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| A close up of a sign  Description automatically generated | **World Radiocommunication Conference (WRC-23) Dubai, 20 November - 15 December 2023** | |  |
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| PLENARY MEETING | | **Addendum 2 to Document 65(Add.27)-E** | |
|  | | **29 September 2023** | |
|  | | **Original: English** | |
|  | | | |
| European Common Proposals | | | |
| PROPOSALS FOR THE WORK OF THE CONFERENCE | | | |
|  | | | |
| Agenda item 10 | | | |

10to recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with Article 7 of the ITU Convention and Resolution **804 (Rev.WRC‑19)**,

Part 2: Preliminary agenda for the 2031 World Radiocommunication Conference

Introduction

Agenda item 10 requests WRC‑23 to recommend to the ITU Council items for inclusion in the agenda for the next WRC, and to give its view on the preliminary agenda for the subsequent Conference and on possible agenda items for future Conferences, taking into account Resolution **812 (WRC‑19)**.

The European proposals for the preliminary agenda for WRC‑31 builds upon some of the preliminary agenda items contained in Resolution **812 (WRC‑19)**, as well as proposals for the consideration of new topics.

On a general basis, all proposed agenda items have to be considered under the general principle to take due regard of the requirements of existing and future services in the frequency bands under consideration in a view of not putting undue constraints on existing services.

On this basis, Europe proposes that WRC‑23 adopts the new Resolution **[EUR-A10-WRC‑31] (WRC‑23)** as the basis for the preliminary agenda for WRC‑31.

Proposals

ADD EUR/65A27A2/1

Draft New Resolution [EUR-A10-WRC-31] (WRC‑23)

Preliminary agenda for the 2031 World Radiocommunication Conference[[1]](#footnote-1)\*

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that, in accordance with No. 118 of the ITU Convention, the general scope of the agenda for WRC‑31 should be established four to six years in advance;

*b)* Article 13 of the ITU Constitution relating to the competence and scheduling of world radiocommunication conferences (WRCs) and Article 7 of the Convention relating to their agendas;

*c)* the relevant resolutions and recommendations of previous world administrative radio conferences (WARCs) and WRCs,

resolves to give the view

that the following items should be included in the preliminary agenda for WRC‑31:

1 to take appropriate action in respect of those urgent issues that were specifically requested by WRC‑27;

2 on the basis of proposals from administrations and the Report of the Conference Preparatory Meeting (CPM), and taking account of the results of WRC‑27, to consider and take appropriate action in respect of the following items:

2.1to consider improving the utilization of the VHF maritime frequencies in Appendix **18**, in accordance with Resolution **363 (Rev.WRC‑23)**;

2.2 to consider an upgrade of the secondary allocation to the Earth exploration-satellite service (EESS) (space-to-Earth) in the 37.5-40.5 GHz band or possible new worldwide frequency allocations on a primary basis to the EESS (space-to-Earth) in certain frequency bands within the frequency range 37.5-52.4 GHz, in accordance with Resolution **[EUR-A10-2.2] (WRC‑23)**;

2.3 to consider, based on the results of studies, a new global primary allocation to the radionavigation-satellite system (RNSS) (space-to-Earth) in the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz or parts thereof, in accordance with Resolution **[EUR-A10-2.3] (WRC‑23)**;

3 to examine the revised ITU‑R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with *further* *resolves* of Resolution **27 (Rev.WRC‑19)**, and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with the principles contained in *resolves* of that Resolution;

4 to consider such consequential changes and amendments to the Radio Regulations as may be necessitated by the decisions of the conference;

5 in accordance with Resolution **95 (Rev.WRC‑19)**, to review the Resolutions and Recommendations of previous conferences with a view to their possible revision, replacement or abrogation;

6 to review, and take appropriate action on, the Report from the Radiocommunication Assembly submitted in accordance with Nos. 135 and 136 of the ITU Convention;

7 to identify those items requiring urgent action by the radiocommunication study groups;

8 to consider possible changes, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, on advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution **86** **(Rev.WRC‑07)**, in order to facilitate the rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit;

9 to consider and take appropriate action on requests from administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required, taking into account Resolution **26 (Rev.WRC‑19)**;

10 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the ITU Convention;

10.1 on the activities of the Radiocommunication Sector since WRC‑27;

10.2 on any difficulties or inconsistencies encountered in the application of the Radio Regulations[[2]](#footnote-2)1; and

10.3 on action in response to Resolution **80 (Rev.WRC‑07)**;

11to recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with Article 7 of the ITU Convention and Resolution **804 (Rev.WRC‑23)**,

invites the ITU Council

to finalize the agenda and arrange for the convening of WRC‑31, and to initiate as soon as possible the necessary consultations with Member States,

instructs the Director of the Radiocommunication Bureau

1 to make the necessary arrangements to convene meetings of the CPM and to prepare a report to WRC‑31;

2 to submit a draft Report on any difficulties or inconsistencies encountered in the application of the Radio Regulations as referred in agenda item 10.2 to the second session of CPM and to submit the final Report at least five months before the next WRC,

instructs the Secretary-General

to communicate this Resolution to international and regional organizations concerned.

