Radio Regulations Board
Geneva, 11 – 19 November 2024

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SUMMARY OF DECISIONS OF THE 97TH MEETING OF THE RADIO REGULATIONS BOARD

11–19 November 2024

Present: Members, RRB

Mr Y. HENRI, Chair
Mr A. LINHARES DE SOUZA FILHO, Vice-Chair
Mr E. AZZOUZ, Mr A. ALKAHTANI, Ms C. BEAUMIER, Mr J. CHENG, Mr M. DI CRESCENZO, Mr E.Y. FIANKO, Ms S. HASANOVA, Ms R. MANNEPALLI, Mr R. NURSHABEKOV, Mr H. TALIB

Executive Secretary, RRB

Mr M. MANIEWICZ, Director, BR

Précis-writers

Ms C. RAMAGE and Ms S. MUTTI

Also present: Ms J. WILSON, Deputy Director, BR, and Chief, IAP
Mr A. VALLET, Chief, SSD
Mr C. LOO, Head, SSD/SPR
Mr J.A. CICCOROSSI, acting Head, SSD/SSC
Mr J. WANG, Head, SSD/SNP
Mr A. KLYUCHAREV, SSD/SNP
Mr. N. VASSILIEV, Chief, TSD
Mr K. BOGENS, Head, TSD/FMD
Ms I. GHAZI, Head, TSD/BCD
Mr X. ZHOU, TSD/FMD
Mr D. BOTHA, SGD
Ms K. GOZAL, Administrative Secretary

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1	Opening of the meeting	The Chair, Mr Y. HENRI, welcomed the members of the Board to the 97th meeting. The Director of the Radiocommunication Bureau, Mr M. MANIEWICZ, speaking also on behalf of the Secretary-General, Ms D. BOGDAN-MARTIN, likewise welcomed the members of the Board, indicating that the Board would address at its meeting the serious issue of the increasing number of reported cases of harmful interference to the radionavigation-satellite service. He wished the Board a successful meeting.	-
2	Adoption of the agenda RRB24-3/OJ/1(Rev.1); RRB24-3/DELAYED/2; RRB24-3/DELAYED/12; RRB24-3/DELAYED/13	The draft agenda was adopted as amended in Document RRB24-3/OJ/1(Rev.1). The Board decided to note for information: • Documents RRB24-3/DELAYED/6 and RRB24-3/DELAYED/11 under agenda item 3; • Document RRB24-3/DELAYED/5 under agenda item 5.1; • Document RRB24-3/DELAYED/1 under agenda item 5.7; • Document RRB24-3/DELAYED/8 under agenda item 6.1; • Documents RRB24-3/DELAYED/9 and RRB24-3/DELAYED/10 under agenda item 6.2; • Document RRB24-3/DELAYED/3 under agenda item 7.2; and • Documents RRB24-3/DELAYED/4 and RRB24-3/DELAYED/7 under agenda item 7.3. The Board decided to defer its consideration of Document RRB24-3/DELAYED/2, in which the Administration of Nigeria requested an extension of the regulatory time-limit to bring into use the frequency assignments to the NIGCOMSAT-2B and NIGCOMSAT-2D satellite networks, and instructed the Bureau to add the document to the agenda of the 98th Board meeting. As Documents RRB24-3/DELAYED/12 and RRB24-3/DELAYED/13 had been received after the start of the 97th Board meeting and the approval of its	Executive Secretary to communicate this decision to the administrations concerned. Bureau to add Documents RRB24-3/DELAYED/2, RRB24-3/DELAYED/12 and RRB24-3/DELAYED/13 to the agenda of the 98th Board meeting.

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		agenda, the Board also decided to defer their consideration and instructed the Bureau to add those documents to the agenda of its 98th meeting.	
3	Report by the Director, BR RRB24-3/4; RRB24-3/4(Add.1); RRB24-3/4(Add.2); RRB24-3/4(Add.3); RRB24-3/4(Add.5); RRB24-3/4(Add.6); RRB24-3/DELAYED/6; RRB24-3/DELAYED/11	The Board considered in detail the Report of the Director of the Radiocommunication Bureau, as contained in Document RRB24-3/4 and its Addenda 1, 2, 3, 5 and 6, and thanked the Bureau for the extensive and detailed information provided.	-
		a) The Board noted all action items under § 1 arising from the decisions of the 96th Board meeting.	-
		b) The Board noted § 2 of Document RRB24-3/4, on the processing of filings for terrestrial and space systems, and encouraged the Bureau to continue to make all efforts to process such filings within the regulatory time-limits.	-
		c) The Board noted §§ 3.1 and 3.2 of Document RRB24-3/4, on late payments and Council activities, respectively, relating to the implementation of cost recovery for satellite network filings.	-
		d) The Board noted § 4 of Document RRB24-3/4, containing statistics on harmful interference and infringements of the Radio Regulations.	-
		e) The Board considered in detail § 4.1 of Document RRB24-3/4 and its Addenda 1, 2 and 3, on harmful interference to broadcasting stations in the VHF bands between Italy and its neighbouring countries. The Board thanked the administrations for the information provided and noted the following points: • The Administration of Italy had reported that it had started to issue authorizations for national and local DAB networks according to the preliminary national DAB plan using its GE06 Plan allotments and some frequency blocks not allocated to any country, thus contributing, albeit	Executive Secretary to communicate this decision to the administrations concerned. Bureau to: • continue providing assistance to those administrations;

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		indirectly, to relieving the burden on the VHF Band II ("FM band"). However, neighbouring countries had reported no improvement to the FM situation and reiterated their concerns about uncoordinated usage of Italian DAB stations. • Regarding harmful interference to FM broadcasting in Band II, the Italian Administration was developing a plan of action to eliminate or reduce cases of cross-border interference. However, despite several meetings with its neighbouring countries since the multilateral coordination meeting in May 2024, the interference situation had not improved and the neighbouring countries continued to report a lack of progress. The Board acknowledged and appreciated the Italian Administration's four lines of action aiming to reduce the number of FM interference cases. However, given the absence of progress towards resolving cases of harmful interference and the continuing licensing of uncoordinated stations, the Board again strongly urged the Administration of Italy to: • take decisive steps to implement its proposed measures in a more effective and results-focused manner; • fully commit to implementing all the recommendations resulting from the June 2023 and May 2024 multilateral coordination meetings; • continue to expeditiously provide the complete technical data required by the neighbouring administrations to facilitate the process of mitigating interference cases; • take all necessary measures to eliminate harmful interference to the FM sound broadcasting stations of its neighbouring administrations, focusing on the priority list; • cease the operation of all uncoordinated DAB stations not contained in the GE06 Agreement and no longer license such stations.	• continue reporting on progress on the matter to future Board meetings.

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		The Board again encouraged the Administration of Italy to: • vigorously pursue the planned introduction of new legislation and necessary budgetary provisions to enable the voluntary switch-off of FM stations causing harmful interference to its neighbours; • persist in its efforts to migrate interfering FM broadcasting stations to DAB in the national DAB deployment, as a means of resolving the long-standing harmful interference situation. The Board again requested the Administration of Italy to provide the complete detailed action plan for implementing the FM Working Group's recommendations, with clearly defined milestones and timelines, to make a firm commitment to the plan's implementation and to report to the 98th Board meeting on progress in that regard. Furthermore, the Board urged all administrations to continue their coordination efforts in goodwill and to report on progress to the 98th Board meeting. The Board thanked the Bureau for its report to the Board and the support provided to the administrations concerned and instructed the Bureau to: • continue providing assistance to those administrations; • continue reporting on progress on the matter to future Board meetings.	
		f) The Board noted § 5 of Document RRB24-3/4, on the implementation of Nos. **9.38.1**, **11.44.1**, **11.47**, **11.48, 11.49**, **13.6** and Resolution **49 (Rev.WRC-19)** of the Radio Regulations.	-
		g) The Board noted § 6 of Document RRB24-3/4, on the review of findings related to frequency assignments to non-GSO FSS satellite systems under Resolution **85 (WRC-03)**, and again encouraged the Bureau to reduce the backlog for the processing of filings. The Board instructed	Bureau to provide the list of suppressed satellite networks in the Director's reports to future Board meetings.

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		the Bureau to provide the list of suppressed satellite networks in the Director's reports to future Board meetings.	
		h) In relation to § 7 of Document RRB24-3/4, on progress towards implementation of Resolution **35 (WRC-19)**, the Board instructed the Bureau to expand the information in Tables 7-1 and 7-2 by providing the operating agency for each satellite network.	Bureau to expand the information in Tables 7-1 and 7-2 by providing the operating agency for each satellite network.
		i) The Board considered § 8 of Document RRB24-3/4, on satellite systems at API stage not yet notified but with operations stated under No. **4.4** and thanked the Bureau for reporting the detailed information it had requested at the 96th Board meeting.	-
		j) Having considered § 9 of Document RRB24-3/4, on the proposed treatment of pending frequency assignments to stations located in the Spratly Islands, the Board endorsed the proposed approach, which would result in the processing of frequency assignments that had been kept in abeyance for several years.	Executive Secretary to communicate this decision to the administrations concerned
		k) With reference to Addendum 5 to Document RRB24-3/4, the Board thanked the Bureau for having prepared the statistics and for bringing the matter to its attention, and noted that the proposals had been well received by ITU-R Working Parties 4A and 4C. The Board requested the Bureau to pursue the proposed suggestions and to engage with administrations concerning the continuous application of RR No. **11.41B**, in particular for cases with no specific technical difficulties. The Board decided to include the issue in its report to WRC-27 under Resolution **80 (Rev.WRC-07)**.	Bureau to pursue the proposed suggestions and to engage with administrations concerning the continuous application of RR No. **11.41B**, in particular for cases with no specific technical difficulties.
		l) The Board considered Addendum 6 to Document RRB24-3/4 in detail and noted Documents RRB24-3/DELAYED/6 and RRB24-3/DELAYED/11 for information. The Board thanked the Bureau for its	Executive Secretary to communicate this decision to the administrations concerned

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		efforts to convene a coordination meeting between the administrations concerned, which had unfortunately been unsuccessful owing to scheduling difficulties experienced by the Administration of the Russian Federation. The Board noted the following points with continuing concern: • The Administration of the Russian Federation had failed to respond to the Bureau's requests for a multilateral meeting between the administrations concerned, to be convened before the Board's 97th meeting. • The Russian administration had not provided the information that the Board had requested at its 96th meeting. • Although some cases of harmful interference reported to the 96th Board meeting had ceased, new reports from the Administrations of France and Sweden indicated that some cases of harmful interference in contravention of RR No. **15.1** had reappeared or continued to be present, with geolocation measurements indicating that they had originated from within the territory of the Russian Federation. The Board also noted: • the very late information from the Administration of the Russian Federation indicating its willingness to make every possible effort to complete the governmental procedure to find a convenient date for a multilateral meeting before the Board's 98th meeting in 2025; and • the readiness of the Russian Administration to engage in a constructive dialogue with the administrations affected. Consequently, the Board again requested the Administration of the Russian Federation: • to immediately cease any deliberate action to cause harmful interference to frequency assignments of other administrations;	Bureau to continue its efforts to: • convene a meeting of the administrations concerned in December 2024 or January 2025, to resolve the harmful interference cases and prevent them from reoccurring; • report on progress to the 98th Board meeting.

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		• to provide information on the status of its investigation and actions carried out prior to the 97th and 98th Board meetings; • to further investigate whether any earth stations currently deployed at, or close to, the locations identified by geolocation measurements might have the capability to cause harmful interference in the 13/14 GHz and 18 GHz frequency ranges as experienced by the satellite networks located at 3°E, 5°E, 7°E, 10°E, 13°E and 21.5°E, and to take the necessary actions in compliance with Article 45 of the ITU Constitution ("All stations, whatever their purpose, must be established and operated in such a manner as not to cause harmful interference to the radio services or communications of other Member States…"), so as to prevent the reoccurrence of such harmful interference. The Board again urged the Administrations of France, the Russian Federation and Sweden, in compliance with No. **15.22**, to collaborate and exercise the utmost goodwill and mutual assistance in the resolution of the harmful interference cases. The Board instructed the Bureau to continue its efforts to: • convene a meeting of the administrations concerned in December 2024 or January 2025, to resolve the harmful interference cases and prevent them from reoccurring; • report on progress to the 98th Board meeting.	
4	Rules of Procedure		
4.1	List of rules of procedure RRB24-3/1; RRB24-1/1(Rev.2)	Following a meeting of the Working Group on the Rules of Procedure, under the leadership of Ms S. HASANOVA, the Board: • revised and approved the list of proposed rules of procedure contained in Document RRB24-3/1, taking into account the proposals	Executive Secretary to publish the revised list of proposed rules of procedure on the website.

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		by the Bureau for the revision of certain rules of procedure and the proposals for new rules of procedure; • instructed the Bureau to publish the revised version of the document on the website and to prepare and circulate those draft rules of procedure well in advance of the 98th Board meeting, to allow administrations enough time to comment.	Bureau to circulate those draft rules of procedure well in advance of the 98th Board meeting
4.2	Draft Rules of Procedure CCRR/73; CCRR/74; CCRR/75; CCRR/76; CCRR/77	With reference to Document RRB24-3/2 in which the Administration of the Islamic Republic of Iran provided general comments on the preparation and approval of draft rules of procedure, the Board noted the following: • The Board considered that it was already following the procedure as proposed by the Administration of the Islamic Republic of Iran in the preparation of draft rules of procedure but noted that certain steps of that procedure might not be entirely visible to Member States, given that their consideration occurred within the Working Group on the Rules of Procedure. • In addition to the steps indicated, the Board compiled and maintained a list of proposed draft rules of procedure and the schedule for their expected approval. On instruction from the Board, the Bureau published the list several meetings prior to the expected dates of approval of the proposed draft rules of procedure, giving administrations ample notice of the expected actions. • Several proposed draft rules of procedure were a direct reflection of the decisions taken at a WRC. Noting the concerns raised, the Board undertook to pay more attention to the following steps: • the need for proposed draft rules of procedure to be justified by more extensive and clear reasons;	Executive Secretary to communicate this decision to the administration concerned Bureau to assist in identifying relevant existing and new rules of procedure that could be considered for transferal to the Radio Regulations.
4.3	Comments from Administrations RRB24-3/2; RRB24-3/9; RRB24-3/10; RRB24-3/11; RRB24-3/12; RRB24-3/13		

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		• pursuant to RR No. **13.0.1**, the reinforcement and expansion of its efforts to identify rules of procedure that could be candidates for transferal to the Radio Regulations, thus reducing the number of rules of procedure. Consequently, the Board instructed the Bureau to assist in identifying relevant existing and new rules of procedure that could be considered for transferal to the Radio Regulations. In relation to the request for postponing the consideration and possible approval of the draft rules of procedure contained in Circular Letters CCRR/74, CCRR/75 and CCRR/76 until its 98th meeting, the Board indicated the following points: • Most of the proposed draft rules of procedure were required to govern cases that would arise when the new and revised Radio Regulations resulting from WRC-23 decisions came into force on 1 January 2025. • Other proposed draft rules of procedure were urgently required for situations where received filings had been kept in abeyance in the absence of provisions that would allow the Bureau to process them in a timely manner and in compliance with the regulatory time-limits. • The comments received from a number of administrations on the proposed draft rules of procedure needed to be considered and implemented, where appropriate. • Recognizing the considerable effort required from administrations, the Board had specifically instructed the Bureau to prepare and publish the proposed draft rules of procedure at the earliest date possible, i.e. the latest circular letter had been published on 9 August 2024, thus providing Member States with four weeks in addition to the six weeks required under RR No. **13.12A** *c)* to prepare and submit their comments on the proposed draft rules of procedure.	

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		Consequently, the Board decided not to accede to the request from the Administration of the Islamic Republic of Iran. Having considered in detail the comments received from administrations, provided in Documents RRB24-3/9, RRB24-3/10, RRB24-3/11, RRB24-3/12 and RRB24-3/13, on the draft rules of procedure set out in Circular Letters CCRR/73, CCRR/74, CCRR/75, CCRR/76 and CCRR/77, the Board took the actions as presented below. • The Board provided the following answers to administrations' questions in relation to the proposed draft rules of procedure: ○ Regarding the proposed draft rules of procedure on RR Nos. **5.457D**, **5.457E** and **5.457F**, the Board provided the clarifications requested by the Administration of Japan, as follows: • The Board confirmed that the principles circulated by the Bureau in Circular Letter CR/467, dated 18 August 2020 also applied to the three footnotes listed above; • The Board confirmed that the examination vis-a-vis the relevant provisions of RR Article **21** would be conducted for notices using the nature of service other than "IM". ○ In response to the question from the Administration of Canada about the possibility to provide a "sufficient interference margin" that would allow an increase in the predictability of the outcome of the examination of frequency assignments to non-GSO satellite systems or networks with power spectral density levels below -100 dBW/Hz, the Board decided to add the reference "(see Attachment 2 to Section B3 of Part B of the Rules of Procedure)" to the draft rule of procedure on items C.8.a.2, C.8.b.2, C.8.c.1 and C.8.c.3 of Annex 2 to Appendix **4**.	Executive Secretary to communicate the decisions to the administration having provided comments. Bureau to develop such draft rules of procedure on Nos. **5.293**, **5.295A**, **5.307A**, **5.308A**, **5.325**, **5.341A, 5.341C, 5.346** and **5.346A** for

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		• In response to administrations' proposals that certain draft rules of procedure, if approved, be considered for transferral to the Radio Regulations, the Board decided to take that action for the rules of procedure on: ○ No. **22.5K**; ○ Annex 2 to Appendix **4** related to items A.4.b.7.d.1, A.27.b, A.33a and A.36.c; and ○ Resolution **678 (WRC-23)**, and to inform WRC-27 accordingly. • Based on administrations' comments on the draft rules of procedure, the Board decided that new draft rules of procedure needed to be developed on the following item: ○ to reflect the requirements of RR Nos. **5.293**, **5.295A**, **5.307A**, **5.308A** and **5.325** in relation to seeking agreement under RR No. **9.21** and for the identification of affected administrations for the protection of the aeronautical radionavigation service, to which the frequency band 645 – 960 MHz was allocated on a primary basis, a value of 450 km was to be used, similar to the value previously determined for the protection of that service in the rules of procedure on RR No. **5.312A**; and consequently instructed the Bureau to develop such draft rules of procedure for consideration at the 98th Board meeting. • The Board decided that rules of procedure were not required for conformity with the table of frequency allocations of notices for frequency assignments to HIBS in the band 902 – 928 MHz in Region 2, and in the band 698 –790 MHz for Region 3 countries listed in RR No. **5.314A** but not in RR No. **5.313A**, since no inconsistency existed for the operation of HIBS in those frequency bands, which were not	consideration at the 98th Board meeting. Bureau to consider Nos. **5.312B**, **5.314A**, **5.409A**, **5.461AC**, **5.529A** and **21.6** as identified by administrations for possible inclusion in the Director's Report to WRC-27 under its agenda item 9.2. Executive Secretary to update and publish the Rules of Procedure. Bureau to draft new rules of procedure for those contained in Annex 1 to CCRR/77 based on the comments from administrations and submit them to the 98th Board meeting for consideration.

