EXPOSURE DRAFT

Wireless Institute of Australia response to the

Australian Communications & Media Authority ACMA Consultation 01/2021:

"Review of non-assigned amateur and outpost regulatory arrangements"

Contents

Executive Summary

The Wireless Institute of Australia (WIA) thanks the ACMA for the opportunity to provide feedback on public consultation 01/2021 relating to the amateur (unassigned) apparatus licence review.

The WIA has long-held the policy that future amateur licensing "***is not reduced or downgraded from the current principles embodied in apparatus licensing".*** This does not presume that the only possible outcome is an Apparatus Licence, but it does mean that the values and utility that apparatus licensing brings to the amateur service are not lost.

The ACMA has stated that it proposes: ***"preserving the current operational utility for licensees"*** throughout this process. The WIA commends the ACMA on this objective. In reviewing the proposals, however, the WIA has concerns about a number of shortfalls that fail the ACMA and WIA mutual objectives of "no disadvantage".

The WIA also clearly understands the motivation behind the ACMA's drive to simplify how the amateur service is managed. The reduction of administrative costs to ACMA, on the surface, should be seen by the amateur service as an opportunity to deliver benefits to it as well. These cost reductions, however, need to be achieved in a way that does not fundamentally alter the character or utility of the amateur service to the Australian people.

Preliminary Recommendation - Option A

The WIA has carefully weighed the opportunities and risks presented. Based on this analysis, the WIA has concluded that moving the amateur service to a Class Licence, as currently drafted in Option C, is not supportable. Option B is also problematic, due to the lack of detail shared. The risks to the integrity and operation of the amateur service under the proposed draft Class Licence instrument, on balance, are too great.

For the present, the WIA feels it has no option but to recommend to members that they support Option A.

How to Achieve ACMA's Preferred Model - Option C

The WIA is acutely aware that Option A is not likely to be acceptable to the ACMA. Whilst Option C is currently not able to be accepted as drafted, the WIA believes that there are modifications possible that could facilitate class licensing, and still deliver the cost savings that ACMA is seeking.

In this WIA response, the concerns with the current class licence proposal are explained. Solutions will be offered by WIA for consideration by the ACMA that may provide a way forward to deliver both the ACMA and the WIA objectives in this matter.

Amateur Apparatus (Assigned) Licensing Processes

The WIA will also discuss the amateur apparatus (assigned) licence model for repeaters and beacons and provide feedback on matters of concern for consideration with that proposal.

Future Sector Engagement Models

Finally the WIA will discuss models that will support improved sector wide engagement with the regulator as well as options to consider for service provision in any future self-regulation environment.

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1.0 Introduction

The WIA has undertaken a detailed review of the proposals by the Australian Communications & Media Authority to streamline the administration of the amateur and amateur-satellite services in Australia. It has considered carefully the opportunities and risks presented by the proposed changes, while noting the strong motivation within the ACMA to reduce the administrative costs of facilitating the amateur service in Australia and its preference for Option C as stated in the Consultation document.

This submission explores the unique characteristics and requirements of the amateur service, and how those characteristics and requirements may be accommodated within a revised regulatory structure. Section 4 addresses the specific questions raised by the ACMA in the Consultation document.

1.1 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.

1.2 Supporting the Case for Change

The ACMA states that it believes the current amateur service licensing arrangements are complex, prescriptive and costly for licensees and for the ACMA to administer. Under the Australian Government's deregulation agenda, the ACMA has been set the tasks of simplifying amateur service licensing, and removing the cost burden both to the amateur licensees and specifically to the ACMA.

Noting that the needs of Australian amateur operators have not changed, the WIA is broadly supportive of the proposed simplification agenda. Any proposal that could lead to lower entry costs and faster processing times for new persons wishing to enter the amateur service, or previously qualified persons re-entering the service, is welcomed. Applying a least cost, least restrictive approach to regulation of the amateur service is also welcomed.

1.3 Opportunities Presented by Change

The WIA believes the deregulation agenda actually provides an opportunity to consider potential improvements to the way the amateur service is delivered to the nation. The WIA will identify opportunities for this where relevant in its response. These are realisable both under apparatus licence or under class licensing and include improvements such as:

- Regulation simplification
- Development of an Operator Manual
- Improved facilitation of interference management in a self service environment, facilitated by regulation but carried out by participants in the amateur radio sector
- Streamlining entry into the amateur service
- Streamlining management of Amateur (Assigned) Apparatus licensing
- Improving Sector liaison channels and practices between representative amateur radio associations and the ACMA

The deregulation agenda actually provides an opportunity to consider potential improvements to the way the amateur service is delivered to the nation. The WIA will identify opportunities for this where relevant in it's response.

The WIA discusses a number of these opportunities throughout the remainder of this submission.

1.4 Change must be subject to a "No Disadvantage" test

The reduction of administrative costs to ACMA, should be seen by the amateur service as an opportunity not a threat. This, however, will only be true if the changes can meet a reasonable ***"No Disadvantage"*** test to the amateur service and, more importantly, the citizens of Australia.

In its introductory comments, the ACMA proposes: "*preserving the current operational utility for licensees"* as a key aspect of this reform. The WIA commends this as a fundamental objective of the review. However, the WIA also holds concerns that this objective has not been met by all aspects of the ACMA proposals. In this response short-comings are identified and solutions presented that could resolve the issues identified with the Option C proposal.

2.0 Reducing Regulatory Burden - a Way Forward?

In considering the ACMA objective of reducing costs and the regulatory overheads of facilitating the amateur service in Australia, the WIA has identified several key areas where it believes, regardless of underlying licensing framework, that improvements can be made for ACMA's benefit. Specifically:

- **Interference Management** - seek to reduce compliance costs for ACMA through enhancing training and self help opportunities for the amateur service to manage these situations

- **Individual Station Licences** - propose to outsource management of station records and licence issue rather than just remove the records from the database completely

- **Overseas Visiting Amateur Operators** - reduce the cost of maintaining parallel regulatory documents

The WIA understands that ACMA has a preference to deliver these savings through their Option C proposal. Should the ACMA wish to progress with Class Licensing, then there are a number of other aspects of the ACMA proposal that will also need to be addressed to maintain the utility of an amateur licence in Australia. The WIA will discuss these and elaborate on solutions for ACMA to consider.

2.1 Interference Management

The ACMA stated in the consultation paper that, under Option C, *"a person is authorised to operate an amateur station under the class licence on the condition that it does not cause interference to other devices and services, and will generally not be afforded any protection, should it experience interference",* and that *"Amateur stations authorised under the proposed class licensing arrangements would allow amateur users to operate on a 'no interference, no protection' basis ". These statements have generated much opposition to ACMA's proposal within the amateur service.*

The first issue of concern is the implied broadening of Part 2 Section 7 of the current "*Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015*", by including the term "devices", in addition to "radiocommunications" in the ACMA consultation document .

Secondly, the statement by ACMA that *"Amateur stations authorised under the proposed class licensing arrangements would allow amateur users to operate on a 'no interference, no protection' basis that is typical of class-licence arrangements"* is also of major concern. The assumed meaning of this by many radio amateurs is that the ACMA would place all responsibility for interference on the amateur licensee, effectively removing recognition of "mutual fault" and "mutual responsibility" for managing and resolving harmful interference at a technical level.

The use of the word "typical" in describing common characteristics of class licences raises the spectre of the lesser elements of the Citizens Band Radio Service (CBRS) in the eyes of many amateur operators. The WIA in fact seeks clarification of what ACMA means by "typical", especially considering the nature of other services licenced under Class Licensing, such as the "Radiocommunications (Maritime ship station - 27MHz and VHF) Class Licence 2015" and the "Radiocommunications (Aircraft and Aeronautical mobile stations) Class Licence 2016", both of which have primary status in the Australian Radio Spectrum Plan, and neither of which are subject to a specific "no interference, no protection" Section within those instruments. Indeed even the CBRS licence does not include a "no interference - no protection" Section.

