

# Wireless Institute of Australia Submission

to the

## Productivity Commission Review of the RadioCommunications Acts and the role of the Australian Communications Authority

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# Table of Contents

<b>1</b>	<b>INTRODUCTION</b>	<b>3</b>
<b>2</b>	<b>STRUCTURE OF THE SUBMISSION</b>	<b>3</b>
<b>3</b>	<b>THE WIA AND THE AMATEUR RADIO SERVICE.</b>	<b>3</b>
3.1	Wireless Institute Civil Emergency Network (WICEN)	3
3.2	Education	4
3.3	Innovation	4
<b>4</b>	<b>THE ISSUES</b>	<b>5</b>
<b>4.1</b>	<b>The approach to the allocation of spectrum</b>	<b>5</b>
4.1.1	Licensing	5
4.1.2	Licence Types	6
4.1.3	Standard Setting	7
<b>4.2</b>	<b>Charging for the use of Spectrum</b>	<b>7</b>
4.2.1	Class Licences	7
4.2.2	Apparatus licences	7
4.2.3	Spectrum Licences	8
<b>4.3</b>	<b>Licence tenure and Band Clearance</b>	<b>8</b>
4.3.1	Licence Tenure	8
4.3.2	Licence reallocation and conversion	9
<b>4.4</b>	<b>Secondary trading of Licences</b>	<b>9</b>
<b>4.5</b>	<b>Non-commercial use of the spectrum</b>	<b>9</b>
<b>4.6</b>	<b>Broadcasting</b>	<b>9</b>
<b>4.7</b>	<b>Satellites</b>	<b>9</b>
<b>4.8</b>	<b>Impact of the legislation on competition</b>	<b>9</b>
<b>4.9</b>	<b>Effectiveness of the ACA</b>	<b>10</b>
<b>4.10</b>	<b>Looking to the future</b>	<b>10</b>
4.10.1	Technological Convergence	11
	<b>APPENDIX A PROPOSAL FOR A NEW LICENCE TYPE</b>	<b>12</b>

# 1 Introduction

The Wireless Institute of Australia (WIA) welcomes the opportunity to make this submission to the Productivity Commission (PC) in response to its issues paper of August 2001. This submission is seen as part of the overall WIA response. The WIA expects to attend the planned public hearings and make further submissions as appropriate. The WIA would be delighted to provide to the commissioners any required further clarification of any of the issues raised in this submission.

## 2 Structure of the Submission

The WIA notes the structure of the PC issues paper. The WIA submission has been structured in order to address the issues in the same order as the issues paper. In reviewing the issues being considered by the PC it should be noted that not all of the issues are of relevance to the Amateur Service.

## 3 The WIA and the Amateur Radio Service.

The WIA is a Federal organisation representing the interests of all amateur radio operators throughout Australia. To become an amateur operator there is a requirement to undergo study in order to gain a certificate of competency and subsequently obtain a licence. There are some 16,000 licenced radio amateurs operating in Australia of which some 6,000 are current active member of the WIA. The activities of these operators range from simple operation of commercial equipment through to the design, development and operation of novel equipment to investigate electronics design principles, characteristics of communication modes, and the propagation characteristics of the whole spectrum of radio frequencies. The WIA consists of a council of its 7 member Divisions along with a number of executive directors. Each of these Divisions currently represents a state-based affiliation of radio amateurs across the whole of Australia. The WIA is the oldest amateur radio society in the world originating in 1910.

In addition to the practices of individual radio amateurs, the service also embraces a number of community aspects. Amongst these are numbered:

### **3.1 *Wireless Institute Civil Emergency Network (WICEN)***

The Wireless Institute Civil Emergency Network (WICEN) works closely with all emergency services across Australia on an as required basis to assist in the provision of emergency communications, indeed in a number of states WICEN has been specifically included in various State & Region Disaster plans to undertake specific tasks. WICEN has in the past been involved in a number of emergency situations including the Darwin Cyclone, the Newcastle earthquake, a number of major bush fires including Ash Wednesday in 1983, as well as flood related incidents. The WIA

was extensively involved with a number of agencies in the preparations, planning and supply of support communications in the lead up to the Year 2000 and the possible problems that may have occurred.