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		identified for IMT, as an allocation for the mobile service existed as well as an identification for HIBS (see Circular Letter CR/467). • Furthermore, in response to suggestions from administrations, the Board instructed the Bureau to consider issues associated with RR Nos. **5.312B**, **5.314A**, **5.409A**, **5.461AC**, **5.529A** and **21.6** for possible inclusion in the Director's Report to WRC-27 under its agenda item 9.2, owing to some inconsistencies found in those provisions. • Accordingly, the Board approved the rules of procedure contained in Circular letters CCRR/73, CCRR/74, CCRR/75, CCRR/76 and Annex 2 to CCRR/77 with modifications, as contained in the Attachment to the summary of decisions. The Board decided not to approve the draft rules of procedure contained in Annexes 1 and 3 to CCRR/77 and that further development of the draft rules of procedure contained in Annex 3 would be kept in abeyance until the need arose. However, the Board instructed the Bureau to draft new rules of procedure for the proposed draft rules of procedure contained in Annex 1 to CCRR/77 based on the comments from administrations and submit them to the 98th Board meeting for consideration.	
4.4	Submission by the Administration of the Russian Federation expressing disagreement with the Rules of Procedure under Nos. **9.21** and **9.36** of the Radio Regulations adopted at the 95th meeting of the Radio Regulations Board RRB24-3/7	The Board considered in detail the submission from the Administration of the Russian Federation expressing disagreement with the rules of procedure on RR Nos. **9.21** and **9.36** adopted at the 95th Board meeting, as contained in Document RRB24-3/7. The Board confirmed that those rules of procedure exempted the associated earth stations of satellite networks from consideration in establishing coordination requirements under RR Nos. **9.21**, **9.17A** and **9.18** procedures and furthermore noted the following points: • The Administration of the Russian Federation's analysis was predicated on the fact that the modifications to the rules of procedure on RR Nos. **9.21** and **9.36** resulted in a significant change in the provisions of the Radio Regulations for the protection of typical earth	Executive Secretary to communicate this decision to the administration concerned. Bureau to perform further analysis as per the last bullet point and report to a future Board meeting.

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		stations making it impossible to protect typical earth stations, in particular in the band 3 400 – 3 700 MHz. • However, the Board recalled that RR No. **9.21** was not intended to protect all types of typical earth stations and that § 2 of RR Appendix **5** listed the criteria that had to be met by a frequency assignment for which the agreement of an administration might be required under RR No. **9.21**. • RR No. **5.430A** contained, in addition to RR No. **9.21**, another provision that protected typical earth stations, i.e. a power flux density (pfd) limit at the border of the territory of any other administration. The limit had to be complied with even in the absence of actual earth stations being deployed in the territory of another administration, since it was meant to ensure the long-term availability of the frequency band for future earth stations. • However, it might be acknowledged that there were some frequency bands shared between terrestrial services and the fixed-satellite service (FSS) (space-to-Earth) where such pfd limits did not exist, e.g. RR No. **5.434**, or might not exist in future. In such frequency bands, the protection of earth stations from terrestrial transmitters in coordination under RR No. **9.18** could be ensured only for individual earth stations, since typical stations in the FSS could not currently be notified, and the associated earth stations of satellite networks were exempted from consideration under the rules of procedure in question. • The above-mentioned regulatory framework led to the situation where administrations, in order to protect a large number of earth stations at unknown locations, e.g. VSATs, were obliged to notify them as individual stations, which might represent a significant burden. Therefore, while confirming the correctness of the adopted modifications to the rules of procedure on RR Nos. **9.21** and **9.36**, further work was required to raise administrations' awareness of the	

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		current situation and explore ways of facilitating the notification of typical earth stations. Consequently, the Board decided not to accede to the request from the Administration of the Russian Federation and instructed the Bureau to perform further analysis as per the last bullet point above and report to a future Board meeting.	
5	Requests to extend the regulatory time-limit to bring/bring back into use the frequency assignments to satellite networks/systems		
5.1	Submission by the Administration of Japan requesting an extension of the regulatory time-limits to bring into use the frequency to the QZSS-A satellite system and the QZSS-GS-A1 satellite network RRB24-3/3; RRB24-3/DELAYED/5	The Board considered the submission from the Administration of Japan requesting an extension of the regulatory time-limits to bring into use the frequency assignments to the QZSS-A satellite system and the QZSS-GS-A1 satellite network as contained in Document RRB24-3/3, noted Document RRB24-3/DELAYED/5 for information and thanked the Administration of Japan for the updated information indicating the successful launch on 4 November 2024 of the H3 F4 test flight, thus reducing the period of extension requested. The Board noted the following: • The Administration of Japan had provided extensive information, including a summary description of the satellites to be launched, the name of the satellite manufacturer and launch service provider, the contract signature dates and the initial and revised launch schedules due to the launch failure of the H3 F1 test flight in March 2023. However, there was no information on the satellite construction status before the *force majeure* event, other than a statement that the satellites had been expected to be completed prior to their initial launch windows. • While the Administration of Japan had made efforts to advance the launch schedule, its efforts to procure an alternative launch service provider had been limited to domestic launch service providers for such government projects and had been unsuccessful.	Executive Secretary to communicate this decision to the administration concerned. Bureau to continue to take into account the frequency assignments to QZSS-A satellite system and the QZSS-GS-A1 satellite network until the end of the 98th Board meeting.

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		• The Administration of Japan had also made efforts to find alternative temporary satellites to comply with the regulatory time-limits to bring into use the frequency assignments but had been unable to find suitable satellites that satisfied the required frequency bands and orbital characteristics for the positioning, navigation and timing system. From the information provided, it could be concluded that the case satisfied the first three conditions of a *force majeure* situation. However, in the absence of substantive information on the satellites' statuses when the *force majeure* event had occurred on 7 March 2023 and their current status, it was not possible to conclude that the fourth condition had been satisfied, namely that an effective causal connection existed between the event and the administration's failure to meet the regulatory time-limit. Furthermore, no information had been provided on the project milestones before and after the *force majeure* event to confirm that, but for the launch failure, the regulatory time-limits would have been met. Consequently, the Board concluded that it was not in a position to grant an extension of the regulatory time-limits to bring into use the frequency assignments to the QZSS-A satellite system and the QZSS-GS-A1 satellite network and invited the Administration of Japan to provide information to the 98th Board meeting demonstrating that the fourth condition had been fully satisfied for the case to qualify as a situation of *force majeure*. The Board instructed the Bureau to continue to take into account the frequency assignments to the QZSS-A satellite system and the QZSS-GS-A1 satellite network until the end of the 98th Board meeting.	
5.2	Submission by the Administration of the Islamic Republic of Iran requesting an extension of the regulatory time-limit to bring into use the frequency assignments to the IRANDBS4-KA-G2 satellite network	Having considered in detail the request of the Administration of the Islamic Republic of Iran requesting an extension of the regulatory time-limit to bring into use the frequency assignments to the IRANDBS4-KA-G2 satellite network as presented in Document RRB24-3/5, the Board noted the following points:	Executive Secretary to communicate this decision to the administration concerned. Bureau to continue to take into account the frequency

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	RRB24-3/5	• The IRANDBS4-KA-G2 satellite network was intended to provide a broadcasting-satellite service covering only the national territory of the Islamic Republic of Iran. • As the administration of a developing country, the Administration of the Islamic Republic of Iran had cited the possibility for granting extensions to the regulatory time-limits to bring into use frequency assignments to satellite networks belonging to developing countries on an exceptional basis, referring to the Board's report on Resolution **80 (Rev.WRC-07)** to WRC-23. However, the Board indicated that in the absence of a decision on the issue by WRC-23, granting such extensions was not within its mandate, but within that of a WRC (see also § 13.8 of Document WRC23/528 agreed during the 13th plenary meeting of WRC-23). • While the Administration of the Islamic Republic of Iran had invoked the application of *force majeure* to its request, citing the impact of international unilateral sanctions, the COVID-19 pandemic, the cancellation of a planned co-passenger, the Ukraine crisis and supply chain problems, no supporting evidence had been provided to substantiate those factors or how they had been assessed as satisfying the four conditions for the situation to qualify as a case of *force majeure*. • Other information that was missing in support of the request included evidence of the original contract, information on the satellite manufacturer, the subcontractor and the launch service provider, and clearly defined project milestones before and after the *force majeure* event(s). • The Administration of the Islamic Republic of Iran had taken mitigating measures to change the satellite manufacturer, but no evidence had been provided about the new contract and no information had been provided on the original launch service provider.	assignments to the IRANDBS4-KA-G2 satellite network until the end of the 98th Board meeting.

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		• Furthermore, the administration had provided no information that justified the requested extension of the regulatory time-limit by 18 months or how the different delays had been quantified and what their cumulative impact had been on the timelines. In view of the lack of supporting information and substantive evidence to justify the request from the Administration of the Islamic Republic of Iran, the Board concluded that it was not in a position to accede to the request and invited the administration to provide the information and supporting evidence as agreed during the 13th plenary meeting of WRC-23 (see § 13.4 of Document WRC23/528) to the 98th Board meeting. The Board instructed the Bureau to continue to take into account the frequency assignments to the IRANDBS4-KA-G2 satellite network until the end of the 98th Board meeting.	
5.3	Submission by the Administration of the Republic of Korea requesting and extension of the regulatory time-limit to bring into use the frequency assignments to the KOMPSAT-6 satellite system RRB24-3/6	The Board considered the submission from the Administration of the Republic of Korea requesting an extension of the regulatory time-limit to bring into use the frequency assignments to the KOMPSAT-6 satellite system as presented in Document RRB24-3/6 and noted the following points: • Although the Administration of the Republic of Korea had invoked a case of *force majeure* in supporting its request for an extension of the regulatory time-limit, evidence provided from the launch service provider on 23 September 2024 indicated that the co-passenger on the same launch vehicle had experienced delays, identifying the situation as a case of co-passenger delay. • The Administration of the Republic of Korea had successfully requested an extension of the regulatory time-limit from 12 December 2023 to 31 March 2025 to bring into use the frequency assignments to the KOMPSAT-6 satellite system at the 94th Board meeting, providing supporting evidence that the satellite had been	Executive Secretary to communicate this decision to the administration concerned.

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		completed and kept in storage since August 2022 and had undergone regular state-of-health tests. • Based on the information provided at the 94th and 97th Board meetings the request qualified as a case of co-passenger delay and the requested extension of nine months to 31 December 2025 was justified. Consequently, the Board decided to accede to the request from the Administration of the Republic of Korea to extend the regulatory time-limit to bring into use the frequency assignments to the KOMPSAT-6 satellite system to 31 December 2025.	
5.4	Submission by the Administration of the State of Israel requesting an extension of the regulatory time-limit to bring into use the frequency assignments to the AMS-BSS-B4-4W satellite network RRB24-3/8	The Board carefully considered Document RRB24-3/8, in which the Administration of Israel requested an extension of the regulatory time-limit to bring into use the frequency assignments to the AMS-BSS-B4-4W satellite network. The Board noted the following points: • The Administration of Israel had based its request for an extension of the regulatory time-limit on *force majeure* events. • The revised schedule and project milestones provided showed that despite the 13-month delay resulting from the COVID-19 pandemic, the administration would still have been able to meet the regulatory time-limit. • The Administration of Israel had experienced a further 10-month delay owing to the interruption of industrial activity in the country due to the geopolitical situation in the Middle East and would have met the regulatory time-limit to bring into use the frequency assignments to the AMS-BSS-B4-4W satellite network, as the status of the satellite construction had been on schedule before that event. • The Administration of Israel had made extensive efforts to mitigate the delays and adverse effects of the above-mentioned events.	Executive Secretary to communicate this decision to the administration concerned.

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		• Assessment of the information confirmed that all the conditions had been satisfied for the situation to qualify as a case of *force majeure*. • Based on the information provided by the launch service provider on the new launch window from 20 April 2025 to 20 July 2025, and considering the need for an orbit-raising period of three weeks, an extension of the regulatory time-limit to 10 August 2025 was justified. Consequently, the Board decided to accede to the request from the Administration of Israel to extend the regulatory time-limit to bring into use the frequency assignments in the band 11.7 – 12.5 GHz (space-to-Earth) to the AMS-BSS-B4-4W satellite network to 10 August 2025.	
5.5	Submission by the Administration of Indonesia requesting an extension of the regulatory time-limit to bring into use the frequency assignments to the LAPAN-A4-SAT satellite system RRB24-3/14(Rev.1)	With reference to the submission from the Administration of Indonesia requesting an extension of the regulatory time-limit to bring into use the frequency assignments to the LAPAN-A4-SAT satellite system as contained in Document RRB24-3/14(Rev.1), the Board noted the following points: • While the Board had the authority to consider requests for extensions of regulatory time-limits for cases of *force majeure* and co-passenger delay, in its submission, the Administration of Indonesia had invoked neither a case of *force majeure* nor a case of co-passenger delay to support its request. • The submission from the Administration of Indonesia stated that the LAPAN-A4/NEO-1 satellite, developed and designed by the Indonesian Space Agency, had been fully completed and tested, and was ready to be sent to the launch site, but no evidence had been provided to confirm the situation other than a photo of one satellite. • The LAPAN-A4/NEO-1 satellite had been scheduled to be launched in October 2024, as confirmed on 29 September 2023. After a review of the launch manifest, the launch had been rescheduled for the fourth quarter of 2025 but no rationale had been provided for the postponement.	Executive Secretary to communicate this decision to the administration concerned.

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		• A considerable number of essential items, agreed during the 13th plenary meeting of WRC-23 (see §§ 13.4 and 13.6 of Document WRC23/528), were missing in the information provided in support of the request from the Administration of Indonesia, including the basis for invoking its request and a rationale for an extension of the regulatory time-limit to 31 December 2025. Consequently, the Board concluded that, given the considerable lack of supporting information, it was not in a position to grant an extension of the regulatory time-limit to bring into use the frequency assignments to the LAPAN-A4-SAT satellite system.	
5.6	Submission from the Administration of Indonesia requesting an extension of the regulatory time-limit to bring into use the frequency assignments to the NUSANTARA-NS1-A satellite network RRB24-3/15	Having considered in detail the request of the Administration of the Indonesia for an extension of the regulatory time-limit to bring into use the frequency assignments to the NUSANTARA-NS1-A satellite network as presented in Document RRB24-3/15, the Board noted the following points: • While the Administration of Indonesia had provided considerable information in support of its request, referring to elements of *force majeure*, it had not invoked a case of *force majeure* or demonstrated how the four conditions had been satisfied for the situation to qualify as a case of *force majeure*. • The failure of the supplier non-flight equipment that had damaged the satellite structure appeared to be a *force majeure* event, as an additional 18 months had been required to repair the satellite, resulting in a change to the launch schedule to June 2025, but no details had been provided to explain the nature of the event, the circumstances that had led to the failure, and the extent of the damage that would justify the lengthy repair period. • The Administration of Indonesia had made mitigating efforts – obtaining a temporary replacement satellite (GS-1), signing a contract on 27 January 2023 – aimed at bringing into use the frequency assignments to the NUSANTARA-NS1-A satellite network. However,	Executive Secretary to communicate this decision to the administration concerned. Bureau to continue to take into account the frequency assignments to the NUSANTARA-NS1-A satellite network until the end of the 98th Board meeting.

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		the satellite's arrival at 113°E, planned for September 2024, had been delayed with indications that the administration would not meet the regulatory time-limit, but no updated information had been provided on a new arrival date and whether the satellite would arrive before the requested extension date of 27 December 2025. • Other essential information that was missing in support of the request included: o the status of the satellite construction before the failure; o the revised project details and schedule; o milestones that took into account the delays due the COVID-19 pandemic and whether they had been met on time; and o an updated launch schedule and plans. Consequently, the Board concluded that it was not in a position to grant an extension of the regulatory time-limit to bring into use the frequency assignments to the NUSANTARA-NS1-A satellite network and invited the Administration of Indonesia to provide the additional essential information and supporting evidence as agreed during the 13th plenary meeting of WRC-23 (see § 13.4 of Document WRC23/528) to the 98th Board meeting. The Board instructed the Bureau to continue to take into account the frequency assignments to the NUSANTARA-NS1-A satellite network until the end of the 98th Board meeting.	
5.7	Submission by the Administration of the United Kingdom of Great Britain and Northern Ireland requesting an extension of the regulatory time-limit to bring into use the frequency assignments to the SPACENET-IOM satellite system RRB24-3/18; RRB24-3/DELAYED/1	The Board carefully considered Document RRB24-3/18, in which the United Kingdom of Great Britain and Northern Ireland requested an extension of the regulatory time-limit to bring into use the frequency assignments to the SPACENET-IOM satellite system, and also considered Document RRB24-3/DELAYED/1 for information. The Board expressed its appreciation for the comprehensive and clear submission and noted the following points:	Executive Secretary to communicate this decision to the administration concerned.

