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AMTA Submission

Australian Communications & Media  
Authority

Consultation: Remaking the Fixed  
Licence LCD and revised arrangements  
for the 3.4–4 GHz band



## About AMTA

The Australian Mobile Telecommunications Association (AMTA) is the peak industry body representing Australia's mobile telecommunications industry. Its mission is to promote an environmentally, socially and economically responsible, successful and sustainable mobile telecommunications industry in Australia, with members including the mobile network operators and service providers, handset manufacturers, network equipment suppliers, retail outlets and other suppliers to the industry. For more details about AMTA, see <http://www.amta.org.au>.



## Executive Summary

AMTA thanks the ACMA for its efforts in preparing the consultation package on *Remaking the Fixed LCD and revised arrangements for the 3.4-4 GHz band* (“the consultation”), and for the opportunity to respond. In general, AMTA supports the ACMA’s proposals. We commend the ACMA for its thoroughness in detailing all proposed changes in the various documents in the consultation pack, which in general have been very well explained in the consultation paper (bar a few exceptions which are discussed in this response).

That said, there are certain aspects of the proposed amendments which (a) require explanation or clarification of the intended purpose/outcome, as it is not clear, (b) require more work to refine the process or approach, or (c) we disagree with. Some of the main issues, among others, are summarised below:

- It is not clear why the ACMA has opted for the rarely-used Point to Multipoint System (PMPS) licence subtype as opposed to the far more commonly-used P-MP licence subtype. Some of the proposed changes—including the introduction of the expression “remote mobile station”—could be applicable to wireless broadband services in other bands operating under P-MP licences.
- While we strongly support the ACMA’s proposal to initially restrict licence tenure to 13 December 2030, we believe that the ACMA’s proposed Advisory Note does not go far enough to address our concerns that HL WBB licences could potentially hinder a future band consolidation/defragmentation exercise.
- There is some ambiguity around whether the 100-metre restriction in the proposed service area refers to the coordinates of the ACMA Site recorded on the licence, or to the controlled premises more generally.
- It is also unclear whether the ACMA intended to permit multiple base stations to operate under a single licence with a single Station recorded at a nominal Site that is representative of the controlled premises. If so, the registration exemption requirements proposed in the *Radiocommunications Licence Conditions (Area-Wide Licence) Amendment Determination 2025 (No. 1)* (“the RRL Amendment Determination”) do not support this, as they require each base station to be registered.
- We have further suggestions and requests for clarification relating to RALI MS 47, including (a) the “reverse-device boundary (DB)” calculations in Appendix F, (b) the geographic discontinuity policy, (c) the provisions for underground operations authorised under PTS licences, and (d) the provisions for “cells-on-wheels” (COWs).
- We ask the ACMA to consider whether earth station receivers in 3950-4000 MHz can be authorised under Earth Receive licences as opposed to AWLRX licences.

- As per our response to the ACMA’s recent consultation *Proposal to remake the Radiocommunications (Interpretation) Determination 2015* (“the I.D. consultation”), we would like to see the expressions related to the AWL licence type tightened up.

In the body of this response, we attempt to deal with each legislative instrument and RALI in its own chapter, although we note that some aspects of the consultation are dealt with in or affect more than one document.

We also have concerns about the ACMA’s proposed amendments to the Radiocommunications (Register of Radiocommunications Licences) Determination 2017 (“the RRL Determination”) to exempt certain defined stations operating under a fixed licence from having their details recorded on the Register of Radiocommunications Licences (RRL). These concerns are addressed in the relevant section of this response.

# Remaking of the Fixed LCD

## Support for proposed changes to the Fixed LCD

We support the ACMA's proposal to remake the *Radiocommunications Licence Conditions (Fixed Licence) Determination 2015* ("the Fixed LCD"). We have reviewed the draft Fixed LCD 2025 and support, or at least have no objection to, the following specific proposals:

- Inclusion of conditions to prevent (a) the operation of stations within spectrum space subject to a re-allocation declaration (from the day the re-allocation period ends) and (b) the operation of stations within spectrum-licensed spectrum space.
- Removal of references to standards and omitting conditions related to compliance with the General Equipment Rules—since these are already mandatory in accordance with paragraph 107(1)(d) of the *Radiocommunications Act 1992* ("the Act").
- Subsections 9(5), 10(3) and 11L(3) of the Fixed LCD 2015 require that (a) remote stations in CBDs and in 1-275 GHz, (b) remote control stations (RCS) in CBDs and in 1-275 GHz, and (c) RCSs in a town and in the VHF band, have a maximum antenna height of 30 metres above the average surrounding ground level, and that "*a device must be fitted between the transmitter and the antenna that provides intermodulation performance equivalent to, or better than, the intermodulation performance achieved by a 20 dB in-line attenuator*". The ACMA proposes to omit these from the Fixed LCD 2025, and instead include general guidance on measures to reduce intermodulation interference risk involving remote stations and RCS in RALI FX 16, with recommendations (as opposed to mandatory requirements) to limit antenna height and install such devices (as described above). The advice is not limited to just CBDs, rather to "*areas having a relatively high concentration of transmitters and receivers*".
  - Editorial correction: in the draft revision to RALI FX 16, the reference to section 14(4) of the Fixed LCD 2025 should actually be 15(4), and the reference to 9(3) should be deleted.
- The expansion of the reference to the 3400-3700 MHz band, to 3400-4000 MHz.
- We do not have a view on the omission of conditions on short range operation or conditions on transmitter output power for distance education services.
- We are comfortable with the changes to most definitions, and note that there is a general language change from "*authorising the holder to operate*" to "*that authorises the operation of*". We also agree with the useful explanatory notes that the ACMA has proposed to add, notably for licence types that support broadcasting operations.

