



**Wireless Institute of Australia
response to the
Australian Communications & Media Authority
Consultation 06/2021:**

“Proposed changes to class licences:
Updating references to standards to include
references to equipment rules, and harmonising
electromagnetic energy requirements

March 2021”

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Executive Summary

The Wireless Institute of Australia (WIA) thanks the ACMA for the opportunity to provide feedback on the public consultation titled “Proposed changes to class licences - Updating references to standards to include references to equipment rules, and harmonising electromagnetic energy requirements - March 2021”. In this consultation, the ACMA has stated that it proposes: *“to require compliance with the general public exposure limits for EME as specified by the Australian Radiation and Nuclear Protection Safety Agency (ARPANSA) in the [Radiation Protection Standard for Limiting Exposure to Radiofrequency Fields –100 kHz to 300 GHz \(2021\)](#) or any instrument that replaces that standard.”*

The ACMA has also stated in the consultation that *“For these class licences, the proposed amendments are designed to ensure that the EME requirements for class-licensed users are harmonised with the requirements for users operating under the corresponding apparatus licence (the [earth apparatus licence](#) and the [amateur apparatus licence](#)).”*¹

The WIA has found that the proposed regulatory arrangements are inconsistent with the ACMA harmonisation objective.

The WIA makes the recommendation that Part 3 of the *“Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015”* be adopted as the solution to this issue.

¹ Page 14 of www.acma.gov.au/consultations/2021-03/proposed-changes-class-licences-consultation-062021

1.0 Introduction

The Wireless Institute of Australia (WIA) represents the views of over 3000 member amateur radio licensees across Australia. It is also the sole recognised International Amateur Radio Union (IARU) representative body in Australia. It is through the WIA's IARU representation that the WIA is responding to this consultation as it affects only international amateur radio visitors to Australia.

The WIA is supportive of the need for amateur licensees to understand and manage the EME environments their activities create. The WIA is also broadly supportive of the ACMA's simplification agenda and the goals of the *"Radiocommunications Legislation Amendment (Reform and Modernisation) Act 2020"*. However, it is important that changes being made in response to this act are made in a manner that is consistent across the amateur radio sector.

The WIA has also long-held the policy that there should be no loss of utility of an amateur licence through any proposed regulatory reform process. In this case, the WIA argues that the ACMA proposal, as presented, fails to achieve this outcome.

2.0 Managing EME for Overseas Amateurs Visiting Australia

2.1 Existing inconsistent regulation

Today, domestic amateur licensees are required to comply with "Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015" in addition to the "Radiocommunications Licence Conditions (Amateur Licence) Determination 2015" by virtue of notes attached to each licensee's apparatus licence. When the Overseas Amateurs Visiting Australia Class Licence was created, it appears to have overlooked the fact that EME management had been moved into the general Apparatus Licence determination which was referenced via each operator's apparatus licence.

The result has been that no ARPANSA requirement was being linked to visiting overseas amateur operators. This situation has created the existing inconsistency which should be resolved.

2.2 Assessment of the new ACMA Proposal

The ACMA has stated in the consultation paper that *"For these class licences, the proposed amendments are designed to ensure that the EME requirements for class-licensed users are harmonised with the requirements for users operating under the corresponding apparatus licence (the [earth apparatus licence](#) and the [amateur apparatus licence](#))."*

The WIA agrees with this approach, but has found that the implementation falls short. In reviewing the proposed changes to the *"Radiocommunications (Overseas Amateurs Visiting Australia) Class Licence 2015"*, the ACMA has stated it intends to add a clause requiring direct compliance with ARPANSA standards as described in the proposed section 17A.

This is inconsistent with the way EME is managed for domestic amateur licensees.

2.3 A Way Forward

The WIA argues that direct compliance with ARPANSA adds a considerable cost burden to a service such as the amateur service. This cost burden was reduced through compliance being directed via the “*Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015*” which in Part 3 section 8 to 13 outlines a compliance methodology that better supports both the need for compliance with the ARPANSA standard as well as recognising the very low risk that is associated with stations operating under the described Level 1 criteria.

Opportunity:

Retain existing recognition of Level 1 criteria outlined in the Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015 for the purpose of EME compliance in the amateur service

Recommendation 1:

The WIA recommends that instead of inserting section 17A as proposed by ACMA into the Overseas Amateurs Visiting Australia Class Licence, that, instead, the ACMA either

- *incorporates the wording of the existing “Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015”, in particular the requirements outlined in Part 3 of this determination directly into the Overseas Amateurs Visiting Australia Class Licence, or;*
- *converts the existing “Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015”, in particular the requirements outlined in Part 3, into a new standard which is referenced under the new Section 3A of the proposed Overseas Amateur Visiting Australia Class Licence.*

This is in alignment with the recommendations that the WIA has also made in regards to the ACMA's 01/2021 Consultation “Proposed changes to amateur licensing arrangements - Non-assigned amateur stations - February 2021” consultation paper.

