International Amateur Radio Union

Summary Meeting Report
WRC-23: 20 November– 15 December 2023 (Dubai)

This report is focusses on the 23 cm Band RNSS Coexistence Aspects and WRC-23 AI 9.1b by Barry Lewis G4SJH

The World Radiocommunication Conference WRC-23 met for four weeks over the period 20 November to 15 December 2023 hosted by the UAE in Dubai. The WRC agenda item 9.1 topic b) addressed the amateur services use of the 23 cm band and the co-frequency use by several radionavigation-satellite service (RNSS) systems in 1240 – 1300 MHz.

The IARU was represented in person by Barry Lewis G4SJH (IARU WRC-23 AI9.1b Lead) and Roland Turner 9V1RT. The IARU Vice President was in attendance for the entire conference. IARU President Tim Ellam VE6SH and the IARU Secretary Joel Harrison W5ZN each participated for one week during the middle two weeks of the conference.

Background

The studies identified in Resolution 774 (WRC-19), which kicked off four years of preparatory work in ITU-R to address WRC-23 agenda item 9.1 topic b), finally drew to a close at this WRC. Concerted engagement by the IARU in the ITU-R working parties, study groups and WRC preparatory meetings ensured that the amateur services were properly represented during the development of published Reports ITU-R M.2513 and ITU-R M.2532. The ITU-R Radiocommunication Assembly 2023 (RA-23) had, in the week before the conference, finalised and published Recommendation ITU-R M.2164 (*Guidance on technical and operational measures for the use of the frequency band 1 240-1 300 MHz by the amateur and amateur-satellite service in order to protect the radionavigation-satellite service (space-to-Earth*)) that became an essential element for the discussions at WRC-23.

The task of the WRC is to update the ITU-R Radio Regulations (RR) which is an international Treaty agreement. The updates include revisions and additions to the Articles of the RR, the addition of new footnotes and any new regulatory provisions.

Most regional telecommunications organisations provided input contributions identifying their position on this agenda item.

WRC input contributions relating to AI9.1 topic b):

Country/Entity	Contribution No	Proposal
CITEL (Americas)	44 Annex 24-2	NOC (No overall change)
APT (Asia Pacific)	62 Annex 24-2	NOC
CEPT (European)	65 Annex 24-2	Incorporate Rec. by Reference
RCC (Russian bloc)	85 Annex 24-2	NOC but revise Res. 774 for new studies
ATU (Africa)	87 Annex 24-2	NOC
China	111 Annex 24-2	WRC Resolution if no Rec.

In these contributions 'NOC' proposals require no changes to the Radio Regulations.

IARU objectives for WRC on AI 9.1 topic b)

As an observer at WRC, the IARU could not participate directly in the WRC discussions but was able to work in the background with relevant parties involved in the work. The IARU position on this agenda was for "no regulatory change" (in effect – NOC). The IARU supported development of the Recommendation ITU-R M.2164 finalised during RA-23 and took the view that the guidance provided by that document is sufficient to satisfy the agenda item.

WRC Meeting Activity

The WRC working structure is complex and work is divided across seven committees (Com1 to 7) and their sub-groups based on the types of radiocommunicaton services and ultimately the contributions above were allocated directly into a sub-working group (SWG) 4B7 under Com4.

During the first and second weeks of the conference seven SWG4B7 meetings were convened. Strong positions were expressed by all the parties involved based on the contributions above.

Most discussion arose from the CEPT proposal to incorporate the Recommendation ITU-R M.2164 by reference into a footnote in the RR. Incorporation by reference would in effect globally mandate application of all the technical and operational measures from the Recommendation. As can be seen from the contributions, other regions did not agree and supported NOC positions.

After exploring a number of options the meeting eventually moved away from the incorporation by reference approach and coalesced on a well-supported compromise for footnote text to be added in Article 5 of the RR. The footnote refers to the amateur and amateur-satellite entries in the frequency allocation table. It reminds administrations and amateurs of the need to protect the primary RNSS from interference and points to the new Recommendation ITU-R M.2164. This Recommendation provides guidance to administrations on how they might allow both services to continue to operate.

The output document

After agreement at the sub working group level the output moved through an approval process up through the committee structure to the Conference Plenary for final adoption.

The final footnote text adopted at the 7th WRC-23 Plenary meeting:

"5.A91B Administrations authorizing operation of the amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz, or portions thereof, shall ensure that the amateur and amateur-satellite services do not cause harmful interference to radionavigation-satellite service (space-to-Earth) receivers in accordance with No. **5.29** (see the most recent version of Recommendation ITU-R M.2164). The authorizing administration, upon receipt of a report of harmful interference caused by a station of the amateur or amateur-satellite services, shall take all necessary steps to rapidly eliminate such interference. (WRC-23)**"**

Additionally Resolution 774 (WRC-19) is suppressed which brings the activity to a conclusion.

In effect the new footnote provides:

- regulatory certainty for the protection of RNSS receivers from harmful interference,
- guidance to administrations if interference to RNSS receivers from amateur transmissions occurs,
- continued amateur access to the 1240 – 1300 MHz frequency band.

Attachment 1 provides the relevant extracts from the WRC-23 approved document.

Final comments:

The outcome is fully aligned with the IARU position and represents the successful conclusion of the four years of study. However consequential activities may continue especially in the CEPT countries where a regional work item is open to develop a spectrum decision on this same topic but focussed on the Galileo RNSS system. The IARU Region 1 will continue to be active in that work.

The outcome from WRC-23 will eventually appear in the “WRC-23 Final Acts” for inclusion into the next edition of the RR around mid-2024. The new regulations are likely to enter into force from 1 January 2025.

Barry Lewis

IARU Lead WRC-23 AI 9.1b)

Attachment 1

- **Relevant extracts from WRC-23 Document 338 – approved in the WRC-23 7th plenary meeting, 8th December 2023.**

The extracts below show the adopted modifications to the ITU-R Radio Regulations Article 5, Table of Allocations, and the new footnote. Finally Resolution 774 (WRC-19) is suppressed.

- Agenda item 9.1(9.1-b)

MOD B15/338/5

890-1 300 MHz

Allocation to services		
Region 1	**Region 2**	**Region 3**
1 240-1 300	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.282 5.330 5.331 5.332 5.335 5.335A ADD 5.A91B	

ADD B15/338/6

5.A91B Administrations authorizing operation of the amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz, or portions thereof, shall ensure that the amateur and amateur-satellite services do not cause harmful interference to radionavigation-satellite service (space-to-Earth) receivers in accordance with No. **5.29** (see the most recent version of Recommendation ITU-R M.2164). The authorizing administration, upon receipt of a report of harmful interference caused by a station of the amateur or amateur-satellite services, shall take all necessary steps to rapidly eliminate such interference. (WRC-23)

- Agenda item 9.1(9.1-b)

SUP B15/338/13

RESOLUTION 774 (WRC-19)

Studies on technical and operational measures to be applied in the frequency band 1 240-1 300 MHz to ensure the protection of the radionavigation-satellite service (space-to-Earth)