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Spectrum Review – *Potential Reform Directions Paper*, WIA comment

The Wireless Institute of Australia (WIA) welcomes the opportunity to comment on this important Consultation Paper.

The WIA is the national organisation of licensed amateur radio operators (www.wia.org.au). It is the peak body representing the interests of the Australian radio amateur community nationally and internationally through formal liaison with the ACMA, further government institutions and other organisations.

Amateur radio is a not-for-profit community activity whose purpose is to advance knowledge and experimentation in radio technologies through self-training and technical investigations by licensed operators. Radio amateurs communicate nationally and internationally using a very wide range of frequencies and technologies. For these reasons the Amateur Service is a significant stakeholder in spectrum policy decisions.

More information about amateur radio and the WIA are at Attachment A.

Principles of Reform

The WIA understands and generally agrees with the five principles of reform set out in the Directions Paper – transparency, efficiency, flexibility, certainty and simplicity.

The Paper states, on page 5, that "users want allocation decisions to be based on overall public benefit – including the less easily quantifiable social benefits as well as economic benefit."

The WIA notes from this statement that economic benefit (however defined) is not the only, nor the dominant, benefit to be considered in allocation decisions. The WIA is concerned to see that this principle is remembered when allocation or re-allocation plans are proposed and implemented.

As set out in Attachment A, the Amateur Service has a long history of establishing and maintaining public benefit in the use of spectrum, a benefit that derives from the ITU definition.

Potential Reform Proposals

Proposal 1: Implement a clear and simplified policy framework of policy accountability

The WIA understands and agrees in principle with this proposal as it should serve to provide clarity and certainty in regard to significant decision-making.

The suggestion that the ACMA would consult with stakeholders on the content of its annual work program is welcomed by the WIA.

Proposal 2: Establish a single licensing framework

This proposal is welcomed by the WIA, having first advocated this approach 20 years ago. The WIA understands that the proposal is referred to in the industry as “parameter-based” licensing. In this context, the WIA notes that the current Radiocommunications Licence Conditions (Amateur Licence) Determination No. 1 of 1997 (the Amateur LCD) sets out the primary conditions (the parameters) for licensed radio amateurs, but excludes such details as licence fees and terms of payment, amongst other things that might be included.

Having all the conditions, or parameters, pertaining to an Amateur licence in one document would greatly improve transparency, certainty and simplicity in licensing matters for the radio amateur community.

That said, the WIA notes that the terms “conditions” and “parameters” appear to be used interchangeably and may be a source of confusion concerning legal status or meaning. This could be obviated by clearly defining the terms, and thus their usage, at the outset.

In addition, each parameter-based licensing service – whether amateur, broadcasting, defence, government, land mobile, recreational, etc – would need to be clearly defined and transparent to all other existing and potential spectrum users or stakeholders.

The essential adjunct to the proposed single licensing framework, therefore, is a central computer-based register, accessible to the public online, that records all licences, the applicable service (amateur, broadcasting, defence, land mobile, etc) and all the attached technical and operational parameters – including frequencies, spectrum exclusivity or sharing, power, emission type etc, as well as licence tenure, time to renewal and locations, for example. The existing Register of Radiocommunications Licences has significant limitations in this regard.

As noted in our previous submission (1 September 2014), the WIA has written to the ACMA arguing for technical neutrality within amateur radio regulation and greater international harmonisation regarding frequency allocations and other licence parameters.

The WIA welcomes the review of licence tenure (or term) and renewal and advocates security of tenure in relation to amateur licensing. Unlike many other current licences, an amateur licence is not tradeable. However, an amateur licence may be transferred to another person who holds the appropriate qualification.

Many radio amateurs hold a licence for considerable periods and the WIA would be concerned if this custom were at all affected. The WIA believes that a significant administrative efficiency could be achieved through a minimum 5-year licence term for radio amateurs, compared with retaining the 1-year minimum term now prevailing. However, the WIA sees a role for short-term (less than 12 months) amateur licensing to meet a variety of possible needs. Amateurs visiting from overseas and holding either a reciprocal licence, or the necessary licence equivalent in their country of origin, are presently permitted to operate in Australia for a limited period. This is currently effected under a Class licence, which would not carry over under the proposed single licensing framework. Short-term licensing may find a role in special events, in emergency incidents, for educational or particular experimental purposes.