MOD EUR/65A27A2/2

RESOLUTION 363 (REV.WRC‑23)

Considerations to improve utilization of the VHF maritime  
 frequencies in Appendix 18

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that Appendix **18** identifies frequencies to be used for distress and safety communications and other maritime communications on an international basis;

*b)* that congestion on Appendix **18** frequencies requires consideration of efficient new technologies;

*c)* that the ITU Radiocommunication Sector (ITU‑R) is conducting ongoing studies on improving efficiency in the use of Appendix **18**;

*d)* that the use of digital technologies will make it possible to respond to the emerging demand for new uses and ease congestion;

*e)* that use of existing maritime mobile service (MMS) allocations, where practicable, for ship and port security and enhanced maritime safety would be preferable, particularly where international interoperability is required;

*f)* that changes made in Appendix **18** should not prejudice the future use of these frequencies or the capabilities of systems or new applications required for use by the MMS;

*g)* that the International Maritime Organization (IMO) has initiated a regulatory scoping exercise for the use of maritime autonomous surface ships (MASS);

*h)* that the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) is developing ranging mode (R‑Mode), which is a radionavigation system that is intended to provide a contingency system in case of temporary global navigation satellite system (GNSS) disruption, to support e‑navigation,

recognizing

*a)* that it is desirable to enhance maritime safety and ship and port security via spectrum-dependent systems;

*b)* that ITU and relevant international organizations have initiated related studies on the use of digital technologies for maritime safety and ship and port security;

*c)* that studies will be required to provide a basis for considering possible regulatory provisions to improve maritime safety and ship and port security, which may need access to spectrum for experimental use;

*d)* that, in order to provide worldwide interoperability of equipment on ships, there should be harmonized technologies, or interoperable technologies, implemented under Appendix **18**;

*e)* that administrations’ and some relevant international organizations’ efforts to continue the development of R‑Mode to support the implementation of e-navigation may require a review of the Radio Regulations,

noting

*a)* that WRC‑12, WRC‑15 and WRC‑19 have reviewed Appendix **18** to improve use and efficiency for data communication using digital systems;

*b)* that maritime on-board communication systems have implemented digital technologies for voice communication as described in Recommendation ITU‑R M.1174 to improve efficient use of the frequency band 450-470 MHz;

*c)* that digital systems have been implemented in the land mobile service,

noting further

that WRC‑12, WRC‑15 and WRC‑19 have reviewed Appendix **18** to improve efficiency and introduce frequency bands for new digital technology for data communication, e.g. for the introduction of the VHF data exchange system (VDES),

resolves to ‑R to complete in time for WRC‑31

*2031*

resolves to invite the 2031 World Radiocommunication Conference

1 to consider, based on the results of studies, possible changes to Appendix **18** in order to enable use in the MMS for future implementation of new technologies, for improving efficient use of the maritime frequency bands;

2 to consider, based on the results of studies, possible changes to the Radio Regulations for implementation of R‑Mode as a new maritime radionavigation service,

invites relevant international organizations

to participate actively in the studies by providing requirements and information that should be taken into account in ITU‑R studies,

instructs the Secretary-General

to bring this Resolution to the attention of IMO and other international and regional organizations concerned.

