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| **Radiocommunication Study Groups** |  |
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|  | **Document 5B/93-E** |
| **25 August 2020** |
| **English only** |
| Chairman, Working Party 5B |
| Report oN the twentY-fourth meeting of working party 5b |
| (Virtual meeting, 20-30 July 2020) |

**Working Party overview**

Working Party (WP) 5B is responsible for studies related to:

– the aeronautical mobile service;

– the maritime mobile service, including the global maritime distress and safety system;

– the management of maritime mobile service identities;

– the radiodetermination service.

In discharging its responsibilities, the Working Party:

1) develops and maintains Recommendations that enable protection for distress and safety applications of the above services while permitting sharing of the limited spectrum resources with other services operating within the allocated bands;

2) studies systems’ protection criteria, with particular emphasis on safety-of-life services;

3) assesses compatibility between the cognizant radiocommunication services of WP 5B and other services to determine the feasibility of sharing;

4) studies methods to enhance the effective and efficient use of the spectrum of services cognizant to WP 5B;

5) shall maintain strong cooperative efforts with other United Nations’ Specialized Operating Agencies such as the International Civil Aviation Organization (ICAO), International Maritime Organization (IMO) and World Meteorological Organization (WMO);

6) shall also maintain strong cooperative efforts with other Task Groups and Working Parties having an interest in the frequency bands allocated for the maritime mobile, aeronautical mobile and radiodetermination services.

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(Source: Document 5B/TEMP 16)

2 Preliminary draft revision of Annex 2 of Recommendation ITU-R M.585-8\* - Assignment and use of identities in the maritime mobile service
(Source: Document 5B/TEMP/18)

3 Preliminary draft revision of Recommendation ITU-R M.1371-5 - Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile frequency band
(Source: Document 5B/TEMP/31)

4 Preliminary draft revision of Recommendation ITU-R M.1798-1 - Characteristics of HF radio equipment for the exchange of digital data and electronic mail in the maritime mobile service
(Source: Document 5B/TEMP/34)

5 Working document towards a preliminary draft revision of Recommendation ITU-R M.2092-0 - Technical characteristics for a VHF data exchange system in the VHF maritime mobile band
(Source: Document 5B/TEMP/33)

6 Working document towards a preliminary draft new Recommendation ITU-R M.[RAD‑92-100 GHz] – Technical and operational characteristics of radiolocation systems operating in the frequency range 92-100 GHz and radionavigation systems operating in the frequency range 95-100 GHz
(Source: Document 5B/TEMP/19)

7 Working document towards a preliminary draft new Report ITU-R M.[RADAR SIMULATIONS] – Simulations of performance for specific primary surveillance radars (Source: Document 5B/TEMP/27)

8 Working document towards a preliminary draft new Report ITU-R M.[FOD 92-100 GHz] – Technical and operational characteristics of the foreign object debris detection system operating in the frequency band 92-100 GHz
(Source: Document 5B/TEMP/20)

9 Working document towards a preliminary draft new Report ITU-R M.[FOD\_EESS\_SHARE] – Sharing and compatibility studies between earth exploration satellite service sensors and foreign object debris detection system in the frequency ranges 92 100 GHz
(Source: Document 5B/TEMP/21)

10 Working document towards a preliminary draft new Report ITU-R M.[UA-AIRBORNE-DAA] – Guidance on suitable frequency bands and services to be used by airborne unmanned aircraft detect-and-avoid non-cooperative systems
(Source: Document 5B/TEMP/29)

11 Working document towards a preliminary draft new Report ITU-R M.[UA\_GROUND\_DAA] – Guidance on suitable frequency bands and services to be used by unmanned aircraft ground based detect-and-avoid non-cooperative systems
(Source: Document 5B/TEMP/28)

12 Terms of reference for Working Party 5B Correspondence Group on revision of Recommendation ITU-R M.2092
(Source: Document 5B/TEMP/32

13 Reply liaison statement to ICAO - WRC-23 agenda item 1.8
(Source: Document 5B/TEMP/23)

1) Draft reply liaison statement to Working Party 5D - WRC-23 agenda item 1.1 -Characteristics of aeronautical systems operating in or adjacent to the frequency band 4 800-4 990 MHz
(Source: Document 5B/TEMP/30)

15 Draft liaison statement to Working Party 5D on Advanced Antenna System (AAS)
(Source: Document 5B/TEMP/23)

16 List of output documents

17 List of documents issued

# 1 Introduction

The Working Party (WP) was invited to meet in Geneva by Circular Letter [5/LCCE/85](http://www.itu.int/md/R00-SG05-CIR-0085/en).

The WP considered 130 documents, including 16 annexes to previous WP 5B Chairman’s Reports, pertaining to the radiodetermination, maritime mobile and aeronautical mobile services.

The WP was attended by 460 delegates in attendance, representing 53 Administrations, 7  regional and other international organizations, 15 recognized operating agencies, 21 scientific or industrial organization, 2 Academia 3 other entities, 3 specialized agencies of the United Nations, 1 other entity dealing with telecommunication matters, , and the International Telecommunication Union.

The working party formed the following working groups (WG):

|  |  |  |
| --- | --- | --- |
| **WG** | **Subject** | **Chairman** |
| 5B-1 | Radiodetermination | Mr. M. Weber (D) |
| 5B-2 | Aeronautical | Mr. J Andre (F) |
| 5B-3 | Maritime | Mr. J. Huang (CHN) |
| 5B-4 | Other | Mr. J Cramer (USA) |
| Plenary | WRC-23 agenda item 1.8 | Mr P Hovstad (CHN) |

# 2 Executive summary

## 2.1 Overview

Given the limited meeting time available and the lack of an effective means to work in drafting groups the WP concentrated its efforts on ensuring that it provided other WP’s with and sought for itself information that might be required in order to carry out studies related to the various WRC-23 agenda items.

The meeting, in light of the invitation from CPM to establish a new WG chaired by a satellite expert to address WRC-23 agenda items 1.6, 1.7 & 1.8, discussed how it’s work should be structured. Two options were discussed during the meeting with a third suggested by an administration later in the meeting no final decision was taken on the structure for the remaining meetings within this study cycle.

For this meeting it was agreed that issues related to WRC-23 agenda items 1.6 & 1.7 would be handled in the aeronautical WG and that those related to WRC-23 agenda item 1.8 would be addressed through an ad-hoc of plenary group. Whilst it was noted this was not in line with the invitation from CPM it did allow the meeting to progress.

Where time permitted, work continued on other issues such as updating of existing and development of new Reports and Recommendations. Where there was no time for more than the introduction of a document those documents were carried forward to the next meeting.

## 2.2 Radiodetermination

The working group developed liaison statements to the relevant WP’s for the 7 WRC-23 agenda items where WP 5B are a contributing group due to their potential implications for radiodetermination services.

The group also considered several contributions related to unmanned aircraft detect and avoid systems, foreign object detection radar and radar simulations. The result of those discussions were the further development without upgrade of 6 annexes to my last chairman’s report that will be carried forward in my chairman’s report of the WP 5B meeting and one document being carried forward that proposes the development of another Report.

## 2.3 Aeronautical

All of the time assigned to the working group was used to introduce the attributed documents and development of liaisons statements that either answered liaison statements related to WRC-23 agenda items from other WP’s or requesting information for studies that the WP wished to carry -out in relation to WRC-23 agenda items. Unfortunately, agreement could not be reached on a liaison statement related to WRC-23 agenda item 1.1 and the document as presented to plenary was carried forward as an annex to my chairman’s report.

As the development of the liaison statements consumed the time available or the aeronautical group and contributions related to issues other than liaison statements could not be discussed these documents were carried forward to the next meeting.