WICEN and its operators regularly conduct training exercises. These exercises are often linked to community activities such as:

- Provision of safety and support communications for major motor sport activities such as the Subaru Rally of Canberra, the Rally of Queensland, and the Rally of Melbourne
- Provision of Health, Welfare and Safety communications for various sporting events such as International Two Day walks, various long distance running events, Solar and Alternative energy competitions and the Red Cross Murray River Canoe Marathon.
- Provision of Health, Welfare & Safety communications for non streamline sports such as cross country horse drawn carriage driving competitions, 8 and 10 day cycling tours.

### **3.2 Education**

Currently the teaching and examination of amateur operators is almost entirely administered by the WIA. However the ACA does maintain a limited capability to conduct examinations under special circumstances. These education activities currently embrace the principles of electronics as applicable to radio, electromagnetic propagation and interference, operating practices including the use of the Morse code, practical electrical safety, and the coverage of the operating requirements of the Radio Communications Act (RCA).

These activities are conducted using both traditional face to face instruction as well as more modern distance education techniques including the use of the Internet.

The contribution of the education component to amateur radio should not be underestimated in terms of adding to the credibility of Australia as the “Clever Country” by providing a ready source of technical personnel. The Amateur Service fosters a strong sense of ongoing self-education which ensures that radio amateurs remain up to date with modern technical innovations.

### **3.3 Innovation**

One of the less publicised aspects of amateur radio is its promotion of innovation. Examination of the history of amateur radio reveals that many of the pioneers of communications found their origins in amateur radio. Whether this is in the field of radar dating back to the Second World War, or some of the innovative techniques that radio amateurs apply to building and using satellites it is undeniably the case that much intellectual capital results from individuals pursuing amateur radio as a hobby.

One of the many dramatic examples of the influence that radio amateurs have had in the raising of intellectual capital is in the development and use of Low Earth Orbit

(LEO) Satellites. Unable to gain access to the expensive geostationary satellite network, radio amateurs designed, built and launched low cost, low power satellites to experiment with the technology and communication techniques. As a result of positive lessons learned in this work, commercial operators built on the experience gained by radio amateurs. This contribution has had a major impact on many of the current generation of communications equipment deployed world wide.

## 4 The Issues

### ***4.1 The approach to the allocation of spectrum***

The WIA is a member of the International Amateur Radio Union (IARU) and through this group seeks to ensure that Australian amateur interests are represented regionally and internationally. In addition the WIA participates in a number of national activities through the ACA to ensure that the best interests of both Australia and the amateur radio community are addressed at the International Telecommunications Union (ITU). Currently the WIA believes that it is offered sufficient consultation in the build up to ITU meetings. One area where WIA would seek improvement is in the area of financial support to permit greater attendance by volunteer delegates at both preparatory meetings and the ITU conventions such as the World Radio Conference (WRC).

From the perspective of the WIA and the amateur radio service the harmonisation of spectrum in line with international plans is a significant benefit. This occurs on a day to day basis where harmonised spectrum allocations permit radio amateurs to operate with other radio amateurs internationally. International harmonisation also has the potential to facilitate interoperation with other amateur and international groups in times of national and international emergency.

#### 4.1.1 Licensing

WIA is in favour of the need to licence amateur operators. This position recognises that the requirements of access to amateur spectrum have been captured by the International Telecommunications Union (ITU). The ITU defines the Amateur Service in the ITU radio regulation S1.56 as:

“A radiocommunication service for the purpose of self training, intercommunication and technical investigations carried out by radio amateurs, that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.”

The licensing of amateur radio operators world wide is based on this definition.

Further ITU regulations go on to define minimum standards to be achieved in order that radio amateurs can gain certificates of proficiency. Many of these certificates gained in one country are recognised in others thereby permitting reciprocal licence arrangements.

It should however be noted that current licensing arrangements in other countries are in the process of change. For example the UK has recently announced that it will introduce in a new Foundation licence class January 2002. It is appropriate that any changes to the RCA reflect these requirements. The WIA is in favour of the adoption of some form of foundation licence for the benefits that it can offer to the wider community in terms of providing simple early access to the hobby. Many of the emergency and community benefits that arise from current amateur operators would also accrue from Australians operating under the terms of such a foundation licence.

At present the amateur licence is issued and administered by the ACA. This is an historical legacy dating back to the original Wireless Telegraphy Act. The WIA believes that in the current climate of deregulation it is more appropriate for the licence issue and administration function to be devolved from ACA to the WIA. Whilst the ACA would retain the legislative authority to control the licensing legislation; the WIA (which already administers the amateur examinations) is well placed to conduct the day to day licence management.