Ultimately, it is these statements made by ACMA in the consultation paper that have had the most impact in steering the majority of operators in the amateur service away from supporting the ACMA preferred option C. It has been interpreted

as a major reduction in utility for amateur radio licensees, going as far as enabling the potential for vexatious complaints from neighbours to cause an amateur station to be forced off the air, even if harmful interference is not substantiated. Concerns have also been raised on how unauthorised transmissions (intruders) would be managed under the Class Licence proposal. This is why such a strong reaction has been generated.

Request for Feedback:

Given the feedback the WIA has received from its members and the wider amateur radio community, the WIA is concerned that the intentions of the ACMA on this matter may, in fact, not be clear.

Confusion arises because the draft "Radiocommunications (Amateur Radio Stations) Class Licence 2021", Part 3 Section 10 (1), does not refer to the same things as described by ACMA in the consultation paper.

Inconsistency is also present when comparing the draft Class Licence against the ACMA Australian Radio Spectrum Plan, where:

- the amateur service has frequency allocations with primary status
- the amateur service has frequency allocations with secondary status

In the case where interference is caused by unauthorised transmissions inside the amateur frequency allocations, will the ACMA continue to act and resolve such issues, or is it the ACMA's intention to cease policing these intruders (considering also international implications of ACMA's ITU obligations for spectrum management)?

As a result, the WIA seeks further clarification from ACMA on the intent and practical operational consequences of their proposals.

The WIA has written separately to ACMA seeking clarification of these points.

In addition, the WIA has also considered how interference management could in fact be improved for both the utility of the amateur service, as well as for ACMA through minimising future compliance activities.

2.1.1 Interference from Amateur Stations

Spectrum pollution is an issue for all radiocommunication services, including the amateur service.

Under the existing arrangements, an amateur station licensee has the ability to resolve interference issues locally, by direct negotiation with other cooperative parties, with the ACMA only becoming formally involved when necessary.

The ACMA consultation paper, however, appears to make a change to this situation. Prohibiting amateur stations from causing interference to "devices and radio communications" appears to place an unfair burden on the amateur service, through:

a. Not making it clear what evidence a person would need to provide before claiming interference is occurring, and how that person would go about making a complaint.

b. Not making it clear what would happen when a complaint is received by ACMA against amateur operators, and what compliance actions would occur.
c. Not giving due consideration to the fact that the transmitting station may not be at fault, and that the fault lies with the susceptibility to RF interference of poorly designed receiving equipment or device.

If the intention is, on receipt of a complaint from the public, to simply issue a 'cease and desist' order to the amateur operator with no investigation, then the worst case impact of an interference complaint could be to force the amateur operator off the air, with no recourse to negotiate remediation of the issue. This would be an unacceptable outcome.

2.1.2 Interference To Amateur Stations

The WIA is also concerned that the proposals in Option C specifically state "... *and will generally not be afforded any protection, should it experience interference".* The WIA has identified two key areas of concern.

2.1.2.1 Resolving issues caused by devices radiating unwanted emissions

Individual amateur licensees continue to be impacted by EMC/EMI from more and more (typically) electronic devices radiating continuous RF pollution. The WIA acknowledges, however, that ACMA has genuine resourcing concerns in continuing to deal with interference complaints from amateur licensees.

The nature of interference from devices has also changed over time, from "discrete carriers and clicks and pops" to now, more often, being broadband in nature. (e.g. the extensive use of switch mode power supplies for efficiency in all forms of electronic equipment). Even devices that are compliant with EMC standards produce emissions that can cause harmful interference to radiocommunication services. Amateurs, as qualified individuals, do need to be able to address more of these issues directly. The situation is complicated however, as there is almost always a party involved who does not have the technical background to be confident that a solution can be found in cooperation with the radio amateur, (or indeed if a problem even exists).

2.1.2.2 Resolving issues caused by unauthorised transmissions

This concern is particularly relevant in spectrum assigned to the amateur service where primary status is granted in the Australian Radiofrequency Spectrum Plan and the ITU Radio Regulations. Primary allocations to the amateur service should be granted the same level of protection as any other primary service. There are also concerns in some secondary spectrum where unauthorised intruders are interfering with the licensed secondary status user. Examples of this second case could be intruders using illegal transmitters on the 430-440 MHz band, which in particular can have international impacts if the interference affects the amateur-satellite service.

The WIA is seeking clarification from ACMA on how unauthorised transmitters would continue to be managed under the terms proposed for the Option C Class Licence? In particular, in cases where the unauthorised transmitter is originating from overseas in the amateur primary spectrum, the WIA is seeking assurances that the ACMA will continue to resolve the issue by appropriate means.

Request for Feedback:

That ACMA provides clarity on how complaints of interference by unauthorised transmissions will be made and managed, once the amateur service is operating under a class licence arrangement.

2.1.3 Interference Management - a way forward

The WIA assumes, given its inclusion in the proposal, that the ACMA believes a reasonable portion of the proposed cost savings in managing the amateur service would come through reducing compliance efforts by ACMA officers.

The WIA believes there are alternative approaches that may still meet ACMA's cost reduction objectives, while maintaining the current interference protections for the amateur service.

The WIA believes recommendation 1 (below) would greatly improve the streamlining of the amateur service's interference management responsibilities.

The Opportunity:

Enable frameworks that facilitate direct discussions between amateur licensees and persons experiencing harmful interference from amateur station transmissions.

Provide assistance and information to ACMA staff in order to triage and resolve interference issues in a timely and cost effective manner.

Recommendation 1:

The WIA proposes that ACMA facilitate frameworks which support qualified amateur licensees working directly with affected parties to solve reported interference problems locally.

Key elements of these frameworks need to include recognition of mutual responsibility between the transmitting and receiving party, particularly in regard to solving complex Electromagnetic Compatibility (EMC) matters in both directions. An appropriate escalation path and resolution mechanism will need to be developed and agreed.

Such frameworks could be one of the areas covered by the ACMA proposed "Amateur Operator Manual".

This approach is in alignment with providing a self-managing environment that limits ACMA effort while empowering the amateur service with the tools to enable its licensees to continue to function in an increasingly hostile Electromagnetic Compatibility (EMC) environment. Identification of interference sources, and remedial action by amateurs, would be of benefit to the general community by improving the spectral environment for all radiocommunication services.

Under this proposal, the ACMA would remain the recognised first point of contact to the general public. However, facilitating better environments that enable the amateur service to self manage these issues should limit the extent of ACMA's engagement in such matters, and reduce costs.

Opportunity:

Reduce ACMA involvement in interference management to amateur stations through education and training programs within the amateur service.

Recommendation 2:

The WIA agrees that there needs to be an increased sector-wide education campaign, already being undertaken by some groups, on how to manage and resolve EMI/RFI interference issues. Self education programs need to be expanded and regionalised self help support groups established to assist radio amateurs with finding technical solutions to these types of problems. The WIA gives an undertaking to provide more avenues for support in this area.

2.2 Preserving Operational Utility

Under current Apparatus Licence arrangements the WIA notes that it is the amateur station that is licensed, not the amateur operator. One of the key aspects of the proposed move to a Class Licence is that this situation is reversed. The amateur radio operator would become the licensed entity not the station. The impact of this, and the move to Class Licensing under the framework proposed by ACMA would result in the removal of all non assigned amateur station listings from the ACMA Register of Radiocommunications Licences (RRL).

This would create complications in transitioning from one system to another, given how amateur station licensing has been used to date. One of the key impacts of the ACMA proposal is the removal of the existing yearly licence revalidation mechanism. The association of a licence to a location is also lost.

The ACMA notes in their paper that this is intentional, and that such a level of regulatory oversight is unwarranted for the amateur service. The WIA indeed would agree in principle that operator licensing is preferable to station licensing, however, this transition has various impacts which need to be addressed. Specifically:

- ***Loss of self management*** through lack of publication of call signs and associated qualifications which facilitates visibility of illegal operation.