## 2.4 Maritime

The WG were able to use the time available to progress on the one WRC-23 agenda item related to maritime issues and to further the work on 4 revisions to existing Recommendations which are to be carried forward in my chairman’s report of the WP 5B. Additionally, a correspondence group was established to help progress the work on a revision to Recommendation ITU-R M.2092 for which the terms of reference are included as Annex 12 to this Report.

## 2.5 Other issues

The WG developed 2 liaison statements related to WRC-23 agenda items 1.5 and 1.15 as well as discussing various issues around interference from cabled systems and LED lighting.

## 2.6 Working Group of Plenary UAV Resolution 155 (WRC-15)

The Working Group of Plenary produced a liaison statement requesting information to be used in studies related to WRC-23 agenda item 1.8 and 2 liaison statements providing information to the relevant WP’s about WP 5B interest in WRC-23 agenda items 1.16 & 1.17. A further liaison statement was produced thanking ICAO for the information they had provided and informing them that the WP would provide answers at a future meeting.

Whilst the 2 documents received proposing modification to the Recommendation/Report on UAS command and non-payload communication characteristics and the Report on UA power flux density limits carried forward as annexes in my previous chairman’s report were introduced but not discussed. However, the meeting did agree that at this time , the content should not be considered at this stage as material for developing an ITU-R Report or Recommendation but that a list of UAV command and non-payload characteristics should be maintained.

Additionally, the meeting agreed that a list of issues and inconsistencies with Resolution **155** should be developed for which solutions could then be sought and that the contribution from ICAO provided a good starting point for that list.

## 2.7 Status of documents related to World Radiocommunication Conference agenda items under the purview of the working party

|  |  |  |  |
| --- | --- | --- | --- |
| **WRC** | **Issue** | **Document**  | **Reference** |
| **AI** | **Res** | **Type** | **Title** |
| 1.6 | **772** | Facilitation of radiocommunication for sub-orbital vehicles |  |  |  |
| 1.7 | **428** | Consider a new aeronautical mobile-satellite (R) service (AMS(R)S) allocation in accordance with Resolution 428 (WRC-19) for both the Earth-to-space and space-to-Earth directions of aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz, |  |  |  |
| 1.8 | **171** | Consider, on the basis of ITU R studies , appropriate regulatory actions, with a view to reviewing and, if necessary, revising Resolution **155 (Rev.WRC 19)** and No. **5.484B** to accommodate the use of fixed-satellite service (FSS) networks by control and non-payload communications of unmanned aircraft systems |  |  |  |
| 1.9 | **429** | Review Appendix **27** of the Radio Regulations and consider appropriate regulatory actions and updates based on ITU‑R studies, in order to accommodate digital technologies for commercial aviation safety-of-life applications in existing HF bands allocated to the aeronautical mobile (route) service and ensure coexistence of current HF systems alongside modernized HF systems |  |  |  |
| 1.10 | **430** | To conduct studies on spectrum needs, coexistence with radiocommunication services and regulatory measures for possible new allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications |  |  |  |
| 1.11 | **361** | To consider possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System and the implementation of e‑navigation |  |  |  |
|  | **427** | Updating provisions related to aeronautical services in the Radio Regulations |  |  |  |

Insufficient progress has been made at this time to provide any meaningful input on the documents being developed and their status at this time.

# 3 Documents for adoption/approval by Study Group 5

The meeting did not consider any documents to be sent to Study Group 5 for adoption or approval

# 4 Review of Questions assigned to Working Party 5B

Due to time limitations during the meeting WP 5B have not had the chance to review the questions assigned to them.

# 5 Liaison Rapporteurs and Correspondence Groups

The WP considered the list of liaison Rapporteurs and Correspondence Groups. Both methods are considered efficient and WP 5B will continue to take advantage of these procedures.

WP 5B confirmed the need to maintain the four existing and one new Correspondence Groups to facilitate and accelerate the work to be carried out with the minor amendment to the terms of reference for Radar WG to include specific mention of oceanographic radar. The groups are supported by e-mail reflectors. Each e-mail reflector has a related archive, which shows all e-mails that have been sent previously to that reflector.

For the time being the following Correspondence Groups are active:

|  |  |
| --- | --- |
| **Correspondence Group** | **Convener** |
| Radar WG | Mr. M. Weber (D) |
| Maritime WG | Mr. J. Huang (CHN) |
| Aeronautical WG | Mr. J Andre (F) |
| Report/Recommendation maintenance | Mr. J. Mettrop (G) |
| Recommendation 2092 | Stefan Pielmeier (DNK) |

For the complete information on the Correspondence Groups please visit the WP 5B website.

At this meeting, WP 5B nominated various Rapporteurs to help the Working Party to deal with these issues and recommended to keep liaison with other groups via these Rapporteurs. The WP 5B Rapporteurs to other groups are as follows:

|  |  |
| --- | --- |
| WP 1A | Mr. John Mettrop (UK) |
| WP 6A | Mr. John Shaw (UK) |
| IEC-TC80 on test standards for GMDSS equipment | Mr. Kim Fisher (UK) |
| IALA | Mr. Christian Rissone (F)Mr. William Kautz (USA) |
| ISO | Mr. Jon Turban (USA)Mr. Stephen Ward (USA) |

# 6 Virtual working

This was the first meeting in which Working Party 5B used the ITU virtual meeting facilities. Noting the limitations placed on the Bureau in the selection of a virtual meeting platform that can be made available to all administrations and is capable of support the size of meeting foreseen the WP 5B management team would like to offer the following observations. We hope that these observations can help guide the Bureau in the future development and its policies on the use of those facilities.

Positives

– Removed the need for travel to Geneva reducing the cost of participation significantly.

– Allowed administrations and sector members to increase their participation in ITU-R meetings without increasing costs thus making ITU-R meetings more accessible to developing administrations.

– Provided a means to accommodate greater participation in meetings that would be beyond the capacity of existing ITU facilities without the need to seek alternative facilities.

– Allow some limited progress of issues where there is some agreement during a period where equitable access to meeting facilities for all delegates is not possible.

– The record facility can be helpful if you need to recall what was said within a meeting.

Negatives

– Wide divergence in time zones makes it difficult for participants from different regions and favours those within the least time offset.

– Lack of meeting time both in terms of restrictions on the working hours due to time zone differences and the number of possible parallel sessions.

– Arranging meetings and limited ability for dynamically changing the schedule is too rigid and does not suit a busy working party with a large number of issues.

– Formality and technical issues in giving the floor to delegates further restricts the effective working time available.

– Variability in the quality of internet connections, equipment used by participants and the environment in which they are working reduces the efficiency of the meeting.

– Editing documents and listing the requests for the floor is too much for the counsellor to do effectively which further restricts the effective time available.

– Difficultly in holding informal discussions/consultations to clarify situations and work out compromises leads to more entrenched and formal positions being advanced in meetings.

– Informal drafting is very difficult to organise and undertake due to the formal nature of all meetings and time zone differences.

– It is difficult to progress complex issues where opinions diverge due to the formality of the meeting and difficulties in holding offline discussions which can lead to further divergence of views rather than building consensus.

– Discussions appear to be limited to a few delegates.

– Lack of visual clues for Chair’s to assess the mood of the meeting and the acceptability of proposals has had a negative impact on the progress of work.

– Makes the ability to help develop and mentor new Chair’s very difficult.

Overall, the ability to have held a virtual meeting in order to organise the work of the Working Party and provide information to other Working Parties in order to allow them to advance their WRC-23 studies has been useful. However, as has already been experienced the lack of meeting in person with all the advantages that brings is likely to severely hind progress on several issues, especially where there is currently diverging views and could even be detrimental to finding acceptable solutions to problems. It is important to recognize that WP’s cannot progress the work at the same speed in virtual meetings as as compared to face to face meeting and that this is likely to impact on the deadlines and what can be produced.