- We appreciate the clarification that, where there are inconsistencies between the licence conditions<sup>1</sup> and relevant conditions in the Fixed LCD 2025, that the licence conditions prevail.
- We support the significant simplification of the conditions for P-MP licences on MF or HF frequencies, and the application of the “no interference” condition to all fixed licence types relating to broadcasting services, all at once (SOB, TOB, TOB network and TOB system licence types).
- We support that, apart from the (relatively minor) changes outlined in the consultation paper, there are no major changes proposed to the conditions applicable to the various types of existing fixed licence types.

## Fixed point to multipoint system licence subtype and remote mobile stations

We have some questions and slight concerns regarding the definitions of ***fixed licence (point to multipoint system)*** (PMPS) and ***remote mobile station*** (RMS).

It appears that the ACMA has made targeted changes to the definition of the PMPS licence subtype and introduced the definition of the RMS station type specifically to support the introduction of HL WBB services. At page 19 of its consultation paper, the ACMA has explained the introduction of RMS into the Fixed LCD to support the operation of mobile terminals that communicate with base stations.

However, the choice of licence subtype has not been explained at all in the consultation paper, and it’s not clear why the ACMA is opting for the PMPS licence subtype as opposed to the more commonly-used P-MP licence subtype. While there are only ten (10) PMPS licences in Australia, there are over 5600 stations registered under P-MP licences, including for the authorisation of WBB services in the 1.9 GHz, 3.6 GHz and 5.6 GHz bands, so using the P-MP licence subtype would be more consistent with the predominant approach.

While there is an existing PMPS licence subtype, it is not currently defined in the Fixed LCD 2015, and it is not defined in the Interpretation Determination, neither in the current 2015 version, nor in the draft 2025 version which was recently consulted on.

There is an existing description of the PMPS licence type on the ACMA’s website<sup>2</sup> which authorises communications between a fixed base station and remote stations, supplementary base stations and remote control stations, but this is also the case with the P-

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<sup>1</sup> These can be conditions on the licence itself, as enforced by paragraph 107(1)(g) of the Act, or conditions which the ACMA notified in writing to the licensee in accordance with paragraph 111(1)(a).

<sup>2</sup> ACMA, *Options for fixed licences—Point to multipoint system*, available here: <https://www.acma.gov.au/options-fixed-licences#point-to-multipoint-system>

MP licence type on the same web page. The main difference appears to be that the PMPS description on the ACMA's web page explicitly refers to stations being able to be located anywhere in the coverage area, with the licence specifying a nominal centre point (more on this later). However, none of this detail makes it into the definition of the *fixed licence (point to multipoint system)* in the draft Fixed LCD 2025.

The proposed approach suggest that the ACMA is piggy-backing the existing licence subtype name (and associated codes/IDs in its "Spectra" licensing data scheme) but creating an entirely new legal definition specifically to cater for HL WBB (although it could reasonably be applied to any range of other systems).

The definition of a fixed licence in the *Radiocommunications (Interpretation) Determination 2015* ("the I.D. 2015") already states that the stations authorised by the fixed licence may communicate with land mobile stations—e.g. as in the case of the proposed RMS—although it qualifies this as "*if permitted by the transmitter licence that relates to the station*". Our understanding is that mobile broadband services may already be operating under P-MP licences in accordance with this allowance in the definition of a fixed licence, as is the case with legacy 1.9 GHz and 3.6 GHz broadband wireless access (BWA) arrangements and with 5.6 GHz arrangements under RALI FX 23. Even if this was not the case, the ACMA could simply modify the definition of the P-MP licence subtype in the Fixed LCD to explicitly allow communications with RMS.

As such, we would ask the ACMA to consider whether it would be more straightforward to explicitly allow the operation of RMS under P-MP licences (above 1 GHz only, if need be) and adopt the P-MP licence type for HL WBB, instead of PMPS. This would have the added benefits of:

- explicitly clarifying that mobile broadband services can operate under P-MP licences in the 1.9 GHz, 3.6 GHz and 5.6 GHz bands; and
- removing the need to make the proposed changes to the *Radiocommunications (Transmitter Licence Tax) Determination 2015* ("the Tax Determination").

With respect to the incorporation of RMS into the definition of a relevant licence subtype (be it for PMPS as proposed by the ACMA, or for P-MP), the 'and' between points (a) and (b) in the proposed definition of the PMPS licence type could be interpreted as *requiring* RMS to communicate with the PMPS, to be compliant with the definition. To clarify that this is not the case, it would perhaps be useful to add "*optionally*" at the beginning of point (b) before "*one or more remote mobile stations*".