- ***Call sign pool exhaustion*** due to no mechanism to recover call signs from deceased operators and the risks of call sign hoarding.

- ***Lack of clarity of call sign allocation rules***:
    - identify operation from alternate primary locations (i.e. remote home stations or portable operation from another state or an Australian External Territory.
    - Identify holders of specific contesting call signs.
    - Identify operators using special event call signs.
    - Club station call sign allocation and ownership when the owner is not directly a licenced operator.

- ***Loss of Individual licensee documentation including impacts to Australian amateurs travelling overseas***
    - Needed to support the CEPT portable amateur radio licensing system TR61/1.
    - Needed to support of Australian operators seeking a reciprocal license overseas under existing bi-lateral agreements.
    - Frequently required at customs border checkpoints when travelling with amateur equipment overseas.
    - Used to facilitate access to international amateur radio service support systems (such as EchoLink Internet to Radio gateways and international contact logging databases such as the American Radio Relay League's "Logbook of the World" system).
    - Used in some jurisdictions to support town planning applications for towers where evidence of being a licenced radio amateur is required to access certain exemptions and concessions.

While removal of yearly licence renewals and the corresponding de-listing from the RRL has been identified by ACMA as a key cost saving element of the proposal[1], it will negatively impact many activities currently undertaken in the amateur service.

[1] Page 4 para 8 & 9 of ACMA Consultation 01/2021 "Proposed changes to amateur licensing arrangements - Non-assigned amateur stations - FEBRUARY 2021"

2.2.1 Maintain a Public Amateur Operator Register

Access to a register of assigned call signs, and the qualifications under which that call sign is permitted to be used, is key to facilitating self management. Documenting amateur stations in this public manner and enabling the creation of formal licence artefacts, that are individually identifiable and facilitate multiple activities undertaken by amateur licensees, must be retained.

Therefore the WIA makes the following recommendations:

Opportunity:

Maintenance of an individually identified amateur service operator licence in a manner that minimises ACMA cost through outsourcing.

Recommendation 3:

The WIA strongly recommends that a public domain register is retained that documents basic details of stations within the amateur service. At a minimum it should contain the following public facing information:

- *name*
- *post code*
- *call sign*
- *Qualification held*

Other information such as address and contact details should also be captured and stored to facilitate call sign bank lifecycle management, however that data should not be published.

Such a register could also provide the ability to generate an individual licence artefact in support of requirements such as CEPT TR 61/01 (dealing with a portable amateur licence) and CEPT TR 61/02 (dealing with portable amateur radio qualifications) and access to other activities where presentation of an individual licence document is required.

The WIA strongly feels that the register should remain under the ownership of ACMA.

The ACMA could, however, enable the maintenance of information within the register to be contracted to third parties under a deed of agreement, to facilitate ACMA's cost reduction objectives. This might be not unlike the Accredited Persons (AP) system used for assigned apparatus licensing today.

The ACMA could establish call sign revalidation at an agreed interval (suggested every 5 years) as one of the third party provider activities provided under a deed of agreement.

It should be noted that the WIA found ACMA's intention unclear regarding possible use of the existing call sign selection system for this purpose, as delivered by the ACMA contractor (currently the Australian Maritime College (AMC)).

Examples of such systems that would suit the amateur service well in Australia include the call sign management system used by OfCom [2] in the UK. It is possible that ACMA could also re-use its existing Spectra system for this purpose.

[2] https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/online-licensing-service

2.2.1.1 Specific Reciprocal Licensing Impacts

It should be noted that the format of the document is also important, particularly to facilitate access to certain international licensing systems. The WIA notes that a certificate of proficiency, for example, is not sufficient to give effect to CEPT TR 61/01 [3]. (An example where this is a problem is found in Oman). Therefore, it is important that particular attention is given to the CEPT minimum requirements which are:

- *an indication that the document is a CEPT amateur licence;*
- *a declaration according to which the holder is authorised to utilise an amateur radio station in accordance with this Recommendation in countries where the latter applies;*
- *the name and address of the holder;*
- *the call sign;*
- *the validity;*
- *the issuing authority.*

In relation to reciprocal licensing, the key point of concern is that the issuing authority must be the ACMA, as they are the only body that can issue a licence under the act. The WIA is unaware of an ability for ACMA to delegate to a third party the right to issue a licence. The WIA also noted that this issue was not addressed in the Class Licence proposal. Whatever system is adopted, it is important that the utility of CEPT and other reciprocal licensing bi-lateral agreements be maintained.

2.2.2 Multiple Call Sign Management

There are various cohorts of amateur licensees today who hold multiple station call signs. A move to a Class Licensing system will not remove that need or desire from those operators. Therefore the WIA argues a solution is required that supports individuals who wish to continue to hold multiple call signs under class licensing. The WIA however is concerned that with the removal of the link to apparatus licences, and hence the yearly cost burden of renewal, the risk of call sign hoarding will grow for a percentage of amateur radio operators. Therefore, the following proposal is offered:

[3] https://docdb.cept.org/download/2ae38a89-e58a/TR6101.docx

Opportunity:

Preserve existing amateur call sign usage utility with no impact to ACMA

Recommendation 4:

Grand-father existing multiple call sign holders to permit them to retain the call signs they hold, (until they are deceased or otherwise by notice to the managing body relinquish the call sign).

Within the proposed Class Licence system, Impose a new limit of no more than 5 call signs able to be registered by an individual amateur radio operator under the new system at any one time.

This facilitates (for example):

- *a main station location and general use call sign for the operator*
- *one remote station operating from another location if the operator desires keeping separate logs*
- *a contesting call sign (using the new 4 character call sign series)*
- *a special event call sign (from the VI call sign prefix series)*
- *an expedition call sign to be used portable from another VK call area (most likely VK9 or VK0)*

(repeater & beacon call signs are not counted as they are separately registered in the apparatus licence system)

2.2.3 Club Station Call Sign Management

An amateur radio club is a group of individuals who meet regularly with the view of fostering their interest in amateur radio and its associated activities. They provide valuable community service through activities such as WICEN emergency communications activities, Scouts and Guides Jamboree, and communications support for sporting and community events. Amateur radio clubs are permitted today to hold an amateur station licence today on the condition that it is only activated within the licence conditions of the licensed amateur operator supervising the operation of the club station

A Class Licence, therefore, needs to have a suitable mechanism to preserve the ability for amateur radio clubs to hold amateur station call signs not directly assigned to a qualified operator. The WIA proposes the following way forward:

Opportunity:

Facilitate call sign "ownership" by organisations

Recommendation 5:

Club call signs could remain managed under apparatus licensing, which therefore provides a station address for the club to hold the station. Portable operation of club stations would need to be retained under the existing temporary portable rules (4 months without notification condition)

An added utility would be if multiple call signs could be recorded on the one licence for an organisation where blocks of call signs are currently allocated - eg WICEN (VK$WIB-VK$WIZ), Scouts, Guides, Universities etc

2.3 Electromagnetic Energy (EME) Management

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 has been 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".

The approach taken in Option C, however, removes amateur service access to the "Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015" instrument. Instead, it appears to force direct compliance with ARPANSA AS/NZS 2772.2 standard through Part 3 (11) of the draft "Radiocommunications (Amateur Radio Stations) Class Licence 2021".

The WIA believes that the potential financial burden to amateur licencees of this change could be substantial!

For example, obtaining a copy of the ARPANSA document AS/NZS 2772.2:2016 [4] costs ~$250 AUD. 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 EMR is very important, the "costs of compliance" are at odds with the nature of the amateur service.

The direct compliance regime has been geared towards commercial and industrial users of the radio spectrum, and fails to provide adequate pathways for individually licenced operators. It would appear ACMA has recognised that impact in the past through creation of the "Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015" instrument. The WIA asks that this recognition continue, recognising that nothing has changed with respect to EME management requirements for the amateur service.

