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WRC-23, AI-10 Future Agenda Items for WRC-27
Background and IARU Preliminary Positions

General Approach

- Focus on spectrum defence and propose no new amateur items below 275GHz
- Oppose new Mobile/IMT items
- "Elevate" scientific based spectrum proposals to a threat to the Amateur Services
- Proactively contribute to challenge scope and make AI-10 resolutions clearer/fairer

Introduction

WRC-19 agreed an unprecedented number of 13 items for potential WRC-27 agenda Items. These are listed with their defining resolutions at:

https://www.itu.int/en/ITU-R/study-groups/rcpm/Pages/wrc-27-preliminary-studies.aspx

CEPT–PTA which includes AI-10 in its remit has made an early start on this topic. It has developed a detailed draft CEPT Brief on AI-10 and has proposals that would refine/amend the current items, as well as add completely new ones

It may also be recalled that AI-10 was where the 144 MHz band was once in scope of the French aeronautical proposal in mid-2019, until a concerted effort saw the band (but not the agenda item) withdrawn. Along with items such as AI9.1b on 23cms, this underline the need to be cognisant of AI-10, for spectrum defence, even if no new amateur items are proposed by IARU.

Relevant ITU Proposals

With regard to the original ITU list the following are of importance to the amateur and amateur satellite services: -

ITU ref	Brief Description	Concern
2.1	**Radiolocation** service allocations on a co-primary basis in the frequency band 231.5-275 GHz and an identification for radiolocation applications in the frequency range 275-700 GHz as outlined in **Resolution-663**	Amateur allocations in 241-250GHz May impact amateur access >275GHz under RR5.565

2.6	**Space Weather –** numerous new protected allocations (under MetAids Service?) as outlined in **Resolution-657 and outputs associated with WRC19 AI-9.1a**	Numerous amateur bands from HF-UHF/SHF due to broad uncontrolled scope
2.9	**Mobile Service** allocation in 1300-1350 MHz	National in-band amateur allocations; and adjacent band impact (along with impact of AI-9.1b)
2.13	**Mobile Satellite** service in 1.6-3.4 GHz as outlined in Resolution-248	Overlaps the amateur 3.3-3.4GHz allocation in Regions-2 & 3

Note: with respect to Item-2.9 and 1300 MHz, the following national allocations have been identified so far:

- UK: 1300-1325 MHz secondary (extensively used by TV Repeater outputs, shared with radiolocation)
- Ireland: 1300-1304 MHz secondary (for repeaters only)
- Potential use by the amateur service in other countries (as originally envisaged by the EU to mitigate interference to Galileo etc)

CEPT PTA Status & Proposals

CEPT PTA continues to be proactive and influential with respect to AI-10.

- The CEPT AI-10 Brief now includes draft positions re support/oppose which may be relevant
- There are detailed draft proposals to revise the WRC27 resolutions which may affect scope
- For the June 2022 CEPT-PTA meeting, we can now see completely new proposals

ITU ref	Potential Changes	Comment
2.1	**Radiolocation** upper range scope to be extended From 275-700 to **275-1000 GHz** Numerous other drafting changes proposed to **Resolution-663 which prioritise other ITU services** (but of course not amateurs)	Amateur allocations in 241-250GHz May more seriously impact amateur access >275GHz under RR5.565
2.6	**Space Weather –** revisions proposed to Resolution 657 would explicitly reference unfinished ITU study reports for the frequency ranges that will be the basis of new allocations studies. This item has huge potential to cause amateur (and perhaps other services) a real problem and high workload	There is no incentive for the proponents to prioritise or limit the frequency bands - Unfortunately, quite the opposite is occurring, with more frequencies being added Numerous amateur bands from HF-UHF/SHF due to broad uncontrolled scope

2.9	Mobile Service allocation in 1300-1350 MHz	Support in CEPT/ITU may be limited due to radiolocation concerns, but IARU should still consider the band
2.13	Mobile Satellite service in 1.6-3.4 GHz as outlined in Resolution-248	There are also strong IMT interests in the 3.3-3.4GHz range. Airborne early warning radars (which in the past we helpfully shared with) are reducing in this band

Also in development (based on CEPT PTA work in progress)

New ref	Topic	Comment
A	**New Mobile allocations for 6G (IMT-2030)**	May get support, but unjustified spectrum scope and flawed requirements as most 5G spectrum unused and high reuse factor
B	**Primary RAS/Science Passive at 248-250GHz**	Direct threat(?) to 248-250 GHz
C	**RR5.340 Passive-only allocations** Extended Protection (incl. adjacent bands)	Amateur and Amateur satellite at 248-250 explicitly included

(802.11 RLANS at 57-71GHz and soon higher are probably more useful than IMT)

IARU Preliminary Positions for WRC-23, AI-10 Future Agenda Items for WRC-27 (August 2022)

2.1 Radiolocation in 231- 700 [or 1000] GHz

Many of the existing and foreseen radiolocation applications are low power and short range where high frequency reuse is possible. Many of these applications can be accommodated by licence exemption or spectrum sharing without the need for Primary allocations.

In addition to amateur secondary and primary allocations in the 241-250GHz range, the amateur service is also experiencing growth in experimental access and successful results in bands above 275GHz in line with **RR No. 5.565**.

Any changes to allocations, footnotes or identifications should not impact allocations, current experimental access and emerging usage by the amateur services.

2.6: Space Weather

IARU remains concerned that the spectral scope of this item remains far too broad impacting many incumbent allocations (both amateur and other services).

Priority should be given to ITU Recommendations/Reports and not Article-5 allocations as a way of fulfilling the requirement, particularly where sensors are on a limited number of national locations or are inappropriate applications of existing services.

With respect to potential new frequency allocations, Resolution 657 must be revised in a manner where a limited number of frequency bands are explicitly listed and prioritised in order to limit the scope of this item.

2.9: 1300-1350 MHz Mobile

IARU is concerned with the impact that any new mobile applications in this range would impinge on the adjacent secondary amateur service allocation which has been extensively studied under WRC-19 AI-9.1b, as well as some national 1300MHz in-band amateur allocations

2.13: Mobile Satellite Service

The IARU supports retention of the amateur secondary allocation of 3 300-3 400 MHz in Regions 2 and 3.

CEPT PTA 2A: Future IMT (6G/IMT2030)

IARU sees no justification for additional mobile allocations or IMT identifications in the so-called ‘essential’ 7.125-24 GHz range which includes the 10GHz amateur and amateur satellite allocation. This range has already been studied for WRC-23. The higher mmWave

frequencies have already been extensively studied (including new mobile designations) for WRC-19, are not heavily utilised by IMT (or alternative mobile technologies) and offer considerable frequency reuse and sharing potential. Existing mmWave provision and reuse should be the focus instead, including by alternative mobile technologies.

CEPT PTA 2B & 2C: Potential 248-250 GHz Science Topics

The amateur and amateur satellite services have a primary allocation at 248-250GHz. Any study or change (in-band or adjacent band) should not affect current and planned usage, or future applications of the incumbent amateur services.

As yet, no rationale for a new allocation to science services in the band 248-250 GHz has been provided. Should a persuasive rationale for that specific frequency band be forthcoming the amateur services will require functionally equivalent replacement spectrum in a nearby band**.**