



International Amateur Radio Union Region 1

Comments on Public consultation on RSPG Work Programme for 2020 and beyond

The International Amateur Radio Union (IARU) is a Non-Governmental Organisation representing the interests of Radio Amateurs.

The amateur and amateur satellite radio services are one of the oldest radio services recognised and regulated by the International Telecommunication Union (ITU) and pre-dates the regulation of radio communications. Having a strong Amateur Radio service has been recognised by Governments not only for the development of technical knowledge but as providing a network of radio stations which is geographically diverse and is able to assist in times of disaster.

As part of its commitment to amateur radio and to radio science IARU participates, as observers, in the work of standards bodies, the ITU, CEPT and EC working groups.

The economic importance of having a sufficient supply of trained engineers and scientists within the Union to meet future employment needs and technological development is critical. Amateur radio can provide an introduction to practical engineering, mathematics and physics to youth which directly contributes to a promotion in interest in careers in STEM. This is done, for example, through international youth workshops and through the ARISS (Amateur Radio on the International Space Station) programme. ARISS is an easy way for students and curious radio enthusiasts of all ages to learn more about life aboard the space station and is part of the ESA/NASA commitment to educational outreach. Many thousands of students throughout Europe have had the opportunity, supported by their teachers and radio amateur volunteers, to participate, learning not only about life in space through talking to the on-board astronauts but by experiencing a practical demonstration of orbital mechanics and communications techniques.

IARU welcomes this opportunity to comment.

Spectrum sharing – pioneer initiatives and bands

Radio amateurs have embraced frequency sharing for many years, in the vast majority of cases without significant problems and would welcome an opportunity to contribute further to RSPG deliberations on this matter.

A matter of increasing concern however is that in bands with significant demand (notably in the 430MHz – 10 GHz range) we are secondary users. In recent years we have witnessed policies favouring Primary and Tertiary (licence exempt) with either little consideration or even deliberate exclusion/clearance of secondary use and its societal value – despite it being the original regulatory mechanism for spectrum sharing

The US sharing model has a much more coherent view encompassing Primary, Secondary, and Tertiary (licence exempt/SRD) layers and then within each regulatory layer considers how flexible usage may be implemented while avoiding interference to the layer above. In this model the impact of a change of usage/application is also important to consider if optimising the overall spectrum ecosystem for efficiency.

In some cases it is necessary that there be a recognition that this cannot always be achieved or optimised on a “technology neutral” basis. Consistency is needed in the sharing thresholds, access mechanisms and out-of-band emissions, etc., beyond which harmful interference occurs.

As radio amateurs we currently implement dynamic usage/sharing within our allocated frequency bands by band plan mechanisms which are regularly updated, in contrast to the rigid allocations common amongst, for example, Mobile Operators.

The RSPG is thus urged to consider how secondary usage can be better recognised as part of sharing scenarios.

Role of Radio Spectrum Policy to help Climate Change

Radio Spectrum is a finite and irreplaceable resource. It is steadily being degraded by inadequate limits on spurious emissions from non-radio devices and insufficient market surveillance to ensure adherence to those standards that do exist. In the end the environmental pollution will cause a rise in the noise floor which will make spectrum less useable or require the use of higher transmit power levels to maintain effective utility, which is far from “green”. Indeed environmental pollution may well be replaced by spectrum pollution.

An example of emerging technology which has the potential to do this is high-power Wireless Power Transfer for Electric Vehicles, WPT (EV). Given the kilowatts of power involved per use, WPT (EV) cause significant spectrum pollution and is inefficient from an energy standpoint. Insofar as it is within its remit, we suggest that in the case of emerging technologies, RSPG should consider not only the potential for spectrum abuse, but also the broader impact on the environment.

In recent times the rise in the VHF/UHF noise floor and/or congestion in urban areas has led to greater regulatory awareness and power increases of up to 12dB being sanctioned for commercial mobile use. Increasingly complex and wideband waveforms (such as for 5G) exasperate issues of power amplifier efficiency, spurious emissions and power consumption. The highest frequencies used by 5G make it unsuited for wide area coverage unless there was a huge increase in basestations (compared to the relative efficiency of Wi-Fi). These are clear signs on a road to greater power usage, inefficiency and consequential carbon emissions by the communications sector.

While some of these concerns are the responsibility of individual spectrum regulators there needs to be a clear policy message supporting truly “green” solutions.

WRC-19/23

IARU and its Member Societies are regular participants in the ITU WRC process (including preparatory studies in CEPT. Whilst WRC-19 was largely positive for amateur radio interests, we are concerned with a number of WRC-23 agenda items.

In particular we were deeply disappointed by the disproportionate and unnecessary approach used by the Commission at CEPT-CPG and at WRC19 in forcing its WRC-23 agenda on others with respect to RNSS in the 1240-1300 MHz band. IARU is already cooperating on an internal CEPT work item which is likely to lead to a simpler and quicker resolution.

We also take this initial opportunity to express our concern re the newly adopted agenda items that would further impact amateur and amateur satellite allocations, including near 3.4GHz and 10 GHz.

We look forward to a fuller RSPG consultation on the WRC-23/27 agenda.

Conclusion/Comments

IARU was somewhat disappointed that radio amateurs were not recognised as users of spectrum during the 2016 RSPP and its supporting sector surveys made by the RSPG. As secondary users we are at times also being overlooked and sometimes being unfairly discriminated against. Such secondary shared usage is however valuable; and greater recognition of secondary usage/rights should feature in the new RSPG programme.

The use of spectrum for social interaction, for teaching/skills and for technical experimentation needs to be protected as a matter of policy.

Our many highly skilled members are at the leading edge of spectrum innovation and sharing, and are often the first to notice degradation of radio spectrum from other sources of noise/interference.

IARU, as a stakeholder, is happy to participate and contribute to spectrum discussions within RSPG.

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Chairman
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