2.3.1 Improving EME Management within the Class Licence

Given the diverse frequency ranges the amateur service operates over, and the objective of maintaining a simplified regulatory environment, the WIA proposes the following option for consideration:

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 6:

Replace Section 3(11) of the proposed class licence with the content of Part 3 of the existing "Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015"

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

2.4 Transmitter Ownership and Construction / Experimentation Rights

The amateur service is defined as “a radiocommunications service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest”, (ITU RR 1.56) [5].

A critical area of concern for the amateur radio service is protection of the intent of the amateur service, in particular a licensees rights to experiment with radio techniques and technology. This core aspect of the amateur service is valuable not just to those engaged with it, but as a fundamental resource for Australians. It enhances the value of the amateur service to the nation through its ability to enable community education in the areas of Science, Technology, Engineering and Mathematics (STEM).

In many ways the amateur service can be seen as an experimental arm of the radiocommunications sector. The regulatory environment must therefore recognise the absolutely unique and valuable nature of the amateur service in this regard and make provisions to support it. Whereas the majority of the Act [6] is designed to manage transmitter ownership and regulate emission quality and the frequency used for unqualified persons, the amateur service is achieving the same aim by a different method over many frequency bands, based on an understanding of radiocommunications as confirmed by formal qualifications.

2.4.1 Clarifying Possession and Operation of Non Standard Transmitters

Unlike currently class licensed services, which rely on equipment standards being in place in order to work, the amateur service relies on the qualifications, knowledge and technical competency of individual amateurs instead, to make the service work as recognised by the ITU.

The WIA is therefore seeking an opportunity, through this review of amateur service licensing arrangements, to resolve long standing ambiguities around possession and operation of what would be described as “non-standard transmitters” under the Act. This equipment status should not apply to amateurs using, or repurposing for use, such equipment within the terms of their licence.

Noting that the Radiocommunications Act 1992 Section 9 (2) defines what a non-standard device is, the WIA argues that when an amateur licensee modifies a transmitter to conduct an experiment, it should not be considered non-standard. There is no ACMA standard for equipment used in the amateur radio service today and neither does the WIA propose that one should be created. Instead there are performance criteria in the form of frequency bands, power levels, spurious emission regulations and emission modes specified in the current Radiocommunications Licence Conditions (Amateur Licence) Determination 2015. Formal recognition of this fact and the corresponding rights of possession, should be defined in the draft Class Licence proposal.

Opportunity:

Significant clarification of equipment operation by amateur radio operators - resolving a long standing issue.

Recommendation 7:

The WIA requests the ACMA acknowledge within the draft Amateur Class Licence that equipment originally intended for other services can be owned, modified and operated by an amateur, provided that its emission parameters comply with the requirements of the amateur service.

[5] https://life.itu.int/radioclub/rr/art1.pdf
[6] *Radiocommunications Act 1992*

3.0 Amateur (Assigned) Repeater & Beacon Licence Management

The WIA agrees that the current process of managing in-band frequency planning and intra-site frequency inter-modulation coordination is cumbersome. It is a process which evolved over time, with aspects of the workflow becoming complex as responsibilities for various activities fragmented. As application and frequency assignment times slowed within ACMA, repeater operators began to engage commercial Accredited Persons (AP) service providers to complete their registrations.

The issue now being faced is that the complete process for a commercial AP has never been fully considered. They are only able to perform half of the required role because there are no standards set for adjacent site co-channel reuse within amateur repeater and beacon networks. The remainder of the process is carried out by the WIA, as which has resulted in inevitable processing delays.

In discussing this process, the following points have been considered:

- Band plan design processes - IARU regional and international band plans provide guidance.
- Co-channel / adjacent channel inter-site frequency management.
- Intra-site coordination with non-amateur services.
- Call sign acquisition.
- Licence registration with ACMA.

The WIA recognises that the processing delay, particularly around co-channel / adjacent channel frequency selection and inter-site coordination are excessive. The WIA is now developing plans to streamline the workflow.

3.1 Establishment of Accredited “Amateur Service AP”

The WIA welcomes any regulatory simplification that would streamline the process of registering amateur assigned repeater and beacon licences.The WIA supports the initiative to explore the creation of an “amateur service” AP scheme to manage frequency assignment and licence registrations for amateur repeater and beacon stations.

3.1.1 Amateur assigned station - Frequency Coordination Guidelines

Any revised AP scheme would need to consider the development of frequency assignment guidelines or standards, in addition to the International Amateur Radio Union (IARU) globally harmonised band plans managed in Australia by the WIA.

Such guidelines or standards (not unlike ACMA’s RALI LM8) would be best developed by the amateur service sector, as that sector will undoubtedly have a different perspective on re-use and utility to that held by commercial services. The WIA is willing to chair such a committee, and will commit to assembling a representative panel drawn from major repeater operator groups from across Australia.

The WIA believes that this work needs to happen now, regardless of the amateur AP proposals, as enabling workflow changes within the existing system and removing WIA from the loop of individual site frequency assignments would bring immediate benefits to the amateur service.

3.1.2 Amateur AP Scheme Cost Benefit Analysis

In parallel with the guidelines/standards work, a cost benefit study of setting up an amateur (AP) scheme to process amateur assigned apparatus licences should be undertaken. This should include:

- Cost of accreditation - which will likely require a separate certificate of proficiency to be developed, including:
    - Syllabus development.
    - Question bank development.
    - Examination establishment (presumably through AMC at this time).
    - Examination execution costs.
    - Pricing to be charged to applicants.
    - Refresher training.
- Liability Insurance required to be held.
- IT implementation costs of inter-site and intra-site frequency coordination software by amateur APs.
- ACMA IT implementation costs required to enable restricted access to the RRL AP registration portal.
- Compliance costs for managing the scheme.

The final development of an amateur AP scheme should only proceed if it can be shown that there will be a substantially better cost outcome for the amateur service.

With regards to establishing any recognition of prior learning (RPL), assessing existing qualifications is seen as problematic as there are no specific (that the WIA is aware of) courses on spectrum engineering offered in the education and vocational training institutions in Australia today.

The cost of liability insurance issue alone could be enough of a barrier to prevent take up of the scheme by amateur sector service providers.

3.2 Cost Effective and Timely Alternative to the “Amateur AP” scheme

With new amateur assigned repeater and beacon frequency coordination guidelines in place, a commercial AP would be empowered to directly certify that the frequency assignment complies with the wishes of the amateur service sector. The commercial AP would then also complete the intra-site intermodulation etc. coordination checks needed to verify that no interference is caused to co-site services before directly submitting an assignment request to ACMA. This could be completed without needing to liaise with the WIA.

The costs to the amateur service for using a commercial AP are not onerous, and with this process improvement the bottlenecks in the current process are completely removed. The WIA is of the opinion that this alternative scheme could be as effective, and likely to be carried out at a lower cost, than establishing a parallel amateur AP scheme with its associated accreditation and insurance costs.

For the ACMA, closing this last gap within the commercial AP system for handling amateur assigned licences would also mean the ACMA could completely exit its current service of processing amateur repeater frequency assignment requests. It also supports a self management agenda, in that both the band planning and frequency allocation standards remain in amateur sector hands, in this case with the WIA as the only IARU recognised representative body in Australia.

Opportunity:

Streamlined, timely and cost effective process of Repeater/Beacon allocation

Recommendation 8:

The WIA proposes that an amateur assigned service frequency planning standard or guideline be prepared by amateur radio service sector representatives who currently hold licences within the amateur assigned services, led by the WIA. The aim of this document will be to set down the channel use and re-use rules for the amateur networks.

The WIA notes that this would enable existing commercial APs to undertake all assignment tasks end to end, removing the burden from the WIA of providing the current free service to the amateur radio sector.

4.0 ACMA Questions - WIA Response

4.1 Question 1 - Options for Consideration

1. The options being considered under the review:

> Option A: keep the existing apparatus licensing arrangements and licence conditions.

> Option B: simplify the current licensing arrangements and licence conditions by amending the amateur LCD.