## **Conditions on HL WBB PMPS licences in Part 10 of the Fixed LCD**

We support the ACMA's proposed incorporation of certain restrictions on PMPS licences authorising HL WBB services in the Part 10 of the Fixed LCD. As explained above, there is a question about whether some or all of these should be applied more generally in Part 8 (for P-MP licences in 1-275 GHz) as opposed to a separate Part 10 for PMPS licences, but it is assumed that the Part in which the relevant requirements will be published, will consequentially follow the ACMA's decisions to the more general question asked above.

In terms of the actual technical restrictions and requirements themselves, these are discussed in the context of the proposed arrangements for HL WBB services, in the following section.

## **Comments on other proposed changes to the Fixed LCD**

Lastly, we offer the following minor recommendations:

- We recommend that Section 2 "Scope" be maintained in the instrument, as it serves as a helpful guide to reading the document.
- We recommend maintaining the acronyms MF, HF and VHF as opposed to use of the spelt-out expressions repeatedly (i.e. medium frequency, high frequency and very high frequency).



# Proposed arrangement for HL WBB

## Support for proposed arrangements for HL WBB

In previous consultation processes, we have objected to some aspects of the broader planning arrangements in the 3.4-4.0 GHz band, however these are out of scope and we take the ACMA's decisions to make the relevant frequency ranges and areas available for HL WBB as a given. In this section, we focus on what specific licensing and coordination requirements the ACMA is proposing in this specific consultation.

We agree with, or at least do not object to, the following aspects of the proposed arrangements:

- If the PMPS licence subtype is ultimately adopted for HL WBB services, we support the reduced tax rates in the 2.69-5.0 GHz range (to align with the tax rates applicable to the P-MP licence subtype).
- We agree with the allocation of licences via the ACMA's standard over-the-counter process, provided that licences authorising HL WBB services will be issued on a "no interference, no protection" basis with respect to each other.
- We support the ACMA's proposal for all stations operating as part of HL WBB services to operate on a "no interference" basis (as per sections 37 and 38 of the draft Fixed LCD 2025).
- We have no objection to an allocation policy limiting a licensee to either 3400-3475 MHz or 3950-4000 MHz, *but not both*, within any given service area.
  - Note: only applies to locations falling within the "Urban Excise" areas.
- We **strongly support** the limitation of licence terms so that they expire on or before 13 December 2030, to align with the expiry date of spectrum licences in the 3400-3700 MHz band.
- We **strongly support** the alignment of unwanted emission limits with 3GPP. We also support that the unwanted emission limits align with those applicable to medium-range base stations (for transmit power  $\leq 31$  dBm) specified in 3GPP TS 38.104.
- We support the ACMA's current proposal not to apply a maximum EIRP limit beyond the EIRPSD limit of 17 dBm/MHz.
- With respect to HL WBB services in 3950-4000 MHz, we have no objection to the fallback synchronisation requirements (a) between two HL WBB services and (b) between a HL WBB service and a AWLTX service, as per section 39 of the Fixed LCD 2025.
- With respect to HL WBB services in Urban Excise areas in 3400-3475 MHz,

- we support the mandatory requirement for HL WBB services in 3400-3475 MHz inside Urban Excise areas, to synchronise with co-channel, adjacent-area 3.4 GHz spectrum licences, as per section 40 of the Fixed LCD 2025; and
- we support the indoor-only restriction for HL WBB services, and the explicit “no interference” condition with respect to 3.4 GHz spectrum licences, as per section 41 of the Fixed LCD 2025.

## Concerns surrounding proposed arrangements for HL WBB

We have gone through the proposed arrangements for HL WBB and have the following concerns:

1. It is not clear why the ACMA is proposing use of a rarely-used PMPS licence subtype as opposed to the more commonly-used P-MP licence subtype.
  - a. We have expressed our concerns regarding the adoption of PMPS licence subtype in the previous section titled *Remaking of the Fixed LCD*.
2. With respect to whether or not HL WBB licences will be offered for renewal beyond 13 December 2030, this needs to depend on whether the renewal of that licence would hinder a band consolidation/defragmentation process for 3.4-3.8 GHz, and not just on whether the licensed services is actually operating or not.
3. The 100-metre restriction as part of the definition of the proposed service area, is ambiguous.

More detail provided below.

### ***Expiry date and renewal statements***

As per the relevant point #2 above, we **strongly support** the limitation of licence terms so that they expire on or before 13 December 2030, to align with the expiry date of spectrum licences in the 3400-3700 MHz band.

We have previously suggested this in the relevant TLG process, mainly with a view to ensure that there are no incumbent HL WBB licences that could hinder new spectrum licences that have different characteristics—including licensed frequency bands and/or geographic areas—compared to the current spectrum licences. Such changes are possible under a broader spectrum consolidation/defragmentation process that we believe are very important to carry out across the 3.4-3.8 GHz band.

Following a spectrum consolidation/defragmentation process in the 3.4-3.8 GHz band, if any new spectrum space—that would be part of the new spectrum licences that would come into effect after 13 December 2030—overlaps an existing HL WBB licence, the ACMA could simply refuse to renew the HL WBB licence. Noting the opportunistic nature of the HL WBB licences

subject to NINP operating conditions, it's clear that spectrum licences are the much higher-value use, in the spectrum space described above, compared to HL WBB.