The desirability of devolving the management of amateur licences is particularly relevant in the area of interference management within the Amateur Service. There is great potential for interference among the amateur community, but the current RCA and Licence Conditions Determination (LCD) do not adequately address this.

#### 4.1.2 Licence Types

The Productivity Commission Issues Paper only considers the existing three main licence categories. The Amateur Service is significantly different from other commercial services. The WIA believes that such differences are significant enough to warrant the introduction of a new licence type. For example amateur use of the spectrum does not directly fit into the apparatus licence or for that matter the class licence. The WIA and the ACA have struggled on a number of occasions in dealing with matters of specific concern to the Amateur Service that have arisen as a result of changes aimed at the commercial users of the spectrum. This situation could be made considerably simpler with the introduction of a dedicated Amateur Service licence type that addressed only those requirements of amateur operators. The WIA position on this matter has already been set out in a 1997 submission to the Minister for Communications and the Arts, Senator Richard Alston, titled "Amateur Radio Service Licensing – Towards a new Licensing System". A copy of the executive summary of that submission is attached at Appendix A.

Currently in Australia there are a number of licence grades or types. These are the Unrestricted, Intermediate, Limited, Novice and Novice-Limited. Furthermore there is considerable merit in the rationalisation of this current licence scheme in order to resolve a number of inconsistencies that have arisen over recent years as a result of changes to proficiency requirements. The details of the licence grades will need to reflect the outcome of the 2003 World Radiocommunications Conference with its expected removal of the Morse Code proficiency requirements.

One possibility is that Australia will end up with two licence grades:

- An unrestricted grade, and
- An entry (Novice) grade.

As noted above in section 4.1.1 there are moves in the UK and elsewhere to introduce a new entry level licence. The UK foundation licence has a restriction permitting only the use of commercial equipment or commercially developed kits. In addition the UK proposal restricts power outputs to 10 watts for this new foundation licence. The exact relationship between the current Novice grade and any future Foundation licence remains to be established.

## **Reciprocal International Licencing**

The WIA also believes that the current ACA approach to visiting radio amateurs is too restrictive, and out of step with practices of other nations including New Zealand. The ACA requires all visitors to obtain an Australian licence and callsign, and pay a licence fee. The WIA submits that short-term visitors, say of less than three months, should be able to simply add the appropriate Australian callsign geographic designator prefix to their overseas licence, and be able to operate under the Australian regulations without needing to fill in application forms and pay a fee. While Australian radio amateurs visiting New Zealand and other countries are afforded this privilege, it is denied to foreign radio amateurs visiting Australia.

### **4.1.3 Standard Setting**

One of the most appealing aspects of the amateur radio service is experimentation. Whilst standards and labelling are appropriate for some aspects of radio communications; in the case of the Amateur Service, the WIA wishes to maintain the rights of radio amateurs to construct their own equipment. The WIA accepts that the emissions from such self-built equipment must comply with the standards relating to electromagnetic emissions.

The main area where the WIA does see the potential benefits of some form of standard is the use of restricted or type approved equipment for use in any future entry foundation licences.

## **4.2 *Charging for the use of Spectrum***

### **4.2.1 Class Licences**

Class licences are not currently relevant to the operation of radio amateurs in Australia by virtue of the need to demonstrate proficiency before the issue of an appropriate licence.

### **4.2.2 Apparatus licences**

The current Amateur Service is managed using the apparatus licence arrangements. The main issue that WIA has with the current charges scheme for amateur licences is that it fails to recognise a number of differing aspects of the service.

One example is the perception that the annual licence fee is seen by some as a disincentive to participation in amateur radio. The WIA knows of people who have not renewed their licence due to their limited discretionary expenditure. This is one of the factors for a decline in the numbers of individuals holding amateur licences. Recognition for the community aspects of the Amateur Service could also be factored into licence fees. The WIA is keen to see reduced licence fees for juveniles, pensioners, and other pensionable groups in recognition of the value of their service to the community. This recognition may extend from a simple reduction in the fee to a complete waive of charges leading to free licences for these groups.

A further example is in terms of the provision of assistance in emergencies. Some allowance could be made for the cost of licences for radio amateurs involved in this activity. Given the extensive assistance that WIA, and WICEN in particular, provide to the emergency services it is proposed that licencees or individuals and groups involved in this area could well be waived or recompensed.

#### 4.2.3 Spectrum Licences

The Spectrum Licence is not applicable to radio amateurs as currently administered.