> Option C: transition to class licensing arrangements for non-assigned amateur stations. The operation of assigned amateur stations would continue to be authorised under apparatus licences.

The WIA has extensively reviewed each of the three options, considering the opportunities and risks each presents to the way the amateur service in Australia would operate.

Subsequent to the release of the ACMA Consultation, the WIA embarked on an issues awareness campaign, and then, in order to gauge the views of the general amateur community, released an on-line poll open to all Australian amateur operators.

The WIA has received over 1200 responses to the poll. The poll results are:

- 90% percent of respondents favoured Option A as presented as their preferred way forward
- 80% percent of respondents indicated support for the WIA to work with ACMA on resolving the concerns raised with Option C

The WIA has carefully weighed each option, considering the opportunities and risks each presents to the operation of the amateur service in Australia. The WIA has also weighed each option in light of the statement by ACMA that Option C is the preferred approach.

While the WIA understands the pressures ACMA is facing to reduce costs and applauds moves to streamline management of the amateur service, the WIA believes that the ACMA Option C proposal, as presented, will significantly impact and disadvantage Australian amateur licensees.

- **The WIA can not endorse Option C in its current form.**

Option B is also a concern, principally due to the lack of supplied detail. The WIA would want to see a draft instrument presented, drafted in the context of apparatus licensing, before it could give Option B serious consideration.

- **The WIA does not endorse Option B at this time.**

This leaves the WIA in the position of needing to support Option A at this time, noting however that this will not satisfy the ACMA core objective of reducing costs and overlooks the potential opportunities in Option C.

- **The WIA can only support Option A at this time, based on the materials presented.**

Recommendation 9:

The WIA supports Option A at this time for the reasons outlined in this response.

The WIA would reconsider its opinion should the ACMA revise the draft Class Licence to address the concerns presented in this response.

4.2 Question 2 - Draft Class Licence Instrument

2. The proposed content of the consultation draft class licence (the draft Radiocommunications (Amateur Radio Stations) Class Licence 2021).

The WIA has reviewed in detail the proposed "*Radiocommunications (Amateur Radio Stations) Class Licence 2021*" document. The following sections are of concern.

4.2.1 Call Sign Usage

4.2.1.1 Emergency Service operation & Training - Call Signs

A key call sign identification requirement has been deleted from the draft Class Licence that impacts the amateur service's emergency service and emergency communications training capabilities.

Opportunity:

Clarification of amateur service operation
Self management by the amateur community further reducing the regulatory burden on the ACMA

Recommendation 10:

The WIA argues that this should be restored to the draft Class Licence LCD within "Part 3 Section 8 - Using call signs during operation". This can be achieved through the inclusion of Sub-Section Part 2 Section 8 (2A) of the existing "Radiocommunications Licence Conditions (Amateur Licence) Determination 2015"

4.2.1.2 Visiting Overseas Amateur Operator - Call Sign Usage While in Australia

The WIA also notes that there is no explanation provided in Part 3 Section 8 of the proposed Class Licence of what call sign a visiting overseas amateur operator, qualified under Part 3 Section 7 (3) of the proposed LCD, should use when operating.

Opportunity:

Clarification of amateur service operation
Self management by the amateur community further reducing the regulatory burden on the ACMA

Recommendation 11:

The WIA proposes that a section be added that instructs overseas visiting amateurs to prefix their home call sign with "VK/" when operating under this class licence. As per the Radiocommunications (Overseas Amateurs Visiting Australia) Class Licence 2015 Section 11 (1).

4.2.2 Spurious Emissions Definition

The WIA has identified a concerning change in the wording of the section of the draft class licence dealing with spurious emissions. It's a subtle change, but one that significantly increases the spectral purity requirements of amateur service transmitters, compared to the current Amateur LCD.

The spurious domain is defined in the ITU Radio Regulations as 2.5 times the necessary bandwidth away from the transmission centre frequency. The existing Amateur LCD states that *"The licensee must not operate an amateur station if the emissions of the station include spurious emissions that are not attenuated below the power* ***of the wanted emission*** *supplied to the antenna transmission line".*

The proposed wording change in the draft Class Licence replaces the phrase "***of the wanted emission"*** with ***"contained within the emission's necessary bandwidth"***, which significantly increases the spectral purity requirements for no specific reason.

Opportunity:

Alignment with international ITU definition

Recommendation 12:

The WIA contends that the existing Amateur LCD wording should prevail and the ACMA should maintain the limits in accordance with the current ITU definitions. As a result, Part 3 Section 10 of the draft Class Licence should read:

10 Operation – interference and spurious emissions

(2) A person must not operate an amateur station if its emissions include spurious emissions that are not attenuated below the power ***of the wanted emission*** *supplied to the antenna transmission line*

4.2.3 Electromagnetic Radiation Management

As stated earlier, the WIA is very concerned that the wording of Part 3 Section 11 of the draft Class Licence instrument has directly referenced the ARPANSA standard. The WIA argues that the section as presented places an unacceptably high cost burden on the amateur service given that the aim of Option C is to withdraw the amateur service from apparatus licensing.

Remedies for this situation are discussed in Section 2.3 of this WIA response.

4.2.4 LF Transmitter Power Definition

The proposed Class Licence for the 135.7 kHz - 137.8 kHz band incorporates a transmitter power limit in addition to the EIRP limit specified in Schedule 1 Table C. The WIA argues the transmitter power limit is unnecessary because the EIRP limit is very difficult or impossible to reach due to very high power losses associated with antennas for that band, especially those available to amateur radio operators.

Due to the very high power losses involved, imposing limitations on the transmitter output power will significantly reduce the opportunities to approach the allowed EIRP limit and successfully use those bands.

Opportunity:

Due to the antenna efficiencies at these frequencies there is an insignificant risk that amateurs will reach the EIRP limits, therefore limiting transmitter power is considered to be unnecessary.

Recommendation 13:

The WIA recommends rewording Schedule 1 Table C of the draft Class Licence as follows:

Table C – Permitted frequencies, power limits and limitations

Column 1	Column 2	Column 3	Column 4
Item	**Frequency band**	**Power limit**	**Limitations**
1	135.7 kHz–137.8 kHz	(a) The person must not use an antenna with, or as part of, an amateur station that has a radiated power of more than 1 watt pX EIRP.	(a) The person must not operate an amateur station with a necessary bandwidth greater than 2.1 kHz.

4.2.5 MF TX Power Definition, Bandwidth & Timor Exclusion zone

4.2.5.1 476kHz band TX Power

A similar problem to the power definition in Section 4.2.4 has been created by the transmitter power definition applied to the 472-479 kHz band. The addition of the TX input power should be removed leaving solely the EIRP specification as per the 137kHz band.

4.2.5.2 Transmitter Bandwidth Limitation

The limitation of 2.1 kHz in "A person must not operate an amateur station with a necessary bandwidth greater than 2.1 kHz"; 2.1 kHz should be changed to 3 kHz to allow conventional Single-Side-Band telephony usage, or even 7 kHz to be consistent with the 135.7 – 137.8 kHz frequency band (which is only 2.1 kHz wide). Changing the bandwidth limitation to 3 kHz has no adverse impact on primary users of the band (if any) or incumbent amateur stations.

4.2.5.3 Timor Non Directional Beacon Area

The "***Timor Non Directional Beacon Area***" is no longer required because there are no Australian frequency assignments in the 472 – 479 kHz frequency band for Non-Directional Beacons. While previously there may have been NDB usage in this frequency band, the only listed operator (https://web.acma.gov.au/rrl/site_search.site_lookup?pSITE_ID=9007328) [7]appears to have shifted to another frequency (383 kHz) and consequently there is no need for the additional regulatory burden on amateur stations using the 472 – 479 kHz frequency band.