We note that the ACMA is proposing to add an Advisory Note to HL WBB licences to the effect that *“the ACMA, when deciding whether to renew a licence, may have regard to whether the spectrum has been used and whether there is unmet demand for licences”*. With the proposed Advisory Note, the ACMA would simply be advising the HL WBB licensee that their licence is potentially subject to a kind of “use-it-or-lose-it” condition. In light of the issues explained in the preceding paragraphs, this doesn't go nearly far enough.

Rather, what needs to be clearly communicated to the HL WBB licensee, is that—regardless of whether they are actually operating the licensed service or not—the band in which they are licensed is subject to a potential future band re-planning process (i.e. the band consolidation/defragmentation exercise), and that the licence may not be offered for renewal beyond 13 December 2030.

Ideally, this would be communicated in the form of renewal statements or public interest statements—as previously requested in our TLG submissions—however as a minimum, it should be communicated in an Advisory Note similar to Advisory Note BL<sup>3</sup>.

### ***100-m restriction in the proposed service area is ambiguous***

We note that the ACMA proposes the service area to be based on two criteria:

1. Within 100 metres of a location specified on the licence; and
2. Within the confines of a “controlled premises”, the definition for which is provided in subsection 33(2) of the draft Fixed LCD 2025.

In s33(2), there is an explanatory Note stating that restriction #1 is *“within 100 metres of the specified site”*. The use of the word “site” implies an ACMA Site record, which relates to a specific point defined by a set of coordinates (latitude and longitude), which in turn are expected to have an accuracy of 10 metres or 100 metres, in accordance with the relevant Business Operating Procedures (BOP)<sup>4</sup>.

Also in s33(2), there is a further explanatory Example stating that restriction #1 is *“within 100 metres of the industrial plant”* described in the Example.

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<sup>3</sup> Advisory Note BL reads: *“This frequency band is currently under review to accommodate changes in technology. This review may lead to a requirement to change frequency or to cease transmission”*.

<sup>4</sup> ACMA, *Create and manage radiocommunications site data*, available at: <https://www.acma.gov.au/create-and-manage-radiocommunications-site-data>

Considering both the explanatory Note and Example, it is not clear whether any transmitters authorised by the HL WBB licence are restricted to within 100 metres of the ACMA Site record on the licence, or to within 100 metres of the controlled premises.

If the latter, this implies it could be up to 100 metres from the outer boundary of the controlled premises, which would be prohibited by restriction #2, in turn making restriction #1 redundant.

If the former, then the wording should be reviewed to be clear that restriction #1 is with respect to the coordinates of the ACMA Site recorded on the licence. However, this may open up other questions regarding how to deal with large premises, i.e. that have dimensions greater than 200 metres across.

## Coordination requirements for HL WBB

We have checked the coordination requirements between AWL and HL WBB in section 4.12.3 of the draft revision to RALI MS 47, and note that these simply refer back to RALI MS 50 (see below). We note that in RALI MS 47, it is clarified that AWLRX licences<sup>5</sup> “*cannot be issued within the spectrum space of a PMPS licence unless agreed to by the affected [PMPS] licensee(s)*”. While we are not certain that this leads to the most efficient use of spectrum, especially considering that PMPS licences operate on a NINP basis, at least this arrangement is reciprocal (i.e. PMPS licences cannot be applied for within the spectrum space of an AWLRX, as per section 3.7.2 of draft RALI MS 50). Potentially, this could be addressed via the authorisation of earth station receivers under Earth Receive licences as opposed to AWLRX (see further below).

We have reviewed RALI MS 50 in detail, and in general we support the coordination requirements therein. We offer the following comments on the draft RALI:

- There is an error at the end of section 2.2: Section 42 in Part 10 of the Fixed LCD 2025 deals with the additional unwanted emission limits proposed to address protection of Radio Altimeters, not the prohibition on operating with spectrum-licensed spectrum space (or spectrum space re-allocated for spectrum licensing).
- In section 3.10, for the purposes of ensuring protection of the co-channel, adjacent-area spectrum licences, we are comfortable with the ACMA’s adoption of its preferred approach “Option 1”, i.e. the power flux density (PFD) limit of -99.9 dBm/MHz/m<sup>2</sup> at the boundary of urban areas.
- There is a typo in section 3.11.2 “PMPS Tx → PMP Rx”: this should refer to PMP Tx, not PTP Tx.
- With respect to section 3.12 dealing with Radio Altimeters, we note that the additional unwanted emission limits in 4200-4400 MHz—as per section 42 of the Fixed LCD 2025—are beyond what is required by 3GPP, which in general we do not support. However, we believe that for the time being, this does not pose major practical constraints.
- We thank the ACMA for addressing our suggestions during the TLG process, and **strongly support** the ACMA’s proposals for:
  - explicit statement of the “buyer beware” nature of HL WBB applications within the 3460-3475 MHz “restricted use band”, which also requires the agreement of the adjacent-band spectrum licensee (in this case, Optus);
  - Advisory Note explicitly stating the NINP condition with respect to spectrum licences and other PMPS licences;

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<sup>5</sup> This applies to both AWLTX and AWLRX licences, however we have omitted AWLTX licences because there is no spectrum space within which both AWLTX and HL WBB can both exist under the ACMA’s band arrangements.

