WIRELESS INSTITUTE OF AUSTRALIA
PO Box 2042
Bayswater
Victoria 3153 Australia
Phone: + 61 3 9729 0400
Facsimile: + 61 3 9729 7325
www.wia.org.au
nationaloffice@wia.org.au
ABN 56 004 920 745

WIA submission to Five-year spectrum outlook 2018–22: The ACMA's spectrum management work program — consultation draft

The Wireless Institute of Australia (WIA) thanks the ACMA for the opportunity to comment on the draft Five-year spectrum outlook 2018–22 (FYSO), released on 18 May 2018.

The WIA is generally disappointed with the ACMA's responses on spectrum–related matters impacting amateur radio.

In relation to other issues, the WIA acknowledge that the ACMA has indicated it will:

- finalise arrangements for issuing certificates of proficiency before expiry of the current deed with the WIA (February 2019);
- consider the WIA requests for amendments to the licence conditions that seek to vary permitted power levels, relax permitted bandwidths and emission modes in certain circumstances, authorise foundation licensees to use digital modes and non-commercially manufactured equipment, and clarify definitions of certain terminology.

In proceeding to comment on the FYSO, we will first respond to the four Consultation Questions and then follow with detailed comments and suggestions concerning the specific spectrum–related amateur radio issues.

Consultation Questions

1. What further improvements could be made to the FYSO to make it easier for stakeholders to engage with the ACMA on its work program?

The WIA suggests implementing meetings with stakeholders held on a regular, scheduled basis, rather than *ad hoc*, and held throughout the five years of the work program.

2. Are there other technology developments or sources of spectrum demand the ACMA should be aware of in considering spectrum management over the next five years?

Radiocommunications and IT technologies have been going through significant development over the past decade, which is envisaged to continue, perhaps at an accelerated pace. The amateur radio community has always adopted and adapted new technologies as they emerge. Amateurs have maintained a presence in satellite and space technologies, for example since soon after man-made satellites first emerged. Satellites carrying amateur radio equipment will soon orbit the moon.

It is envisioned that geostationary orbit satellites will carry amateur radio experiments in the future, while other amateur satellites are planned to be launched into eccentric (Molniya) orbits, as has occurred previously, providing satellite accessibility for periods up to half a sidereal day. Such future satellites are planned or envisioned to use amateur microwave allocations, as these frequencies offer particular advantages. However, while amateur satellite allocations are noted in the ITU table of spectrum allocations, they are in amateur secondary allocations and affected by recent ACMA decisions.

Some technology developments are threatening the health of the radiofrequency spectrum as a resource. Already, the situation with EMC, EMI, and RFI involving electronics and IT equipment, has a cumulative impact, raising the RF noise floor significantly across the spectrum from LF through to UHF, particularly across urban areas. This impacts all spectrum users.

Radio amateurs often have to work with weak signals from distant stations, or wish to experiment with radio propagation modes that involve weak signals. Like the rest of the population, radio amateurs mostly live in urban areas where high to very high levels of urban RF interference from non-RF sources is frustrating their abilities to operate, particularly on the HF and VHF bands, even extending to the 70cm band. This phenomena has driven the development of remotely-located amateur stations outside urban areas with its dominating RFI, which can be operated from amateurs' urban homes, or anywhere, via the internet.

As you would be aware, concerns have arisen across the world about the advent and experimental implementation of Wireless Power Transfer (WPT) technology for charging electric vehicles. It uses very high power RF to transfer energy. This has the potential to cause significant levels of RFI. It is noted that WPT is on the WRC-19 agenda.

3. Do you have any feedback on the ACMA's plans for monitoring, initial investigation, preliminary replanning or re-farming of bands?

The WIA has no comment to make on the proposed operations set out in the draft work program.

4. Do you have any feedback on optimising established planning frameworks?

The WIA has no comment to make.

Impacts on the Amateur Service

The WIA responded to the earlier FYSO consultation paper. In that submission, the WIA detailed a series of proposed spectrum-related items for attention over the FYSO term, all of which have been before the ACMA since 2016, and some since 2014. These matters are now addressed, in turn.

1. 60m Band (5351.5-5366.5 MHz). Noting that this secondary allocation entered the Australian Radiofrequency Spectrum Plan on 1 January 2017, the WIA has sought "early release" for amateur access.

". . *a secondary allocation . . has been added to the Australian Radiofrequency Spectrum Plan. However, this does not oblige the ACMA to enable use of the*

allocation. ACMA is not obliged to enable use of the 5.3 MHz allocation in the Australian Radio Frequency Spectrum Plan. The ACMA considers that the concerns of Defence, as an existing user of that band, remain." [page 45]

"The views of existing users are sought on the feasibility of amateur usage . . to assist future considerations." [page 46]

The WIA notes that Defence has indicated to us informally that it has no major problem with amateur access to this allocation. However, the WIA understands that sharing with other users – particularly, Police and Ambulance services – is problematic as they are first responders in safety of life and property matters.