In any case, if the zone is to remain, the WIA argues that the 2000 km radius is completely unnecessary, as the ITU-R studies undertaken before the 472 – 479 kHz band was allocated as a secondary amateur allocation at WRC-12 indicate that a suitable co-channel protection distance (with an 12 dB additional safety margin already included) is in the order of 900 km for the allowed 5 W E.I.R.P power limit. This is clearly shown in table 5 of Report ITU-R M.2203 [8]"Compatibility of amateur service stations with existing services in the range 415-526.5 kHz".

Furthermore, the highlighted additional proposed text in item 2 of Table C is not physically possible: "A person must not operate an amateur station if the transmission would occur in, or travel into the Timor Non Directional Beacon Area". Once a signal is emitted it travels in all directions, what matters is the resulting Signal to Interference Ratio. Provided that is not exceeded, there are no problems. Adherence to the distances given in ITU-R M.2203 ensure a suitable and safe outcome for users of aeronautical NDB's.

[7] https://web.acma.gov.au/rrl/site_search.site_lookup?pSITE_ID=9007328
[8] https://www.itu.int/pub/R-REP-M.2203-2010

Opportunity:

Due to the antenna efficiencies at these frequencies there is an insignificant risk that amateurs will reach the EIRP limits, therefore limiting transmitter power is considered to be unnecessary.

Recommendation 14:

The WIA recommends that the working of Point 2 of Schedule 1 Table C in the draft [9] needs to also be revised as follows:

Table C – Permitted frequencies, power limits and limitations

Column 1	Column 2	Column 3	Column 4
Item	**Frequency band**	**Power limit**	**Limitations**
2	472 kHz–479 kHz	(a) The person must not use an antenna with, or as part of, an amateur station that has a radiated power of more than 5 watts pX EIRP.	(a) A person must not operate an amateur station with a necessary bandwidth greater than 3 kHz. (b) (removed) (c) (removed or reduced to a smaller radius)

[9] Draft Radiocommunications (Amateur Radio Stations) Class Licence 2021

4.2.6 Restore Harassment Protections

While the instance of on air harassment of individuals is believed to be very low within the amateur service, issues of harassment could arise that need to be dealt with by the regulator. Currently Section 108. 2(d) of the Radiocommunications Act 1992 provides the legal mechanism to deal with this scenario under apparatus licensing. Under class licensing, no such provision exists.

The WIA notes that the Radiocommunications (Citizen Band Radio Stations) Class Licence 2015 Section 6 (f) has specific harassment provisions. The WIA recommends the following be included in the Radiocommunications (Amateur Radio Stations) Class Licence 2021:

Opportunity:

Maintenance of existing utility afforded the amateur service under class licensing.

Recommendation 15:

That ACMA includes a Section the same as Section 6 (f) of the Radiocommunications (Citizen Band Radio Stations) Class Licence 2015 within the draft "Radiocommunications (Amateur Radio Stations) Class Licence 2021".

4.2.7 Generic Terminology

The WIA suggests the use of the generic term "contractor" or "delegate". This will future proof the proposed Class Licence.

Opportunity:

Enhance longevity of the Class Licence proposal through using generic terms.

Recommendation 16:

In part 1 Section 4 of the proposed Class Licence, it is recommended that ACMA replace all references to AMC with a suitable generic term.

4.2.8 Unintelligible Transmissions

It is important that all amateur radio transmissions should be intelligible for the purpose of identifying unauthorised transmissions and detecting sources of interference. Digital transmissions should be able to be decoded and made intelligible using commonly available software.

Opportunity:

Maintain self management capabilities by prohibiting unintelligible transmissions.

Recommendation 17:

The text that is currently in Section 8 of the Amateur Licence Condition Determination covering "unintelligible transmissions" should remain in Section 9 of the draft Class Licence.

4.2.9 Call Sign Template Rules

The WIA has residual concerns about the recent events surrounding the call sign template and how it is managed. The move to a class licensing arrangement does not add any transparency. The WIA suggests that the move to streamline regulation of the amateur service also provides an opportunity to restore clarity and transparency over what call sign formats, and their accepted usage, are acceptable.

The WIA is also concerned that the amateur service call sign template is purely a function of current ACMA policy. The WIA believes that these "ACMA guidelines", which are based on the ITU-RR 19 rules, should not be optional, as they form a key aspect of amateur radio's operational utility. Further, the call sign template currently being used by the ACMA's contractor, and endorsed by ACMA, appears inconsistent with ITU-RR 19.46, 19.47 and 19.48 [10]. Terms such as SOS, PAN and the Q-codes listed in Rec. ITU-R M.1172 [11] should not be assigned.

The specific proposition by ACMA to define the usage of the "AX" call sign prefix in the proposed "Operator Manual" is also a concern, again because its usage rules would be non-binding and general usage could occur. The WIA recommends that this text is returned to the proposed Class Licence document.

Finally, the WIA believes that a number of the conventions describing call sign usage should be addressed in the draft class licence.

Opportunity:

Restore clarity and utility of the prohibited call sign list and retain regulatory status of call sign prefix usage.

Recommendation 18:

That the description of the amateur prohibited call sign template should be included in the proposed class licence document, and not in the operating guidelines as proposed by the ACMA in the consultation paper.

That the following rules be documented in the draft class licence:

- *That the use* of the "AX" call sign prefix be defined in the draft Class Licence document, not in the operator manual as proposed.
- *Base call sign template definition with VK$xx call signs are available for AOCP(A) or equivalent only.*
- *Standard call sign template will use VK$xxx for all licence grades.*
- *The state indicator in a call sign eg the '$' in 'VK$xx', 'VK$xxx' etc shall be assigned according to the amateur operator's state of residence at the time the call sign is applied for.*
- *preservation of the VK0 and VK9 call sign blocks for use only by operators located in the relevant Australian External Territories (Antarctic and Sub-Antarctic - VK0, other Australian External Territories - VK9).*

[10] https://life.itu.int/radioclub/rr/art19.pdf
[11] https://www.itu.int/rec/R-REC-M.1172-0-199510-I/en

4.2.10 Specific Reference to the 50 - 52MHz frequency band

The WIA is seeking clarification as to why the ACMA has included Section13(1) in the draft Class Licence, given there are a number of bands that the amateur service operates within where they have secondary status. The WIA sees no reason why this band should be singled out. Amateur operators are trained to comply with the requirements specified within the Australian Radio Spectrum Plan and the Amateur Band Plans as updated from time to time.

Opportunity:

Simplification of the draft Class Licence.

Recommendation 19:

The WIA recommends that Section 13(1) of the draft Class Licence is removed.

4.2.11 Earth-Moon-Earth Specific Conditions

The WIA has concerns that the wording of Section 14 of the Class Licence has been made more prescriptive than is the case in the current apparatus licence conditions applied when moon bounce operation is endorsed. The current wording permits transmissions for the purpose of reflecting signals from a celestial body. The draft Class Licence explicitly calls out Earth-Moon-Earth communications.

The WIA is concerned that this tightening of language will prevent existing activity such as Meteor Scatter communications from continuing to be permitted under the existing apparatus licence conditions.

Opportunity:

Retention of existing utility.

Recommendation 20:

The WIA recommends that the existing wording for high power permits be maintained, specifically “authorises transmissions for the purpose of reflecting signals from a celestial body”.

4.3 Question 3 - Amateur Operating Procedures

3. The development of an amateur operating procedures document to include non-binding recommendations for operation of amateur stations, removing binding conditions under options B and C.

In principle the WIA is generally supportive of this proposal, however further information is required to improve understanding of what is actually intended.

The WIA notest that basic operating procedures are already encapsulated in the licence practical exam which all new licensees need to undertake as part of their certification. It may be that the requirement for this is already managed through existing training publications and syllabus requirements. Existing publications may fulfill this purpose.

An interference triage process could be placed into the proposed guidelines to provide instruction on how the amateur service undertakes the process of detection, location and required evidence gathering prior to approaching the ACMA to assist with the possible elimination or reduction of interference should direct negotiation with other parties prove unsuccessful.

The Amateur Operating Procedures Manual would also be a good place to describe the requirements for applying for temporary special event call signs, and the rules around their usage. Likewise for the 4 character contesting call signs.