- adoption of 14 dB building penetration loss (BPL) as a standard value, with flexibility to use higher values via the out-of-policy exemption process;
- “no interference” condition of remote stations, RMS and supplementary base stations operating under HL WBB services;
- NINP condition of operation with respect to other PMPS licences; “first-in-time” priority does not apply;
- synchronisation requirements and interference management requirements, already discussed above in respect of subsections 39 through 41 of the Fixed LCD 2025.

## Expressions related to the AWL licence type

As per our response to the ACMA’s recent consultation *Proposal to remake the Radiocommunications (Interpretation) Determination 2015* (“the I.D. consultation”), we highlighted potential for confusion with the various expressions related to the AWL licence types. In one specific example, we pointed out that it’s not entirely clear whether the term “area-wide receive station” is referring to a receiver station under an AWLRX or to a base station receiver operating as part of a terrestrial WBB service under an AWLTX. Similarly, the term used by the ACMA “AWL Rx” is potentially confusing, since it is the short-form version that the ACMA has adopted to refer to AWLRX licences, however it is also used to describe base station receivers under AWLTX licences. The same term “AWL Rx” term is used to describe both these cases on pg 20 of the consultation paper (see Figure 1 below). As such, we believe that the drafting of RALI MS 50 and the review of RALI MS 47 should take into account AMTA’s suggestions regarding AWL-related expressions made in response to the I.D. consultation.

### PTP links

To manage interference between HL WBB systems and PTP links, the following frequency assignment criteria are proposed in RALI MS50:

- To manage the potential for interference from HL WBB transmitters into PTP receivers, the protection criteria defined in [RALI FX3](#) ‘Microwave fixed services’ are applied. Due to the small cell nature of HL WBB systems, direct coordination is proposed between the location recorded on a PMPS licence and a PTP receiver.
- To manage the potential for interference from PTP transmitters into HL WBB receivers, **the same protection criteria defined for AWL Rx are proposed.**

To account for the increased risk of interference when HL WBB services are operated in close proximity to PTP sites, a minimum separation distance of 2 km is also proposed. Licences would not normally be issued for HL WBB systems or PTP links within this distance without further consideration by the ACMA. The impact of this rule is expected to be low as there are currently only 19 PTP sites in regional and metro areas in the 3590–4200 MHz band. Use of the band by PTP links has also been in decline over the last 2 decades.

### FSS

To manage the potential for interference into **FSS earth receive stations (this includes earth receive licences and AWL Rx)**, the same measures that apply to AWLs are proposed for HL WBB systems. Some minor modifications are required to account for the lower power used by HL WBB devices (i.e. smaller coordination distances apply) and the increased risk of interference when services are located within a few hundred metres of one another.

**Figure 1—use of the term “AWL Rx” for two different expressions.**

# Proposed amendments to the RRL Determination

## Introduction

We have reviewed the draft *Radiocommunications (Register of Radiocommunications Licences) Amendment Determination 2025 (No. 1)* (“the RRL Amendment Determination”) in detail, and we have concerns about the approach being proposed by the ACMA.

The ACMA’s consultation paper explains that it is proposing to amend the *Radiocommunications (Register of Radiocommunications Licences) Determination 2017* (“the RRL Determination”) to explicitly exempt supplementary base stations, remote control stations, RMS, and defined outside broadcast stations, from the requirement to be registered.

Section 10 of the RRL Determination provides a list of details which must be recorded on all apparatus licences. These include the:

- 10(2): licensee details;
- 10(3): the licence-level details;
- 10(4): the details about the spectrum use of each device (in the frequency and time domains, as well as the ‘coverage’ (for the purposes of determining whether low-power tax discounts apply));
- 10(5): the device details (e.g. power levels and height above ground level);
- 10(6): the antenna details; and
- 10(7): the site details.

For each of subsections 10(4) through 10(7), there is another subsection which immediately follows it with the suffix ‘A’ (i.e. 10(4A), 10(5A), etc), which exempts the following licence types from the obligation to record the details in the relevant subsection: AWLTX, AWLRX and PTS. However, the relevant subsection (with the suffix ‘A’) clarifies that AWLTX, AWLRX and PTS licences do not need to contain the relevant details, “*unless there is a condition in: (d) the licence; or (e) an instrument made under subsection 110A(1) or subsection 110A(2) of the Act that applies to the licence; to the effect that the Register must contain the details.*” Put simply, for AWLTX, AWLRX and PTS licences, the registration obligations are moved from the RRL Determination to the relevant Licence Conditions Determination (LCD). Within those LCDs, the ACMA specifies details about which details need to be recorded on registrations, and also clarifies which transmitters are exempt from registration requirements.