In canvassing the views of users, the WIA proposes a compromise to 'open use': parties would negotiate a time sharing arrangement and not operate within specific geographic exclusion zones, e.g. 250 km radius around the existing licensees. This would enable amateur use of the band and minimise potential interference to existing users.

2. 160m Band Extension (1875 – 2000 kHz)**.** The WIA notes the ACMA's responses to this proposal:

"At the ITU level, there is an allocation for the amateur services in 1800–2000 kHz. However, in Australia, 1875–2000 kHz is used by other services. The introduction of amateur services would be a disruption to those services and the views of existing users would need to be sought." [page 45]

"The views of existing users are sought on the feasibility of amateur usage . . to assist future considerations." [page 46]

The WIA notes that there are 28 assignments (some in Antarctica) in the 1900-2000 kHz segment. It would seem that there is an opportunity to extend the 1800-1875 kHz Amateur allocation by 25 kHz, to 1900 kHz. In view of this, the WIA is willing to work with the ACMA to achieve an extension of the 160m band by 25 kHz, from 1875 kHz to 1900 kHz. In addition, the WIA is ready to help the ACMA to canvas secondary use of 1900-2000 kHz, or feasible segments therein, given that there are so few allocations spread on continental Australia.

3. 80m Band Extension (above 3800 kHz). It is disappointing to note the ACMA's response to the WIA proposal, which also included the segment 3700-3776 kHz.

" . . extension of the 3776–3800 kHz DX window to above 3800 kHz—The ACMA does not support this change, as it poses considerable disruption to existing users." [page 45]

With some research of the public licence register, the WIA notes that there are more than 3000 assignments in the 3700-3900 kHz band, the majority falling within 3700-3800 kHz, while only something over 300 fall within 3800-3900 kHz. However, there may be other assignments (classified assignments) not on the public licence register.

Over time, it is suggested that it would be possible for the WIA to work with the ACMA and licensees within the 3800-3900 kHz band for amateurs to operate on a secondary service basis (under ITU Regulation RR 4.4).

4. Primary Status for 50-52 MHz Band. It is quite disappointing to see this proposal deferred to some indeterminate time.

> *"50–52 MHz upgrade of amateur allocation to primary in Australian Radiofrequency Spectrum Plan—With other priorities (digital radio planning, AM to FM conversions), the ACMA does not intend to consider this matter in the short to medium term."* [page 45]

While the WIA understands that allocation of this spectrum is dependent on ITU Regulation RR 5.168 (and footnoted in the ITU Table of Spectrum Allocations) and persisting interest from the broadcast sector, we seek your cooperation to have the issue added to the work program for consideration at a future WRC, for example WRC-23.

In the meantime, this issue remains on the WIA's list of proposals.

5. Amateur Allocation at 70.0-70.5 MHz. Again, it is quite disappointing to read the ACMA's response to this proposal.

> *"The ACMA considers that operating amateur services in this frequency range is not feasible as it would be inconsistent with ITU Radio Regulations and existing services already operating in the frequency range. This frequency range is used by a variety of fixed and land mobile services as supported under the VHF mid band (70–87.5 MHz). Class-licensed devices authorised under the LIPD Class Licence operate in the frequency range 70–70.24375 MHz."* [page 45]

Given that the WIA proposed this to be a secondary allocation under ITU Regulation RR 4.4, any amateur use would not be *inconsistent with ITU Radio Regulations,* as other secondary Amateur Service allocations in Australia have been implemented under RR 4.4 previously. In addition, other services have gained frequency access on this basis (e.g. JORN).

We refer you to the WIA's recent licence conditions submission, which proposes - *. . . an Amateur Service allocation as a secondary service within 70.0-70.5 MHz (perhaps a segment within that 0.5 MHz) that is preferably congruent with, or overlapping, allocations in other countries, particularly in Region 1*. An allocation could avoid the LIPD band; however, the WIA notes that the LIPD Class licence allocation at 433.05 to 434.79 MHz is within the 430-450 MHz Amateur allocation, which is secondary service in Region 2 & 3.

Amateur Microwave Allocations

Further to our response on Consultation Question No.2, the WIA seeks preservation of amateur access in the bands from 1240-1300 MHz and above. Primary services encroachment on amateur microwave allocations has been noted over recent years,

particularly where large geographic areas are quarantined and secondary service users are excluded.

It is noted that the Amateur Satellite segment of 3400-3410 MHz is particularly affected by recent Apparatus licence allocations for the NBN Fixed Wireless Access.

Given forecast developments in future amateur satellite operations, Amateur Satellite microwave allocations are under threat.

Conclusion

Again, thank you for the opportunity to provide this response. The WIA seeks an opportunity to further discuss the ACMA’s position before the FYSO is finalised.