Annex

Proposals on a preliminary agenda item for WRC‑31

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| **Subject:** Improvement of the utilization of the VHF maritime frequencies in RR Appendix **18** | |
| **Origin:** CEPT | |
| ***Proposal*:**  To consider improving the utilization of the VHF maritime frequencies in RR Appendix **18**, in accordance with Resolution **363** **(Rev.WRC‑23)** | |
| ***Background/reason*:**  Maritime radiotelephone communications using the marine VHF frequency band (channelized in RR Appendix **18**) were introduced in the early 1960s based on 25 kHz channel spacing and use of several duplex channels. RR Appendix **18** identifies frequencies to be used for distress and safety communications and other maritime communications on an international basis.  Recently, communication using digital technology such as digital selective calling (DSC), automatic identification system (AIS) and VHF data exchange (VDE) has been introduced to the VHF marine frequency band, while the number of analogue voice communication channels has been reduced. However, the demand for voice communication has not declined, and congestion of the analogue voice communication channels is increasing.  Proposals to increase use of UHF on-board communication channels was resolved on WRC‑15 agenda item by dividing the 25 kHz analogue voice channels into each four 6.25 kHz digital voice channels. Technical characteristics of UHF on-board communication are recommended in Recommendation ITU‑R M.1174-4.  Recommendation ITU‑R M.1084-5 recommends an interim solutions for improved efficiency in the use of the frequency band 156-174 MHz (RR Appendix **18)** by stations in the maritime mobile service. | |
| ***Radiocommunication services concerned*:**  Maritime mobile | |
| ***Indication of possible difficulties*:**  RR Appendix **18** identifies frequencies to be used for distress and safety communications and other maritime communications on an international basis. | |
| ***Previous/ongoing studies on the issue*:**  Recommendations ITU‑R M.1174-4 and ITU‑R M.1084-5 | |
| ***Studies to be carried out by*:**  WP 5B | ***with the participation of*:**  Administrations and Sector members of the ITU‑R |
| ***ITU‑R study groups concerned*:**  SG 5 | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  This proposed preliminary agenda item will be studied within the normal ITU‑R procedures and planned budget. No extra cost is foreseen. | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks***  None | |

ADD EUR/65A27A2/3

Draft New Resolution [EUR-A10-2.2] (WRC‑23)

Studies towards frequency allocations for the Earth exploration-satellite service (space-to-Earth) within the frequency range 37.5-52.4 GHz

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that the frequency band 40-40.5 GHz is allocated worldwide to the Earth exploration-satellite service (EESS) (Earth-to-space) on a primary basis;

*b)* that a frequency allocation to EESS (space-to-Earth) above 37.5 GHz would allow its use for payload data transmissions (PDT) in combination with the existing EESS (Earth-to-space) allocation referred to in *considering* *a)*;

*c)* that a frequency allocation to EESS (space-to-Earth) above 37.5 GHz would allow for uplinks and downlinks on the same transponder, increasing efficiency and reducing the satellite complexity,

noting

*a)* that the frequency band 37.5-40.5 GHz is allocated worldwide to the EESS (space-to-Earth) on a secondary basis;

*b)* that the frequency band 37.5-40.5 GHz is allocated to a number of services on a primary basis,

recognizing

*a)* the importance of the appropriate regulatory status and certainty to accommodate the requirements of future Earth observation missions;

*b)* that, in order to meet those requirements, primary allocation to the EESS (space-to-Earth) in certain frequency bands above 37.5 GHz might be required,

resolves to invite ITU‑R to complete in time for WRC‑31

1 the review of the existing allocation to the EESS (space-to-Earth) in the frequency band 37.5-40.5 GHz, and perform sharing and compatibility studies as necessary, in order to determine the feasibility of upgrading this frequency allocation to primary status while ensuring the protection of the primary services;

2 the identification of frequency bands within the frequency range 40.5-52.4 GHz, and to perform sharing and compatibility studies as necessary, in order to determine the feasibility of creating new primary allocations to the EESS (space-to-Earth) in these bands, while ensuring the protection of the primary services,

invites the 2031 World Radiocommunication Conference

to consider, based on the results of studies, an upgrade of the secondary allocation to the EESS (space-to-Earth) in the frequency band 37.5-40.5 GHz or possible new worldwide allocations on a primary basis to the EESS (space-to-Earth) in certain frequency bands within the frequency range 40.5-52.4 GHz,

invites administrations

to participate actively in the studies by submitting contributions to the ITU Radiocommunication Sector,

instructs the Secretary-General

to bring this Resolution to the attention of international and regional organizations concerned.