## Proposed approach is inconsistent with existing approach in the RRL Determination

With the draft RRL Amendment Determination, the ACMA is also seeking to be more specific about which details need to be recorded for transmitters, and clarify which transmitters are exempt from registration requirements, with respect to transmitters authorised under fixed licences. As such, for the case of consistency with the approach already adopted for AWLTX, AWLRX and PTS licences, the obvious approach would appear to be to (a) add “a fixed licence” to a new point (d) under each of subsections 10(4A), 10(5A), 10(6A) and 10(7A), and then specify all the registration requirements in the Fixed LCD.

Instead, the ACMA is proposing to take a different approach, whereby Section 10 (which, again, applies to all apparatus licences), would now apply to all apparatus licences *except* fixed licences, and fixed licences would have their own list of requirements in a new Section 10A. This means that we will have two separate approaches for specifying specific registration requirements for certain licence types: one approach for AWLTX, AWLRX and PTS; and another, completely different approach for fixed licences. We disagree with this, and believe that a common approach, for communicating specific registration requirements for certain licence types, should be adopted.

## Duplication of registration requirements

In addition to the views above, we note that the registration requirements in the proposed new Section 10A are largely a duplication of the requirements in Section 10. There are just three discrepancies that we can identify (listed as I, II and III below).

I. Some parameters have been omitted, and we do not believe they should be:

- From Section 10A(2): date of approval
- From Section 10A(3):
  - device mode, i.e. whether the device is a transmitter or a receiver
  - transmitter power

II. The ship station name is not applicable to fixed services, it does no harm to leave it in a list of required details, since it is qualified with “*where applicable*”.

III. The proposed subsection 10A(6) lists the required details for licences which authorise the operation of stations *in a defined area, rather than at a specified site*. These are typically referred to as “area-wide licences” (not to be confused with the AWL licence type), and they are not limited to the fixed licence type. In fact, out of over 13,000 stations under area-wide licences in the RRL (if we exclude Broadcasting and Datacasting licence types), there are currently less than 200 that are under licences of the Fixed licence type. The vast majority are under Land Mobile licences (approx. 10,000) and Radiodetermination licences (approx. 3,000). Other notable area-wide licences are those of the Space and Space Receive licence



type, as well as Defence licences. As such, the ACMA could add a similar subsection 10(8) requiring that, for licences which authorise the operation of stations *in a defined area, rather than at a specified site*, the details of the defined area, the corresponding Fee Density Area of that area, and the ACMA Area ID# of that area, must be recorded.

If the above discrepancies I, II and III above are addressed, then the lists of Sections 10 and 10A would have an identical set of details.

Now that we have established that the lists of actual details in Sections 10 and 10A are identical, the only remaining discrepancy is that Section 10A has further instructions about which details apply to base stations under P-MP and PMPS licences, and which details apply to the “outside broadcasting” licence types, along with repeated notes clarifying that stations, other than base stations, that are authorised by P-MP and PMPS licences, are exempt from registration.

We believe that these three clarifications could quite easily be incorporated into Section 10, without this significant duplication of text in Section 10A. The fact that stations other than base stations, including remote control stations (RCS), remote stations and mobile stations, are exempt from registration, goes well beyond just P-MP and PMPS licences. For example, for land mobile system licences involving a base station (repeater), the RCS and mobile stations do not need to be registered.

We understand that attempting to capture this for all licence types may not be feasible for the ACMA under, and would be out-of-scope for, this particular consultation process. However, we do not support the duplication of the lists of details in the RRL Determination, and would instead support the registration requirements for fixed licences to be included in the Fixed LCD.

## **Registration requirements that are unclear or irrelevant**

While potentially outside the scope of this particular consultation, we note that some registration requirements in Section 10 of the RRL Determination (and proposed to be added in Section 10A) are not practical, or even not possible, to include on all apparatus licences, and we believe that this should be addressed in this revision of the RRL Determination.

- **Licence Callsign:** the ACMA’s licensing system “Spectra” is not automatically generating Callsigns for new apparatus licences. It is not practical for Accredited Persons (APs) to automatically generate new Callsigns for the many thousands of new apparatus licences that are generated every year—particularly if these need to be unique and not clash with any other Callsign generated by other APs. Furthermore, as a matter of licensing policy, the ACMA is only requiring APs to record Callsigns for Citizen Band Radio Service (CBRS) Repeater licences and Amateur Repeaters and Beacons. As such, this general requirement to record Callsign should either be

removed, or the words “where applicable” should be added, along with an explanatory note clarifying under which licence types this would be required.

- **Coverage:** *“Whether the coverage is by means of a low power spectrum access within the meaning of that term in the Radiocommunications (Transmitter Licence Tax) Determination 2015”.* The ACMA should consider whether this also needs to cover the new “micro” power coverage.
- **ITU BR ID:** *“The identifier allotted by the International Telecommunication Union Radiocommunication Bureau.”* It is unclear what this is relation to. In any case, it should either be removed, or the words “where applicable” should be added, along with an explanatory note clarifying under which licence types this would be required.
- **Antenna size:** Spectra no longer has a field for inputting the antenna size for the creation of new ACMA Antenna records. As such, this should be removed.

## Requirement to register all base stations under the licence?

It is our understanding that the ACMA’s intention was to allow any number of BS to operate within 100m of the recorded site.