Opportunity:

Provision of operating instructions to the amateur service facilitated by the regulator.
Opportunity for self management

Recommendation 21:

The WIA recommends that the ACMA consult with representatives of the amateur service over the potential content of an amateur operator handbook.

The WIA notes that this could be outsourced, and that much of the relevant content may already be available within existing amateur service publications.

4.4 Question 4 - Frequency Assignment Accreditation

4. Whether a new type of accreditation should be created that allows the issue of frequency assignment certificates only for beacon or repeater licences.

As stated previously, the WIA is willing to explore how such a system could work.

However, it is the opinion of the WIA that the establishment costs for applications may exceed those currently experienced using commercial APs, especially considering any new accredited entity would be required to carry significant levels of liability insurance and invest in new software systems.

Further details of this are discussed in Section 3.0 of this paper.

4.5 Question 5 - Frequency Assigner Qualifications

5. The qualifications that should be required from applicants for this kind of accreditation.

Should an Amateur AP system proceed, the WIA is of the view that the most uniform and credible way forward would be for ACMA to establish a syllabus in consultation with amateur service sector representatives, including training for fixed network frequency planning.

Further details of this are discussed in Section 3.0 of this paper.

4.6 Question 6 - Establishment of Amateur Accreditation Arrangements

6. Any other matters that are relevant to the establishment of such an amateur accreditation arrangement.

Refer to the full WIA position outlined earlier in Section 3.0 of this response.

4.7 Question 7 - Reciprocal Arrangements and Overseas Visiting Operators

7. Any comments, including alternative proposals, relating to the ACMA's current policy on reciprocal arrangements for recognition of overseas qualified amateurs.

The WIA would be supportive of collapsing the existing Radiocommunications (Overseas Amateurs Visiting Australia) Class Licence 2015 into the main Amateur Radio Class licensing document if one was to be adopted.

The WIA also seeks clarification from the ACMA on the situation with existing Australian amateur licence holders who are either residents or visa holders or citizens, who have been awarded a licence based on a foreign qualification prior to the requirement to obtain an AOCP via RPL after 12 months.

There are multiple amateur licensees in Australia who are in this situation, who held a licence before 19th September 2019 [12], and which are currently grand-fathered. There is concern among this cohort of amateurs how they will be recognised under the proposed Class Licence.

Finally, there appears to be a problem with Part 3 Section 7 of the proposed Class Licence where it is silent on how overseas amateur operators are treated 90 days after arrival in Australia. This suggests that amateurs in this situation need to obtain an AOCP after 90 days. It is the WIA view that this appears unreasonable.

Opportunity:

Provision of operating instructions to the amateur service facilitated by the regulator.
Opportunity for self management

Recommendation 22:

The WIA supports collapsing the existing Radiocommunications (Overseas Amateurs Visiting Australia) Class Licence 2015 into the main Amateur Radio Class licensing document if one was to be adopted

The WIA seeks urgent clarification from the ACMA on the situation with existing Australian amateur licence holders who have been awarded a licence based on a foreign qualification prior to 19th September 2019.

It is the WIA position that an amateur radio operator with a recognised overseas qualification should not be expected to re-qualify.

[12] https://www.acma.gov.au/overseas-amateurs-visiting-australia#licence-term

4.8 Question 8 - Suggestions to Reduce Regulatory Burden

8. Any suggestions to further reduce regulatory burden on amateur licensees.

4.8.1 A Possible Amateur Radio “Services Delivery” Model

In considering ACMA’s deregulation agenda, the WIA has given some thought to the ways some of the proposed services could be delivered based on a contracted service model.

The types of activities that an amateur radio sector service provider(s) may engage in could include (but not limited to):

- The maintenance of a publicly visible call sign / licence register as outlined above as suggested in 2.2.
- Management, allocation, and review of individual, club, repeater, special event and contesting call signs as suggested in 2.2
- Interference mediation and amateur service interference triage as suggested in 2.1.3
- Delivery of assessment services
- Delivery of an “Amateur AP” function for assigned amateur apparatus licensing as suggested in 3.2.

There are examples in other sectors where service providers operate successfully, such as the relationship between Air Services Australia, Recreational Aircraft Australia and the Australian Sport Rotorcraft Association.

In this case AirServices Australia does the overarching legal and international regulation (treaties, etc.), and
The accredited “self management” entities ASRA and RAA are delegated all technical standards, testing, pilot licensing, aircraft accreditation and registrations, and accident investigations.

Although aviation has a safety of life context, it does demonstrate how a service delivery environment could be established within the amateur sector.

Ultimately, given that a Class Licence is the ACMAs prefered outcome, it is worth considering different scenarios and the opportunities that may facilitate co-management and/or self-management. The implementation of a hybrid arrangement where there is an appropriate split of responsibilities between the ACMA and the amateur sector is clearly non-trivial.

This topic requires further discussion between the ACMA and representatives from the amateur sector.

4.8.2 Future Amateur Service / ACMA Engagement Models

There are numerous levels where ACMA engagement with the amateur radio sector will need to be maintained, due to the international nature of the amateur service. For example, work on World Radiocommunication Conference agenda items of concern or interest to the amateur service; the WIA has representatives on various Australian Radiocommunication Study Groups (ARSG) who provide specialist knowledge to inform Australia's position on WRC specific topics and who can also facilitate Australian input to ITU working groups and other conferences. Such contributions are also important for the WRC Preparatory meetings of the Asia-Pacific Telecommunity.

Domestically, however, given the desire by new organisations within the amateur service to directly engage with the ACMA, the WIA recommends a new (to the amateur service) model be established for liaison and consultation work between the sector and the regulator. This could include a clear process of engagement through:

- Amateur service issues introduced to ACMA via the Five Year Spectrum Outlook (FYSO) consultation process.
- For consultation on specific amateur matters the WIA recommends using a Technical Liaison Group (TLG) or ARSG style forum chaired by ACMA and open to interested groups and appropriately qualified individuals.
- Regular liaison meetings between the ACMA, the proposed sector services provider and the representative organisations to facilitate discussion on amateur service sector issues relevant to all parties.
- Management of activities such as amateur syllabus development could be managed independently by the sector through the proposed sector service provider. ACMA would only need to engage for final endorsement of proposals.

Opportunity:

Opportunity for improved regulator / sector engagement

Recommendation 23:

That ACMA consider establishing a new framework for amateur sector engagement as outlined above

4.8.3 Facilitating the new Amateur (assigned) Apparatus LCD

The WIA notes that draft instruments outlining the operation of the amateur (assigned) services have not yet been tabled by ACMA. It is requested that these be made available for consultation by ACMA in a timely fashion such that they can be implemented at the same time as other proposed reforms of the amateur service licensing arrangements..

Further, given the lack of any consideration to the amateur-satellite service in the consultation document or even the existing instruments, the WIA wishes to minimise interference and other adverse impacts on the amateur-satellite service because of the anticipated growth in demand for access to this service by Australian institutions.

Opportunity:

Enhance regulatory understanding, oversight and support for the amateur-satellite service

Recommendation 24:

That ACMA, in consultation with the WIA, establish a framework for management of access and operation of space and ground station segments within the amateur-satellite service

5.0 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 class licensing arrangements disadvantage Australian amateur licensees compared to existing apparatus licensing arrangement and Radiocommunications Licence Conditions (Amateur Licence) Determination.

However, noting that the needs of the amateur service have not changed and that the driver for this proposed change is driven by external factors, the WIA has also provided additional information on ways that a class licensing arrangement might work, without adding regulatory burden or increased expenditure, and without disadvantaging Australian amateur operators.

The WIA looks forward to working with the ACMA to resolve the many issues raised in this response to consultation 01/2021.

