

26 Oct, 2022

Dear ACMA,

I am writing in response to the ACMA's 2022 consultation paper on Amateur Radio class licensing and higher power operations. I am submitting my response as an individual, although I have associations with several organisations as outlined below. I have held an amateur licence since 2017.

I am an Associate Professor at Curtin University in Western Australia within the Curtin Institute of Radio Astronomy. As part of my duties, I teach the 4th year Engineering undergraduate course Mobile Radio Communications, which covers radio link budgets, signal propagation and fading, multiple access issues and technologies associated with modern radio communications. I also am the standard/advanced course coordinator at Ham College, which is a volunteer-run amateur radio club based in Perth whose core business is teaching to help students obtain all levels of amateur radio licence.

The main issue I wish to comment on is the proposal to allow higher power, although I will include a response to all questions for completeness, even if the answer is "n/a" or "no comment".

I thank the ACMA for undertaking the consultation and am happy to discuss these issues further if I can be of use.

Best regards,

A/Prof Randall Wayth
VK6WR

Consultation question 1:

Advanced amateurs already have secondary user access to the 50–52 MHz band.

Do you see any reason for not extending secondary user access to 50–52 MHz for Standard amateurs? If yes, what is your reason?

Response: No, I think both advanced and standard licence holders should have access to the full band. In fact there's no longer any reason to restrict this band from foundation licence holders either.

Consultation question 2:

Currently, a call sign is transferred by the transfer of the apparatus licence. We are proposing a process where the person with the assigned call sign surrenders that call sign, and nominates a new person to whom it may be issued. That new person will have one month in which to apply and pay for the call sign to be assigned to them. What are your views on the proposed policy on call sign transfer?

Response: no comment

Consultation question 3:

We are proposing that the call sign entity, under an arrangement with the ACMA, would conduct a 'regular check' to confirm whether a person is still using their call sign. Will this be a sufficient method of ensuring there are enough call signs (in combination with other factors, for example, the high number of available call signs, deceased amateurs, most amateurs only wishing to hold one call sign)?

Response: I agree with the sentiment, but "regular check" is ambiguous. There would need to be a clearer, more quantitative policy. E.g. no evidence of usage for > 1 year.

Consultation question 4:

What are the benefits or disadvantages of our proposal not to limit the number of call signs that may be assigned to a person?

Response: no comment

Consultation question 5:

Do you have any concerns with the other proposed call sign management arrangements? If so, what are they?

Response: no comment

Consultation question 6:

In the absence of amateur and station information being contained in the RRL, are there any amateur-operated registers or other existing voluntary registers that you would use?

Response: I use the ACMA official licence register page many times per year. I use voluntary ones (e.g. qrz.com) more often, but these are not authoritative and may have missing/incomplete information.

Consultation question 7:

Thinking about reciprocal arrangements for Advanced amateurs overseas, the ACMA intends to consult as necessary with the European Conference of Postal and Telecommunications Administrations (CEPT) on any further changes relating to the operation of the proposed class licence.

Do you anticipate any difficulties operating your station in CEPT signatory countries?

Response: no

Consultation question 8:

What are your views on the proposal to allow Advanced amateurs to apply for assigned scientific licences for certain experimentation uses, such as reflecting signals from a celestial body as well as inter-continental ionospheric and trans-equatorial propagation experiments?

Response: I support this notion, but the barrier to entry must be high, and there must be a clear scientific use-case, and the licence should forbid usage outside the science use-case. This should not be used as a mechanism for individuals to obtain high-power licences for vanity reasons.

Consultation question 9:

Noting that proposal, are there other amateur experimentation uses that require higher power and you think should also be considered under assigned scientific licensing arrangements?

Response: As a scientist and an amateur radio operator, I cannot think of any activity in the Australian amateur community that is a genuine scientific experiment that genuinely requires high EIRP. A main focus of modern radio communications is to work with low power and clever modulation techniques to achieve reliable communications in challenging propagation and/or interference environments. The innovations to overcome these challenges don't require more power.

Again, if there is a genuine scientific case to use higher power, then a scientific licence is appropriate, but the barrier to entry should be high and the licence needs to be specifically for the experiment.

Consultation question 13:

What use-cases would require stations to operate at power limits for Advanced amateurs higher than the 400W currently permitted?

Response: I do not think there is any reason why amateurs in Australia need higher power other than for selfish/vanity reasons. Allowing amateurs to transmit higher power presents two significant problems:

- 1- it raises the noise floor for all amateurs, and risks de-sensing many other users' receivers if used in an urban environment.
- 2- It creates a larger gap between the "haves" and the "have nots" and penalises those who cannot use higher power or choose to operate with lower power. This is a serious dis-incentive for new amateurs to join the community and is a dis-incentive for existing amateurs to operate if they are likely to have their receivers overloaded by kW operators.

The spectrum allocated to amateur radio in the HF part of the band is very finite, and it is not in the interests of most amateurs to allow some to dominate the band with very high power.

Some arguments may be presented that suggest 1kW is required for reliable communications or similar. I think these arguments are specious, especially for SSB communications. Since the difference between 400W and 1kW is 4dB, or less than 1 "S-point" on the radio, the natural variation in HF propagation vastly outweighs the gain of the power increase, but the negative effect on other nearby users is certain. Having talked to many amateurs about this, I am 100% sure that

this is purely about vanity, and wanting to "keep up with the neighbours" overseas. This is not about genuine need.

The issue of small numbers of users dominating the spectrum has been compounded by the recent change to the LCD regarding computer/remote control, and the availability of software programs that allow stations to run unattended. This has led to the appearance of what I call "Robo-HAMs", which are stations that have been set up to call continuously, unattended, using digital modes like FT8. I have two Robo-HAMs who live near me and they often prevent me from operating properly due to receiver overload. The combination of higher power and Robo-HAMs would be highly detrimental to the general community.

Finally and importantly, as someone who has now seen a good cross-section of the amateur community and is very familiar with the AOCIP syllabus and standard of exam questions, I am sure that many amateur operators do not have a good grasp of the safety issues associated with 1kW, or even 400W. I am quite sure that if the ACMA inspected the stations of people operating over 100W, the majority would not be operating within rules or know how to calculate their field strength etc.

Consultation question 14:

For each use-case, please briefly answer:

- a. Why is a higher power limit needed?
- b. What are the specific limitations of the current power limit?
- c. What power level is required?
- d. What is the technical description of this power level requirement (for example, transmitter output power, emission mode)?
- e. What amateur service frequency bands would be used?
- f. How often will a higher power level be required?
- g. What is the location of the station?

Response: as per above, I do not think there are any genuine use-cases for high power and I do not think that many amateurs could operate such power safely.

Consultation question 15:

Should potential higher power authorisations be limited by:

- > location?
- > position?
- > event?
- > something else?

Please provide details to support your answer.

Response: As per above, I would suggest that high-power licences should be restricted to where there is a genuine scientific need, and the barrier to entry should be high.