As chairman I am concerned as to whether further virtual meetings of the Working Party will advance or regress the work but if we are to hold further virtual meetings then I would suggest that:

– The software needs to be modified or complemented by other tool(s) so that it can automatically list requests for the floor that is visible to all delegates.

– A means of holding offline discussions is found which does not further inconvenience hose with a large time difference.

– Increased online collaboration facilities (noting they need to be available to all participants) including virtual meeting rooms for informal recognizing the limitation due to time difference.

– More dynamic means of scheduling meetings.

– That whilst virtual meetings are being used WP 5B should not meet in parallel with WPs 5A & 5C.

# 7 Working Party 5B structure

At the beginning of the meeting the following structure with respect to agenda items and other preparatory work for WRC-23 that respected the invitation of CPM to form a separate WG to address WRC-23 agenda items 1.6, 1.7 & 1.8



However, the meeting could not agree who should chair the WG 5B-5. Following a short discussion in plenary and some informal consultation , the meeting did agree to the following compromise structure to be used at this meeting of WP 5B noting that there would need to be further discussions on the structure at the next meeting. The red box in the two organograms indicates the substantive differences.

 

# 8 Chairs within the Working Party

Whilst in the past it was not a problem to find volunteers to chair the various working groups, sub‑working groups and drafting groups within WP 5B allowing chairs to progress as they pick up the skill set necessary that is not the case today. During the last study cycle it has been increasingly difficult to find chairs who can act independently of their own delegation responsibilities. Given the increased workload

WP 5B will be looking for chairs to lead various drafting and sub-working gup meetings during this cycle. As chair of the WP, noting the ITU initiative to train and develop new chairs in line with diversity principles, I would welcome nominations for chairs from administrations against the structure given in Document [5B/88](https://www.itu.int/md/R19-WP5B-C-0088/en) by the end of September. Based on those submissions and with the assistance of the WP 5B management team and informal co-ordinate I intend to make a proposal at the start of the next meeting of WP 5B as to the leads for the various issues.

# 9 Contributions addressed in Plenary

WP 5B received the following contributions that were introduced and noted during plenary sessions of the WP Documents.

**Carried forward from the last study cycle:**
[5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) (Incl Annex 4), [5B/713](http://www.itu.int/md/R15-WP5B-C-0713/en), [5B/714](http://www.itu.int/md/R15-WP5B-C-0714/en), [5B/717](http://www.itu.int/md/R15-WP5B-C-0717/en), [5B/718](http://www.itu.int/md/R15-WP5B-C-0718/en), [5B/719](http://www.itu.int/md/R15-WP5B-C-0719/en), [5B/720](http://www.itu.int/md/R15-WP5B-C-0720/en), [5B/721](http://www.itu.int/md/R15-WP5B-C-0721/en), [5B/723](http://www.itu.int/md/R15-WP5B-C-0723/en), [5B/724](http://www.itu.int/md/R15-WP5B-C-0724/en), [5B/725](http://www.itu.int/md/R15-WP5B-C-0725/en), [5B/729](http://www.itu.int/md/R15-WP5B-C-0729/en), [5B/730](http://www.itu.int/md/R15-WP5B-C-0730/en), [5B/731](http://www.itu.int/md/R15-WP5B-C-0731/en)

**Contributions during this study cycle:**
[5B/1](https://www.itu.int/md/R19-WP5B-C-0001/en), [5B/2](https://www.itu.int/md/R19-WP5B-C-0002/en), [5B/3](https://www.itu.int/md/R19-WP5B-C-0003/en), [5B/7](https://www.itu.int/md/R19-WP5B-C-0007/en), [5B/13](https://www.itu.int/md/R19-WP5B-C-0013/en), [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/29](https://www.itu.int/md/R19-WP5B-C-0029/en), [5B/42](https://www.itu.int/md/R19-WP5B-C-0042/en), [5B/87](https://www.itu.int/md/R19-WP5B-C-0087/en), [5B/88](https://www.itu.int/md/R19-WP5B-C-0088/en)

Relevant documents were then taken up as necessary by the various Working Groups.

# 10 Report of Working Groups

## 10.1 Report of Working Group (WG) 5B-1 “Radiodetermination”

Working Group 5B-1 met 6 times at this meeting. The agenda for Working Group 5B-1 included 18 separate items. The Working Group considered 6 annexes to report from earlier WP 5B meetings and 26 input documents some of which could not be considered in any detail due to the time constraints imposed by the meeting being held virtually. The output of Working Group 5B-1 at this meeting consisted 6 draft documents to be attached to the Chairman’s Report as well as 7 liaison statements. To achieve a maximum level of flexibility in using the meeting time and avoid time for reporting from subordinate group in the virtual meeting all business was dealt with in the Working Group.

### 10.1.1 World Radiocommunication Conference 2023 related issues

#### 10.1.1.1 WRC-23 AI 1.2 - Resolution 245 (WRC-19) IMT in various bands between 3.4‑10.5 GHz

Input document: [5B/15](https://www.itu.int/md/R19-WP5B-C-0015/en), [5B/16](https://www.itu.int/md/R19-WP5B-C-0016/en), [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/55](https://www.itu.int/md/R19-WP5B-C-0055/en)

Output document: [5D/227](https://www.itu.int/md/R19-WP5D-C-0227/en) (source: Document 5B/TEMP/26 (LS))

With Document 5B/16 WP 5D asked for information on systems operating in the frequency bands being studied in preparation for WRC-23 AI 1.2. Based on the proposal contained in Document 5B/55 the meeting agreed on a liaison statement referencing relevant Recommendations on characteristics and protection criteria of radiodetermination system.

#### 10.1.1.2 WRC-23 AI 1.3 - Resolution 245 (WRC-19) Mobile for Region 1 in the frequency band 3 600‑3 800 MHz

Input document: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/47](https://www.itu.int/md/R19-WP5B-C-0047/en)

Output document: [5A/88](https://www.itu.int/md/R19-WP5A-C-0088/en) (source: Document 5B/TEMP/25 (LS))

The meeting agreed on a liaison statement to inform WP 5A on Recommendations on characteristics and protection criteria of radiodetermination system relevant to WRC-23 AI 1.3 based on the proposal contained in Document 5B/47.

#### 10.1.1.3 WRC-23 AI 1.4 - Resolution 245 (WRC-19) HAPS use for IMT in various frequency bands below 3.6 GHz

Input document: [5B/14](https://www.itu.int/md/R19-WP5B-C-0014/en), [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/54](https://www.itu.int/md/R19-WP5B-C-0054en)

Output document: [5D/241](https://www.itu.int/md/R19-WP5D-C-0241/en) (source: Document 5B/TEMP/5 (LS))

With Document 5B/14 WP 5D asked for information on systems operating in the frequency bands being studied in preparation for WRC-23 AI 1.4. Based on the proposal contained in Document 5B/54 the meeting agreed on a liaison statement referencing relevant Recommendations on characteristics and protection criteria of radiodetermination system.

#### 10.1.1.4 WRC-23 AI 1.12 - Resolution 656 (Rev.WRC-19) Space radar sounders around 45 MHz

Input document: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/49](https://www.itu.int/md/R19-WP5B-C-0049/en), [5B/89](https://www.itu.int/md/R19-WP5B-C-0089/en)

Output document: [7C/29](https://www.itu.int/md/R19-WP7C-C-0029/en) (source: Document 5B/TEMP/4 (LS))

With Document 5B/49 WP 7C asked for information on systems operating in the bands studies in preparation for WRC-23 AI 1.12. Based on the proposal contained in Document 5B/49 the meeting agreed on a liaison statement referencing relevant Recommendations on characteristics and protection criteria of radiodetermination system.