3.0 Conclusion

The WIA values an ongoing and productive relationship with the ACMA. This response document clearly indicates that the view of the WIA is that the proposed changes to the Overseas Amateur Visiting Australia class licence will disadvantage those operators compared to domestic apparatus licenced amateur licensees.

In order to address the disadvantage being created, the WIA has also provided a recommendation that defines a solution to the concerns created.

The WIA looks forward to working with the ACMA to resolve the concern raised in this response to the “*Proposed changes to class licences - Updating references to standards to include references to equipment rules, and harmonising electromagnetic energy requirements - March 2021*” consultation.

A.1 Appendix I - EME Regulatory Cost Burden Analysis

A major area of concern for the amateur service is the proposed changes to the instruments that define how to comply with the ARPANSA RPS-S1 standards.

The existing approach for domestic Amateur Licence Apparatus Licence holders was to add the condition to each amateur apparatus licence referencing the “Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015”. This instrument, under Part 3 (9), defines Level 1 compliance criteria which reduces the costs of compliance for most typical amateur radio stations by only requiring a full EMR assessment upon request of the ACMA. This arrangement for lower risk activities reduces the associated compliance costs for amateur licensees, and is inline with the “Deregulation Agenda”.

Under the new ACMA proposal for Overseas Amateurs Visiting Australia, those amateurs would need to obtain a copy of the ARPANSA document AS/NZS 2772.2:2016 ² costs ~\$250 AUD, and then be suitably equipped to carry out the assessment work as detailed in that standard. Obtaining access to suitable modelling packages or measurement capabilities can be substantially higher (well over \$5000 AUD).

While copies of the standards are mandated to be accessible in the state libraries, the WIA argues is not a practical solution for most to access this information. The issue here is that while management of EME is very important, the “costs of compliance” are at odds with the nature of the amateur service.

Section 9 under Part 3 of the Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015 provides a pragmatic approach to achieving compliance with the ARPANSA standard for certain low risk situations which are also relevant to amateur activities. The WIA asks that this approach continue, and that it also be applied to the Overseas Amateurs Visiting Australia Class Licence.

² https://infostore.saiglobal.com/en-us/standards/as-nzs-2772-2-2016-100844_saig_as_as_211887/

A.2 Appendix II - Introducing The Amateur Service

Amateur radio is a science-based technical activity enjoyed by over three million people worldwide. It is a recognised radiocommunications service by the International Telecommunication Union (ITU) and is listed in the ITU Radio Regulations as the 'amateur service' and the 'amateur-satellite service'.

The International Amateur Radio Union (IARU) is the global sector representative body for the amateur service. It is recognised by the United Nations as a Non-Governmental Organisation (NGO) by virtue of its consultative status with other United Nations bodies, i.e. International Telecommunication Union (ITU). The ITU recognises the IARU as an international organisation (CV/Art.19, No. 231). IARU has worked with the ITU for nearly a century and is a Sector Member of the Radiocommunication Sector (ITU-R), playing a full part in the work of ITU-R as it affects amateur radio spectrum, and also of the Development Sector (ITU-D), relating to developing countries and emergency communication.

The Wireless Institute of Australia (WIA) is one of the founding member societies of the IARU Region 3 branch. WIA representatives are frequently members of Australian delegations to ITU-R Working Party meetings and World Radiocommunication Conferences. The WIA is also the sole representing member of the International Amateur Radio Union (IARU) in Australia.

- The amateur service is a radiocommunication service:
 - for the purpose of self-training,
 - Intercommunication and technical investigations carried out by duly authorised amateurs,
 - persons interested in radio technique solely with a personal aim and without pecuniary interest.
- And the amateur-satellite service is:
 - A radiocommunication service using space stations and earth satellites for the same purposes as those of the amateur service.
- More information about the amateur service can be found in Appendix I.

One of the goals of a simplification agenda should be to enhance the value of the amateur service to Australian; understanding and recognising that potential is key. Approaching the reform with a view to delivering increased value to the Australian people, through value creation as well as cost reduction, is fundamental to meeting the expectations of the amateur service.

Areas where the amateur services brings value to the community with no cost to the Government and community include:

A.1.1 Inter-communication

- **Inter-communication** - facilitating the exchange of ideas, wellbeing, connectedness and understanding across Australia's multicultural community.

In particular, using the idea of self reliant communication, the amateur service supports the health and wellbeing of the Australian community through events such as:

- [Scout & Guide Radio Jamboree](https://www.jotajoti.info/) ³ held globally each year.