Annex

Proposals on a preliminary agenda item for WRC‑31

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| **Subject:** Studies towards frequency allocations for the Earth exploration-satellite service (space-to-Earth) within the frequency range 37.5-52.4 GHz | |
| **Origin:** CEPT | |
| ***Proposal*:**  To consider an upgrade of the secondary allocation to the Earth exploration-satellite service (EESS) (space-to-Earth) in the frequency band 37.5-40.5 GHz or possible new worldwide frequency allocations on a primary basis to the EESS (space-to-Earth) in certain frequency bands within the range 40.5-52.4 GHz, in accordance with Resolution **[EUR-A10-2.2] (WRC‑23)** | |
| ***Background/reason*:**  The continuous investment in future generations of Earth observing (EO) missions operated in the framework of the Earth exploration-satellite service (EESS) requires appropriate regulatory status and certainty to accommodate the future payload data transmission system requirements (including the need for increased bandwidth), essential in delivering the data collected by future EO sensors, targeting increased performance objectives.  Taking into account that there is currently a worldwide secondary allocation to the EESS (space-to-Earth) in the frequency band 37.5-40.5 GHz, this preliminary agenda item intends to assess whether this existing allocation would be suitable to accommodate the emerging EESS (space-to-Earth) requirements or, would it not be the case, to seek new worldwide primary allocations to the EESS (space-to-Earth) in specific frequency bands between 40.5 and 52.4 GHz. | |
| ***Radiocommunication services concerned*:** amateur, amateur-satellite, broadcasting, broadcasting-satellite, Earth exploration-satellite, fixed, fixed-satellite, land mobile, mobile, mobile-satellite, space research, radio astronomy, radionavigation and radionavigation-satellite | |
| ***Indication of possible difficulties*:**  None. It is planned that studies will be initiated within SG 7 (WP 7B) during the 2023-2027 cycle to study the spectrum requirements for EESS (space-to-Earth) and to determine the suitable candidate bands within the considered frequency range. | |
| ***Previous/ongoing studies on the issue*:** | |
| ***Studies to be carried out by*:**  WP 7B | ***with the participation of*:**  Administrations and Sector members of the ITU‑R |
| ***ITU‑R study groups concerned*:**  SG 4, SG 5, SG 6, SG 7 | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  This proposed preliminary agenda item will be studied within the normal ITU‑R procedures and planned budget. No extra cost is foreseen. | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks***  None | |

ADD EUR/65A27A2/4

Draft New Resolution [EUR-A10-2.3](WRC‑23)

Studies towards possible new global primary allocation to the radionavigation-satellite service (space-to-Earth) in the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that radionavigation-satellite service (RNSS) systems and networks provide worldwide accurate information for many positioning, navigation and timing applications;

*b)* that with growing user demands and modern use cases, the satellite navigation systems and networks need to achieve higher accuracy, better network reliability, and increased availability and robustness towards natural and man-made effects;

*c)* that the frequency band 5 010-5 030 MHz is allocated worldwide to the RNSS (space-to-Earth) on a primary basis;

*d)* that the characteristics and protection criteria for the receiving earth stations and also the transmitting space stations of RNSS in the frequency band 5 010-5 030 MHz are presented in Recommendation ITU‑R M.2031-1;

*e)* that the frequency band 5 150-5 216 MHz is allocated to the radiodetermination-satellite service (RDSS) (space-to-Earth) under the provisions described in No. **5.446**;

*f)* that an RNSS (space-to-earth) allocation in the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz would allow wideband RNSS signals (over 120 MHz) to improve positioning accuracy, robustness, resilience to intentional and unintentional interference and compatibility with incumbent systems,

noting

*a)* that the frequency band 5 030-5 091 MHz is allocated to the aeronautical mobile, aeronautical mobile-satellite and aeronautical radionavigation (ARNS) services on a primary basis;

*b)* that the frequency band 5 091-5 150 MHz is allocated to the fixed-satellite (FSS) (Earth-to-space), aeronautical mobile, aeronautical mobile-satellite and ARNS on a primary basis;

*c)* that the frequency band 5 150-5 250 MHz is allocated to the FSS (Earth-to-space), mobile and ARNS on a primary basis,

recognizing

*a)* that the current RNSS allocations might not be sufficient to fulfil the growing demands for higher positioning accuracy, network availability and robustness in the future;

*b)* that the possible addition of the RNSS (space-to-Earth) in the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz or parts thereof should not constrain the use and development of the incumbent services in this frequency range;

*c)* that the use by the RDSS in the frequency band 5 150-5 216 MHz is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the frequency bands 1 610-1 626.5 MHz and/or 2 483.5-2 500 MHz, and that the total power flux-density (pfd) at the Earth’s surface shall in no case exceed −159 dB(W/m2) in any 4 kHz band for all angles of arrival (No. **5.446**);

*d)* that, in order not to cause harmful interference to the microwave landing system operating above 5 030 MHz, the aggregate pfd produced at the Earth’s surface in the frequency band 5 030-5 150 MHz by all the space stations within any RNSS system (space-to-Earth) operating in the frequency band 5 010-5 030 MHz shall not exceed −124.5 dB(W/m2) in a 150 kHz band;