### **4.3 Licence tenure and Band Clearance**

#### 4.3.1 Licence Tenure

The current amateur licence is allocated for a period of one calendar year. This is disadvantageous for a number of reasons.

- a. High administrative costs. The cost of administering the amateur licence is comparatively highly when compared with the licence fee itself. Even with the reduction in administrative fees as provided by the current multiple year licence options the overall administrative cost still remains high. The introduction of longer-term licences would quickly serve to address this problem. The WIA believes that the introduction of a ten year licence is advantageous to both amateur operators and the ACA. The exception to this may be the proposed foundation licence.
- b. Increasing amateur community numbers. Many individuals see the current apparatus licence cost structure as an impediment to joining the hobby. When taken in its entirety, the costs of entry and subsequent maintenance of the amateur licence appear quite high, compared with other hobbies. If individuals felt that their efforts in achieving certification were better rewarded by the longer and cheaper tenure it might serve to encourage more individuals into the hobby. This is of particular relevance for the reasons noted above, namely a greater contribution to the community, provision of assistance in times of emergency, and increasing the intellectual capital of Australia.



#### 4.3.2 Licence reallocation and conversion

The WIA is not in favour of the reallocation of any of the currently allocated amateur radio spectrum in order to meet demands for spectrum auction or trading purposes.

#### **4.4 Secondary trading of Licences**

The WIA does not currently envisage a situation where this would be applicable to the operation of the Amateur Service.

#### **4.5 Non-commercial use of the spectrum**

The WIA sees itself as operating in the non-commercial arena. Included in these non-commercial activities are the provision of a voluntary emergency assistance as well as a number of community services. Clearly such voluntary activities should not be funded by the individual volunteer; over and above their personal contribution of time.

In addition radio amateurs in Australia find themselves in a position where, due to the extensive geography, they are able to provide services to the more remote communities. For example there are a number of monitored communication nets in support of travelling radio amateurs. These networks are all provided on a voluntary basis and serve to reduce risk and make travelling safer in Australia's more remote areas. If subsidy of the operation of such services were available, along with some simple early access mechanism such as the use of a foundation licence, this would provide Australia with an extremely cost efficient safety net for individuals travelling in the more remote areas.

#### **4.6 Broadcasting**

Not applicable to the Amateur Service

#### **4.7 Satellites**

There is a large amateur involvement in the operation and use of Satellite communications. All frequencies used by radio amateurs in the operation of satellites are within current amateur spectrum allocations. The WIA does not seek any changes to the current arrangements but would resist any changes to the legislation that would have a negative impact upon current use of these satellite facilities. Due to the International nature of Satellite operation, the allocation of amateur spectrum for non amateur services is likely to result in interference to overseas users.

#### **4.8 Impact of the legislation on competition**

Not applicable to the Amateur Service

#### **4.9 Effectiveness of the ACA**

The WIA and the Australian Communication Authority have worked together over many years to ensure the operation of the Amateur Service in Australia. For example the WIA has administered amateur examinations on behalf of the ACA for many years at no cost to the ACA. In general the WIA is pleased with the level of service offered to it by the ACA. However the WIA does recognise the difficulties currently being faced by the ACA and is happy to assist where appropriate in assuming some of the administrative responsibilities. For example the WIA already maintains an Intruder Watch Service to assist in the identification of unauthorised use of allocated amateur spectrum.

Increasing the current level of assistance can only be achieved if suitable financial arrangements can be achieved between the two organisations. For example where the WIA currently administers examinations of prospective radio amateurs; the WIA would be well placed to extend this service to include the issue of certificates of competency and potentially even licences. Further examples of the way in which the WIA could assume some of the workload are in the areas of interference and management within the Amateur Service. However for this to work a mechanism for cost recovery along with necessary changes to the legislation would have to occur.

#### **4.10 Looking to the future**

##### **Official Recognition**

While the role and contributions of radio amateurs have been recognised over the years, including:

- by Communications Minister Neil Brown in a press release after the Ash Wednesday bushfire disaster, and
- the Prime Minister, John Howard, in his official opening address to the WIA's Remembrance Day Contest in August 2000,

the WIA submits that this recognition should be enshrined in legislation. There is no legislative recognition at either level of Government of the fact that amateur radio provides a source of trained and technically inclined personnel for industry, or for national aid in times of national emergency or defensive situations. An exception to this is the recognition of WICEN by some State Emergency Authorities. This situation can be contrasted to the situation in other countries where the value of the Amateur Service has been officially recognised. For example in the USA amateur radio is recognised for its value to the nation in terms of its:

- ability to provide a continuous contribution to the community, and
- value in times of need such as in national emergency situations.