A.1 Appendix I - Value Of The Amateur Service

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 [13] held globally each year.
  - Community sporting events [14] 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 [15] through, for example, communicating with the International Space Station (ARISS) [16] or flying and tracking high altitude balloons (e.g. Project Horus [17]).
  - 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 [18], radio propagation studies[19] and many more

[13] https://www.jotajoti.info/
[14] https://www.areg.org.au/archives/category/activities/rpm200
[15] https://www.sarcnet.org/
[16] https://www.ariss.org/
[17] https://www.areg.org.au/archives/category/activities/project-horus
[18] https://www.solarham.net/
[19] http://wsprnet.org/drupal/wsprnet/map

- 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 [20]modulation or advanced weak signal communications using modes (using the WSJT-X software suite) [21] 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 [22] 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.

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) [23] has enabled operators from the amateur radio 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 communications [24] - 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 Carribean hurricanes in the last couple of years. This capability of the amateur radio service is in fact recognised and encouraged in the ITU Radio Regulations through ITU-RR 25.9A.
  - Recommendation ITU-R M.1042-3 [25] 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.

[20] https://freedv.org/
[21] https://physics.princeton.edu/pulsar/k1jt/wsjtx.html
[22] http://www.itu.int/rec/R-REC-M.1043/en
[23] https://wicen.org.au/
[24] https://www.iaru.org/on-the-air/emergency-communications/
[25] http://www.itu.int/rec/R-REC-M.1042/en

A.2 Appendix II - WIA Poll methodology

The WIA in formulating its response has chosen to conduct a poll of members and non members who registered with the WIA polling system. The following information was presented and then two questions were asked.

A.2.1 Summary of Option A

Option A: *keep the existing apparatus licensing arrangements with the same licence conditions*

Opportunity
Maintain of Individual licensee identification and registration in the ACMA licence database (and hence most importantly an individually attributed licence document) which supports both self regulation and international reciprocal rights particularly for Australian amateur radio operators seeking to operate in other overseas.
Maintain existing (albeit limited) domestic interference protection arrangements offered under apparatus licensing in the RadCom Act 1992 (particularly Section 110 (b))
Maintain management of EMR (RadHaz) safety for amateur stations today as defined in the “Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015” Part 3
Maintain existing technical conditions of the amateur service as described in the Radiocommunications Licence Conditions (Amateur Licence) Determination 2015 dated 29th April 2020
Maintain existing prohibitions on operating a transmitter in a manner that would likely cause reasonable persons to be seriously alarmed, affronted or for the purpose of harassing a person as prescribed in the RadCom Act 1992 (see Section 108(d))

Risk
This option fails ACMA’s key cost saving objective of the review
Does not streamline entry to amateur radio or simplify any outdated regulations that unnecessarily restrict existing amateur radio activities
Qualified amateurs do not retain their licensed status or call sign unless they pay regular licence renewal fees. (Nil fees for a Class licence better maintains an amateur population base).

The opportunities presented in Option A are equally considered risks in Option C where they have not been adequately translated into the new licensing instrument.

At the same time, the amateur service should be concerned that the ACMA will elect to proceed with Option C regardless, as the only way to meet their obligations to achieve cost savings for the authority.

On the surface, the impact of the Radiocommunications Legislation Amendment (Reform and Modernisation) Act 2020 would also appear to present the opportunity for long term (20 year) licences to the amateur service without reforming the whole sector. In the ACMA consultation paper, however, ACMA noted that today even take up of a 5 year licence has been limited. The WIA would contend that the reason that takeup is low is due to the licence tax component of the apparatus licence fee structure making it costly to acquire one, a problem that is not addressed in the 20 year licensing options either. Furthermore, the process of extending the licence period to multiple years is not straightforward and requires additional work for the licensee and the ACMA. A simple addition to the web based payment portal to allow multiple year licences would be significant process improvement.

A.2.2 Summary of Option B

Option B: *simplify the current licensing arrangements and licence conditions by amending the Radiocommunications Licence Conditions (Amateur Licence) Determination 2015 (Amateur LCD)*

Opportunity
Remove regulations within the Radiocommunications Licence Conditions (Amateur Licence) Determination 2015 that no longer serve a purpose and for which regulatory oversight is deemed no longer necessary
Retention of existing opportunities listed in the opportunities in Option A (above).

Risk
Little detail provided on how this proposal would work. The full impact to the amateur service is unable to be assessed without a draft instrument specifically presented for this simplified regime.
ACMA asserts that option B does not change their financial and administrative costs in managing the amateur service.

Option B really offers little to either the ACMA nor to the amateur service. It is not an attractive solution.

A.2.3 Summary of Option C

Option C: *transition to class licensing arrangements for amateur stations operating on common frequencies (non-assigned amateur stations). The operation of amateur beacon and repeater stations (assigned amateur stations) would continue to be authorised under apparatus licensing arrangements, possibly with new arrangements for frequency coordination and assignment.*

Opportunity
Streamlining of licensing process. The ACMA proposes that under the Class Licence, all that would be needed is an AOCP qualification and the assignment of a call sign by a third party body. This may significantly reduce the delays between completing an assessment and being allowed to start transmitting - simplifying entry to the amateur service.
The consultation paper is offering a new model for managing amateur repeater & beacon - apparatus (assigned) licences - retaining the value of an Assigned licence for fixed site frequency management and coordination while (potentially) reducing the cost barrier to establishing fixed (repeater and beacon) amateur stations.
Allow qualified operators to operate an amateur radio station for life with no administrative fees levied by the ACMA for spectrum access, and only minimal administrative service fees (potentially by a third party) for services such as call sign management.
Simplification and removal of outdated prescriptive regulations from the Amateur LCD, with the Amateur Operating procedures previously covered in that instrument being moved to an advisory document.

Risk
The statement in the consultation paper by ACMA that under the Class licence, the amateur service would now operate under a ‘no interference, no protection’ basis raises concerns on how ACMA will carry out its domestic and international responsibilities in the parts of the spectrum designated as ‘PRIMARY’ status within the Australian Radio Spectrum Plan, and corresponding ITU Radio Regulations relating to protection from unauthorised transmitters
An amateur radio station would be authorised to operate only if “it does not cause interference to other devices and services”. The addition of “devices” is the issue. It fails to recognise that the solution to EMC compatibility problems usually requires mutual cooperation of the transmitting and receiving parties. It also fails to recognise that the fault may lie solely with the receiving device’s immunity and not the characteristics of the transmitter.
Moving the regulation of the amateur service from the Apparatus Licensing to the Class Licensing method described in the Radiocommunications Act 1992 removes several key clauses and instruments from applying to the amateur service which are fundamental to the way it operates today including Section 108(d) and 110(b).

Opportunity
The opportunity to recombine the Overseas amateurs visiting Australia Class Licence with the same instrument regulating domestic amateur service operation removes confusion for the amateur service and brings efficiencies for the ACMA

Risk
The proposal to remove individual amateur station licenses from the Radiocommunications Register of Licences (RRL) harms the ability of the amateur service to carry out any form of self regulation. Expiry of call sign allocations to individuals has also not been considered.
Removal of an individual licence document that identifies the individual operator (and includes the reference to the CEPT T/R61-01 licence), will prevent Australian amateur radio operators from using the CEPT international Amateur Radio arrangements when travelling overseas.
Concerns about transmitter power output power limits vs. radiated power limits

Option C has presented some new positive opportunities for the management of the amateur service, while at the same time exposing the service to the greatest risks to its operation.

A.2.4 Poll Methodology

The poll was carried out to answer two questions.

1. Which of ACMAs options does the amateur service support?

2. Would you support the WIA exploring options of a streamlined amateur service licensing system with the regulator that could deliver benefits to both the amateur service and the ACMA?

Poll engine structure:

- WIA members were automatically subscribed to the system in the Vision6 platform.
- Poll respondents were required to hold an amateur radio licence.
- Poll respondents were checked to confirm their identity against the ACMA client database as part of the mechanism to limit individuals from multiple voting times
- Against an individual ACMA client ID, they were able to vote multiple times but only their final vote counted.

The poll results are contained in Section 4.1 of this paper.