*e)* that, in order not to cause harmful interference to the radio astronomy service in the frequency band 4 990-5 000 MHz, RNSS systems operating in the frequency band 5 010-5 030 MHz shall comply with the limits in the frequency band 4 990-5 000 MHz defined in Resolution **741 (Rev.WRC‑15)**,

resolves to invite ITU‑R to complete in time for WRC‑31

1 studies on future spectrum requirements for the RNSS, in particular for the space-to-Earth direction in the 5 GHz frequency range;

2 sharing and compatibility studies between RNSS applications and the incumbent services mentioned in *noting a)* to *c)* in the frequency range 5 030-5 250 MHz, and studies related to the protection of the passive service applications identified in No. **5.443B**;

3 studies on possible new allocations to the RNSS on a co-primary basis in the frequency range 5 030-5 250 MHz, while ensuring the protection of existing services in the frequency bands considered and, as appropriate, in adjacent frequency bands,

invites the 2031 World Radiocommunication Conference

to consider, based on the results of studies, a new global primary allocation to the RNSS (space-to-Earth) in the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz or parts thereof,

invites administrations

to participate actively in the ITU‑R studies and provide the technical and operational characteristics of the systems involved by submitting contributions to the ITU Radiocommunication Sector,

instructs the Secretary-General

to bring this Resolution to the attention of the international and regional organizations concerned.

Annex

Proposals on a preliminary agenda item for WRC‑31

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| **Subject:** Potential new global primary allocation to the RNSS (space-to-Earth) in the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz | |
| **Origin:** CEPT | |
| ***Proposal*:**  To consider, based on the results of studies, a new global primary allocation to the RNSS (space-to-Earth) in the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz or parts thereof, in accordance with Resolution **[EUR-A10-2.3] (WRC‑23)** | |
| ***Background/reason*:**  As the need for advanced pointing, navigation and timing (PNT) technologies increases in the civil, industrial, and transportation sectors, the satellite navigation systems will require better accuracy, reliability and robustness to meet the rising demands. The technology continues to evolve towards more sophisticated satellite networks, involving hybrid solutions with multi-layer structures involving satellites at different orbits (MEO, GEO, HEO and LEO) aimed at improving the processing and distribution of PNT signals.  The classical RNSS solutions based on L-band signals, as well as potential transmission of the signals in the existing S-Band (RDSS) and C-Band (RNSS) allocations will not be able to fulfil all these future user demands, mainly due to limited bandwidth available (equal or less than 20 MHz).  Considering both technology and signal propagation aspects such as for instance feasibility and maturity of user equipment and payload technologies, the C-Band (4-8 GHz) is considered the best candidate frequency band to fulfil such user needs. In particular, the frequency range 5 030-5 250 MHz appears as a suitable option to accommodate the new requirements for RNSS, taking also into account that it would be adjacent to the existing RNSS allocation in the frequency band 5 010-5 030 MHz.  It is therefore proposed to consider a possible new primary allocation to the RNSS (space-to-Earth) in the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz or parts thereof. | |
| ***Radiocommunication services concerned*:**  radionavigation-satellite, fixed-satellite (Earth-to-space), aeronautical mobile, aeronautical mobile-satellite and aeronautical radionavigation | |
| ***Indication of possible difficulties*:**  None currently identified. | |
| ***Previous/ongoing studies on the issue*:**  WRC-2000 Final acts: RNSS (space-to-Earth) allocation in the frequency band 5 010-5 030 MHz  WRC-2003 Final acts: Resolution **610 (WRC‑03)** on coordination and bilateral resolution of technical compatibility issues for radionavigation-satellite service networks and systems in the frequency bands 1 164-1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 MHz  It is planned that studies will be initiated within SG 4 (WP 4C) during the 2023-2027 cycle to study the feasibility for a new RNSS allocation in the frequency range 5 030-5 250 MHz | |
| ***Studies to be carried out by*:**  WP 4C | ***with the participation of*:**  Administrations and Sector members of the ITU‑R |
| ***ITU‑R study groups concerned*:**  SG 4, SG 5 | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  This proposed preliminary agenda item will be studied within the normal ITU‑R procedures and planned budget. No extra cost is foreseen. | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks***  None | |

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1. \* The appearance of square brackets in some of the sections of this Resolution is understood to mean that WRC‑27 will consider and review these, as appropriate. [↑](#footnote-ref-1)
2. 1 This agenda sub-item is strictly limited to the Report of the Director on any difficulties or inconsistencies encountered in the application of the Radio Regulations and the comments from administrations. Administrations are invited to inform the Director of the Radiocommunication Bureau of any difficulties or inconsistencies encountered in the Radio Regulations. [↑](#footnote-ref-2)