#### 10.1.1.5 WRC-23 AI 1.14 - Resolution 662 (WRC-19) Earth exploration satellite in the frequency band 231 - 252

Input document: [5B/19](https://www.itu.int/md/R19-WP5B-C-0019/en), [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/56](https://www.itu.int/md/R19-WP5B-C-0056/en)

Output document: [7C/30](https://www.itu.int/md/R19-WP7C-C-0030/en) (source: Document 5B/TEMP/3 (LS))

CPM23-1 listed WP 5B as a contributing and WP 7C as the responsible for WRC-23 AI 1.14. Based on the proposal contained in Document 5B/56 the meeting agreed on a liaison statement informing WP 7C that no relevant Recommendations on characteristics and protection criteria of radiodetermination system are available for the frequency band 231-252 GHz. The liaison statement further inform that it should not be assumed that such systems would not exist. Administrations are invited to contribute to the next meeting of WP 5B.

#### 10.1.1.6 WRC-23 AI 1.18 - Resolution 248 (WRC-19) Mobile satellite in the frequency band 3 300‑3 400 MHz

Input document: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/24](https://www.itu.int/md/R19-WP5B-C-0024/en), [5B/52](https://www.itu.int/md/R19-WP5B-C-0052/en)

Output document: [4C/37](https://www.itu.int/md/R19-WP4C-C-0037/en) (source: Document 5B/TEMP/12r2 (LS))

With Document 5B/24 WP 4C asked for information on systems operating in the bands studies in preparation for WRC-23 AI 1.18. Based on the proposal contained in Document 5B/52 the meeting agreed on a liaison statement referencing relevant Recommendations on characteristics and protection criteria of radiodetermination system.

#### 10.1.1.7 WRC-23 AI 1.19 - Resolution 274 (WRC-19) – Fixed satellite service in the frequency band 15.4-15.7 GHz

Input document: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/27](https://www.itu.int/md/R19-WP5B-C-0027/en), [5B/59](https://www.itu.int/md/R19-WP5B-C-0059/en)

Output document: [4A/39](https://www.itu.int/md/R19-WP4A-C-0039/en) (source: Document 5B/TEMP/13 (LS))

With Document 5B/27 WP 4C asked for information on systems operating in the bands studies in preparation for WRC-23 AI 1.18. Based on the proposal contained in Document 5B/59 the meeting agreed on a liaison statement referencing relevant Recommendations on characteristics and protection criteria of radiodetermination system.

### 10.1.2 Revision of radiodetermination recommendations

None.

### 10.1.3 New radiodetermination recommendations

#### 10.1.3.1 Working document towards a preliminary draft new Recommendation ITU‑R M.[RAD-92-100GHz]

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 10, [5B/81](https://www.itu.int/md/R19-WP5B-C-0081/en)

Output document: Annex 6 to this Report (source: Document 5B/TEMP/19 (WD PDN Recommendation ITU-R M.[RAD-92-100GHz]))

Document 5B/81 contained proposals to amend Annex 10 to Document 5B/712. It was agreed to update the working document and attach it to this report for further consideration at the next meeting.

#### 10.1.3.2 Working document towards a preliminary draft new Recommendation ITU‑R M.[15.4-15.7 GHz\_ARNS]

Input documents: [5B/76](https://www.itu.int/md/R19-WP5B-C-0076/en)

Output document: None

Document 5B/73 contained a proposal on the development of a new Recommendation on characteristics and protection criteria of aeronautical radionavigation systems operating in the frequency band 15.4-15.7 GHz.

During the discussion of this document it was pointed out that the systems described uses the frequency band 15.4-15.7 GHz as sensors for a detect and avoid system. However, the communication part of the detect and avoid system uses a different frequency band.

It was agreed to carry forward Document 5B/76 to the next meeting and ask Administrations to base their contribution on this topic on this document.

### 10.1.4 New radiodetermination reports

#### 10.1.4.1 Working document towards a preliminary draft new Report ITU-R M.[RADAR SIMULATIONS]

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 12, [5B/73](https://www.itu.int/md/R19-WP5B-C-0073/en)

Output document: Annex 7 to this Report (source: Document 5B/TEMP/27(WD PDN Report ITU‑R M.[RADAR SIMULATIONS]))

Document 5B/73 proposed amendments to Annex 12 of Document 5B/712 It was agreed to update the working document and attach it to this report for further consideration at the next meeting.

#### 10.1.4.2 Working document towards a preliminary draft new Report ITU-R M.[FOD 92‑100 GHz]

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 13, [5B/12](https://www.itu.int/md/R19-WP5B-C-0012/en), [5B/62](https://www.itu.int/md/R19-WP5B-C-0073/en), [5B/79](https://www.itu.int/md/R19-WP5B-C-0079/en)

Output document: Annex 8 to this Report (source: Document 5B/TEMP/20(WD PDN Report ITU-R M.[FOD 92-100 GHz]))

Documents 5B/62 and 5B/79 propose amendments to Annex 12 to Document 5B/712. It was agreed to update the working document and attach it to this report for further consideration at the next meeting.

In Document 8B/12 ICAO provided a reply to a request for information about the deployment of foreign object debris detection systems. However, due to time limitation in this virtual meeting the document could not be discussed in detail and it was agreed to carry this document forward to the next meeting. Administrations are invited, when preparing their contribution on this subject to the next meeting, to take this information into account.

#### 10.1.4.3 Working document towards a preliminary draft new Report ITU-R M.[FOD\_EESS\_SHARE]

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 14, [5B/82](https://www.itu.int/md/R19-WP5B-C-0082/en)

Output documents: Annex 9 to this Report (source: Document 5B/TEMP/21(WD PDN Report ITU-R M.[FOD\_EESS\_SHARE]))

 [7C/ 48](http://www.itu.int/md/R19-WP7C-C-0048/en) (Source Document 5B/TEMP/24(LS))

Document 5B/82 proposes amendments to Annex 14 to Document 5B/712. It was agreed to update the working document and attach it to this report. A liaison statement was sent to WP 7C informing on the progress of the work on this report for further consideration at the next meeting.

#### 10.1.4.4 Working document towards a preliminary draft new Report ITU-R M.[UA\_AIRBORNE\_DAA]

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 15, [5B/74](https://www.itu.int/md/R19-WP5B-C-0074/en)

Output documents: Annex 10 to this Report (source: Document 5B/TEMP/29(WD PDN Report ITU-R M.[ UA\_AIRBORNE\_DAA]))

Document 5B/72 proposes amendments to Annex 15 to Document 5B/712. It was agreed to update the working document and attach it to this report for further consideration at the next meeting.

#### 10.1.4.5 Working document towards a preliminary draft new Report ITU-R M.[UA\_GROUND\_DAA]

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 16, [5B/75](https://www.itu.int/md/R19-WP5B-C-0075/en)

Output documents: Annex 11 to this Report (source: Document 5B/TEMP/28(WD PDN Report ITU-R M.[UA\_GROUND\_DAA]))

Document 5B/75 proposes amendments to Annex 16 to Document 5B/712. It was agreed to update the working document and attach it to this report for further consideration at the next meeting.

### 10.1.5 Other radiodetermination issues

#### 10.1.5.1 Terrestrial radars in frequency bands allocated to the earth exploration satellite service

Input document: [5B/715](http://www.itu.int/md/R15-WP5B-C-0715/en)

Output document: None.

With Document 5B/715 Working Party 7C reported that in course of its consideration of maximum e.i.r.p of radar systems administration reported higher values of systems than those values contained in recommendations on characteristics and protection criteria to be used for sharing studies. The document was noted, and administration are invited to contribute to the next meeting in order to update these recommendations as appropriate.

