licensing, management and pricing for essential government services.
- Finally, closer collaboration with the ACMA can provide state and territory governments with more allocative certainty and support appropriate investment of public funds in spectrum for essential government services.

Pricing for essential government services

Acknowledging the importance of commercial services, including providing critical services such as Triple Zero and other life-saving information transmission services, spectrum allocation decisions should not be geared to achieving the highest financial returns at the

expense of taxpayers. Instead of competing with commercial entities in open auctions, the NSW Government recommends that a separate approach be adopted in relation to the pricing of spectrum for essential government services.

Alternatives to market based competitive processes were identified in the Spectrum Issues Paper for the Regional Connectivity Ministers' Roundtable (RCMR) and included cost recovery pricing and options to pay licence fees in instalments to ensure low cost-high certainty access to spectrum for essential government services. These alternatives represent the unified voice of state and territory governments seeking support from the Commonwealth to deliver vital essential services.

Cost recovery pricing

Cost recovery pricing, where government users only pay the administrative and regulation cost components of a spectrum licence price (i.e. licence tax and service charge), provides price certainty and would reduce the financial burden for state governments.

This pricing model recognises the unique value of government spectrum usage for delivery of not-for-profit public services. Given that they deliver a significant public benefit, the impact to the taxpayer should be minimised along with the cost burden for other state government services that exist with current pricing arrangements. The benefit of this model is that it ensures price certainty and supports more informed internal state government budget planning.

For a cost recovery pricing model to be implemented, allocation decisions need to be made in advance of, and separate to, a competitive market-based allocation process. The NSW Government recommends the following approach:

1. Allocations must be made to align with a strategy that prioritises essential government services
2. Once allocations have been made to government, an appropriate cost based on a cost recovery model is applied
3. Remaining spectrum is then subject to a competitive market process

To align spectrum fees with state and territory planning and budget cycles, payments by instalment would mitigate the need for significant upfront payments for licences.

Public safety and Public Safety Mobile Broadband (PSMB)

Spectrum is critical to public safety, enabling effective communication and data exchanges between Emergency Services Organisations (ESOs) and other agencies with emergency management responsibilities. Given the frequency, severity, duration, and complexity of natural disasters are increasing as witnessed by the 2019-2020 bushfire season, 2021 and 2022 flood seasons in NSW and recent ex-Tropical Cyclone Alfred, ESOs increasingly rely on data, analytics and real time information exchange to conduct operations that keep the people and property of NSW safe.

ESOs require continuous (24/7) roaming also known as always on-roaming. Always-on roaming supports the resilience of ESOs' communications during both business-as-usual activities and when preparing and responding to natural disasters and major events. Planned Temporary Disaster Roaming (TDR) is not sufficient to meet ESOs' needs, however, it remains an important capability to support community connectivity during disasters/emergencies.

Being able to access digital services on the move and in the field is fundamental to contemporary law enforcement, intelligence, and emergency response operating environments. Digital services are used now but to be relied upon in an operational context, they must meet mission critical standards. They must **be immediate, reliable and have prioritised, uninterrupted access** (in short be always on, always available). Commercial services do not currently offer this so digital applications cannot be built into operational environments.

PSMB is the solution for this and will modernise Australia's critical communications capabilities by providing mission critical mobile broadband services, enabling ESOs to use high bandwidth data, as well as voice services. On top of priority, pre-emption and a quality of service beyond existing commercial offerings, PSMB will also provide cross-jurisdictional interoperability and efficient coordination of responses across organisational and geographic boundaries.

Ensuring adequate spectrum for PSMB is vital to its successful operation and NSW has previously voiced that the Band 27 spectrum reservation for PSMB is unsuitable due to its prohibitive establishment costs.

Dedicated spectrum for PSMB is not only required to guarantee network access and maintain connectivity, but it also provides additional capacity when commercial networks are congested in a multi-carrier or hybrid delivery model. Tactical deployments of mobile radio assets using dedicated spectrum for large incidents and events ensure no interference with commercial networks, and remote coverage where commercial networks are not present but non-commercial networks are available.

Dedicated spectrum also enables rapid roll out of 'deployables', saving the time required to integrate the deployables into the shared commercial Mobile Network Operators' (MNO) spectrum and allows for the establishment of permanent coverage in higher risk areas. Having a known and consistent frequency allows for ESOs to purchase and lobby for specialised equipment that better meets their needs, as seen with High Powered User Equipment (HPUE) used in the United States of America's FirstNet, which supports ESOs with 3GPP compliant equipment with a greater range. Dedicated spectrum also allows for the deployment and use of equipment for emergency alerts without the possibility of interfering with existing established networks.