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		• The administration had provided extensive and complete information in support of the request corresponding to that agreed during the 13th plenary meeting of WRC-23 (see § 13.4 of Document WRC23/528). • The ELEVATION-1 satellite had been ready to ship to the launch site for an October 2024 launch but in early September 2024 the launch had been delayed by more than three months to 16 January 2025, due to anomalies suffered on other launch missions. • The satellite construction and testing had been completed as originally scheduled, and, but for the delays from the launch provider due to the *force majeure* events, the satellite would have been launched as originally planned, allowing the administration to comply with the regulatory time-limit. • The Administration of the United Kingdom had invoked a case of *force majeure* in support of its request and had demonstrated how the situation had satisfied all four conditions for it to qualify as a case of *force majeure*. • The requested length of extension of seven weeks was limited and justified and based on a launch window of two weeks. Consequently, the Board decided to accede to the request by granting an extension of the regulatory time-limit to bring into use the frequency assignments in the bands 71–76 GHz (space-to-Earth) and 81–86 GHz (Earth-to-space) to the SPACENET-IOM satellite system to 31 January 2025.	
5.8	Submission by the Administration of Mexico requesting an extension of the regulatory time-limit to bring back into use the frequency assignments to the SATMEX 7 satellite network at 113°W RRB24-3/20(Rev.1)	With regard to the submission from the Administration of Mexico requesting an extension of the regulatory time-limit to bring back into use the frequency assignments to the SATMEX 7 satellite network at 113°W as presented in Document RRB24-3/20(Rev.1), the Board noted the following points:	Executive Secretary to communicate this decision to the administration concerned.

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		• The Eutelsat 113WA satellite, having reached its nominal end-of-life after 15 years in operation, had suffered an anomaly on 31 January 2024 and had been deorbited on 3 April 2024, resulting in the suspension of the frequency assignments to the SATMEX 7 satellite network on 25 March 2024 and a regulatory time-limit for bringing them back into use on 25 March 2027. • The regulatory suspension period of three years had been deemed sufficient to procure a replacement for a C- and Ku-band satellite and resume use of suspended frequency assignments. • Although the satellite operator had approved the selection of a replacement satellite manufacturer on 17 October 2022, with an expected delivery date of 1 September 2026, the replacement schedule had been based on the Eutelsat 113WA satellite continuing to operate for a further 4.7 years from February 2024 and the contract with the satellite manufacturer had only been signed on 11 July 2024, but no supporting evidence had been provided. • At the time of submitting the request, no launch service provider had been selected and therefore no launch contract or launch schedule was available. • The administration had not demonstrated that it had pursued every option to be able to comply with the regulatory time-limit and that every effort had been made to limit the extension period. • The administration had invoked a case of *force majeure* in support of its request; however, from the information provided, the four conditions had not been satisfied and therefore the situation did not qualify as a case of *force majeure*. • While the occurrence of the anomaly could be used to qualify the satellite failure as a case of *force majeure*, the *force majeure* event could not be causally linked to delays in the procurement, manufacture and launch of a replacement satellite, whereas a *force*	

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		majeure event adversely affecting such efforts would be valid grounds for requesting an extension of the regulatory time-limit. • In the absence of a launch service provider and a launch contract, it was impossible to justify and quantify the required length of extension of the regulatory time-limit. Consequently, the Board concluded that the request for an extension of the regulatory time-limit to bring back into use the frequency assignments to the SATMEX 7 satellite network was premature and therefore the Board was not in a position to accede to the request from the Administration of Mexico. The Board encouraged the Administration of Mexico to make every effort to comply with the regulatory time-limit by expediting its efforts to procure a replacement satellite and to consider other options.	
6	Issues regarding harmful interference to receivers in the radionavigation-satellite service The Board carefully considered Addendum 4 to Document RRB24-3/4 and thanked the Bureau for the report on numerous cases of harmful interference affecting receivers in the radionavigation-satellite service (RNSS). The Board considered with appreciation the Bureau's proposed recommendations and decided to endorse those recommendations with modifications, as per the following: The attention of the administrations concerned should be drawn to their obligations to: a) acknowledge receipt of the Bureau's communications under No. **15.35** of the Radio Regulations; b) cooperate in the resolution of the case(s) in accordance with, but not limited to, the following provisions: i. Article 45 of the ITU Constitution: "All stations, whatever their purpose, must be established and operated in such a manner as not to cause harmful interference to the radio services or communications of other Member States." ii. Article 47 of the ITU Constitution*:* "Member States agree to take the steps required to prevent the transmission or circulation of false or deceptive distress, urgency, safety or identification signals, and to collaborate in locating and identifying stations under their jurisdiction transmitting such signals." iii. No. **4.10** of the Radio Regulations: "Member States recognize that the safety aspects of radionavigation and other safety services require special measures to ensure their freedom from harmful interference; it is necessary therefore to take this factor into account in the assignment and use of frequencies."		

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	iv. No. **15.1** of the Radio Regulations: "All stations are forbidden to carry out unnecessary transmissions, or the transmission of superfluous signals, or the transmission of false or misleading signals, or the transmission of signals without identification." v. No. **15.28** of the Radio Regulations: "Recognizing that transmissions on distress and safety frequencies and frequencies used for the safety and regularity of flight (see Article **31** and Appendix **27**) require absolute international protection and that the elimination of harmful interference to such transmissions is imperative, administrations undertake to act immediately when their attention is drawn to any such harmful interference." vi. No. **15.37** of the Radio Regulations: "An administration receiving a communication to the effect that one of its stations is causing harmful interference to a safety service shall promptly investigate the matter and take any necessary remedial action and respond in a timely manner." vii. Resolution **676 (WRC-23)** on "Prevention and mitigation of harmful interference to the radionavigation-satellite service in the frequency bands 1 164 - 1 215 MHz and 1 559 - 1 610 MHz"; in particular, *resolves* 2 of Resolution **676 (WRC-23)** should be understood in the context of the provisions of Articles 45, 47 and 48 of the ITU Constitution, and Article **15** of the Radio Regulations. The Board furthermore indicated that: • when considering cases of harmful interference to systems in the RNSS, administrations were encouraged to implement the recommendations given in Circular Letter CR/488: "Prevention of harmful interference to radionavigation-satellite service receivers in the 1 559 – 1 610 MHz frequency band"; • administrations were urged to continue reporting cases of harmful interference affecting the RNSS to the Bureau, thus enabling the assessment of situations and subsequent actions and progress.		
6.1	Submission by the Administration of Jordan regarding harmful interference to receivers in the radionavigation-satellite service RRB24-3/17; RRB24-3/4(Add.4); RRB24-3/DELAYED/8	The Board considered in detail Addendum 4 to Document RRB24-3/4 and the submission from the Administration of Jordan, contained in Document RRB24-3/17, and also noted Document RRB24-3/DELAYED/8 from the Administration of Israel for information. The Board thanked the Administration of Jordan for reporting cases of harmful interference in the band 1 559–1 610 MHz to RNSS receivers originating from sources west of its borders and also thanked the Bureau for treating the cases of harmful interference and providing assistance to administrations reporting on the current status. The Board concluded as follows:	Executive Secretary to communicate this decision to the administrations concerned. Bureau to invite the Administration of Israel to take all necessary actions to immediately cease harmful interference that adversely impacted on safety services and

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		• While it expressed its appreciation for the response from the Administration of Israel indicating its willingness to cooperate and investigate any sources of harmful interference present under its jurisdiction, the Board also expressed concern over administrations' tardy acknowledgment of receipt of information reporting harmful interference present from stations under their jurisdiction; in compliance with RR No. **15.35,** such acknowledgements should be provided by the quickest means available. • The Board noted that systems in the RNSS included radionavigation systems used by civil aviation, and that the reported harmful interference degraded those systems, but also telecommunication networks requiring precise time synchronization and other radio stations used for humanitarian assistance in the field, thus degrading safety services. The Board stressed the need to comply with RR No. **4.10** in such situations. • The Board further reminded administrations that, in compliance with RR No. **15.37**, when a communication was received that one of their stations was causing harmful interference to a safety service, prompt investigation of the matter was required and that any necessary remedial action needed to be taken and a response provided in a timely manner. • Noting that harmful interference signals had been reported with the characteristics of unnecessary transmissions, or the transmission of superfluous signals (commonly referred to as jamming) or the transmission of false or misleading signals (commonly referred to as spoofing), the Board expressed grave concern that such transmissions were in direct contravention of RR No. **15.1**. • The Board also highlighted the need to comply with Articles 45 and 47 of the ITU Constitution and Resolution **676 (WRC-23)** on the "Prevention and mitigation of harmful interference to the radionavigation-satellite service in the frequency bands 1 164–	strongly urged the Administrations of Israel and Jordan to cooperate in goodwill in promptly resolving all cases of harmful interference.

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		1 215 MHz and 1 559 – 1 610 MHz", and the relevance of Circular Letter CR/488, "Prevention of harmful interference to radionavigation-satellite service receivers in the 1 559 – 1 610 MHz frequency band". The Board instructed the Bureau to invite the Administration of Israel to take all necessary actions to immediately cease harmful interference that adversely impacted on safety services and strongly urged the Administrations of Israel and Jordan to cooperate in goodwill in promptly resolving all cases of harmful interference. Furthermore, the Board urged the administrations concerned to comply with all the relevant provisions of Articles 45 and 47 of the ITU Constitution, RR Nos. **4.10**, **15.1**, **15.28**, **15.37** and the *resolves* of Resolution **676 (WRC-23)**, in particular when harmful interference adversely affected safety services. With reference to the request from the Administration of Jordan regarding the application of *resolves to instruct the Radio Regulations Board* 2 of Resolution 119 (Rev. Bucharest, 2022), the Board decided that its application was premature seeing that further actions would be taken by the administrations concerned.	
6.2	Submissions by other administrations regarding harmful interference to receivers in the radionavigation-satellite service RRB24-3/4(Add.4); RRB24-3/DELAYED/9; RRB24-3/DELAYED/10	The Board further considered Addendum 4 to Document RRB24-3/4, reporting on submissions from other administrations not covered in agenda item 6.1 regarding harmful interference affecting receivers in the RNSS, and also noted Documents RRB24-3/DELAYED/9 and RRB24-3/DELAYED/10 for information. The Board thanked the Bureau for treating the cases of harmful interference, aiding administrations, acting in a diligent manner and reporting on other cases of harmful interference to receivers in the RNSS received in 2024. In response: • The Board noted with grave concern the increasing number of cases of harmful interference affecting safety services, civil aviation and maritime services, telecommunication networks requiring precise	Executive Secretary to communicate this decision to the administrations concerned. Bureau to prepare a preliminary draft rule of procedure formalizing its practice for the Board's consideration at its 98th meeting.

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		time synchronization and other radio stations used for humanitarian assistance in the field. • The Board expressed considerable concern at the late acknowledgements of receipt of information reporting harmful interference present from stations under their jurisdictions; in compliance with RR No. **15.35,** such acknowledgements should be provided by the quickest means available. • The Board stressed the need to comply with RR No. **4.10** whenever harmful interference degraded systems of safety services in the RNSS. • Furthermore, the Board reminded administrations of the need for timely actions and responses whenever receiving a communication that one of their stations was causing harmful interference to a safety service, in compliance with RR No. **15.37**. • The Board expressed grave concern about the reported unnecessary transmissions, transmissions of superfluous signals (jamming) and transmissions of false or misleading signals (spoofing), which were in direct contravention of RR No. **15.1.** The Board recognized the Bureau's practice in the application of RR Article **15** when treating cases of harmful interference and instructed the Bureau to prepare a preliminary draft rule of procedure formalizing that practice for the Board's consideration at its 98th meeting. The Board urged all administrations concerned to: • comply with all the relevant provisions of Articles 45 and 47 of the ITU Constitution, RR Nos. **4.10**, **15.1**, **15.28**, **15.37** and the *resolves* of Resolution **676 (WRC-23),** in particular when harmful interference adversely affected safety services; • to cooperate in goodwill to solve the cases of harmful interference affecting safety services as promptly as possible.	

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7	Issues regarding the provision of STARLINK satellite services in the territory of the Islamic Republic of Iran		
7.1	Submission by the Administration of the Islamic Republic of Iran regarding the provision of STARLINK satellite services in its territory RRB24-3/16	The Board carefully considered Document RRB24-3/16 from the Administration of the Islamic Republic of Iran, Document RRB24-3/21 from the Administration of the United States and Document RRB24-3/22 from the Administration of Norway, on the provision of STARLINK satellite transmissions in Iranian territory. The Board also noted Documents RRB24-3/DELAYED/3 and RRB24-3/DELAYED/4, provided by the Administration of the Islamic Republic of Iran in response to the submissions of the Administrations of the United States and Norway, respectively and Document RRB24-3/DELAYED/7, provided by the Administration of Norway in response to Document RRB24-3/DELAYED/4, for information. The Board thanked the three administrations for providing the information requested at its 96th meeting and noted the following issues: • The Administration of the Islamic Republic of Iran had again reported the continuing unauthorized operation of STARLINK terminals within its territory. • The Administration of the Islamic Republic of Iran had reconfirmed that despite its efforts to detect and identify the terminals' locations, it was not practically feasible to detect all STARLINK terminals operating without authorization within its territory owing to the small size and portability of the terminals and to the vast geography and challenging topography of its country. However, no details had been provided on the nature of the efforts undertaken. • With reference to the information provided by the Administrations of Norway and the United States, the Board expressed regret that their responses had not focused on solutions and expressed grave concern at the complete lack of progress since its 96th meeting in resolving the long-standing matter. It further clarified that there was no obligation for the satellite operator or notifying administration to track earth stations licensed by other countries to determine their location and	Executive Secretary to communicate this decision to the administrations concerned. Bureau to invite the Administrations of Norway and the United States to explain specifically why it had been impossible to disable all STARLINK terminals operating without authorization in the territory of the Islamic Republic of Iran in the same manner as it had been done in several other countries and thus to comply with Resolutions **22 (WRC-19)** and **25 (Rev.WRC-03).**
7.2	Submission by the Administration of the United States regarding the provision of STARLINK satellite services in the territory of the Islamic Republic of Iran RRB24-3/21; RRB24-3/DELAYED/3		
7.3	Submission by the Administration of Norway regarding the provision of STARLINK satellite services in the territory of the Islamic Republic of Iran RRB24-3/22; RRB24-3/DELAYED/4; RRB24-3/DELAYED/7		

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		compliance with its service contract or to remove a territory from the satellite coverage area, but that once unauthorized transmissions were reported in a specific territory, there was an obligation for the satellite operator to act, to the extent practicable, to remedy the situation pursuant to *resolves* 3ii) of Resolution **22 (Rev.WRC-23)**; that obligation should not be conditional on the ability of the reporting administration to provide information on terminals operating without authorization. • The Board reconfirmed that the services provided by STARLINK were within the scope of Resolution **25 (Rev.WRC-03)**. • Furthermore, the Administrations of Norway and the United States had not provided any explanation as to why it was not possible to disable systematically all STARLINK terminals operating without authorization in the territory of the Islamic Republic of Iran, given that, based on reliable publicly available information, it had been possible to do so in several other countries. Consequently, the Board reminded the Administrations of Norway and the United States that establishing administrative, contractual and operational restrictions on STARLINK customers did not qualify as compliance with the provisions of Article **18** and Resolution **22 (WRC-19)** or the *resolves* of Resolution **25 (Rev.WRC-03)** but that such compliance meant obtaining authorization from the administration in whose country the STARLINK terminals were operating and stopping transmissions where such operation had not been authorized. The Board instructed the Bureau to invite the Administrations of Norway and the United States to explain specifically why it had been impossible to disable all STARLINK terminals operating without authorization in the territory of the Islamic Republic of Iran in the same manner as it had been done in several other countries and thus to comply with Resolutions **22 (WRC-19)** and **25 (Rev.WRC-03).**	

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		Considering that further information was expected, the Board decided that it remained premature to accede to the request from the Administration of the Islamic Republic of Iran under *resolves to instruct the Radio Regulations Board* 2 of Resolution 119 (Rev. Bucharest, 2022) but that, in the absence of the requested explanation and information at its 98th meeting, the Board would reconsider its decision in that regard.	
8	Submission by the Administration of Angola acting on behalf of 16 Southern African Development Community (SADC) member states requesting the Board's assistance in the submission of seven coordination filings at 12.2^{0}E, 16.9^{0}E, 39.55^{0}E, 42.25^{0}E, 50.95^{0}E, 67.5^{0}E and 71.0^{0}E, and the filing identified by the Bureau under Resolution **170 (Rev.WRC-23)** RRB24-3/19	Having considered in detail the request of the Administration of Angola as contained in Document RRB24-3/19, the Board commended the administrations of the 16 Southern African Development Community (SADC) member States for their endeavour to implement a regional system that would be economically viable and thanked the Bureau for its assistance to those administrations in their efforts to identify suitable orbital positions. With reference to the request from the 16 SADC member States, the Board raised the following points: • The Board noted that aspects relating to cost-recovery fees were not within the Board's purview and that such matters should be referred to the ITU Council for its consideration. • The purpose of Resolution **170 (Rev.WRC-23)** was to enhance equitable access to the frequency bands subject to RR Appendix **30B**, including to facilitate coordination for an additional system, the service area of which was limited to the national territories of the administrations. • The 16 SADC member States' approach and request were in line with the intent of that resolution and additionally would permit national use in a technically and economically viable manner. • Deferring the consideration of the request to WRC-27 for a decision would be detrimental to the 16 SADC member States' interest and not in line with the objectives of previous WRC decisions.	Executive Secretary to communicate this decision to the administration concerned. Bureau to: • process the eight filings in accordance with Resolution **170 (Rev.WRC-23)** and publish them in Part A Special Sections; • cancel all the other remaining submissions and associated Part A Special Sections under Resolution **170 (Rev.WRC-23)** from the Administration of Angola when it submits a Part B notice.