## 10.2 Report of Sub-Working Group 5B-2 “Aeronautical”

Working Group 5B-2 met 16 times at this meeting. The agenda for Working Group 5B-2 included 10 separate items. The Working Group considered 1 annex to the report from the last WP 5B meeting and 26 input documents some of which could not be considered in any detail due to the time constraints imposed by the meeting being held virtually. The output of Working Group 5B-2 at this meeting consisted 1 draft document to be attached to the Chairman’s Report as well as 4 liaison statements. To achieve a maximum level of flexibility in using the meeting time and avoid time for reporting from subordinate group in the virtual meeting all business was dealt with in the Working group.

### 10.2.1 World Radiocommunication Conference 2023 Issue(s)

#### 10.2.1.1 Documents related to WRC-23 agenda item 1.1 – Protection of stations of the aeronautical and maritime mobile services in the frequency band 4 800-4 990 MHz

Input documents: [5B/16](https://www.itu.int/md/R19-WP5B-C-0016/en), [5B/17](https://www.itu.int/md/R19-WP5B-C-0017/en), [5B/46](https://www.itu.int/md/R19-WP5B-C-0046/en), [5B/63](https://www.itu.int/md/R19-WP5B-C-0063/en)

Output document: Annex 14 to this Report (source: Document 5B/TEMP/30(Draft Reply LS))

Resolution **223 (Rev.WRC-19)** under agenda item 1.1 (WRC-23) *invites the ITU Radiocommunication Sector* to study the technical and regulatory conditions for the protection of stations of the aeronautical and maritime mobile services located in international airspace or waters (i.e. outside national territories) and operated in the frequency band 4 800-4 990 MHz;

CPM23-1 designated WP 5B and WP 5D as co-responsible groups, both being invited to work jointly. Indeed, circular referenced R00-CA-CIR-0251 states “WP 5B to provide characteristics and protection criteria for the aeronautical and maritime mobile services. WP 5D initiates studies with characteristics of IMT. Studies must take into account comments from both Working Parties (*invites the ITU-R 2*). WP 5D in consultation with WP 5B develops reports/recommendations, as appropriate, which are approved by SG 5 in accordance with Resolution ITU-R 1-8 (*invites the ITU-R 4*). WP 5B and WP 5D develop relevant parts, as appropriate, of the draft CPM text. WP 5D finalizes draft CPM text taking into consideration comments by WP 5B (*for invites WRC-23*).”

The liaison statements received by WP 5D were introduced as well as the proposed response liaison statement contained in Document 5B/46.

Diverging views were expressed on this topic. WG 5B-2 drafted a liaison statement but was not able to reach an agreed text. However, a TEMP document with some square brackets and options, was proposed to the plenary of WP 5B noting that an ultimate proposal from one administration was submitted to the Chairman to the Plenary. Due to lack of time to seek a compromise during plenary, the draft liaison statement was not reviewed and attached to the WP 5B Chairman’s Report.

#### 10.2.1.2 Documents related to WRC-23 agenda item 1.6 – Suborbital vehicles

Input documents: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/31](https://www.itu.int/md/R19-WP5B-C-0031/en)

Output document: [3M/72](http://www.itu.int/md/R19-WP3M-C-0072/en) (Source Document 5B/TEMP/15(LS))

Resolution 772 **(WRC-19)** under agenda item 1.6 (WRC-23) is dealing with the consideration of the regulatory provisions to facilitate the introduction of sub-orbital vehicles with WP 5B being designated as the responsible group by CPM23-1.

The relevant part of Document 5B/20 that provided the WMO’s preliminary position on agenda item 1.6 (WRC-23) was introduced as was Document 5B/31 which proposed a framework for a new ITU-R Report. However, due to time limitation in this virtual meeting that did not permit consideration in detail on the framework for a new ITU-R Report it was carried forward Document 5B/31 to the next WP 5B meeting and ask Administrations to base their contribution on this topic on this document.

A draft liaison statement to the contributing groups was considered, reviewed and agreed after some adjustments.

#### 10.2.1.3 Documents related to WRC-23 agenda item 1.7 – New aeronautical mobile-satellite (R) service (AMS(R)S) allocation within 117.975-137 MHz

Input documents: [5B/43](https://www.itu.int/md/R19-WP5B-C-0043/en), [5B/72](https://www.itu.int/md/R19-WP5B-C-0072/en), [5B/78](https://www.itu.int/md/R19-WP5B-C-0078/en)

Output document: [4C/36](http://www.itu.int/md/R19-WP4C-C-0036/en) (Source Document 5B/TEMP/6(LS))

Resolution **428 (WRC-19)** under agenda item 1.7 (WRC-23) invites ITU-R to undertake studies on a possible new allocation to the aeronautical mobile satellite (R) service within the frequency band 117.975‑137 MHz in order to support aeronautical VHF communications in the Earth-to-space and space-to-Earth directions.CPM23-1 designated WP 5B as the responsible group.

Documents 5B/42 & 5B/78 proposed a framework for a new ITU-R Report with an introductory part and some information on the progress of the activities in Singapore on this topic. However, due to time limitation in this virtual meeting that did not permit consideration in detail on the framework for a new ITU-R Report it was agreed these documents would be carried forward to the next WP 5B meeting and ask Administrations to base their contribution on this topic on this document.

The draft liaison statement to the contributing groups proposed in Document 5B/72 was considered, reviewed and agreed after some adjustments.

#### 10.2.1.4 Documents related to WRC-23 agenda item 1.9 – Review Appendix 27 for commercial aviation safety-of-life applications in HF

Input documents: [5B/6](https://www.itu.int/md/R19-WP5B-C-0006/en), [5B/32](https://www.itu.int/md/R19-WP5B-C-0032/en), [5B/37](https://www.itu.int/md/R19-WP5B-C-0037/en)

Output document: [3L/25](http://www.itu.int/md/R19-WP3L-C-0025/en) (Source Document 5B/TEMP/14(LS))

Resolution **429 (WRC-19)** under agenda item 1.9 (WRC-23) is dealing with the consideration of regulatory provisions for updating Appendix 27 of the Radio Regulations in support of aeronautical HF modernization. CPM23-1 designating WP 5B as the responsible group.

WP 6A in Document 5B/6 sent a liaison statement providing the references to ITU-R documents containing technical information concerning the protection of HF Broadcasting Service to assist WP 5B in its studies under WRC-23 agenda item 1.9.

Contributions 5B/32 & 5B/37 proposed a framework for a new ITU-R Report and a Work plan. However, due to time limitation in this virtual meeting that did not permit consideration in detail on the framework for a new ITU-R Report it was agreed these documents as well as the liaison statement from WP 6A would be carried forward to the next WP 5B meeting and ask Administrations to base their contribution on this topic on these documents.

A liaison statement to the contributing groups was reviewed and agreed after some adjustments.

#### 10.2.1.5 Documents related to WRC-23 agenda item 1.10 – New allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications

Input documents: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/60](https://www.itu.int/md/R19-WP5B-C-0060/en), [5B/61](https://www.itu.int/md/R19-WP5B-C-0061/en), [5B/65](https://www.itu.int/md/R19-WP5B-C-0065/en), [5B/70](https://www.itu.int/md/R19-WP5B-C-0070/en), [5B/84](https://www.itu.int/md/R19-WP5B-C-0084/en)

Output document: [3K/58](http://www.itu.int/md/R19-WP3K-C-0058/en) (Source Document 5B/TEMP/7(LS))

Resolution **430 (WRC-19)** under agenda item 1.10 (WRC-23) invites ITU-R to undertake studies on frequency-related matters, including possible additional allocations, for the possible introduction of new non-safety aeronautical mobile applications. CPM23-1 designated WP 5B as the responsible group.