##### **Experimentation and Innovation**

The current RCA was written before the current Internet and technology explosion. At that time the available communication techniques were very limited. Modern technology has opened a large number of new techniques that can be used by radio

amateurs to communicate and experiment in ways never envisaged at the time that the current RCA was written. The WIA believes that RCA and the associated LCD need to be revised in order to reflect these modern technologies. Rather than adopt a purely prescriptive approach the WIA would wish to see legislation that permitted experimentation and innovation to be conducted within the overall context of the Amateur Service. The need to specifically encourage experimentation within the Amateur Service is a further reason why the WIA seeks a separate amateur licence type other than the current apparatus licence arrangement.

#### 4.10.1 Technological Convergence

The issue of technological convergence has already created a number of challenging situations within the amateur radio service. Already radio amateurs are seeking to connect traditional radio communications networks to the Internet. This interconnection is aimed at all aspects of the Amateur Service. The current RCA and LCD were framed at a time when the Public Switched Telephone Network (PSTN) was considerably less powerful than it is today. The WIA recognises that legislation and regulation has difficulty in keeping up with emerging technologies. In relation to the Amateur Service an enormous amount of experimentation is taking place with the interconnection and adaptation of these technologies. This needs to be reflected in legislation and regulation in such a way as to not restrict such activity, while ensuring their use does not contravene the spirit of the Amateur Service.

# Appendix A Proposal for a New Licence Type

**The WIA proposes the creation of new licence type under the Radiocommunications Act, to be called the Amateur Radio Licence.**

This would provide:

- a once-only issue of a licence for life to a person meeting the requirements of an Amateur Operator's Certificate of Proficiency,
- or, alternatively, a five-year licence duration, with renewal, to a person meeting the same requirements.

The proposed licence meets the definition of the Amateur Service which requires that radio amateurs be licensed as individuals, and that radio amateurs' pursuits are of a non-pecuniary nature involving self-training, intercommunication and technical investigations.

Additionally, the proposed licence would recognise and provide for the complete flexibility amateur radio operators have in pursuing their activities, within the framework of the allocated amateur frequency bands and applicable licence conditions determined under the *Radiocommunications Act*.

Amending the Radiocommunications Act to create this proposed licence would also serve to recognise the value of the Amateur Service to the community, and the value it returns to the nation.

The Executive Summary of the 1997 submission to the Minister also said:

The submission demonstrates how the Amateur Service

- creates within the community a pool of technically knowledgeable people trained in communications operations,
- motivates young people to take up scientific or technological careers,
- contributes to the advancement of scientific knowledge,
- contributes to the development of technology and the communications infrastructure,
- enhances international understanding and goodwill, and
- provides communications support during emergencies and for community activities.

The cost of public administration of the Amateur Service in Australia has previously been reduced through devolvement of the amateur licence examination system to the WIA. The principle of devolvement of administrative routines could also be applied to the issuing of, for example, Certificates of Proficiency and call signs, reducing individual amateur radio operators' engagement with the SMA (now the ACA), thus achieving further savings in administrative burden and cost. The WIA proposes options for such devolvement.

It would be open to the Government to waive fees for the proposed **Amateur Radio Licence**, as it has done with other voluntary-based community services which use radiocommunications (e.g. Surf Life Saving), and as the American Government has done in recognition of the value to the community of the Amateur Service.

However, it is recognised that there is some necessary ‘engagement’ between the amateur radio community and the SMA, in terms of the SMA meeting its obligations under the ITU Radio Regulations treaties and the Radiocommunications Act.

In the event a licence fee is retained, the WIA proposes that it be made up of two components: a *Spectrum Management* component, and an *Administrative Charge*, akin to the two like-named components of the Apparatus Licence fee.

This fee framework does not include a *Spectrum Access Tax* component, for all sub-types of Amateur licence, in recognition of the value of amateur radio to the community, and the value amateur radio operators and their activities return to the community.

The nett cost in loss of revenue would amount to less than \$200,000 annually in 1997 terms.

The *Spectrum Management* charge is proposed to be retained at the present level of \$3 as it is clear that the SMA has determined that this satisfies their administrative requirements in respect to the Amateur Service.

The *Administrative Charge* would be reduced by reducing amateur radio operators’ engagement with the SMA, as proposed, through devolvement of certain administrative routines.