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		Consequently, the Board decided to accede to the request from the 16 SADC member States to allow the Administration of Angola, acting on behalf of the administrations of the 16 SADC member States, to submit simultaneously seven filings under Resolution **170 (Rev.WRC-23)** at orbital positions 12.2°E, 16.9°E, 39.55°E, 42.25°E, 50.95°E, 67.5°E and 71°E and one filing at a position that would be chosen based on the Bureau's reply to the 16 SADC member States' request for assistance. The Board therefore instructed the Bureau to: • process the eight filings in accordance with Resolution **170 (Rev.WRC-23)** and publish them in Part A Special Sections; • cancel all the other remaining submissions and associated Part A Special Sections under Resolution **170 (Rev.WRC-23)** from the Administration of Angola when it submitted a Part B notice. The Board invited the Administration of Angola to inform the Bureau of the selected optimal orbital position as soon as it had been decided based on the progress of coordination before the Part B stage. Furthermore, the Board decided to include the issue in its report on Resolution **80 (Rev.WRC-07)** to WRC-27.	
9	Election of the Vice-Chair for 2025	Having regard to No. 144 of the ITU Convention, the Board agreed that Mr A. LINHARES DE SOUZA FILHO, Vice-Chair of the Board for 2024, would serve as its Chair in 2025. The Board agreed to elect Ms S. HASANOVA as its Vice-Chair for 2025 and thus as its Chair for 2026.	-
10	Confirmation of the next meeting for 2025 and indicative dates for future meetings	The Board confirmed the dates for the 98th meeting as 17–21 March 2025 (Room L). The Board further tentatively confirmed the dates for its subsequent meetings in 2025, as follows:	-

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		• 99th meeting: 14–18 July 2025 (Room L); • 100th meeting: 10–14 November 2025 (Room L); and in 2026, as follows: • 101st meeting: 23–27 March 2026 (Room L); • 102nd meeting: 29 June–3 July 2026 (Room L); • 103rd meeting: 26–30 October 2026 (Room L).	
11	Other business	-	-
12	Approval of the summary of decisions	The Board approved the summary of decisions contained in Document RRB24-3/23.	-
13	Closure of the meeting	The meeting closed at 1700 hours on 19 November 2025.	-

ATTACHMENT

Annex 1

Addition of new rules of procedure on Nos **5.254** and **5.255**, and relevant modification of the existing rules of procedure on No. **9.11A**

Rules concerning

ARTICLE 5 of the RR

ADD

5.254 and 5.255

No. **5.254** stipulates that: "*The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under No. **9.21**, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations except for the additional allocation made in footnote No. **5.256A**.*", whereas No. **5.255** stipulates that : "*The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. **9.11A**.*"

Recognizing the difficulty in determining the type of coordination applicable to notified frequency assignments in the mobile-satellite service in the above frequency bands, the Board concluded as follows:

1. When the Bureau examines frequency assignments of non-GSO MSS systems notified in the frequency bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) only, the Board, noting the MSS allocations on a secondary basis and the fixed and mobile services allocations on a primary basis in these two frequency bands, instructed the Bureau to only apply the provisions of No. **5.255.** As a consequence, only the coordination procedure under No. **9.11A** applies.
2. In cases where frequency assignments submitted in the frequency bands 312-315 MHz (Earth-to-space) or 387-390 MHz (space-to-Earth) overlap with other portions of the frequency bands mentioned in No. **5.254** (235-322 MHz and 335.4-399.9 MHz), both coordination under No. **9.11A** and agreement-seeking under No. **9.21** apply and the frequency assignments' status will be recorded in the MIFR with a reference to No. **5.254** in column 13B1 and "R" in column 13B2, in accordance with § 5.5 of the Rules of Procedures on No. **11.31**, footnote 1 of Appendix **5** and § 2.3 of the rules of procedures on No. **9.11A**.

   In such cases, the notifying administration may also consider suitably modifying the assigned frequency band or to split it before its submission so that a non-GSO MSS frequency assignment in the frequency bands 312-315 MHz (Earth-to-space) or 387-390 MHz (space-to-Earth) is subject to No. **5.255** only.

Rules concerning

ARTICLE 9 of the RR*

9.11A

MOD

TABLE 9.11A-1

Applicability of the provisions of Nos. 9.11A-9.14 to stations of space services

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No. in Article 5	Space services mentioned in a footnote referring to Nos. 9.11A, 9.12, 9.12A, 9.13 or 9.14, as appropriate		Other space services or systems to which Nos. 9.12 to 9.14 provisions(s) apply equally, as appropriate		Applicable Nos. 9.12 to 9.14 provision(s), as appropriate	Terrestrial services in respect of which No. 9.14 apply equally	Notes
(…)								
312-315	5.255	Mobile-satellite (non-GSO)	↑	Mobile-satellite (GSO)	↑	9.12, 9.12A, 9.13	---	
~~312-315~~	~~5.255~~	~~Mobile-satellite (non-GSO) (5.254)~~	~~↕~~	~~Mobile-satellite (non-GSO) (5.254)~~ ~~Mobile-satellite (GSO) (5.254)~~	~~↓~~ ~~↓↕~~	~~9.12, 9.12A, 9.13~~	~~(See No. 5.254)~~	~~2~~
387-390	5.255	Mobile-satellite (non-GSO)	↓	Mobile-satellite (GSO)	↓	9.12, 9.12A, 9.13	---	
~~387-390~~	~~5.255~~	~~Mobile-satellite (non-GSO) (5.254)~~	~~↓~~	~~Mobile-satellite (non-GSO) (5.254)~~ ~~Mobile-satellite (GSO) (5.254)~~	~~↕~~ ~~↓↕~~	~~9.12, 9.12A, 9.13~~	~~(See No. 5.254)~~	~~2~~
(…)								

* This Rule of Procedure refers to Articles **9**, **11**, to Articles 4 and 5 of Appendices **30** and **30A**, and to Articles 6 and 8 of Appendix **30B** of the Radio Regulations.

Notes to Table 9.11A-1:

[1] Coordination thresholds indicated in Annex 1 to Appendix 5 apply only to the MOBILE-SATELLITE service.

[2] ~~For the status of this additional allocation with respect to other services see No. 5.254.~~ (Not used).

[3] See Rule of Procedure on No. 5.357.

[4] The coordination of the non-GSO BROADCASTING-SATELLITE service (sound) in respect of terrestrial services is subject to the provisions of Resolution **539 (Rev.WRC-19)**.

[5] For the applicability of the forms of coordination (Nos. 9.12, 9.12A or 9.13) to be applied between services mentioned in columns 3 and 4, please refer to the Rules of Procedure on frequency band 2 605-2 655 MHz and the Rules of Procedure relating to No. 5.418C, as appropriate.

[6] For the relation between the MOBILE-SATELLITE service and earth stations in the METEOROLOGICAL-SATELLITE service, see also No. **5.380A**.

[7] **Note**: WRC-19 took the decision related to the coordination requirement under RR No. **9.7** for an inter-satellite link of a geostationary space station communicating with non-geostationary space station, as referred to in RR No. **5.328B**, during the 8th Plenary, see items 3.11 to 3.15 of Doc. CMR19/569, approval of Doc. CMR19/451 in relation to section 3.1.2.1 of Doc. CMR19/4 (Add.2), as follows:

*"In considering section 3.1.2.1 on 'Coordination requirement under RR No. **9.7** for an inter-satellite link of a geostationary space station communicating with non-geostationary space station, as referred to in RR No. **5.328B**', in order to fulfil the requirements of RR No. **5.328B** and of § 6.4 of the Rule of Procedure relating to RR No. **11.32**, WRC-19 instructs the Bureau to establish coordination requirements for such link of a GSO station based on frequency overlap similar to that of a non-GSO station until such time as some other criteria or method is established."*

Reasons: *to clarify that in the bands, 312-315 MHz and 387-390 MHz, non-GSO systems in the mobile-satellite service should be examined with respect to No. **5.255** and not with respect to No. **5.254**.*

Effective date of application of this Rule: immediately after approval.

Annex 2

Addition of new rules of procedure on Nos. **5.312B**, **5.314A**, **5.388A** and **5.409A** pursuant to Resolutions **213 (WRC-23)**, **218 (WRC-23)** and **221 (Rev.WRC-23)**

Rules concerning

ARTICLE 5 of the RR

ADD

5.312B and 5.314A

1 These provisions stipulate that the use of the frequency bands 694-960 MHz (No. **5.312B**) and 698-960 MHz (No. **5.314A**) by high-altitude platform stations for International Mobile Telecommunication (IMT) base stations (HIBS) shall be in accordance with Resolution **213 (WRC-23)**, including the power flux-density (pfd) limits listed in *resolves 2, 3, 4.1, 4.2* and *4.3* of that Resolution.

2 Considering that neither these RR provisions nor Resolution **213 (WRC-23)** specify the propagation prediction model to be used for the calculation of pfd levels produced by HIBS, the Board decided that Recommendation ITU-R P.528-5 is to be used for the calculation of those pfd levels at 1% of time over a smooth-Earth path, produced at a height of:

– 10 m in application of *resolves 2* and *3*; and

– 1.5 m in application of *resolves* 4.1, 4.2 and 4.3.

Reasons: *WRC-23 adopted Nos.* ***5.312B*** *and* ***5.314A*** *to identify the frequency band 694/698-960 MHz for use by HIBS and provided specific pfd limits to be applied in Resolution* ***213 (WRC-23)*** *(see resolves 2, 3, 4.1, 4.2 and 4.3) for the protection of the broadcasting, fixed and mobile services.*

A propagation prediction model is required to calculate the pfd produced by HIBS. It is proposed that Recommendation ITU-R P.528-5 be used for both line-of-sight (LOS) and non-LOS propagation paths to calculate pfd levels under worst-case conditions at 1% of time in the application of the indicated resolves parts *of Resolution* ***213 (WRC-23)****. In addition, it is proposed to use a height of 10 m in the application of resolves 2 and 3 of Resolution* ***213 (WRC-23)****, as provided for in those provisions, and a minimum height of 1.5 m above the Earth's surface in the application of resolves 4.1, 4.2 and 4.3. While resolves 4.1, 4.2 and 4.3 of the Resolution do require the calculation of a pfd level per HIBS produced at the Earth's surface, Recommendation ITU-R P.528, however, recommends using a minimum height of 1.5 m.*

During the preparation of the draft rule of procedure, a possible application of Recommendations ITU-R P.525 and ITU-R P.619-4 was also considered but not pursued. Recommendation ITU-R P.525 (free-space) was excluded because it did not consider diffraction loss and therefore was not applicable to non-LOS propagation paths. Recommendation ITU-R P.619-4 was excluded because Recommendation ITU-R P.528-5 had more stringent assumptions resulting in worst-case interference levels from HIBS, which ensured sufficient protection of the incumbent services.

Effective date of application of this Rule: 1 January 2025.

ADD

5.388A and 5.409A

1 No. **5.388A** stipulates that the use of the frequency bands 1 710-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz in Regions 1 and 3 and the frequency bands 1 710-1 980 MHz and 2 110-2 160 MHz in Region 2 by high-altitude platform stations for International Mobile Telecommunication (IMT) base stations (HIBS) shall be in accordance with Resolution **221 (Rev.WRC-23)**, including the power flux-density (pfd) limits listed in *resolves 1.1, 1.2, 1.3* and *1.4* of that Resolution.

2 No. **5.409A** stipulates that the use of the frequency band 2 500-2 690 MHz in Regions 1 and 2 and the frequency band 2 500-2 655 MHz in Region 3 by HIBS shall be in accordance with Resolution **218 (WRC-23)**, including the power flux-density (pfd) limits listed in *resolves 1.1, 1.2, 1.3* and *1.4* of that Resolution.

3 Considering that neither these RR provisions nor those Resolutions specify the propagation prediction model to be used for the calculation of pfd levels produced by HIBS, the Board decided that Recommendation ITU-R P.528-5 is to be used for the calculation of those pfd levels at 1% of time at a height of 1.5 m over a smooth-Earth path in application of the *resolves* parts of Resolutions **218 (WRC-23)** and **221 (Rev.WRC-23)**.

Reasons: *WRC-23 approved the modification of No.* ***5.388A*** *and adopted No.* ***5.409A****, on the identification of some frequency bands around 2 GHz for use by HIBS, and, in Resolutions* ***218 (WRC-23)*** *and* ***221 (Rev.WRC-23)****, established pfd limits to be applied for the protection of the fixed, broadcasting-satellite and mobile services.*

A propagation prediction model is required to calculate the pfd produced by HIBS. It is proposed that Recommendation ITU-R P.528-5 be used for both LOS and non-LOS propagation paths to calculate pfd levels under worst-case conditions at 1% of time and at a minimum height of 1.5 m above the Earth's surface, as required by Recommendation ITU-R P.528-5, in the application of the indicated resolves *parts of Resolutions* ***218 (WRC-23)*** *and* ***221 (Rev.WRC-23)****. While Resolution* ***218 (WRC-23)*** *does require the calculation of a pfd level per HIBS produced at the Earth's surface, Recommendation ITU-R P.528, however, recommends using a minimum height of 1.5 m.*

During the preparation of this draft rule of procedure, a possible application of Recommendations ITU-R P.525 and ITU-R P.619-4 was also considered but not pursued. Recommendation ITU-R P.525 (free-space) was excluded because it does not consider diffraction loss and therefore is not applicable to non-LOS propagation paths. Recommendation ITU-R P.619-4 was excluded because Recommendation ITU-R P.528-5 had more stringent assumptions resulting in worst case interference levels from HIBS, which ensured sufficient protection of the incumbent services.

Effective date of application of this Rule: 1 January 2025.

Annex 3

Suppression of the rules of procedure on No. **5.523A**

Rules concerning

ARTICLE 5 of the RR

5.523A

SUP

Reasons*: WRC-23 deleted the outdated part of this provision. Consequently, the rules of procedure on No.* ***5.523A*** *can be suppressed.*

Effective date of application of this Rule: 01.01.2025.

Annex 4

Addition of new rules of procedure on Annex 2 to Appendix **4** related to frequency assignments with very low power spectral density levels

Rules concerning

APPENDIX 4 to the RR

MOD

An. 2

ADD

C.8.a.2, C.8.b.2, C.8.c.1, C.8.c.3

The Radiocommunication Bureau previously addressed the issue of excessive or unrealistic characteristics in satellite filings in the Reports of the Director to WRC-15 (see § 3.2.3.9 of revision 1 to Addendum 2 to Document CMR15/4) and WRC-19 (see § 3.4.3 of Addendum 2 to Document CMR19/4). Both Conferences expressed general support for raising those issues (see Documents CMR15/505 and CMR19/451) and invited ITU-R to review the parameters discussed in those sections of the Reports.

Although, at that time, the issue had been raised in general, bearing in mind certain specific submissions of geostationary satellite networks, the Bureau observed a sharp increase in the number of submissions of non-GSO satellite systems containing very low maximum power spectral density of emissions (below -100 dBW/Hz).

In view of the above, the Board decided that frequency assignments to GSO satellite networks with power spectral density levels below -100 dBW/Hz were not receivable, and frequency assignments to non-GSO satellite systems or networks with power spectral density levels below -100 dBW/Hz were only receivable if clarifications were provided to the Bureau on the use of very low power spectral density values (e.g. the mode of operation, the use of spread spectrum, etc.) as well as example link budget calculations demonstrating that the submitted required *C/N* ratio objective was met with sufficient interference margin (see Attachment 2 to Section B3 of Part B of the Rules of Procedure).

***Reasons**: to clarify that frequency assignments to GSO satellite networks with power spectral density levels below -100 dBW/Hz are not receivable, and frequency assignments to non-GSO satellite systems or networks with power spectral density levels below -100 dBW/Hz are only receivable if clarifications are provided to the Bureau on the use of very low power spectral density values (e.g. the*

mode of operation, the use of spread spectrum, etc.) as well as example link budget calculations demonstrating that the submitted required C/N ratio objective is met with sufficient interference margin.

Effective date of application of this Rule: immediately after approval.

Annex 5

Suppression of the rules of procedure on Appendix 1 to Annex 4 of Appendix **30B**

Rules concerning

APPENDIX 30B to the RR

Appendix 1 to Annex 4

SUP

***Reasons**: The formula for calculating the aggregate carrier-to-interference ratio,* $(C/I)_{agg}$ *was corrected by mentioning the correct values of the orbital separation to be used in computations.*

Effective date of application of this Rule: 01.01.2025.

Annex 6

Modification to the existing rules of procedure on Nos. **5.312A**, **5.316B**, **5.341A**, **5.441B**, **5.446A**, **5.506A** and in Part A, Section A10

Rules concerning

ARTICLE 5 of the RR

MOD

5.312A

1 This provision stipulates through Resolution **760 (Rev.WRC-~~19~~23)** that in Region 1, the use of frequency band 694-790 MHz by the mobile, except aeronautical mobile, service is subject to agreement obtained under No. **9.21** with respect to the aeronautical radionavigation service in countries mentioned in No. **5.312**.

2 The criteria for identifying potentially affected administrations under No. **9.21** in this band are given in the Annex to Resolution **760 (Rev.WRC-~~19~~23)** in the form of coordination distances with the most stringent value of a 450 km distance between a base station in the mobile service and a potentially affected station in the aeronautical radionavigation service.

3 **NOC**

4 Administrations having territories within a distance of 450 km from the countries listed in No. **5.312** are the following: Albania, Armenia, Austria, Azerbaijan, Bosnia and Herzegovina, Belarus, Bulgaria, Czech Rep., Germany, Denmark, Estonia, Finland, Georgia, Greece, Hungary, Croatia, Italy, Iraq, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, the Former Yugoslav Rep. of Macedonia, Montenegro, Mongolia, Norway, Poland, Romania, the Russian Federation, Sweden, Serbia, Slovakia, Slovenia, the Syrian Arab Republic, Tajikistan, Turkmenistan, Türkiye~~Turkey~~, Ukraine and Uzbekistan.