The relevant part of Document 5B/20 that provided the WMO’s preliminary position on agenda item 1.10 (WRC-23) was introduced. Contributions 5B/60, 5B/61 & 5B/65 proposed a framework for a new ITU-R Report on this issue and Document 5B/84 proposed a Work plan. However, due to time limitation in this virtual meeting that did not permit consideration in detail on the framework for a new ITU-R Report or the workplan it was agreed that Documents 5B/60, 5B/61, 5B/65 & 5B/84 would be carried forward to the next WP 5B meeting. Administrations are asked to base their contribution on this topic on these documents.

The draft liaison statement to the contributing groups proposed in Document 5B/70 was reviewed and agreed after some adjustments.

#### 10.2.1.6 Documents related to WRC-23 agenda item 1.13 – Upgrade of space research allocation in the frequency band 14.8-15.35 GHz

Input documents: [5B/18](https://www.itu.int/md/R19-WP5B-C-0018/en), [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/50](https://www.itu.int/md/R19-WP5B-C-0050/en)

Output document: [7B/22](http://www.itu.int/md/R19-WP7B-C-0022/en) (Source Document 5B/TEMP/2(LS))

A liaison statement was received from WP 7B asking for relevant information with respect to WRC-23 agenda item 1.13 and on the basis of the other contributions a reply liaison statement was generated and sent to WP 7B.

#### 10.2.1.7 Documents related to studies to the Director of the Radiocommunication Bureau – Updating provisions related to aeronautical services in the Radio Regulations

Input documents: None

Output document: None

No contributions were submitted on this topic.

### 10.2.2 Proposed new aeronautical ITU-R Recommendation(s)

#### 10.2.2.1 Recommendation/Report ITU-R M.[AMRS-VHF] (Working document towards a preliminary draft new) Characteristics and protection criteria for systems operating in the aeronautical mobile (route) service in the frequency band 117.975‑137 MHz

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 11, [5B/38](https://www.itu.int/md/R19-WP5B-C-0038/en), [5B/67](https://www.itu.int/md/R19-WP5B-C-0067/en)

Output document: None

Contribution 5B/38 proposed to focus the technical parameters on the VDL Mode 2 system that operates in the frequency band 136-137 MHz and proposed the development of an ITU-R Recommendation. Concerns were expressed about removing the voice systems contained in Document 5B/721 Annex 11. USA indicated that their intent is to have technical characteristics and protection criteria available for consideration in the. Contribution 5B/67 proposed to cancel the draft document in order to address the coexistence between AM(R)S and new AMS(R)S under WRC-23 agenda item 1.7 before fixing characteristics of these systems in an ITU-R Recommendation. Concerns were raised about the cancellation of the document. However, due to time limitation in this virtual meeting that did not permit consideration in detail on the proposals made in Documents 5B/38 & 5B/67 it was agreed that the documents would be carried forward to the next WP 5B meeting.

#### 10.2.2.2 Recommendation ITU-R M.[TER\_AG\_CNPC\_CHAR] (Working document towards a preliminary draft new) Characteristics and protection criteria for systems operating in the aeronautical mobile (route) service in the frequency band 117.975‑137 MHz

Input documents: [5B/77](https://www.itu.int/md/R19-WP5B-C-0077/en)

Output document: None

Document 5B/77 proposed the development of a new Recommendation for terrestrial links characteristics for UAS CNPC in the frequency band 5 030-5 091 MHz. Questions were raised about the consistency with the characteristics under when coexistence between AM(R)S and AMS(R)S was studied under WRC-12 agenda item 1.3, some technical characteristics compared to RTCA standards and the possible application of a safety margin to the proposed protection criteria

It was agreed that the document would be carried forward for further consideration at the next WP 5B meeting.

### 10.2.3 Revision of aeronautical ITU-R Report(s)

None

### 10.2.4 Other issues

#### 10.2.4.1 Advanced antenna systems

Input documents: [5B/66](https://www.itu.int/md/R19-WP5B-C-0066/en)

Output document: Annex 15 to this Report (source: Document 5B/TEMP/22(Draft LS))

Document 5B/66 drew the attention of the meeting to work being done in Working Party 5D on advanced antenna systems and suggesting that working Party 5B should send a liaison statement asking that the Working Party is kept informed of developments. Whilst a draft liaison statement was development agreement could not be reached on sending the liaison statement and time limitations due to the meeting being virtual and hence the draft liaison statement was carried forward as an Annex to this Report.

## 10.3 Report of Working Group 5B-3 “Maritime”

Working Group 5B-3 met 16 times at this meeting. The agenda for Working Group 5B-3 included 11 separate items. The Working Group considered 8 annexes to the report from the last WP 5B meeting and 18 input documents some of which could not be considered in any detail due to the time constraints imposed by the meeting being held virtually. The output of Working Group 5B-3 at this meeting consisted 5 documents to be attached to the Chairman’s Report as well as a liaison statement.

### 10.3.1 World Radiocommunication Conference 2023 related issues

#### 10.3.1.1 Documents related to agenda item 1.11 – Global maritime distress and safety system modernisation

Input documents: [5B/83](https://www.itu.int/md/R19-WP5B-C-0083/en)

Output documents: Annex 1 to this Report (source: Document 5B/TEMP/16(Workplan))
[4C/38](http://www.itu.int/md/R19-WP4C-C-0038/en) (Source Document 5B/TEMP/17(LS))

Resolution **361 (WRC-19)** under agenda item 1.11 (WRC-23) invites ITU-R to conduct studies taking into consideration the activities of IMO and other relevant international organizations, in order to determine spectrum needs and regulatory actions to support GMDSS modernization and the implementation of e‑navigation, including the introduction of additional satellite systems into the GMDSS.

Based on the one contribution received on this issue a liaison statement to Working Party 4C on the introduction of additional satellite systems in to the GMDSS was developed. Additionally, the meeting developed a workplan for addressing this agenda item was also developed.

### 10.3.2 Revision of ITU-R Maritime related to Recommendations

#### 10.3.2.1 Recommendation ITU-R M.585-7 “Assignment and use of identities in the maritime mobile service”

Input document: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 8, [5B/5](https://www.itu.int/md/R19-WP5B-C-0005/en), [5B/9](https://www.itu.int/md/R19-WP5B-C-0009/en), [5B/10](https://www.itu.int/md/R19-WP5B-C-0010/en), [5B/28](https://www.itu.int/md/R19-WP5B-C-0028/en)

Output document: Annex 2 to this Report (source: Document 5B/TEMP/18 (PDR to Recommendation ITU-R M.585-8))

Based on the input contributions received Annex 8 to the last meeting Report was updated and raised to a preliminary draft revision.

#### 10.3.2.2 Recommendation ITU-R M.1371-5 “Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile frequency band”

Input document: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 3, [5B/11](https://www.itu.int/md/R19-WP5B-C-0011/en), [5B/39](https://www.itu.int/md/R19-WP5B-C-0039/en), [5B/86](https://www.itu.int/md/R19-WP5B-C-0086/en)

Output document: Annex 3 to this Report (source: Document 5B/TEMP/31 (PDR to ITU-R M.1371-5))

Based on input contributions, the document was further developed to take account of the introduction of autonomous maritime radio devices and bring the Recommendation into line with the current format for Recommendations.