Additional efficiencies in administrative arrangements may be achieved if key aspects of licensing management were delegated to the WIA under contract to the ACMA. Such an arrangement already exists in relation to amateur licence examinations, issuance of Certificates of Proficiency and the processing of callsign applications, which the WIA performs under contract to the ACMA. This arrangement has existed for 10 years. The WIA is keen to pursue extending this arrangement under the proposed licensing framework, as foreshadowed in the WIA’s previous submission of 1 September 2014.

Proposal 3: More flexible allocation and reallocation processes

The WIA notes with interest the proposed broadening and streamlining of spectrum management provisions, the greater flexibility in allocation processes and their connection to licence terms, as well as the new roles of the Minister and the ACMA.

This proposal offers both threats and opportunities in relation to Amateur Service allocations and the WIA is concerned that proper consultation processes are followed, particularly in view of the fact that amateur band allocations are generally harmonized with international allocations, supported by international treaties, and maintained in the Australian Radiofrequency Spectrum Plan, which is reviewed at intervals in concert with decisions at World Radio Conferences. With the institution of more flexible allocation and reallocation processes, the WIA sees that opportunities would arise to further develop amateur band allocations, as well as protect existing allocations.

Proposal 5: Structuring payment schedules for licences

Although clearly intended for the market-based, commercial type of licences now existing, the WIA sees that there is an opportunity here to set a more coherent and consistent basis for amateur licence fees and renewals. As Australian amateur band allocations are generally congruent with international amateur band allocations, amateur frequencies are shared locally and internationally – which is a central precept of amateur radio operations (from the definition – “intercommunication”).

It is hoped that introducing administrative efficiencies in relation to licensing, particularly in relation to tenure (as detailed above under Proposal 2), would lead to a reduction in fees and taxes attached to amateur licences from what now prevails.

Proposal 8: Facilitate greater user involvement in spectrum management

The proposed delegation of spectrum management arrangements by the ACMA comes with both risks and opportunities, in the WIA’s view. Well-defined, proportionate regulatory arrangements would reduce the risks while enabling the efficient, transparent operation of delegated functions. However, in the WIA’s view, the ACMA should remain as the “ultimate referee” and, in particular, retain responsibility for the Australian Radiofrequency Spectrum Plan.

In delegating licensing, the timely registration of new licences, and of amended licences, would necessarily rely on having a central, online register (as outlined under Proposal 2) that enabled timely recording of new registrations. The concomitant to this is that the necessary processing protocols and procedures for issuing, amending and renewing licences need to ensue in a timely fashion. In terms of amateur licensing, the goal would be for candidates to be able to take their accredited examination results and have their Certificate of Proficiency issued, then have their licence and callsign issued within no more than 24 hours.

Another fundamental requirement, in the WIA’s view, would be the retention of appeal provisions. The WIA envisions that this would apply whereby a licensee or applicant may seek to have a decision, or non-decision, reviewed by the delegated spectrum/licensing manager, or the ACMA, as well as recourse to other legal avenues.

In addition, the WIA believes that spectrum/licensing management contracts should be subject to external audit at set milestones to ensure that the delegated body meets the efficiency, effectiveness and value for money criteria specified in a contract. The WIA is familiar with this principle, having operated the amateur licence examinations service under contract to the ACMA continuously for a decade.

Proposal 9: Develop more principles-based device supply regulation

Developing more principles-based regulation of the supply of electrical, electronic and radiocommunications devices would be essential under the proposed new spectrum management arrangements, in the WIA’s view.

The retention of equipment standards is the necessary starting point, the WIA believes, where the applicable standards are proportionate to the potential and actual ability of devices to cause harmful interference to radiocommunications. In the WIA’s view, there should be provision for other standards setting bodies, in addition to Standards Australia, that are able to develop and publish standards useful to radiocommunications stakeholders.

In order to implement interference mitigation strategies, the WIA sees that there is a need to develop equipment susceptibility standards for devices. The current arrangements only control emitters. The WIA suggests that the European Union (EU) Letter of Conformity arrangements essentially works on the principle that a device should not disturb or disrupt the working of another device complying with a standard; this is why some EU-manufactured equipment is better able to operate in hostile RF environments, which are created by devices of poor or inappropriate design, or have been permitted through ineffective regulation.