MOD

5.316B

1 **NOC**

2 The criteria for identifying potentially affected administrations under No. **9.21** in this band are given in Annex I to Resolution **749 (Rev.WRC-~~19~~23)** in the form of coordination distances with the most stringent value of a 450 km distance between a base station in the mobile service and a potentially affected station in the aeronautical radionavigation service.

3 **NOC**

4 Administrations having territories within a distance of 450 km from the countries mentioned in No. **5.312** are the following: Albania, Armenia, Austria, Azerbaijan, Bosnia and Herzegovina, Belarus, Bulgaria, Czech Rep., Germany, Denmark, Estonia, Finland, Georgia, Greece, Hungary, Croatia, Italy, Iraq, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, the Former Yugoslav Rep. of Macedonia, Montenegro, Mongolia, Norway, Poland, Romania, the Russian Federation, Sweden, Serbia, Slovakia, Slovenia, the Syrian Arab Republic, Tajikistan, Turkmenistan, Türkiye~~Turkey~~, Ukraine and Uzbekistan.

MOD

5.341A

1 **NOC**

2 **NOC**

3 Administrations having territories within a distance of 670 km from the countries mentioned in No. **5.342** are the following: Albania, Armenia, Austria, Azerbaijan, Bosnia and Herzegovina, Belarus, Bulgaria, Czech Rep., Germany, Denmark, Estonia, Finland, Georgia, Greece, Hungary, Croatia, Iraq, Italy, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, the former Yugoslav Republic of Macedonia, Montenegro, Mongolia, Norway, Poland, Romania, the Russian Federation, Sweden, Serbia, Slovakia, Slovenia, the Syrian Arab Republic, Tajikistan, Turkmenistan, Türkiye~~Turkey~~, Ukraine and Uzbekistan.

MOD

5.441B

This provision stipulates, *inter alia*, that before an administration brings into use an IMT station in the mobile service in the frequency band 4 800-4 990 MHz, it shall ensure that the power flux-density (pfd) produced by this station does not exceed −155 dB(W/(m^2 · 1 MHz)) produced up to 19 km above sea level at 20 km from the coast, defined as the low-water mark, as officially recognized by the coastal State. Resolution **223 (Rev.WRC-~~19~~23)** applies.

Considering that this provision and Resolution **223 (Rev.WRC-~~19~~23)** do not specify the propagation model to be used for the calculation of the pfd produced by IMT stations in the band 4 800 - 4 990 MHz, the Board decided that Recommendation ITU-R P.528-5~~4~~, for 1% of time, is to be used for this calculation.

MOD

5.446A

1 This provision stipulates that the use of the bands 5 150-5 350 MHz and 5 470-5 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution **229 (Rev.WRC-~~19~~23)**. Accordingly, Resolution **229 (Rev.WRC-~~19~~23)** specifies that the use of these bands, by the mobile service, will be for the implementation of wireless access systems (WAS) including radio local area networks (RLAN) (see *resolves* 1) and, in addition to this, it specifies the maximum e.i.r.p. levels for stations in the mobile service (see *resolves* 2, 3, 5 and 7).

As far as the band 5 150-5 350 MHz is concerned, the situation is rather simple, given the fact that the provisions of Resolution **229 (Rev.WRC-~~19~~23)** are applicable to all stations in the mobile, except aeronautical mobile, service, with the exception of cases referred to in No. 5.447, which apply to the band 5 150-5 250 MHz and where other (e.g. less stringent) conditions may be established in the context of the application of the procedure of No. 9.21.

On the other hand, the situation in the band 5 470-5 725 MHz is more complex, bearing in mind that other provisions are applicable to stations in the mobile, except aeronautical mobile, service (e.g. those indicated in Nos. 5.451, 5.453 and in Table **21-2** of Article 21), which are stipulating different conditions (e.g. power limits) than the ones indicated in Resolution **229 (Rev.WRC-~~19~~23)**. Consequently, administrations referred to in No. 5.453 (for the band 5 650-5 725 MHz) and in No. 5.451 (for the band 5 470-5 725 MHz) may implement other applications in the mobile, except aeronautical mobile, service, which are not necessarily WAS, subject to compliance with the conditions set forth in No. 5.451 and the power limits set forth in Table **21-2** of Article 21.

2 Given the fact that, for the implementation of WAS, high deployment densities are expected, such implementation options could be adequately covered through notifications in the form of typical stations. The notification of terrestrial stations in the mobile, except aeronautical mobile, service in the form of typical stations is normally possible with no restrictions in the bands 5 150-5 350 MHz and 5 470-5 670 MHz in all countries, and in the band 5 670-5 725 MHz in the countries not mentioned in No. 5.453. However, provision No. 11.21A, in conjunction with Table **21-2**, does not provide for the possibility of notifying terrestrial stations in the mobile, except aeronautical mobile, service, in the form of typical stations, for the band 5 670-5 725 MHz, for the countries listed in No. 5.453. The strict application of these provisions would mean that the countries listed in No. 5.453 cannot notify their WAS applications in the form of typical stations, even though they conform with the limits of Resolution **229 (Rev.WRC-~~19~~23)**. The Board concluded that such a restricted interpretation of all the relevant provisions for the band 5 670-5 725 MHz, for the countries listed in No. 5.453, would result in unnecessary burden for both the administrations listed in No. 5.453 and the Bureau. Consequently, the Board instructed the Bureau to accept notifications for mobile, except aeronautical mobile, stations, in the form of typical stations, from the administrations listed in No. 5.453, provided that the maximum e.i.r.p. does not exceed 1 W, which implies that each typical station notice receivable in the band 5 670-5 725 MHz (with an e.i.r.p. of less than or equal to 1 W) is deemed to be part of a WAS.

MOD

5.506A

As from 5 July 2003, No. 5.506A requires ship earth stations in the frequency band 14-14.5 GHz with an e.i.r.p. greater than 21 dBW to operate under the same conditions as earth stations located on board vessels, as provided in Resolution **902 (Rev.WRC-~~03~~23)**. While Annex 2 of that Resolution specifies a minimum antenna diameter of 1.2 m, Appendix 4 does not include antenna diameter of these ship earth stations as a required data element. The Bureau is instructed to use antenna gain value of 42.5 dBi when checking the compliance with the minimum ship earth station antenna diameter requirement (the relation between gain and diameter is derived for the lowest frequency of the band, i.e. f = 14 GHz, and antenna efficiency of 57.2%).

Rules concerning
PART A10

Rules concerning the Regional Agreement relating to the planning of the digital terrestrial broadcasting service in parts of Regions 1 and 3, in the frequency bands 174-230 MHz and 470-862 MHz (Geneva, 2006) (GE06)

Annex 4

…

Appendix 1 to Section I

A Coordination trigger field strengths for the protection of the broadcasting and other primary services from a modification to the Plan

A.2 Coordination trigger field strengths to protect the mobile service in the bands 174-230 MHz and 470-862 MHz

MOD

Table A.1.3 of this section contains the system type codes for mobile service systems and their corresponding coordination trigger field-strength values to protect from DVB-T. These coordination triggers cannot be applied to IMT-2000 and IMT-Advanced stations, since the specific systems listed in the Table do not belong to the IMT "family" of standards. As for a generic code 'NB' contained in the Table, it cannot be used for IMT systems, pursuant to Resolutions **749 (Rev.WRC-~~19~~23)** and **760 (Rev.WRC-~~19~~23)**.

…

Reasons: *Editorial modifications to reflect the change of the country name from Turkey to Türkiye and update of the references to Resolutions* ***223 (Rev.WRC-23)****,* ***229 (Rev.WRC-23)****,* ***749 (Rev.WRC-23)****,* ***760 (Rev.WRC-23)*** *and* ***902 (Rev.WRC-23)*** *as introduced at WRC-23.*

Effective date of application of the modified rules: 01.01.2025.

Annex 7

Addition of new rules of procedure on Nos. **5.457D, 5.457E** and **5.457F** pursuant to Resolution **220 (WRC-23)**

Rules concerning

ARTICLE 5 of the RR

ADD

5.457D, 5.457E and 5.457F

1 These provisions stipulate that the use of the frequency bands 6 425-7 125 MHz (in Region 1 and some countries in Regions 2 and 3) and 7 025-7 125 MHz (in Region 3) by the terrestrial component of International Mobile Telecommunications (IMT) shall be in accordance with Resolution **220 (WRC-23)**.

Resolution **220 (WRC-23)** specifies the technical conditions for the terrestrial component of IMT within the band 6 425-7 125 MHz. Accordingly, *resolves* 2 of Resolution **220 (WRC-23)** specifies that in order to ensure protection for the FSS (Earth-to-space), the level of expected equivalent isotropically radiated power (e.i.r.p.) spectral density emitted by an IMT base station as a function of the vertical angle above the horizon shall not exceed the values given in *resolves* 2 of that Resolution. No. **21.5** does not apply.

2 Considering that Appendix **4** does not contain the required data items to notify information on the expected e.i.r.p. spectral density mask specified in *resolves* 2 of Resolution **220 (WRC-23)**, the Board decided that when notifying frequency assignments for use by IMT base stations subject to *resolves* 2 of Resolution **220 (WRC-23)**, administrations notifying such frequency assignments (i.e. with the nature of service "IM") in the band 6 425-7 075 MHz shall provide in the "Remarks" field of each notice a commitment that the relevant IMT base station meets the expected e.i.r.p. spectral density mask specified in *resolves* 2 of Resolution **220 (WRC-23)**, for example, by the statement "complies with *resolves* 2 of Res. **220**". When examining compliance with *resolves* 2 of Resolution **220 (WRC-23)**, the Bureau shall accept a notice with the commitment statement that it is in compliance with this Resolution. In the absence of such a commitment, the notified frequency assignment will receive an unfavourable regulatory finding under No. **11.31**.

Reasons: *The World Radiocommunication Conference (Dubai, 2023) (WRC-23) adopted Nos.* ***5.457D, 5.457E*** *and* ***5.457F*** *identifying the additional frequency bands for the implementation of the terrestrial component of IMT systems subject to Resolution* ***220 (WRC-23)****. Resolves 2 of Resolution* ***220 (WRC-23)*** *specifies that in order to ensure protection for the FSS (Earth-to-space), the level of expected e.i.r.p. spectral density emitted by an IMT base station as a function of the vertical angle above the horizon shall not exceed the values given in resolves 2 of that Resolution, (No.* ***21.5*** *does not apply).*

The proposed rules of procedure are to provide guidance on how the expected e.i.r.p. should be notified by administrations and the compliance with those values by an IMT base station in the frequency band 6 425-7 075 MHz to be examined by the Bureau.

Effective date of application of these Rules: 1 January 2025.

Annex 8

Addition of new rules of procedure on Nos. **5.461**, **5.461AC** and **5.529A**

Rules concerning

ARTICLE 5 of the RR

ADD

5.461

The Board noted that the World Radiocommunication Conference (Dubai, 2023) had decided on specific conditions for the application of No**. 9.21** for geostationary-satellite orbit (GSO) mobile-satellite service (MSS) networks and non-geostationary-satellite orbit (non-GSO) MSS systems in the frequency bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space), i.e. that coordination under No. **9.21** shall not apply to GSO MSS networks for which complete coordination information is received by the Bureau as of 1 January 2025 with respect to non-GSO systems for which complete coordination or notification information, as appropriate, is received by the Bureau as of 1 January 2025.

Also, this provision stipulates that non-GSO systems for which complete coordination or notification information, as appropriate, is received by the Bureau as of 1 January 2025 shall not cause unacceptable interference to, or claim protection from, GSO MSS networks operating in accordance with the Radio Regulations.

The Board concluded that the application of No. **9.21** for satellite networks and systems in the MSS in the frequency bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) is as described in the Table below.

	Incoming		Existing		No. 9.21 applicability (see Preface to the BR IFIC (space services), Table 11A.1)
	Network/system	Date of receipt of coordination information (No. 9.6)	Network/system	Date of receipt of coordination (No. 9.6) or first notification information (No. 11.2)	
7 250-7 375 MHz					
GSO vs non-GSO	GSO MSS	< 01.01.2025	Non-GSO FSS or MSS	< 01.01.2025	YES (9.21/B)
	GSO MSS	>= 01.01.2025	Non-GSO FSS or MSS	< 01.01.2025	YES (9.21/B)
	GSO MSS	>= 01.01.2025	Non-GSO FSS or MSS	>= 01.01.2025	NO
	Non-GSO MSS	Any	GSO MSS or FSS	Any	YES (9.21/A)
GSO vs GSO	GSO MSS	Any	GSO MSS or FSS	Any	YES (9.21/A)
GSO, non-GSO vs terrestrial	GSO MSS Non GSO MSS	Any	Terrestrial	Any	NO[6]
7 900-8 025 MHz					
GSO vs non-GSO	GSO MSS	< 01.01.2025	Non-GSO FSS or MSS	< 01.01.2025	YES (9.21/B)
	GSO MSS	>= 01.01.2025	Non-GSO FSS or MSS	< 01.01.2025	YES (9.21/B)
	GSO MSS	>= 01.01.2025	Non-GSO FSS or MSS	>= 01.01.2025	NO
	Non-GSO MSS	Any	GSO MSS or FSS	Any	YES (9.21/A)
GSO vs GSO	GSO MSS	Any	GSO MSS or FSS	Any	YES (9.21/A)
GSO, non-GSO vs terrestrial	GSO MSS Non-GSO MSS	Any	Terrestrial	Any	YES (9.21/C)

Reasons: *To deactivate the application of No.* ***9.21*** *in one direction only (in the case of GSO MSS satellite networks received after 1 January 2025 versus non-GSO MSS satellite systems received after 1 January 2025, see No.* ***5.461****).*

Effective date of application of this Rule: 1 January 2025.

[6] See also the Annex to the rules of procedure on No. **9.36**.

ADD

5.461AC

This provision stipulates that, in the frequency band 7 375-7 750 MHz, non-geostationary-satellite orbit (non-GSO) systems operating in the fixed-satellite service (FSS) for which complete coordination or notification information, as appropriate, is received by the Bureau as of 1 January 2025 shall not cause unacceptable interference to, or claim protection from, geostationary-satellite orbit networks in the maritime mobile-satellite service operating in accordance with the Radio Regulations.

Since non-GSO systems in the FSS in the frequency band 7 375-7 750 MHz (space-to-Earth) are not subject to the coordination procedure under Section II of Article **9**, the Board concluded that No. **5.461AC** applies to non-GSO systems operating in the FSS for which complete notification information is received by the Bureau as of 1 January 2025.

ADD

5.529A

This provision stipulates that, in the frequency bands 20.2-21.2 GHz and 30-31 GHz, non-geostationary-satellite orbit (non-GSO) systems for which complete coordination or notification information, as appropriate, is received by the Bureau as of 1 January 2025 shall not cause unacceptable interference to, or claim protection from, geostationary-satellite orbit networks in the mobile-satellite service (MSS) operating in accordance with the Radio Regulations.

Since non-GSO systems in the fixed-satellite service (FSS) or MSS in the frequency bands 20.2-21.2 GHz and 30-31 GHz are not subject to the coordination procedure under Section II of Article **9**, the Board concluded that No. **5.529A** applies to non-GSO systems operating in the FSS or MSS for which complete notification information is received by the Bureau from 1 January 2025.

Reasons: *To clarify that, in the cases referred to in Nos.* ***5.461AC*** *and* ***5.529A****, non-GSO networks are not subject to coordination.*

Effective date of application of these Rules: 1 January 2025.

Annex 9

Addition of new rules of procedure on Nos. **5.474A**, **5.475A** and **5.478A** and relevant modifications to the rules of procedure related to Annex 2 to Appendix **4** (addition of new rules of procedure on item C.8.b.3.c with simultaneous suppression of the rules of procedure on item A.17.d)

Rules concerning

ARTICLE 5 of the RR

ADD

5.474A, 5.475A, 5.478A

1 Pursuant to Nos. **5.474A**, **5.475A** and **5.478A** of the Radio Regulations, the Board noted that the use of active sensors in the space research service (SRS) (active) in the frequency band 9 300-9 900 MHz and in the Earth exploration-satellite service (EESS) (active) in the frequency band 9 200-10 400 MHz requires demonstration of compliance of such use with those footnotes, which means that the different sub-bands may only be used in a specific order based on the increasing requirement of the necessary bandwidth of the frequency assignment under consideration:

1.1 For active sensors in both the SRS (active) and the EESS (active):

- For any frequency assignment with necessary bandwidth of 300 MHz or less, only the frequency band 9 500-9 800 MHz shall be used.
- For any frequency assignment with necessary bandwidth greater than 300 MHz but less than or equal to 500 MHz, part or the whole of the frequency band 9 300-9 500 MHz, in addition to the frequency band 9 500-9 800 MHz, shall be used.
- For any frequency assignment with necessary bandwidth greater than 500 MHz but less than or equal to 600 MHz, part or the whole of the frequency band 9 800-9 900 MHz, in addition to the frequency band 9 300-9 800 MHz, shall be used.

1.2 For the EESS (active) only, in addition to the conditions listed in § 1.1:

- For any frequency assignment with necessary bandwidth greater than 600 MHz but less than or equal to 1 200 MHz, part or the whole of the frequency bands 9 200-9 300 MHz and/or 9 900-10 400 MHz, in addition to the frequency band 9 200-9 900 MHz, may be used.

2 The Board further noted that frequency assignments to non-geostationary-satellite orbit (non-GSO) systems in the SRS (active) and the EESS (active) in the frequency band 9 300-9 900 MHz are not subject to a coordination procedure and shall therefore be submitted in an advance publication of information in accordance with Section I of Article **9**.