From the TLG Paper v4, under the sections ***Frequency assignment arrangements > Licence type for HL WBB > PMP***: *“Under a PMP licensing approach, it is intended that a single site be recorded on the RRL. This is to provide information on the location of the controlled premises services are deployed, the identity of the licensee, the frequency range used, and other relevant technical parameters of BS deployed for coordination purposes. The site recorded is intended to be notional only, to assist in the management of interference. Arrangements could be implemented such that multiple BS operating under a PMP licence at a controlled premises or within a defined distance of the location recorded on the licence.”*

If this is still the ACMA’s intention, then this is not being adequately accounted for in the proposed registration requirements in the draft RRL Amendment Determination, since Section 10A is requiring each BS under a PMPS licence to be registered.

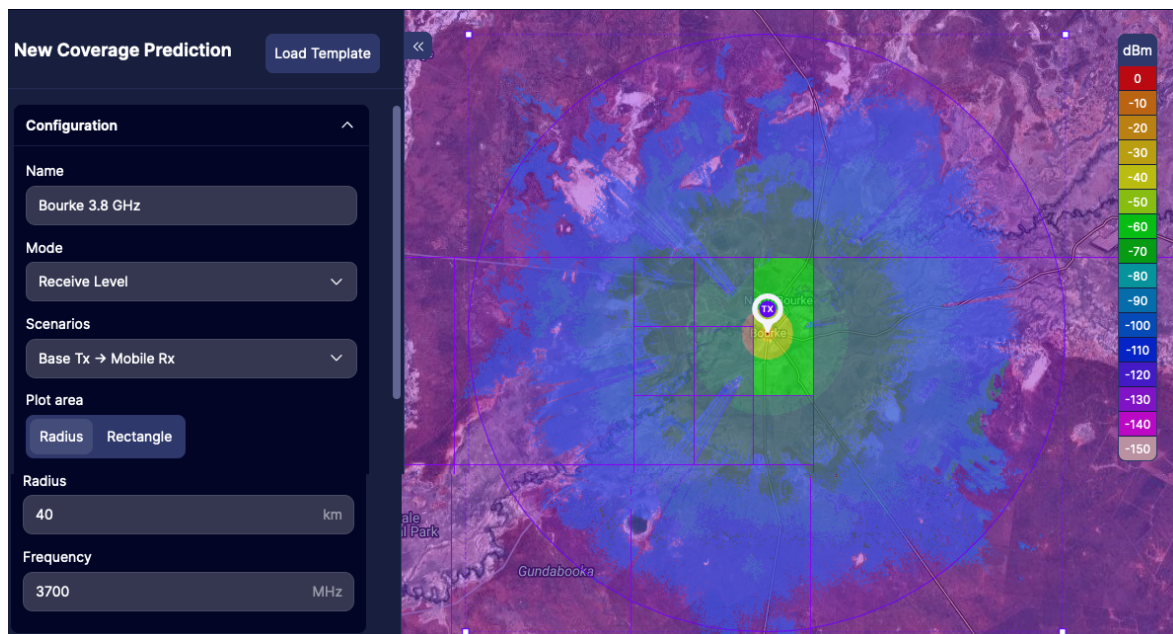
## Amendments to RALI MS 47 unrelated to HL WBB

In general, we are supportive of the ACMA's proposed changes to RALI MS 47 that are not directly related to the introduction of HL WBB arrangements.

### Geographic discontinuity policy

We support the ACMA's proposal for a geographic discontinuity policy, with a view to avoiding a “Swiss cheese” approach to AWL applications, with populated areas excised. Furthermore, we support that it be applied retrospectively to existing licences that do not satisfy the adopted policy, either at the ACMA's earliest convenience, or upon considering whether or not to offer renewal to those licences.

That said we believe that the minimum radius of 20 km, for the ‘holes’ that would be permitted under the policy, may be insufficient. Below is a screenshot of a coverage plot—using the same propagation model and Level of Protection (LOP) as the Device Boundary calculation in the *Radiocommunications (Unacceptable Levels of Interference — 3.4 GHz Band) Determination 2015* (“the ULOI”)—for a nominal base station in Bourke NSW transmitting at 48 dBm/5MHz into a 23 dBi gain antenna, at 30 metres above ground level. The edges of the resulting coverage in this relatively flat area reach closer to 40 km from the transmitter. This demonstrates that a viable service in the town of Bourke NSW may be difficult to deliver, even within a hypothetical AWL with 20 km radius. The purple shading shows the HCIS tiles included in an example remote-area AWL, to illustrate the constraint to a potential future service in the town that the “Swiss cheese” approach can cause.



**Figure 2—coverage map for notional macro-cell WBB BS in the town of Bourke, overlaid with an example remote-area AWL which would not satisfy the proposed geographic discontinuity policy. Source: <https://maprad.io>**

In considering the appropriate radius to apply for the geographic discontinuity policy, we believe the ACMA should take into account the size of the relevant geographical area licensed under the AWL, such that the permitted ‘hole’ size is proportionate to the size of the AWL.

## **“Reverse-DB” calculation in Appendix F**

We **support** the proposed revisions to Appendix F such that the “reverse-DB” calculation related to the overload mechanism only needs to be applied to spectrum licences and AWLs with frequency offsets of less than 200 MHz (before 16 July 2027, or 100 MHz after 16 July 2027).