Our members' experience is that substantial levels of interference have been allowed to infiltrate the radiofrequency spectrum, raising the radio "noise floor" across vast swathes of urban and regional areas, which limits on-air operations to greater and lesser extents. This represents a substantial level of interference arising from electrical and electronic equipment such as solar power installations, low-cost LED lighting and many other consumer items. The WIA believes the ACMA needs to be adequately resourced – in terms of staff resources as well as enforceable regulation – to protect the spectrum against the rising radio noise floor, which will ultimately affect all spectrum users in some way, regardless of technology. Implementing effective, enforceable regulation, coupled with improved equipment standards, will go a long way towards mitigating or reversing this trend.

The WIA notes that the current *Radiocommunication Act 1992* allows for the appointment of a conciliator to resolve difficult or ongoing interference problems. The WIA is aware that this provision has hardly been used and seeks that either the legislation is redrawn or is revised, to provide a more efficient and effective resolution of ongoing interference issues.

Proposal 10: Improve regulation by extending the suite of enforcement measures available to the ACMA

The WIA notes that the Directions Paper suggests additional administrative powers are provided to the spectrum regulator other than the current criminal provisions. The WIA supports the suggestion to allow the spectrum regulator to take a licensee to court seeking enforceable undertakings.

Enforceable undertakings already exist for the Broadcasting Services and Telecommunications Acts and the WIA is aware that, in the past, the ACMA has used its administrative powers to suspend and cancel amateur licences. The WIA believes that having this power in addition to the existing administrative powers is a reasonable extension of the existing arrangements.

However, the WIA understands that the time and resources in undertaking administrative action may be no less intensive that going down the criminal action path. It is understood that regulatory action using the criminal provisions can be undertaken at the same time as any administrative action; one path does not rely upon the other, but usually the same evidence of behavior is used in each case. The regulator's decision would have to be made on a case-by-case basis.

Extending the suite of enforcement measures available to the ACMA would, in the WIA's view, assist it in addressing breaches of product and device standards applicable to the regulation of electromagnetic compatibility and radiofrequency interference.

Proposal 11: The ACMA to continually review options for allocating spectrum to alternative / higher value uses and to ensure that barriers to achieving this are reviewed and removed where appropriate

While this proposal is clearly applicable to market-based commercial type licences, the WIA is concerned that there are possible risks for amateur spectrum allocations and other public-use spectrum. Amateur bands in Australia are allocated throughout the radiofrequency spectrum, from 136 kHz through to 250 GHz. For the most part, they are congruent with international amateur band allocations.

The amateur band allocations provide for persons attracted to the facility they afford to pursue (once licensed) any personal interest in radiocommunications, without a pecuniary incentive.

The WIA believes that public-use spectrum, such as the amateur band allocations, has an "imputed value" that is difficult to quantify, and needs to be valued quite separately from for-profit commercial

service spectrum. As outlined in Attachment A, tangible public and community benefits accrue from the licensed Amateur Service use of spectrum.

Concluding comments

The WIA welcomes the general thrust of the directions in spectrum management put forward in the Consultation Paper.

The WIA believes administrative efficiencies can be achieved through effective implementation of the proposals, but with some cautions. As the representative body for amateur radio in Australia, the WIA is ready to take an expanded role in the administration of the Amateur Service, delegated from the ACMA.

The WIA is opposed to any new arrangement that reduces the rights of individual amateur licence holders or of the Amateur Service overall.

As highlighted in our previous submission, amateur spectrum allocations carry an imputed value which the WIA believes cannot be measured using a conventional market-oriented approach. Amateur spectrum usage holds the potential for greater public benefit, especially for non-commercial educational and pure research purposes that might enable innovative technology development while still allowing traditional amateur radio activities.

For all spectrum stakeholders, it will be important in the future that improved regulation and enforcement of device and equipment standards – extending across electromagnetic compatibility, interference and interoperability – are implemented at the earliest opportunity. This will be a very important future role for the ACMA.

Yours sincerely

Phil Wait
President, WIA

Encl. Attachment A

About the WIA

Founded in 1910, the WIA is acknowledged as being one of the first radio societies in the world, and is the world's oldest national amateur radio society. A key role of the WIA is providing training and licence assessment services for people interested in obtaining their amateur licence, particularly young people.