3 Since the use of the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz by active sensors in the EESS (active) is subject to an agreement to be obtained under No. **9.21**, a request for coordination shall be submitted under No. **9.30**. Furthermore, the Board concluded that the use of the frequency band 9 300-9 900 MHz shall also be submitted, either at the same time or in an earlier submission, under the same satellite name (in the case of a non-GSO system, this should be done

through the submission of a notice for advance publication information)[7]; otherwise, the frequency assignments for the use of the EESS (active) in the frequency bands 9 200-9 300 MHz and/or 9 900-10 400 MHz submitted as part of the request for coordination shall not be considered compliant with the Table of Frequency Allocations.

4 When an administration submits a notification under No. **11.2** containing frequency assignments to a station in the EESS (active) in the frequency band 9 200-10 400 MHz and/or in the SRS (active) in the frequency band 9 300-9 900 MHz, the Board decided that the following rules shall apply:

- When an administration submits a notification for any use in the frequency band 9 300-9 500 MHz, the use of the frequency band 9 500-9 800 MHz shall also be notified in the same service and under the same satellite name, either at the same time or in an earlier submission, and the necessary bandwidth shall be greater than 300 MHz (see No. **5.475A**).
- When an administration submits a notification for any use in the frequency band 9 800-9 900 MHz, the use of the frequency band 9 300-9 800 MHz shall also be notified in the same service and under the same satellite name, either at the same time or in an earlier submission, and the necessary bandwidth shall be greater than 500 MHz (see No. **5.478A**).
- When an administration submits a notification for any use in the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz, the use of the frequency band 9 300-9 900 MHz shall be notified in the EESS (active) and under the same satellite name, either at the same time or in an earlier submission, and the necessary bandwidth shall be greater than 600 MHz (see No. **5.474A**).

When the above conditions are not met, the relevant frequency assignment shall not be considered compliant with the Table of Frequency Allocations under No. **11.31** of the Radio Regulations and shall be given an unfavourable finding and returned to the notifying administration.

5 Notification submissions with separate assigned frequencies and bandwidths within the frequency bands 9 200-9 300 MHz, 9 300-9 800 MHz, 9 800-9 900 MHz and 9 900-10 400 MHz will receive separate findings based on the relevant allocation status for each of the frequency bands.

6 The Board recalled that notification submissions of a frequency assignment with an assigned frequency bandwidth overlapping the frequency band 9 800-9 900 MHz will receive a single finding based on a secondary allocation status in accordance with § 5.5 of the rules of procedure on No. **11.31**.

7 Finally, the Board decided that, in order for the Bureau to be able to examine the above-mentioned submissions under No. **11.31**, the information on the necessary bandwidth (item C.8.b.3.c of Annex 2 to Appendix **4**) shall be provided for all such submissions, except in the case where only the frequency band 9 500-9 800 MHz is used.

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[7] In this context, it is understood that the use of the frequency band 9 300-9 900 MHz by a GSO space station in the EESS

(active) has to also be submitted in a coordination request in accordance with No. **9.7**.

Rules concerning

APPENDIX 4 to the RR

An. 2

ADD

C.8.b.3.c

The Board noted that the World Radiocommunication Conference (Dubai, 2023) (WRC-23) added item C.8.b.3.c in order for notifying administrations to submit the necessary bandwidth for active sensors. WRC-23 made the submission of that item mandatory only for active sensors operating in the Earth exploration-satellite service (EESS) (active) in the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz.

However, in order for the Bureau to be able to examine conformity with respect to Nos. **5.475A** and **5.478A**, the necessary bandwidth information is also required for active sensors operating in the EESS (active) and the space research service (SRS) (active) when the frequency bands 9 300-9 500 MHz and 9 800-9 900 MHz are used.

Therefore, the Board decided that the necessary bandwidth information under item C.8.b.3.c is also required for active sensors operating in the EESS (active) and the SRS (active) using the frequency bands 9 300-9 500 MHz and 9 800-9 900 MHz at the stage of advance publication of information under Section I of Article **9** (for non-geostationary-satellite orbit systems), at the stage of request for coordination (for geostationary-satellite orbit networks) and at the stage of notification under Article **11**.

See also the rules of procedure on Nos. **5.474A**, **5.475A** and **5.478A**.

SUP

A.17.d

Reasons: *Following the revisions to the Table of Frequency Allocations by WRC-07 and WRC-15, the allocations to the SRS (active) and/or to the EESS (active) were extended from 300 MHz to 1 200 MHz in the frequency bands 9 500-9 800 MHz and 9 200-10 400 MHz with certain conditions attached to the use of those extended frequency bands contained in Nos.* ***5.474A****,* ***5.475A*** *and* ***5.478A****.*

1 Those footnotes limit the use of the specific frequency bands to satellite systems that cannot be fully accommodated within an earlier allocated frequency band, as shown in chronological order of the allocations as follows:

1.1 The band 9 500-9 800 MHz was the first frequency sub-band allocated to the SRS (active) and the EESS (active), at WRC-97;

1.2 At WRC-07, the use of the SRS (active) and the EESS (active) was extended to the frequency bands 9 300-9 500 MHz and 9 800-9 900 MHz under the following conditions:

- *No.* ***5.475A*** *indicates that the use of the frequency band 9 300-9 500 MHz is limited to systems requiring a necessary bandwidth greater than 300 MHz that cannot be fully accommodated within the frequency band 9 500-9 800 MHz.*

- *No. **5.478A** indicates that the use of the frequency band 9 800-9 900 MHz is limited to systems requiring a necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the frequency band 9 300-9 800 MHz.*

1.3 WRC-15 further extended the use of the EESS (active) to the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz with the following condition:

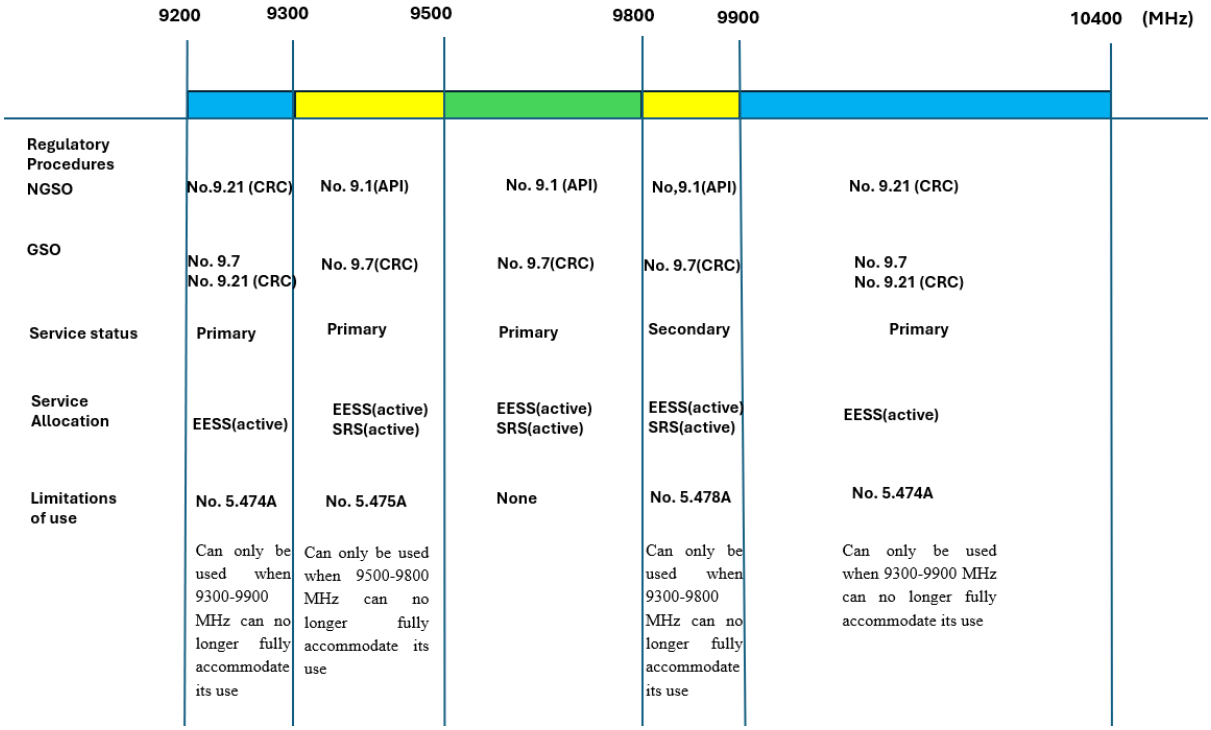
- *No. **5.474A** indicates that the use of the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz by the EESS (active) is limited to systems requiring a necessary bandwidth greater than 600 MHz that cannot be fully accommodated within the frequency band 9 300-9 900 MHz.*

2 Other relevant regulatory aspects in the frequency band 9 200-10 400 MHz are listed below:

*2.1 The use by the EESS (active) in the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz in accordance with No. **5.474A** is subject to coordination under No. **9.21** with respect to countries listed in that footnote. However, for non-geostationary-satellite orbit systems, the use of the EESS (active) and the SRS (active) in the frequency band 9 300-9 900 MHz is not subject to the coordination procedure under Section II of Article **9**. As a result, a coordination request is required for the use of the EESS (active) in the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz and advance publication information is required for the use of the EESS (active) and the SRS (active) in the frequency band 9 300-9 900 MHz.*

2.2 The EESS (active) and the SRS (active) are allocated on a secondary basis in the frequency band 9 800-9 900 MHz.

2.3 The chart below illustrates the regulatory situation of the allocation to the SRS (active) and/or the EESS (active) in the frequency band 9 200-10 400 MHz:



3 Other regulatory provisions to take into consideration are listed below:

*3.1 WRC-23 added item C.8.b.3.c in Annex 2 to Appendix **4** in order to require the submission of the necessary bandwidth for active sensors operating in the EESS (active) in the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz.*

*3.2 In order to examine conformity with respect to Nos. **5.475A** and **5.478A**, the necessary bandwidth information is also required for active sensors operating in the EESS (active) and the SRS (active). Therefore, the application of item C.8.b.3.c to require submission of the necessary bandwidth should also be extended to active sensors operating in the EESS (active) and the SRS (active) in the frequency band 9 300-9 900 MHz.*

*4 Since WRC-23 decided on a new Appendix **4** item, namely item C.8.b.3.c, to request submission of the necessary bandwidth information, the existing rules of procedure on item A.17.d can be suppressed.*

Effective date of application of this Rule: 1 January 2025.

Annex 10

Addition of new rules of procedure on No. **5.480A** pursuant to
Resolution **219 (WRC-23)**

Rules concerning

ARTICLE 5 of the RR

ADD

5.480A

1 This provision stipulates that the use of the frequency band 10-10.5 GHz (in some Region 2 countries) by the terrestrial component of International Mobile Telecommunications (IMT) shall be in accordance with Resolution **219 (WRC-23)**.

2 Appendix **4** does not contain data items providing information that would enable examination of the compliance with the requirements of *resolves* 3, 4 and 5 of Resolution **219 (WRC-23).**

Consequently, the Board decided that when administrations notify frequency assignments for use by IMT base stations subject to *resolves 3, 4 and 5* of Resolution **219 (WRC-23)** (i.e. with the nature of service "IM") in the frequency band 10-10.5 GHz, they shall provide in the "Remarks" field of each notice a commitment that the IMT base station meets the levels specified in *resolves* 3*,* 4 and 5 of Resolution **219 (WRC-23),** for example, by the statement "complies with *resolves* 3, 4 and 5 of **Res. 219**"**.** When examining compliance with *resolves* 3, 4 and 5 of Resolution **219 (WRC-23)**, the Bureau shall accept such a notice with the commitment statement that it is in compliance with the Resolution. In the absence of such a commitment, the notified frequency assignment will receive an unfavourable regulatory finding under No. **11.31**.

Reasons: *The World Radiocommunication Conference (Dubai, 2023) (WRC-23) adopted No.* ***5.480A*** *identifying an additional frequency band for IMT systems subject to the application of Resolution* ***219 (WRC-23)****. However, there are no means for the Bureau to check compliance with the e.i.r.p limit for elevation angles higher than 34 degrees and the total radiated power (TRP) in the out-of-band domain specified in resolves 3, 4 and 5 of that Resolution.*

The proposed rule of procedure is to provide guidance on how administrations should notify the e.i.r.p. mask and the TRP, and how the Bureau should examine the compliance of those values of IMT stations.

Effective date of application of this Rule: 1 January 2025.

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Annex 11

Modification of the existing rules of procedure on No. **9.11A**

Rules concerning

ARTICLE 9 of the RR*

9.11A

MOD

TABLE 9.11A-1

Applicability of the provisions of Nos. 9.11A-9.14 to stations of space services

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No. in Article 5	Space services mentioned in a footnote referring to Nos. 9.11A, 9.12, 9.12A, 9.13 or 9.14, as appropriate		Other space services or systems to which Nos. 9.12 to 9.14 provisions(s) apply equally, as appropriate		Applicable Nos. 9.12 to 9.14 provision(s), as appropriate	Terrestrial services in respect of which No. 9.14 apply equally	Notes
117.975-137	5.198A	AERONAUTICAL MOBILE-SATELLITE (R) (non-GSO)	↓	---		9.12, 9.14	AERONAUTICAL MOBILE (R) AERONAUTICAL MOBILE (OR) (Nos. **5.201** and **5.202**)	
		AERONAUTICAL MOBILE-SATELLITE (R) (non-GSO)	↑	---		9.12		
(…)								

* This Rule of Procedure refers to Articles **9**, **11**, to Articles 4 and 5 of Appendices **30** and **30A**, and to Articles 6 and 8 of Appendix **30B** of the Radio Regulations.

MOD

TABLE 9.11A-2

Applicability of the provisions of No. 9.15 to earth stations of a non-geostationary satellite network and No. 9.16 to stations of terrestrial services

1	2	3	4	5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Terrestrial services to which No. **9.16** applies and in respect of which RR No. **9.15** applies	Space services mentioned in a footnote referring to No. **9.11A** to which No. **9.15** applies and in respect of which RR No. **9.16** applies		Applicable Nos. **9.15**, **9.16** provisions	Notes
117.975–137	**5.198A**	AERONAUTICAL MOBILE (R) AERONAITICAL MOBILE (OR) (**5.201**, **5.202**)	AERONAUTICAL MOBILE-SATELLITE (R) (non-GSO)	↑↓	**9.15**	6
(…)						

[6] The provisions of No. **9.16** do not apply to the aeronautical mobile (R) and aeronautical mobile (OR) services (see No. **5.198A**).

***Reasons**: WRC-23 added new footnote **5.198A** "The use of the frequency band 117.975-137 MHz by the aeronautical mobile-satellite (R) service is subject to coordination under No. **9.11A**. No. **9.16** does not apply. Such use shall be limited to non-geostationary-satellite systems operated in accordance with international aeronautical standards. Resolution **406 (WRC-23)** applies."*

Effective date of application of this Rule: 01.01.2025.

Annex 12

Modification to existing rules of procedure on No. **9.11A**

Rules concerning

ARTICLE 9 of the RR*

9.11A

MOD

TABLE 9.11A-1

Applicability of the provisions of Nos. 9.11A-9.14 to stations of space services

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No.in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
2 483.5-2 500	**5.402**	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED MOBILE RADIOLOCATION (Region 2, Region 3) (see also Nos. **5.398A** & **5.399**)	
~~2 483.5-2 500~~	~~**5.402**~~	~~Radiodetermination-satellite (Region 1 and Region 3)~~	~~↓~~	~~—~~		~~**9.12, 9.12A, 9.13**~~	~~(See No. **5.399**)~~	

Reason: *The allocation of the frequency band 2 483.5-2 500 MHz to the radiodetermination-satellite service in Regions 1 and 3 was upgraded to primary status by the World Radiocommunication Conference (Geneva, 2012) (WRC-12).*

Effective date of application of this Rule: immediately after approval.

* This Rule of Procedure refers to Articles **9**, **11**, to Articles 4 and 5 of Appendices **30** and **30A**, and to Articles 6 and 8 of Appendix **30B** of the Radio Regulations.

MOD

1	2	3		4		5	6	7
Frequency band (GHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
17.3-17.7	**5.516**	FIXED-SATELLITE (non-GSO) (Region 1 and Region 3)	↑	FIXED-SATELLITE (non-GSO) (Region 1 and Region 2) BROADCASTING-SATELLITE (~~Non~~non-GSO) (Region 2)	↓	**9.12**	---	
	5.484A	FIXED-SATELLITE (non-GSO) (Region 2)	↓	FIXED-SATELLITE (non-GSO) (Region 1) FIXED-SATELLITE (non-GSO) (Region 1 and Region 3)	↓ ↑	**9.12**	---	

Reason: *Changes resulting from the inclusion of No.* ***9.12*** *in the frequency band 17.3-17.7 GHz (space-to-Earth) in Region 2 and the modification of No.* ***5.517*** *under WRC-23 agenda item 1.19.*

Effective date of application of this Rule: 1 January 2025.

Annex 13

Modification of the existing rules of procedure on receivability of forms of notice and No. **9.27**

Rules concerning

Rules concerning the Receivability of forms of notice generally applicable to all notified assignments submitted to the Radiocommunication Bureau in application of the Radio Regulatory Procedures*

1 Submission of information in electronic format

MOD

1.1 Space services

The Board noted the requirement for mandatory electronic filing and submission of comments/objections and requests for inclusion or exclusion specified in the *resolves* of Resolution~~s~~ **55 (Rev.WRC-23~~19~~)** ~~and **908 (Rev.WRC-15)**~~. It also noted that capture and validation software had been made available to administrations by the Bureau, including software to submit information required in Annex 2 of Resolution **552 (Rev.WRC-23~~19~~)** and in the Attachment to Resolution **553 (Rev.WRC-23~~15~~)**. Accordingly, all information indicated in the *resolves* of Resolution **55 (Rev.WRC-23~~19~~)**, in Annex 2 of Resolution **552 (Rev.WRC-23~~19~~)** and in the Attachment to Resolution **553 (Rev.WRC-23~~15~~)** under § 8 and § 9, shall be submitted to the Bureau in electronic format which is compatible with the BR electronic notice form capture software (SpaceCap and GIMS) and comments/objections software (SpaceCom)[1], using the ITU web interface "e-Submission of satellite network filings" available at https://www.itu.int/itu-r/go/space-submission.