#### 10.3.2.3 Recommendation ITU-R M.1798-1 “Characteristics of HF radio equipment for the exchange of digital data and electronic mail in the maritime mobile service”

Input document: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 9, [5B/64](https://www.itu.int/md/R19-WP5B-C-0064/en)

Output document: Annex 4 to this Report (source: Document 5B/TEMP/34 (WD PDR to Recommendation ITU-R M.1798-1))

One input contribution was considered that proposed further revisions to Recommendation ITU-R M.1798-1 to clarify some technical information and add additional information. Following consideration of the contribution the meeting agreed to update the revision and carry the document forward to the next meeting as Annex 4 to this Chairman’s Report

#### 10.3.2.4 Recommendation ITU-R M.2058-0 “Characteristics of a digital system, named Navigational Data for broadcasting maritime safety and security related information from shore-to-ship in the maritime HF frequency band”

Input document: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 2

Output document: None

No contributions were received and hence this document is carried forward to the next meeting.

#### 10.3.2.5 Recommendation ITU-R M.2092-0 “Technical characteristics for a VHF data exchange system in the VHF maritime mobile band”

Input document: [5B/36](https://www.itu.int/md/R19-WP5B-C-0036/en), [5B/44](https://www.itu.int/md/R19-WP5B-C-0044/en), [5B/80](https://www.itu.int/md/R19-WP5B-C-0080/en)

Output document: Annex 5 to this Report (source: Document 5B/TEMP/33 (WD PDR to Recommendation ITU-R M.2092-0))

 Annex 12 to this Report (source: Document 5B/TEMP/32 (Correspondence group TORs))

As a result of decisions made by the WRC-19 with respect to the modification of Appendix **18** to the Radio Regulations and extensive testing by a group of manufacturers and technical experts sponsored by administrations and international 3 contributions propose revisions to the current Recommendation. The proposed revisions, whilst maintaining the concept of the VHF data exchange system described in the current Recommendation, revisions to the description of how it is implemented. Following discussion within the group it was agreed to initiate a revision to the Recommendation and establish a correspondence group, for which terms of reference were established, to help progress the work on revising the Recommendation.

### 10.3.3 Draft ITU-R new Report

#### 10.3.3.1 Draft new Report ITU-R M. [MAR-RADIO]

Input document: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 6

Output document: None

No contributions were received and hence this document is carried forward to the next meeting.

#### 10.3.3.2 Draft new Report ITU-R M.[HF NOISE AT SEA]

Input document: [5B/646](http://www.itu.int/md/R15-WP5B-C-0646/en) Annex 14

Output document: None.

No contributions were received and hence this document is carried forward to the next meeting.

#### 10.3.3.3 Draft new Report ITU-R M.[UHF\_ONBOARD\_USAGE]

Input document: [5B/646](http://www.itu.int/md/R15-WP5B-C-0646/en) Annex 13, [5B/728](http://www.itu.int/md/R15-WP5B-C-0728/en), [5B/91](https://www.itu.int/md/R19-WP5B-C-0091/en)

Output document: None.

In Document 5B/91 the Bureau provided administrations response to Circular Letter [5/LCCE/80](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R00-SG05-CIR-0080). The meeting noted the information and, given the time constraints imposed by the meeting being virtual agreed to carry the documents forward to the next meeting.

### 10.3.4 Other issues

#### 10.3.4.1 IMO/ITU Joint Expert Group

Input document: [5B/8](https://www.itu.int/md/R19-WP5B-C-0008/en)

Output document: None.

This group noted the report of the IMO/ITU joint expert group.

## 10.4 Report of Working Group 5B-4 “Other issues”

Working Group 5B-4 met twice at this meeting. The agenda for Working Group 5B-4 included 8 separate items. The Working Group considered 8 annexes to the report from the last WP 5B meeting and 18 input documents some of which could not be considered in any detail due to the time constraints imposed by the meeting being held virtually. The output of Working Group 5B-3 at this meeting consisted 2 liaison statements.

### 10.4.1 World Radiocommunication Conference 2023 related issues

#### 10.4.1.1 Documents related to agenda item 1.5 – Review of requirements and allocations in the frequency band 470-960 MHz

Input documents: [5B/4](https://www.itu.int/md/R19-WP5B-C-0004/en), [5B/48](https://www.itu.int/md/R19-WP5B-C-0048/en)

Output documents: None

Following a discussion of the input contributions it was decided that no action was required.

#### 10.4.1.2 Documents related to agenda item 1.15 – Harmonised use of the frequency band 12.75-13.25 GHz GSO FSS for ES on aircraft/vessels

Input documents: [5B/21](https://www.itu.int/md/R19-WP5B-C-0021/en), [5B/23](https://www.itu.int/md/R19-WP5B-C-0023/en), [5B/45](https://www.itu.int/md/R19-WP5B-C-0045/en), [5B/57](https://www.itu.int/md/R19-WP5B-C-0057/en)

Output documents: [4A/37](https://www.itu.int/md/R15-WP4A-C-0037/en) (source: Document 5B/TEMP/9 (LS))

Following a discussion of the input contributions it was decided to develop a liaison statement to Working Party 4A providing relevant information for their studies.

#### 10.4.1.3 Documents related to agenda item 9.1.a – Space weather sensors

Input documents: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en)

Output documents: None

The only document received was the draft WMO position and as that did not propose any action no action was taken.

#### 10.4.1.4 Documents related to agenda item 9.1.c – IMT for fixed wireless broadband

Input documents: [5B/53](https://www.itu.int/md/R19-WP5B-C-0053/en)

Output documents: None

Following a discussion of the input contributions it was decided to develop a liaison statement to Working Party 4A providing relevant information for their studies.

### 10.4.2 Other Issues

#### 10.4.2.1 ICNIRP Human Exposure to Electromagnetic Fields

Input document: [5B/85](https://www.itu.int/md/R19-WP5B-C-0085/en)

Output document: None.

The contribution from ITU-T Study Group 5 was considered but the meeting agreed that no action was required.

#### 10.4.2.2 CISPR Database for the Protection of Radio Services

Input document: [5B/722](http://www.itu.int/md/R15-WP5B-C-0722/en)

Output document: None.

In contribution 5B/722 CISPR asked for assistance in populating and validating their database. Having reviewed the document the meeting agreed that no further action was required.

#### 10.4.2.3 Wireless Power Transfer

Input document: [5B/726](http://www.itu.int/md/R15-WP5B-C-0726/en), [5B/727](http://www.itu.int/md/R15-WP5B-C-0727/en)

Output document: None.

Having reviewed the input contributions the meeting agreed that no action was required.

#### 10.4.2.4 LED Lights

Input document: [5B/34](https://www.itu.int/md/R19-WP5B-C-0034/en), [5B/35](https://www.itu.int/md/R19-WP5B-C-0035/en)

Output document: [1A/30](http://www.itu.int/md/R19-WP1A-C-0030/en) (Source Document 5B/TEMP/8(LS)).

Based on contribution 5B/34 & 5B/35 and in conjunction with other working groups a liaison statement was developed to CISPR and Working Parties 1A& 4C to bring their attention to the information provided in the contribution with respect to interference to maritime systems by LED lights .

## 10.5 Ad hoc group of WP 5B Plenary: WRC-23 AIs 1.8, 1.16 and 1.17

In line with the decision taken at a previous meeting of WP 5B a Working Group of Plenary was formed to address WRC-23 agenda items 1.8, 1.16 and 1.17. The group met 6 times The Working Group considered 3 annexes to the report from the last WP 5B meeting and 12 input documents some of which could not be considered in any detail due to the time constraints imposed by the meeting being held virtually. The output of ad-hoc of plenary group at this meeting was on Annex to this Report and 3 liaison statements.

### 10.5.1 World Radiocommunication Conference 2023 related issues

#### 10.5.1.1 WRC-23 agenda item 1.8 - Unmanned aircraft systems

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 1, [5B/22](https://www.itu.int/md/R19-WP5B-C-0022/en), [5B/30](https://www.itu.int/md/R19-WP5B-C-0030/en), [5B/33](https://www.itu.int/md/R19-WP5B-C-0033/en), [5B/68](https://www.itu.int/md/R19-WP5B-C-0068/en), [5B/69](https://www.itu.int/md/R19-WP5B-C-0069/en), [5B/71](https://www.itu.int/md/R19-WP5B-C-0071/en)

Output document:  Annex 13 to this Report (source: Document 5B/TEMP/23(LS)).