The requirement for dedicated spectrum was specified in the Radio Access Network (RAN) sharing component of the 2018 Council of Australian Government agreed PSMB Roadmap's preferred PSMB model. This was evidenced in the successful proof-of-concept led by NSWTA on behalf of all jurisdictions, which recommended 'the most efficient and effective approach to implementing PSMB'. Dedicated spectrum for PSMB also facilitates network security through restricted access.

Contrary to the above, the model proposed by the National Emergency Management Agency (NEMA) for an 'initial PSMB implementation' is predicated on access to spectrum via commercial arrangements with MNOs. However, NSW remains committed to the view that dedicated national spectrum is technically beneficial to PSMB. Critically, it is also fiscally beneficial to PSMB as using spectrum as a negotiating tool with MNOs will help drive down pricing of the PSMB, reducing the overall cost to the Commonwealth, states and territories.

This view was echoed by Victoria and South Australia via the Regional Connectivity Ministers' Roundtable.

Public Safety Class Licence

In the consultation paper, the ACMA notes the growing interest in the 4400-4990 MHz band for commercial wireless broadband purposes. The NSW Government emphasises the importance that the range of 4940 to 4990 MHz (4.9 GHz) remains exclusively for the purposes of facilitating or performing a public safety or emergency management functions.

NSW ESOs regularly rely on 4.9 GHz for ad hoc public safety or emergency management communications e.g. NSW Police Force uses the band for video links from air (helicopter) to ground stations and other ESOs usually use it for mesh systems to expand coverage where there is none. This is critical for rescue operations in deep valleys beyond other network coverage or during disasters where there are network outages.

As the band is used to support emergency operations in the current environment, 4.9 GHz could also play an important role in augmenting coverage of a future PSMB.

It is the view of the NSW Government that this band must be secured for public safety and emergency management purposes, otherwise the capacity of ESOs to manage disasters and emergencies and to undertake rescue operations will be significantly compromised, risking life and property.

Additionally, to support the needs of essential government services, the *Radiocommunications (Public Safety Emergency Response) Class Licence 2023* (PSER Class Licence) could be expanded to cover more frequencies than just the current 4.9 GHz to support more types of services required by ESOs. This could include some of the frequencies covered by other class licences that operate under the basis of “no protection”. Including some of the frequencies designated for *Radio Local Area Network* transmitters could be utilised as a supplementary PSMB service in certain conditions.

As a further example, the tool described in the next section could be operated under portions of frequencies permitted for use under the *Low Interference Potential Devices* class licence, although it may require different power limits and conditions.

Portable cell capabilities for emergency messaging and search and rescue.

The NSW Government commends ACMA for allocating NSWTA a Special Circumstances Apparatus Licence to support use of portable cell capabilities for emergency messaging for saving lives and protecting property under the immediate threat of ex-Tropical Cyclone Alfred. This capability has been described as a ‘game-changing’ emergency management tool. It can broadcast emergency warning SMS messages to all supported devices in an area, and in doing so, mitigate serious public safety risks by sending emergency alerts in areas where the national alert system is not functional or unavailable.

Under this licence, and following emergency management protocols, the NSW State Emergency Coordinator authorised the use of the portable cell’s emergency broadcast capability to issue alert messages when MNO networks were down during the cyclone.

In addition to the alert messaging capabilities, the devices can also be used outside of large-scale disasters as a missing persons search tool, supporting search teams from the ground or the air by attempting to connect with specific, known mobile devices. The capability operates in the absence of MNO network coverage or availability, such as in remote areas where a hiker is missing, filling a critical gap to significantly reduce the time taken to locate missing persons.

Following the successful deployment of the capability during ex-Tropical Cyclone Alfred, NSWTA is keen to continue working with the ACMA to identify the appropriate regulatory

mechanism to authorise the operational use, testing and operational scenario training of this category of emergency management equipment on an ongoing basis.

Transport

The NSW Government reiterates our position to the previous FYSO that Australian rail operators should retain access to the 1800 MHz spectrum that they currently use.

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

To this end, we recommend close consultation with government transport authorities across Australia, including TfNSW in NSW, in relation to:

- Creating a framework to support rail services in the 1900–1910 MHz frequency range
- Formalising arrangements for rail services in 1.9 GHz band in Q3 2025

Given the release of the next stage of the expiring spectrum licences (ESL) has occurred during the FYSO consultation, a more detailed response will be provided in NSW's submission to the ESL Stage 3 consultation.

Radionavigation-satellite services

The NSW Government considers work related to radionavigation-satellite services, in tunnels as well as other applications, to be of significant interest and encourages the ACMA to continue efforts in developing standards and suitable licences for operation of this class of systems.