1.2 NOC

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* **Note**: WRC-15 took the decision related to the ~~R~~rule of ~~P~~procedure on the Receivability of forms of notice during the 8th Plenary, Par. 1.39 to 1.42 of Doc. CMR15/505, with the approval of Doc. CMR15/416 in relation to Section 3.2.2.4.1 of Doc. 4 (Add2) (Rev1), as follows:

*"For the submission of a request for coordination under No. **9.30** related to a non-GSO satellite network or system, the notice will be receivable only in the cases described below:*

i) satellite systems with one (or more than one) set(s) of orbital characteristics and inclination value(s) with all frequency assignments to be operated simultaneously; and,

ii) satellite systems with more than one set of orbital characteristics and inclination values with, however, a clear indication that the different sub-sets of orbital characteristics would be mutually exclusive; in other terms, frequency assignments to the satellite system would be operated on one of the sub-sets of orbital parameters to be determined at the notification and recording stage of the satellite system at the latest."

[1] Except comments submitted in accordance with §§4.1.7, 4.1.9, 4.1.10 of Article 4 of Appendix **30** and **30A** with respect to additional uses under Article 4 and use of the guardbands under Article 2A of those Appendices in Region 1 and Region 3.

4 Other non-receivable submissions

There are, in addition to the above case of incomplete notice, other circumstances when a notice is not receivable. These cases are described in the following non-exhaustive paragraphs.

4.1 NOC

4.2 SUP (Not used)

4.3 NOC

Rules concerning

ARTICLE 9 of the RR*

9.27

MOD

1 Frequency assignments to be taken into account in the coordination procedure

Frequency assignments to be taken into account in the coordination procedure are mentioned in § 1 to 5 of Appendix **5** (see also Rules of Procedure concerning No. **9.36** and Appendix **5**).

1.1 The period between the date of receipt by the Bureau of relevant information under No. **9.1A** for a satellite network and the date of bringing into use of the assignments of the satellite network in question shall in no circumstance exceed seven years as referred to in No. **11.44**. Consequently, frequency assignments not complying with these time-limits will no longer be taken into account under the provisions of No. **9.27** and Appendix **5**. (See also Nos. **11.43A**, **11.48**, Resolution **49 (Rev.WRC-23~~19~~)** and Resolution **552 (Rev.WRC-23~~19~~)**.)

* This Rule of Procedure refers to Articles **9**, **11**, to Articles 4 and 5 of Appendices **30** and **30A**, and to Articles 6 and 8 of Appendix **30B** of the Radio Regulations.

2 Modification of characteristics of a satellite network during coordination

2.1 NOC

2.2 NOC

2.3 MOD

2.3 Based on these principles, and provided that the appropriate coordination trigger limit is exceeded, the modified part of the network will need to effect coordination with respect to space networks that are to be taken into account for coordination:

a) networks with "2D-Date"[2] before D1[3];

b) networks with "2D-Date" between D1 and D2[4], where the nature of the change is such as to increase the interference to or from, as the case may be, the assignments of these networks. In case of GSO networks referred to in No. **9.7**, including those to which the coordination arc approach has been applied (see No. **9.7** of Table 5-1 of Appendix **5)**, the increase of interference will be measured in terms of $\Delta T/T$, or pfd values when Resolution **553 (Rev.WRC-23~~15~~)** or Resolution **554 (WRC-12)** apply. In case of non-GSO networks referred to in No. **9.7B**, the increase of interference will be measured in terms of a cumulative distribution function of equivalent power-flux density (epfd) produced to these earth stations.

Reasons: *Editorial modifications to update references to Resolutions* ***55 (Rev.WRC-23)****,* ***552 (Rev.WRC-23)*** *and* ***553 (Rev.WRC-23),*** *and the suppression of Resolution* ***908 (Rev.WRC-15)*** *as introduced at WRC-23. Also, as WRC-23 suppressed API, Section 4.2 concerning a link between API and coordination request(s) is no longer required.*

Effective date of application of the modified rules: 01.01.2025.

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[2] The "2D-Date" is the date from which an assignment is taken into account as defined in § 1 *e)* of Appendix 5.

[3] D1 is the original "2D-Date" of the network undergoing modification.

[4] D2 is the date of receipt of request for modification. Concerning the date of receipt, see the Rule of Procedure on Receivability.

Annex 14

Modification to existing rules of procedure on No. **9.27**

Rules concerning

ARTICLE 9 of the RR*

MOD

9.27

[*Editor's note: no change is proposed to sections 1 and 3 of the existing rules.*]

2 Modification of characteristics of a satellite network during coordination

2.1 After an administration informs the Bureau of a modification of characteristics of its network, it is essential to establish its proper coordination requirements with respect to other administrations, i.e. with which administration(s), and for which of their network(s), the modified part of the network needs to effect coordination before it can be notified for recording.

2.2 The guiding principles for dealing with modifications are:

– general obligation to effect coordination before notification (No. **9.6**), and

– the fact that coordination is not required when the nature of the change is such as not to increase the interference to or from, as the case may be, the assignments of another administration, as specified in Appendix **5**.

2.3 Based on these principles, and provided that the appropriate coordination trigger limit is exceeded, the modified part of the network will need to effect coordination with respect to space networks that are to be taken into account for coordination:

a) networks with "2D-Date"[2] before D1 [3];

b) networks with "2D-Date" between D1 and D2 [4], where the nature of the change is such as to increase the interference to or from, as the case may be, the assignments of these networks. In case of GSO networks referred to in No. **9.7**, including those to which the coordination arc approach has been applied (see No. **9.7** of Table 5-1 of Appendix **5)**, the increase of interference will be measured in terms of $\Delta T/T$, or pfd values when Resolution **553 (Rev.WRC-15)** or Resolution **554 (WRC-12)** apply. In case of non-GSO networks referred to in No. **9.7B**, the increase of interference will be measured in terms of

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* This Rule of Procedure refers to Articles **9**, **11**, to Articles 4 and 5 of Appendices **30** and **30A**, and to Articles 6 and 8 of Appendix **30B** of the Radio Regulations.

2 The "2D-Date" is the date from which an assignment is taken into account as defined in § 1 *e)* of Appendix 5.

3 D1 is the original "2D-Date" of the network undergoing modification.

4 D2 is the date of receipt of request for modification. Concerning the date of receipt, see the Rule of Procedure on Receivability.

a cumulative distribution function (CDF) of equivalent power-flux density (epfd) produced to these earth stations.

In cases involving non-GSO networks or systems referred to in Nos. **9.12**, **9.12A**, **9.13** or **9.21**, the increase in interference will be measured in terms of a CDF of the interference levels into the subsequently submitted non-GSO systems or GSO networks, expressed as an interference-to-noise (*I/N*) ratio for various locations and percentages of time. In conducting such analyses, the Bureau will consider only levels of *I/N* ratio equal to or greater than −30 dB.

2.3.1 Where the coordination requirements of the modification involve any network under *b)* above, the modified assignments will have D2 as their "2D-Date". Otherwise, they will retain D1 as their "2D-Date".

2.3.2 In case of successive modifications of the same part of the network, if the next modification (compared with the previous modification) does not increase the interference to or from a particular network not included in the coordination requirements under *b)* above, that particular network will not be included in the coordination requirements of that next modification.

2.3.3 If it is not possible to verify that there is no increase of interference (e.g. in the absence of appropriate criteria or calculation methods), the "2D-Date" of the modified assignments will be D2.

2.4 When the frequency assignments of non-GSO networks or systems are subject to epfd limits contained in Nos. **22.5C**, **22.5D** and **22.5F**, and/or to coordination under No. **9.7B**, administrations may wish to modify previously submitted data required for Article **22** examination[5]. As the modified parameters are not used for coordination between non-GSO networks or systems, the modified frequency assignments will retain D1 as their "2D-Date" provided that:

a) the previous assignments received favourable findings under No. **11.31** with respect to Article **22**;

b) the modified assignments received a favourable finding under No. **11.31** with respect to Article **22** using the latest version of the epfd validation software;

c) the modified assignments, in case that they are subject to No. **9.7B**, retain D1 as their "2D-Date" in accordance with §§ 2.3 to 2.3.2 above.

2.5 After having examined the modified network as described in § 2.3 and § 2.4 above, the Bureau shall publish the modification, including its coordination requirements, in the appropriate Special Section for comments by administrations within the usual 4-month period, as appropriate. Initial characteristics are thus replaced by the published modified characteristics, and only the latter will be taken into account in subsequent applications of No. **9.36**.

Reasons: *At its 95th meeting (4-8 March 2024), the Radio Regulations Board concluded that an increase in the aggregate I/N level representing a degradation of 0.004 dB of a modified satellite system could be considered as negligible. The Board further instructed the Bureau to confirm with ITU-R Working Party 4A that that level could be considered as negligible. At its meeting in May 2024, Working Party 4A agreed that, until Recommendation ITU-R S.1526 had been revised, it should be left to the Bureau to address the issue raised, based on its understanding and taking into account best and past practices.*

At the 96th Board meeting (24-28 June 2026), the Bureau confirmed that treating I/N ratios of −30 dB as negligible was consistent with the existing practice of the Bureau where at least computational tolerances of 0.05 dB were used in its technical examination.

*The Board decided to endorse the Bureau's decision to treat an I/N ratio of -30 dB as negligible and decided to reflect that decision in the rules of procedure on No. **9.27**.*

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5 Limited to the elements listed under A.14, A.4.b.6.a and A.4.b.7 of RR Appendix **4**.

Effective date of application of this Rule: immediately after approval.

Annex 15

Modification to existing rules of procedure on No. **11.13**

Rules concerning

ARTICLE 11 of the RR

MOD

11.13

1 This provision stipulates that no notification shall be made of the frequencies that are prescribed for common use by stations of a given service. According to this provision, the Bureau established a list of the frequencies that enter into this category. This list is regularly updated and published in the Preface to the International Frequency Information Circular (BR IFIC) ~~International Frequency List (IFL)~~, in frequency order (Chapter VI of the Preface). The common frequencies appear in the Master International Frequency Register (Master Register) and in the BR IFIC ~~IFL~~.

Reason: *Editorial modification by the World Radiocommunication Conference (Sharm el-Sheikh, 2019) (WRC-19) modified the IFL to the BR IFIC.*

Effective date of application of this Rule: immediately.

2 A summary of the frequencies/frequency bands that are prescribed for common use, is given below:

– GMDSS frequencies for distress and safety calling using DSC techniques (2 187.5 kHz, 4 207.5 kHz, 6 312 kHz, 8 414.5 kHz, 12 577 kHz, 16 804.5 kHz and 156.525 MHz);

– ~~GMDSS frequencies for distress and safety traffic by NBDP telegraphy (2 174.5, 4 177.5, 6 268, 8 376.5, 12 520 and 16 695 kHz);~~

– GMDSS frequencies for distress and safety traffic by radiotelephony (2 182 kHz, 4 125 kHz, 6 215 kHz, 8 291 kHz, 12 290 kHz, 16 420 kHz and 156.8 MHz);

– International frequencies for search and rescue operations (2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz, 10 003 kHz, 14 993 kHz, 19 993 kHz, 121.5 MHz, 123.1 MHz, 156.3 MHz, 156.8 MHz, 161.975 MHz, 162.025 MHz and 243 MHz);

– International frequencies for digital selective calling, for purposes other than distress and safety (455.5, 458.5, 2 177, 2 189.5, 4 208, 4 208.5, 4 209, 4 219.5, 4 220, 4 220.5, 6 312.5, 6 313, 6 313.5, 6 331, 6 331.5, 6 332, 8 415, 8 415.5, 8 416, 8 436.5, 8 437, 8 437.5, 12 577.5, 12 578, 12 578.5, 12 657, 12 657.5, 12 658, 16 805, 16 805.5, 16 806, 16 903, 16 903.5, 16 904, 18 898.5, 18 899, 18 899.5, 19 703.5, 19 704, 19 704.5, 22 374.5, 22 375, 22 375.5, 22 444, 22 444.5, 22 445, 25 208.5, 25 209, 25 209.5, 26 121, 26 121.5 and 26 122 kHz);

– International frequencies for automatic connection system (ACS) using digital selective calling for ship and coast stations (2 174.5, 4 177.5, 6 268, 8 376.5, 12 520 and 16 695 kHz);

Reasons: *The World Radiocommunication Conference (Dubai, 2023) (WRC-23) modified No.* ***5.110*** *which led to a change in the usage of the frequencies 2 174.5 kHz, 4 177.5 kHz, 6 268 kHz. 8 376.5 kHz, 12 520 kHz and 16 695 kHz from international distress frequencies for narrow-band direct-printing (NBDP) telegraphy to automatic connection system (ACS). Consequently, the provisions for GMDSS frequencies for distress and safety traffic by NBDP telegraphy (2 174.5, 4 177.5, 6 268, 8 376.5, 12 520 and 16 695 kHz) should be removed from the rules of procedure in*

Part A1, Section AR11. Accordingly, the provisions for ACS frequencies (2 174.5, 4 177.5, 6 268, 8 376.5, 12 520 and 16 695 kHz) should be added to the rules of procedure in Part A1, Section AR11.

Effective date of application of this Rule: 1 January 2025.

– ~~International frequencies for selective calling using the sequential single frequency code system (2 170.5, 4 125, 4 417, 6 516, 8 779, 13 137, 17 302, 19 770, 22 756 and 26 172 kHz);~~

– International frequencies for radiotelephone calling (4 125, 4 417, 6 215, 6 516, 8 255, 8 779, 12 290, 12 359, 13 137, 16 420, 16 537, 17 302, 18 795, 19 770, 22 060, 22 756, 25 097 and 26 172 kHz);

– International ship-to-shore working or intership frequencies (2 045, 2 048, 2 635 and 2 638 kHz);

– 410 kHz, worldwide frequency for radio direction-finding in the maritime radionavigation services;

– 75 MHz, worldwide frequency assigned to aeronautical marker beacons.

3 **NOC**

Reason: *Editorial modification reflecting the decisions of WRC-07 and removing the obsolete rules of procedure for sequential single frequency selective-calling systems used for calling ships described in the suppressed Recommendation ITU-R M.257-3 containing those frequencies (2 170.5, 4 125, 4 417, 6 516, 8 779, 13 137, 17 302, 19 770, 22 756 and 26 172 kHz).*

Effective date of application of this Rule: immediately.

Annex 16

Modification to existing rules of procedure on Nos. **11.31** and **11.32** following modifications to data items in Annex 2 to Appendix **4**

Rules concerning

ARTICLE 11 of the RR

MOD

11.31

[*Editor's note: No changes are proposed to §§ 1 to 7 of the Rules.*]

8 For the examination of conformity with power limits, including power flux-density limits and e.i.r.p limits, the Board noted that the transmission characteristics defined at the emission level of a frequency assignment are used together with the associated antenna gain characteristics. The transmitted power levels are derived from Appendix **4** data items C.8.a.1/C.8.b.1 – maximum/total peak envelope power and items C.8.a.2/C.8.b.2 – the maximum power density. The Board decided that other Appendix **4** elements providing either maximum or average beam peak e.i.r.p. as a single value or as a function of the elevation angle (Appendix **4** data items B.4.b.4.a. B.4.b.4.a*bis*, B.4.b.4.a*ter*, B.4.b.4.b, B.4.b.4.c, B.4.b.4.c*bis*, B.4.b.4.c*ter*, B.4.b.4.d) could not be used to calculate the transmitted power for the purpose of examination under No. **11.31**. However, those elements may be used during bilateral coordination between administrations.

Reasons: *The World Radiocommunication Conference (Dubai, 2023) (WRC-23) added four new optional Appendix **4** data items:*

- *B.4.b.4.abis for fixed beam pointed away from the nadir direction only, the maximum beam peak e.i.r.p./4 kHz eirp4kHzmax (θe) as a function of the elevation angle (θe) above the horizontal plane at the Earth's surface at the minimum altitude at which any satellite within the satellite system operates;*
- *B.4.b.4.ater for steerable beam, the maximum beam peak e.i.r.p./4 kHz eirp4kHzmax(θe) as a function of the elevation angle (θe) above the horizontal plane at the Earth's surface;*
- *B.4.b.4.cbis for fixed beam pointed away from the nadir direction only, the maximum beam peak e.i.r.p./1 MHz eirp1MHzmax (θe) as a function of the elevation angle (θe) above the horizontal plane at the Earth's surface at the minimum altitude at which any satellite within the satellite system operates;*
- *B.4.b.4.cter for steerable beam, the maximum beam peak e.i.r.p./1 MHz eirp1MHzmax (θe) as a function of the elevation angle (θe) above the horizontal plane at the Earth's surface.*

*The Board concluded that those characteristics together with existing data items B.4.b.4.a, B.4.b.4.b, B.4.b.4.c and B.4.b.4.d could not be used for examinations under No. **11.31**, since the minimum required emission characteristics had already been provided under Appendix **4** data items C.8.a.1/C.8.b.1 and C.8.a.2/C.8.b.2 at the frequency assignment level, and findings were established per frequency assignment group and not at the beam level. Moreover, no validation method was available to verify whether those transmission characteristics at the beam level corresponded to the characteristics at the emission level.*

Administrations may, however, wish to use such information during bilateral coordination.

Effective date of application of this Rule: 1 January 2025.