 [4A/54](http://www.itu.int/md/R19-WP4A-C-0054/en) (Source Document 5B/TEMP/11(LS))

WP 5B prepared a liaison statement to all contributing Working Parties identified by CPM23-1, requesting relevant information, including technical and operational characteristics and protection criteria for the respective services allocated in, the frequency bands in *resolves* 1 of Resolution **155 (Rev.WRC-19)** as well asrelevant propagation models that could be used for the studies under WRC-23 agenda item 1.8.

WP 5B considered Documents 5B/22, 5B/33 and 5B/69 making detailed proposals related to the review of Resolution **155 (Rev.WRC-19)** and other elements related to the studies under WRC-23 agenda item 1.8. Following introduction and initial discussions and taking into account time limitation due to the meeting being held virtually, it was decided to carry these documents forward for detailed consideration at the next meeting of WP 5B.

WP 5B also considered a liaison statement from ICAO informing about the status of the work within ICAO on UAS CNPC (Document 5B/30). This document also contained several specific questions to WP 5B. Document 5B/68 provided a proposed reply liaison to ICAO which included a response to the questions asked by ICAO. Following discussion, it was agreed that a detailed response would be worked out at the next meeting of WP 5B and that these two documents would be carried forward. At this meeting, a liaison statement was agreed to be sent to ICAO, informing about this decision.

#### 10.5.1.2 WRC-23 agenda item 1.16 - Non-GEO FSS Earth stations in motion

Input documents: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/26](https://www.itu.int/md/R19-WP5B-C-0026/en), [5B/58](https://www.itu.int/md/R19-WP5B-C-0058/en)

Output document: [4A/36](http://www.itu.int/md/R19-WP4A-C-0036/en) (Source Document 5B/TEMP/1 (LS))

WP 5B considered the liaison statement received from WP 4A (Document 5B/26) requesting relevant information, including technical and operational characteristics and protection criteria for services under the responsibility of WP 5B in, or adjacent to, the frequency bands 17.7‑18.6 GHz, 18.8-19.3 GHz, 19.7-20.2 GHz, 27.5-29.1 GHz and 29.5-30 GHz and an associated contribution proposing a response (Document 5B/58). In response, WP 5B sent a reply liaison statement to WP 4A explaining that there currently is no such information available, but that WP 5B would inform WP 4A if such information should later become available. Administrations are encouraged to submit to later meetings of WP 5B, characteristics for current or planned networks in, or adjacent to the above listed frequency bands. In the liaison statement to WP 4A, WP 5B also pointed out that several of the frequency bands suggested studied under Agenda Item 1.16 overlaps with frequency bands listed in Resolution **155 (Rev.WRC-19)** and which is subject to WRC-23 agenda item 1.8

#### 10.5.1.3 WRC-23 agenda item 1.17 - Inter-satellite links

Input documents: [5B/20](https://www.itu.int/md/R19-WP5B-C-0020/en), [5B/25](https://www.itu.int/md/R19-WP5B-C-0025/en), [5B/51](https://www.itu.int/md/R19-WP5B-C-0051/en)

Output document: [4A/38](http://www.itu.int/md/R19-WP4A-C-0038/en) (Source Document 5B/TEMP/10 (LS))

WP 5B furthermore considered the liaison statement received from WP 4A (Document 5B/25) requesting relevant information, including technical and operational characteristics and protection criteria for services under the responsibility of WP 5B in, or adjacent to, the frequency bands 11.7-12.7 GHz, 18.1-18.6 GHz, 18.8-20.2 GHz and 27.5-30 GHz and an associated contribution proposing a response (Document 5B/51). In response, WP 5B sent a reply liaison statement to WP 4A explaining that there are currently no frequency allocations for radiodetermination aeronautical, or maritime services in or immediately adjacent to the considered frequency bands. In the liaison statement to WP 4A, WP 5B also pointed out that several of the frequency bands suggested studied under agenda item 1.17 overlaps with frequency bands listed in Resolution **155** **(Rev.WRC-19)** and which is subject to WRC-23 agenda item 1.8.

### 10.5.2 Draft ITU-R new Report

#### 10.5.2.1 Preliminary draft new Report ITU-R M.[UAS CNPC\_CHAR]

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 5, [5B/41](https://www.itu.int/md/R19-WP5B-C-0041/en)

Output document: None

A contribution was received and introduced but not discussed, proposing updates to the proposed new Report on unmanned aircraft system command and non-payload communication characteristics. Whilst the document was not discussed the meeting did agree that the content should not be considered at this stage as material for further developing a new Report. However, it was also agreed that it would be useful to maintain a list of unmanned aircraft system command and non-payload communication characteristics. The contribution and the Annex to the last Chairman’s Report were therefore carried forward.

### 10.5.3 Preliminary draft new Report ITU-R M.[UA\_PFD]

Input documents: [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annex 7, [5B/40](https://www.itu.int/md/R19-WP5B-C-0040/en)

Output document: None

A contribution was received and introduced but not discussed, proposing updates to the proposed new Report on unmanned aircraft power flux density limits, as it would be inappropriate to do so at this time. The contribution and the Annex to the last Chairman’s Report were therefore carried forward.

# 11 Documents to be carried over

The following documents are to be carried forward to the next meeting: [5B/646](http://www.itu.int/md/R15-WP5B-C-0646/en) Annex 13, [5B/712](http://www.itu.int/md/R15-WP5B-C-0712/en) Annexes (2, 5, 7, 11 & 12), [5B/728](http://www.itu.int/md/R15-WP5B-C-0728/en), [5B/6](https://www.itu.int/md/R19-WP5B-C-0006/en), [5B/12](https://www.itu.int/md/R19-WP5B-C-0012/en), [5B/22](https://www.itu.int/md/R19-WP5B-C-0022/en), [5B/32](https://www.itu.int/md/R19-WP5B-C-0032/en), [5B/31](https://www.itu.int/md/R19-WP5B-C-0031/en), [5B/33](https://www.itu.int/md/R19-WP5B-C-0033/en), [5B/37](https://www.itu.int/md/R19-WP5B-C-0037/en), [5B/38](https://www.itu.int/md/R19-WP5B-C-0038/en), [5B/43](https://www.itu.int/md/R19-WP5B-C-0043/en), [5B/60](https://www.itu.int/md/R19-WP5B-C-0060/en), [5B/61](https://www.itu.int/md/R19-WP5B-C-0061/en), [5B/65](https://www.itu.int/md/R19-WP5B-C-0065/en), [5B/67](https://www.itu.int/md/R19-WP5B-C-0067/en), [5B/69](https://www.itu.int/md/R19-WP5B-C-0069/en), [5B/70](https://www.itu.int/md/R19-WP5B-C-0070/en), [5B/71](https://www.itu.int/md/R19-WP5B-C-0071/en), [5B/72](https://www.itu.int/md/R19-WP5B-C-0072/en), [5B/76](https://www.itu.int/md/R19-WP5B-C-0076/en), [5B/77](https://www.itu.int/md/R19-WP5B-C-0077/en), [5B/78](https://www.itu.int/md/R19-WP5B-C-0078/en), [5B/84](https://www.itu.int/md/R19-WP5B-C-0084/en), [5B/91](https://www.itu.int/md/R19-WP5B-C-0091/en).

# 12 Next meeting

The next full meeting of WP 5B is scheduled to be a virtual meeting 9th-20th November 2020.

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