WIA appointees participate in the work of spectrum management, consultative and standards bodies, including:

- Australian Radio Study Groups in preparatory work for World Radio Conferences (WRCs),
- Australian delegations to WRCs,
- Standards Australia's standards committees, and
- the Radiocommunications Consultative Council.

The WIA is a member of the International Amateur Radio Union (www.iaru.org), which represents the interests of the amateur and amateur satellite services internationally and is recognised by the International Telecommunications Union (ITU). Membership of the IARU is comprised of the national societies of each separate country or territory. The WIA was one of the first 14 national societies to become a member of the IARU when it was formed in 1925.

The IARU is a Sector Member of the ITU Radiocommunications Sector and actively participates in many ITU meetings, including the WRCs. There is an IARU association in each of the three ITU regions across the world; the WIA is a founding member of the Region 3 association (www.iaru-r3.org).

About amateur radio

ITU definition. Formally, the Amateur Service is defined in the International Telecommunications Union (ITU) Regulations as follows:

> **1.56 amateur service:** A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.
>
> **1.57 amateur-satellite service:** A radiocommunication service using space stations on earth satellites for the same purposes as those of the amateur service.

Australian amateur radio operators are currently licensed under the Apparatus licensing provisions of the Radiocommunications Act 1992, Part 3.3.

A resource. The Amateur Service represents a large resource of qualified and experienced radio operators and equipment dispersed throughout the community and world-wide. Radio amateurs seek to explore and experiment with new technologies, yet retain an interest in, and continued use of, technologies of the past, albeit in a modern context.

The 14,000 strong radio amateur population in Australia is relatively stable, with younger Foundation grade licensees replacing the numbers of older radio amateurs lost to age. Currently, there are approximately three million radio amateurs world-wide.

Achievement. While commercial and defence operations focus on reliable, high signal-to-noise ratio communications, radio amateurs deliberately seek to explore testing and establishing communications under difficult circumstances where weak-signal reception is the norm, rather than the exception. The amateur radio community in Australia, and globally, has built up a commendable record of investigation and achievement in advancing the state of the art with weak-signal communications technologies and techniques.

Technological leadership. The amateur radio community stimulates technological leadership within its ranks. Radio amateurs have made significant technical contributions to the understanding and use of

electromagnetic propagation, single-sideband radio, high frequency data communication systems, digital radio protocols and communications satellite design, among other things.

It is widely acknowledged and understood that “disruptive” technologies and innovations drive the advancement of technological industries, particularly the IT sector. The same is true for the wireless / radiocommunications sector and amateur radio has played a role over every decade across the past 100 years; increasingly so over the past two decades.

Innovation. Innovation in the use of radio/wireless technologies in increasingly diverse applications continues relentlessly, both within and beyond the sphere of amateur radio activities, and the WIA sees that it is important to facilitate radio amateurs’ ability to adopt or adapt innovations without unnecessary impediments.

When all else fails. Amateur radio continues to play an important role in disaster communications and has a unique ability to provide radio communications independent of the telephone network or other radio services. Although emergency services in Australia are now well equipped with modern communications infrastructure, amateur radio has proved to be of value in the first few hours of an emergency, before other services have time to respond, and in a back-up communications role when all else fails. In addition, radio amateurs are able to provide a skilled manpower resource, which can be drawn on in emergency situations. Use of amateur radio capability is still part of disaster planning in Australia and many other countries, particularly across our neighbouring regions of South and South East Asia.

Recent examples of where radio amateurs provided first-response communications services following natural disasters or emergencies include: the Victorian Black Saturday bushfires of February 2009, the Queensland floods in January 2011, the 2004 Boxing Day Indian Ocean tsunami, and Typhoon Haiyan of 2013 that devastated the Philippines.

Education and research. Additionally, the WIA believes that, given the correct policy and regulatory settings, there could be an expanding role for amateur radio to play in Australian education and research, albeit through a fairly rigorous set of entry criteria.

There are many examples from over the decades where amateurs have explored radio communications concepts that have been subsequently developed (ex-Amateur Service) into successful commercial technologies. If the licensing conditions permitted, amateur radio spectrum could be used to a much greater degree by educational organisations for teaching and research purposes – the so-called ‘sand-pit’ concept.