Private networks

While ACMA states that “millimetre wave (mmWave) spectrum in the 26 and 28 GHz bands and mid-band spectrum categories in the 3.4–4.0 GHz band are especially well suited” for use of WBB for private networks, the NSW Government notes that some government operated private networks, such as the Public Safety Network and public transport networks, require large coverage areas and so require lower frequency bands.

The NSW Government highlights that some private networks will need to support roaming, or similar mechanisms, enabling devices to connect to other public and private networks in provision of critical public transport services. The NSW Government trusts that the ACMA will support access to mobile network codes and national numbers necessary for interoperability with other private and public networks as required.

Emerging aviation technologies

The NSW Government, along with other states and territories, foresees increasing use of drones to support our operational and communications requirements. Examples include drones used to provide surveillance of large fires to support emergency management operations, and drone technology used by TfNSW to monitor road traffic and major events, enhancing incident response efficiency and augmenting the management of major events in NSW.

The NSW Government seeks ongoing consultation to form an agreed approach to the related regulatory and licensing mechanisms.

Regional connectivity

Regional connectivity is a key priority for the NSW Government and our position has been documented in various submissions to Commonwealth consultations including the Regional Telecommunications Review and the Regional Mobile Infrastructure Inquiry and is reflected in the NSW Connectivity Strategy. More recently, the NSW Government has developed a Digital Inclusion Strategy to ensure that all people of NSW have more opportunities to access, afford and safely engage with digital technologies, services and online resources.

In this section, we discuss some key areas where spectrum can influence regional connectivity outcomes.

Universal Outdoor Mobile Obligation (UOMO)

The NSW Government welcomes the introduction of the Universal Outdoor Mobile Obligation (UOMO) as a progressive step towards improving regional communications. Including mobile services in the universal services obligation is consistent with recommendations of the NSW Government in our submission to the ‘Better delivery of universal services’ consultation in February 2024.

While the Uomo will revolutionise regional communications by providing near ubiquitous outdoor coverage; we caution that there is a risk of exacerbating the digital divide between regional and urban areas given that the ubiquitousness will be achieved primarily through direct to device satellite services. Satellite services currently lag in capability compared to terrestrial services, with lower throughput and limited capability. Dependence upon satellites to meet coverage obligations could result in regions across Australia where service is only available outdoors, compared to users of terrestrial networks that do not have this limitation. Appreciating the market may solve this over time, NSW’s view is that consumers in regional and rural areas should not experience poorer services than their metro counterparts.

Spectrum sharing

We note ACMA’s announcement on 6 March 2025 that it will work with the DITRDCA to explore a secondary licensing framework to facilitate place-based services using parts of the spectrum that incumbent licensees are either not using or do not plan to use over the short-to-medium term. We also commend the ACMA’s disaggregation of spectrum and apparatus licenses in the 850, 900 MHz and 3.4 to 4.0 GHz range to offer spectrum in regional and remote areas of Australia.

The NSW Government strongly supports progression of the secondary licensing framework and has advocated for the use of alternative licensing to enable spectrum sharing for several years via submissions to previous FYSOs, the expiring spectrum licenses consultations and the Regional Telecommunications Review. This includes the potential to adopt the Local Access Licence model used in the UK, which enables the shared use of spectrum which is already licensed on a national basis to MNOs, in locations where a particular frequency is not being used.

We also note that the secondary licensing framework approach is aligned to Recommendations 1 and 2 of the report to the inquiry into co-investment in multi-carrier regional mobile infrastructure, entitled ‘Connecting the country: Mission critical’, released in November 2023.

The NSW Government will continue to call for geographically fragmented licensing to encourage new providers into underserved areas.

The NSW Government continues to strongly advocate for a ‘place-based’ approach to licensing and supports making the establishment of operators that serve smaller geographical areas more feasible through the adoption of mandating domestic roaming. This would enable smaller operators to build out networks with specific focus and allow their customers to use other operators in other areas. Inclusion of mandatory roaming on the renewal of the expiring spectrum licences would drive innovation and greater infrastructure sharing between mobile operators by encouraging spectrum sharing through MOCN arrangements.

Further investigation of the potential for domestic mobile roaming in regional areas is recommended. Currently in NSW in some locations there is only one carrier’s network available at one location, with a different carrier’s network available at another location in the same region. This patchwork of non-complementary coverage affects how people can move across the regions and access mobile coverage. To obtain full coverage would require someone subscribing to multiple carrier networks and operating different mobile numbers which is impractical.

Finally, we note that roaming continues to be considered important for mobile competition in international markets¹. The NSW Government considers that an established and constant roaming service to be a simpler, more cost-effective method of providing ‘Temporary Disaster Roaming’, by utilising well established and global methods.

¹ https://comcom.govt.nz/__data/assets/pdf_file/0026/326843/2023-Review-of-National-Roaming-Final-Decision-30-August-2023.pdf