³ <https://www.jotajoti.info/>

- [Community sporting events](#) ⁴ such as canoe marathons, car rallies, cross country cycling events and more.
- [Radio Sport](#) activities enable physical fitness and activity through (for example) the ARDF international competitions which combine orienteering with radio direction finding, as well as the Summits on the Air program (mixing mountaineering with amateur radio).

The value of these community based, community delivered communications capabilities via radio are hard to calculate in dollar terms, but are nonetheless invaluable to the function of such events. Indeed, during this COVID19 pandemic, more and more people have turned to, or returned to, amateur radio as a way of keeping in touch with community, friends and family across town or across the world.

A.1.2 Self Training

- **Self training** - promotion of Scientific, Technology, Engineering and Mathematics (STEM) accessibility throughout Australian society, not just through formal education channels. This delivers value through:
 - [School science programs](#) ⁵ through, for example, communicating with the International Space Station ([ARISS](#)) ⁶ or flying and tracking high altitude balloons (e.g. [Project Horus](#) ⁷).
 - [Engineering professional development](#) through self training on advanced communications techniques particularly on the VHF/UHF/Microwave bands.
 - [Citizen science programs](#) such as wildlife tracking, [space weather monitoring](#) ⁸, [radio propagation studies](#) ⁹ and many more
 - [Advanced Communications Techniques Developments](#) are being undertaken by individuals and groups across the country are facilitating new advanced communications techniques including developing new modes and methods of communication via radio (for example the development of HF digital voice communications using the Codec2 based [FreeDV](#) ¹⁰ modulation or advanced weak signal communications using modes ([using the WSJT-X software suite](#)) ¹¹ such as FT8, JT65, WSPR, MSK144 and many more.
 - [Building Practical skills within graduate professionals](#) and helping bridge the gaps that have appeared in formal radiocommunications educational pathways (eg the loss of the BOCP and TVOCP certifications) through self training able to be undertaken within the amateur service.
 - Recommendation [ITU-R M.1043-2](#) ¹² addresses the use of the amateur and amateur-satellite services in developing countries. It recommends that administrations encourage and facilitate the amateur and amateur-satellite services in order to develop radio operator skills, train engineers and technicians to design, construct and maintain radio equipment and systems, assist in forming groups capable of providing local support, exchange technical and operational information, experiment with new technology, and establish stations in rural and remote areas, among several other objectives.

⁴ <https://www.areg.org.au/archives/category/activities/rpm200>

⁵ <https://www.sarcnet.org/>

⁶ <https://www.ariss.org/>

⁷ <https://www.areg.org.au/archives/category/activities/project-horus>

⁸ <https://www.solarham.net/>

⁹ <http://wsprnet.org/drupal/wsprnet/map>

¹⁰ <https://freedv.org/>

¹¹ <https://physics.princeton.edu/pulsar/k1jt/wsjsx.html>

¹² <http://www.itu.int/rec/R-REC-M.1043/en>

A.1.3 Disaster Relief Communications

- **Disaster Relief Communications** - where in Australia organised self-training obtained within the amateur service facilitated by groups such as the [Wireless Civil Emergency Network \(WICEN\)](https://wicen.org.au/)¹³ has enabled operators from the amateur service to act for the direct benefit of the community. For example:
 - Relief Operators in disasters - WICEN operators played roles as relief operators in disaster communications centres during the Summer 2019/20 bushfires.
 - Secondary backup communications - WICEN trained amateur radio operators also provided communications networks to the community on the NSW south coast last year when the public and government communications networks failed.
 - Primary disaster communications channels - amateur radio was one of the first means of communications re-established in Darwin in 1975 after Cyclone Tracey - being used to carry news and information for the ABC and 2GB out of Darwin.
 - International Disaster communications¹⁴ - the amateur service is recognised as a vital source of skilled operators able to enter disaster areas and set up communications networks with limited support. It was the amateur service that stepped in during several of the Caribbean hurricanes in the last couple of years. This capability of the amateur service is in fact recognised and encouraged in the ITU Radio Regulations through ITU-RR 25.9A.
 - Recommendation ITU-R M.1042-3¹⁵ addresses disaster communications in the amateur and amateur-satellite services. It is recommended that administrations encourage the development of amateur service and amateur-satellite service networks capable of providing radiocommunications in the event of natural disasters, that such networks be robust, flexible and independent of other telecommunications services and capable of operating from emergency power, and that amateur organizations be encouraged to promote the design of robust systems capable of providing radiocommunications during disasters and relief operations.

¹³ <https://wicen.org.au/>

¹⁴ <https://www.iaru.org/on-the-air/emergency-communications/>

¹⁵ <http://www.itu.int/rec/R-REC-M.1042/en>