### ***Coordination burden on spectrum licensees and AWL licensees***

However, we note that this change alone does not ease the burden of carrying out checks and exemptions for holders of spectrum licences and AWLs. That is because these licensees are not bound by Appendix F, rather they are bound by the requirements of:

1. for spectrum licences: Part 4.3 of the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 3.4 GHz Band) 2015* (“the Tx RAG”); and
2. for AWLs: Section 4.10 of RALI MS 47, which in turn points to Part 4.3 of the Tx RAG.

As such, we believe that this adjustment should be mirrored via an amendment to Part 4.3 of the Tx RAG. Specifically, the “cull frequency” specified in Part 4.3(4) of the Tx RAG could be amended such that it is clearly specified that it only applies to FSS Earth stations within 200 MHz or 100 MHz of the spectrum licence frequency edges (depending on the date).

Similarly, Part 4.3(3) could also be aligned with the reverse-DB calculation related to the unwanted emission mechanism in RALI MS 47 by specifying that it only applies to FSS Earth stations within 50 MHz of the spectrum licence frequency edges.

### ***Coordination burden on Earth Receive licensees***

Notably, the ACMA’s proposed amendments to Appendix F of RALI MS 47 mean that any Earth Receive licence in Metro & Regional areas above 4000 MHz will not have to take spectrum licence registrations into account, only AWLs. However, this does not address the issue that any Earth Receive licence that has a same-area, adjacent-band AWL within 200/100 MHz will fail the overload calculation. Since it is likely that there will not be unallocated spectrum space within Metro or Regional areas without an AWL in 3800-4000 MHz, it follows that any Earth Receive licence anywhere within Metro & Regional areas in 4000-4200 MHz will fail the overload-based reverse-DB calculation (at least until 16 July 2027).

Setting up an “always fail” scenario like this is not ideal, since it will require out-of-policy exemption for every single application, and the unviable long-term situation (mentioned on pg 30 of the consultation paper) would persist regardless. That said, we do not have any

alternative proposals at this stage, and constraints on applications for new Earth Receive licences are not of direct consequence to the mobile industry.

Note: Point 2. of Appendix F refers to an “*earth station filter as detailed in section 4.10.1*”. We note that such a filter is not mentioned at all in section 4.10.1 of RALI MS 47. As such, this reference should be to Part 4.3 of the 3.4 GHz Tx RAG.

## **Earth Receive licences in AWL spectrum space (via agreement)**

We support the ability to apply for Earth Receive licences within an AWL’s spectrum space, with the agreement of the affected AWL.

We propose that a clarification be added to the proposed clause 3.4(4) of RALI MS 47, that the coordination requirements of sections 4.10.1 and Appendix F are still required to be satisfied in respect of all other AWLs (i.e. other than the one for which agreement has been obtained).

## **Underground operation via PTS licences**

We have no objection to provision for underground operation via PTS licences under the same conditions that currently apply to RALIs MS33 and MS34 for the 2 GHz and 1.8 GHz bands respectively. We support the ACMA’s restriction that these not be issued in spectrum-licensed spectrum space (in Section 3.4(1) of RALI MS 47).

In response to the ACMA’s invitation to provide feedback regarding further restrictions, we believe that these PTS licences for underground operations should be limited to regional and remote areas.

## **Provisions for cells-on-wheels (COWs)**

We have no objection to the proposed provisions for cells-on-wheels (COWs), however we propose some additional restrictions.

Firstly, there should be a limitation that these are only exempt from registration if they actually have a need to move frequently, or do not extend the coverage footprint of the AWLTX base station that is shown in the RRL (that is, they are for in-fill coverage and not coverage extension). For short-term deployment of such equipment there should be a maximum 4-week limit on operations at any single location. If the COW needs to operate at a particular location for longer periods, or is used to extend the coverage outside the ‘umbrella’ coverage of the AWLTX base station that is shown in the RRL, then it can and should be registered.

Secondly, there should be a ‘hierarchy’ established where—in the case of interference—fixed, registered base stations have priority over COWs.

## **AWLRX in 3950-4000 MHz in Metro & Regional Areas**

Under the section titled “*Coordination requirements for HL WBB*”, we note the restriction that the service area of a PMPS cannot overlap the licensed area of a co-channel AWLRX, and vice versa, which may not lead to the most efficient use of spectrum. With respect to operation of FSS earth station receivers in 3950-4000 MHz in Metro & Regional areas, this is only due to the ACMA’s adoption of the AWLRX licence type.

If, instead, the Earth Receive licence type is adopted in this spectrum space, then it may potentially open up more opportunities for both PMPS and FSS earth station receivers. We believe that such a change in licence type is possible, facilitated by the fact that no AWLRX have been granted in this spectrum space to date.

## **Proposed minor changes**

We support the proposed minor changes, as well as the clarification of the spectrum quantum policy in remote areas. We recognise some of these from previous AMTA submissions, and thank the ACMA for accepting them. Also, the note regarding mobile satellite services (MSS) looks out of place immediately below the figure for the geographical discontinuity policy, and it should be moved to a more appropriate location.

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