ADD

9 In cases where the satellite network or system containing frequency assignments to the service link (see information submitted under data item A.1.c of Annex 2 to Appendix **4**) does not belong to the same notifying administration as the frequency assignments to the feeder link and the notifying administration of the satellite network or system containing the service link does not agree to such use, the Board decided that the latter administration shall inform the notifying administration of the feeder link and the Bureau. Following the receipt of such information and in the absence of any contrary information, the Bureau will review the finding of the frequency assignments to the feeder link under No. **11.31**.

Reasons: *The World Radiocommunication Conference (Dubai, 2023) (WRC-23) introduced data item A.1.c in Appendix **4** to request information on the identity of the satellite network or system containing frequency assignments to the service link. The submission of that information is required when it is different from the identity of the satellite network or system containing the feeder-link frequency assignments and is applicable for frequency assignments to space stations in frequency bands where the use of the allocation is limited to feeder links. The rules of procedure aim to clarify the examination procedure when the satellite network or system containing the service links does not belong to the same notifying administration.*

Effective date of application of this Rule: 1 January 2025.

MOD

11.32

1 Examination of a frequency assignment to a space station

1.1 The literal application of this provision would lead to the examination of the notified assignment with any station identified in application of No. **9.27** while this examination or a major part of it was already done during the application of the coordination procedure. The Board adopted a practical approach which consists of the following:

[Editor's note: no change is proposed to the rest of the existing text of this paragraph.]

1.2 The Board noted that the World Radiocommunication Conference (Dubai, 2023) (WRC-23) suppressed the following data items in Annex 2 to Appendix **4**: item A.4.b.4.g - the right ascension of the ascending node (RAAN); and items A.4.b.4.k/ A.4.b.4.l (RR 2020 edition) - the date and time at which the satellite is at the location defined by the longitude of the ascending node. The Board decided that information submitted prior to 1 January 2025 on the right ascension of the ascending node of orbital planes for non-geostationary satellite (non-GSO) systems subject to Section II of Article **9** should continue to be used during coordination (including during examination of a modification to frequency assignments of non-GSO systems in application of the rule of procedure on No. **9.27**) when no information is available on the longitude of the ascending node (see data item A.4.b.4.j of Annex 2 to Appendix **4**) for the same orbital plane or when it is different from the existing longitude of the ascending node.

Reasons: *WRC-23 suppressed data items A.4.b.4.g - the right ascension of the ascending node (RAAN) and A.4.b.4.k/ A.4.b.4.l (RR 2020 edition) - the date and time at which the satellite is at the location defined by the longitude of the ascending node. The reference date and time in data items A.4.b.4.k/ A.4.b.4.l provided a relationship between the initial longitude of the ascending node (LAN) (see Appendix **4**, data item A.4.b.4.j), which is a geocentric-based reference, and the right ascension of the ascending node, which is a celestial reference.*

*With the suppression of data elements A.4.b.4.g, A.4.b.4.k/ A.4.b.4.l (RR 2020 edition), Appendix **4** data element A.4.b.4.j should continue to represent the geocentric orientation of an orbital plane and should normally correspond to the previously submitted RAAN value. If the LAN is missing for any orbital plane, the Bureau will enter the value corresponding to the RAAN in A.4.b.4.j . Where the RAAN and LAN are different, the Bureau will consult the notifying administration to decide whether the value in A.4.b.4.j needs to be changed to the one provided for the RAAN. The rule is therefore proposed to clarify that the RAAN will continue to be used during coordination pending any corresponding alignment of the LAN by the Bureau.*

Effective date of application of this Rule: 1 January 2025.

Annex 17

Modification to existing rules of procedure on No. **11.43A**

Rules concerning

ARTICLE 11 of the RR

MOD

11.43A

1 Modification of a space network may take place during the coordination process; this case is covered in the comments under the Rules of Procedure concerning Nos. **9.27** (§ 2), **9.58**, **11.28** and **11.32**.

2 If the modification concerns the notification of assignment(s) in frequency band(s) not covered by other assignment(s) already recorded in the Master Register, No. **11.43A** does not apply and it will be processed under No. **11.2** or **11.9**, as appropriate.

The purpose of the examination under No. **11.43A** is to determine whether the coordination requirements remained unchanged or, where appropriate, whether the probability of harmful interference has not increased (see also the Rules of Procedure concerning Nos. **11.28** and **11.32**). In these cases, the provisions of No. **11.43B** apply with the effect of maintaining unchanged the status (Findings) and the date of ~~receipt~~ protection of the assignment. If, due to the modifications, new coordination requirements are identified by comparing the level of interference (such as $\Delta T/T$) (see also §§ 2.3 and 2.4 of the rules of procedure on No. **9.27**) resulting~~ed~~ from consideration of the initial characteristics and that of modified characteristics, then an unfavourable finding shall be given and the Form of Notice shall be returned to the notifying administration. The notifying administration should be requested to apply Section II of Article **9**. The findings with respect to No. **11.32** are determined on the basis of the coordination agreements effected to meet the new coordination requirements. In the case, where the provisions of Nos. **11.32A** and **11.33** are applicable and the examinations show an increase in the probability of harmful interference compared with that which resulted from the initial examination, then the finding is unfavourable and the notice shall be returned in accordance with provision No. **11.38**. See also the Rules of Procedure under No. **11.43B**.

Reason: *To align the technical criteria used in the examination under No.* ***11.43A*** *with those used in the rules of procedure on No.* ***9.27****.*

Effective date of application of this Rule: 1 January 2025.

Annex 18

Modification of the existing rule of procedure on Table 21-2 of Article **21**

Rules concerning

ARTICLE 21 of the RR

MOD

Table 21-2

Table **21-2** specifies the frequency bands that are shared with equal rights between space services, on the one hand, and the fixed and mobile service, on the other hand~~.~~, In these frequency bands the protection of satellite receivers is ensured by ~~where the terrestrial station is subject to~~ the power limits which are specified in provisions Nos. ~~-~~**21.2** to **21.5A** and imposed on terrestrial stations. Given that notifications of stations of any radiocommunication service are recorded in the Master Register in the form of frequency assignments (see Articles **8** and **11**), the Board concluded that ~~T~~these power limits apply to frequency assignments to stations in the fixed and mobile services and are verified during processing of such frequency assignments by the Bureau under "other provisions" mentioned in No. ~~-~~**11.31** that are mandatory for verification during the regulatory examination (see also section 1 of the Rules of Procedure concerning No. **11.31**).

~~WRC-12 allocated the frequency band 24.75-25.25 GHz to the fixed-satellite service in the Earth-to-space direction in Region 1. As a result, this band is shared with equal rights between the fixed-satellite service (Earth-to-space) and the fixed service; however, this situation is not reflected in Table **21-2**. Recognizing the need for a consistent approach in protection of the fixed-satellite service in Regions 1 and 3, the Board decided that the power limits specified in Nos. **21.3** and **21.5** shall apply to the frequency assignments of the fixed service in the band 24.75-25.25 GHz in Region 1.~~

Reasons: *To clarify that the power limits specified in provisions Nos.* ***21.2*** *to* ***21.5A*** *apply to, and are verified by the Bureau, for frequency assignments to stations in the fixed and mobile services, while the above provisions refer to power limits to stations.*

Furthermore, WRC-23 decided to incorporate the band, 24.75-25.25 GHz in Region 1 in Table ***21-2*** *of Article* ***21****, therefore the part related to this frequency band in this rule is no longer necessary.*

Effective date of application of this Rule: 1 January 2025

Annex 19

Addition of new rules of procedure on No. **22.5K**

Rules concerning

ARTICLE 22 of the RR

ADD

22.5K

Noting that references to Resolution **76 (Rev.WRC-23)** were not updated by the World Radiocommunication Conference (Dubai, 2023) (WRC-23) in No. **22.5K**, the Board decided that the provision applies to non-geostationary satellite (non-GSO) systems operating in the fixed-satellite service in the frequency bands and regions listed in Tables 1A, 1B, 1C and 1D of Resolution **76 (Rev.WRC-23)**. In addition, the Board concluded that it does not apply to non-GSO systems operating in the fixed-satellite service in the frequency band 17.3-17.7 GHz in Region 2.

Reasons: *WRC-23 reviewed Resolution **76 (Rev.WRC-23)** "Protection of geostationary fixed-satellite service and geostationary broadcasting-satellite service networks from the maximum aggregate equivalent power flux-density produced by multiple non-geostationary fixed-satellite service systems in frequency bands where equivalent power flux-density limits have been adopted". However, No. **22.5K** was not revised to update the references to Resolution **76 (Rev.WRC-23)**.*

*Resolves 1 and 2 as well as Tables 1A to 1D in Resolution **76 (Rev.WRC-23)** referred to in No. **22.5K** were not reviewed (except editorial modifications in resolves 2).*

*Table 1B of Resolution **76 (Rev.WRC-23)** with the limits on aggregate epfd on the downlink radiated by non-GSO FSS systems does not include the frequency band 17.3-17.7 GHz in Region 2 for which an additional allocation was made by WRC-23 in Region 2 and for which a single-entry epfd limit was included in Table 22-1B of Article **22** referred to in No. **22.5K**. The Board understood that there could be a reason not to include the frequency band 17.3-17.7 GHz in Resolution **76 (Rev.WRC-23)**. The operation of non-GSO FSS systems in that frequency band in Region 1 was not subject to Article **22** epfd limits on the downlink, even though the FSS (space-to-Earth) allocation in Region 1 was decided by the World Radiocommunication Conference (Geneva, 2003) (WRC-03). Thus, it might be complicated to apply an aggregate limit on operations of non-GSO systems in the frequency band 17.3-17.7 GHz in two regions without applying a single-entry limit in both regions.*

*The Board concluded that the revision of No. **22.5K** had been inadvertently omitted during WRC-23 and clarification was required on the scope of the application of No. **22.5K**.*

Effective date of application of this Rule: 1 January 2025.

Annex 20

Addition of new rules of procedure on Annex 2 to Appendix **4**
related to items A.4.b.7.d.1, A.27.b, A.33a and A.36.c

Rules concerning

APPENDIX 4 to the RR

An. 2

ADD

A.4.b.7.d.1

The Board noted that the World Radiocommunication Conference (Dubai, 2023) had modified data item A.14.c.4, i.e. the type of mask, among one of the following types: (Earth-based exclusion zone angle, difference in longitude, latitude) or (satellite azimuth, satellite elevation, latitude mean power), to remove the reference to satellite-based exclusion zone angle and difference in longitude, latitude – the so-called X-DeltaLongitude mask. The change was made following the publication of Recommendation ITU-R S.1503-4, which had removed that type of mask.

The Board further noted that Recommendation ITU-R S.1503-4 also limited type of exclusion zone to only Earth-based exclusion zone by removing the satellite-based exclusion zone method; however, no change had been made to the description of item A.4.b.7.d.1 – *the type of zone (based on topocentric angle or satellite-based angle for establishing the exclusion zone).*

Since only one type of exclusion zone, which shall be Earth-based (i.e. based on topocentric angle), can be used, the Board decided that notifying Administrations are not required to submit data item A.4.b.7.d.1 and that the Bureau shall apply the Earth-based exclusion zone method for all notices received as of 1 January 2025.

Reasons: *To avoid potential mismatches between type of exclusion zone method and type of pfd mask.*

Effective date of application of this Rule: 1 January 2025.

ADD

A.27.b

The Board noted that item A.27.b under Annex 2 to Appendix **4** is required only for non-geostationary-satellite orbit (non-GSO) space stations submitted in accordance with Resolution **679** (**WRC-23**).

The description of the item shares similarities with the text of *further resolves 2* of Resolution **679** (**WRC-23**); however:

– *further resolves* 2 refers to a firm, objective, actionable, measurable and enforceable commitment; and

– the commitment under *further resolves* 2 shall be provided not only by the notifying administration of a non-GSO system but also by the notifying administration of a geostationary-satellite orbit (GSO) network receiving in the frequency band 27.5-30 GHz.

Consequently, the Board concluded that the commitment referred to in item A.27.b shall be provided by the notifying administration of a GSO network or of a non-GSO system receiving in the frequency band 27.5-30 GHz. The Board recalled that notifying administrations providing a commitment under item A.27.b shall ensure that such commitments be firm, objective, actionable, measurable and enforceable.

Reasons: *In accordance with further resolves 1 d) of Resolution* ***679 (WRC-23)****, the notifying administration for a non-GSO system operating inter-satellite links and receiving in the frequency bands 27.5-29.1 GHz and 29.5-30 GHz or of a GSO network operating inter-satellite links and receiving in the frequency band 27.5-30 GHz is responsible for eliminating any case of unacceptable interference.*

In accordance with further resolves 2 of Resolution ***679 (WRC-23)****, the notifying administration for a GSO network or for a non-GSO system receiving in the frequency band 27.5-30 GHz shall submit a firm, objective, actionable, measurable and enforceable commitment that, in the event of reported unacceptable interference, it undertakes to immediately eliminate the interference or reduce it to an acceptable level, following the procedures outlined in further resolves 3 of that Resolution.*

Item A.27.b under Annex 2 to Appendix ***4*** *requires a commitment from the notifying administration of space stations receiving in the frequency band 27.5-30 GHz that, upon receiving a report of unacceptable interference, the notifying administration will follow the procedures under further resolves 3 of Resolution* ***679 (WRC-23)****. That commitment is required only from notifying administrations of non-GSO space stations submitted in accordance with that Resolution, which relates to the use of the frequency band 27.5-30 GHz. The description of the item is similar, but not identical, to the text of further resolves 2 of Resolution* ***679 (WRC-23)****.*

This Rule aims to resolve those inconsistencies, while maintaining the responsibilities established in Resolution ***679 (WRC-23)****, i.e. that the notifying administration of a non-GSO system operating inter-satellite links and receiving in the frequency bands 27.5-29.1 GHz and 29.5-30 GHz or of a GSO network operating inter-satellite links and receiving in the frequency band 27.5-30 GHz is responsible for eliminating any case of unacceptable interference.*

Effective date of application of this Rule: 1 January 2025.

ADD

A.33.a, A.36.c

The Board noted that a "point of contact" is mentioned in Resolutions **121 (WRC-23)**, **123 (WRC-23)**, **156 (Rev.WRC-23)**, **169 (Rev.WRC-23)**, **679 (WRC-23)** and **902 (Rev.WRC-23)** for various purposes.

However, only in two instances, i.e. with respect to *resolves* 10.5 of Resolution **121 (WRC-23)** and *resolves* 7.5 of Resolution **123 (WRC-23)**, information on the point of contact is included as a requirement in Annex 2 to Appendix **4** (see mandatory items A.33.a and A.36.c). For both cases, it is indicated that the point of contact is for the purpose of tracing any suspected cases of unacceptable interference and that the point of contact is required to immediately respond to such requests.

Similar descriptions are given in Resolutions **169 (Rev.WRC-23)** and **679 (WRC-23)**: a point of contact is required for the purpose of tracing any suspected cases of unacceptable interference and responding immediately to such cases; however, no requirement to provide information on the point of contact is included in Annex 2 to Appendix **4**. Noting the similarity of the requirements for the point of contact described in all those resolutions, the Board decided that item A.36.c of Annex 2 to Appendix **4** is also required for submissions under Resolutions **169 (Rev.WRC-23)** and **679 (WRC-23)**.

The information to be provided on the point of contact shall include the name of the person or entity and the e-mail address, contact telephone number and address. The information shall be captured along with other Appendix **4** data items using the Bureau's capture software. The Board noted that Resolution **121 (WRC-23)** mentions that the information should be published in a special section, whereas Resolution **123 (WRC-23)** contains no such mention.

However, the Board understands that all information required under Appendix **4** must be published, although not necessarily in a special section. The Board therefore concluded that the Bureau shall include the information in a reference database and make it available on its website and publish it along with other Appendix **4** data in a relevant special section or part of its International Frequency Information Circular (BR IFIC).

Reasons*: To clarify the process of submitting and publishing information on points of contact.*

Effective date of application of this Rule: 1 January 2025

Annex 21

Suppression of the existing rule of procedure on No. **27/58** of Appendix **27**

Rules concerning

APPENDIX 27 to the RR

SUP

27/58

***Reasons**: WRC-23 decided to integrate the content of the rule into Nos. **27/57**, **27/58** and **27/60** of Appendix **27**, therefore the rule is no longer necessary.*

Effective date of suppression of this rule: 01.01.2025.

Annex 22

Addition of new rules of procedure on §§ 4.1.31 and 4.1.33 of Article 4 of Appendix **30A** and on §§ 6.38 and 6.40 of Article 6 of Appendix **30B**

Rules concerning

APPENDIX 30A to the RR
(Rules are arranged by paragraph numbers of Appendix 30A)

Art. 4

Procedures for modifications to the Region 2 feeder-link Plan or for additional uses in Regions 1 and 3

ADD

§ 4.1.31

The Board understands that this provision applies only to a satellite network identified under § 4.1.1 *b)* of Article 4 of Appendix **30A**. Such a satellite network shall have been entered in the List, notified, and brought into use by the time the Bureau receives a request for assistance under § 4.1.31.

Upon receipt of a request for assistance from either the notifying administration applying § 4.1.30 or an administration identified under § 4.1.1 *b)* of Appendix **30A**, the Board decided that the Bureau shall request the notifying administration of the satellite networks which are identified as affected to provide their actual operational parameters within 30 days. If there is no reply within the 30 days, the Bureau shall send a reminder giving an additional 15-day period to reply.

Upon receipt of the requested operational parameters, the Bureau shall perform the compatibility analysis using those parameters instead of the corresponding parameters of the affected satellite network in the List. The compatibility analysis shall be performed on the same principles as those used in the examination under § 4.1.1 *b)* or in application of footnote 9*bis* to § 4.1.12, as applicable, and the latest available Appendix **30**/**30A** master database.[1bis] The Bureau shall inform both the notifying administration having requested the application of § 4.1.30 and the notifying administration of the affected satellite network of the results of its compatibility analysis.

The notifying administration of the affected satellite network should also be invited to make modifications to the characteristics of the frequency assignments recorded in the Master Register in order to align them with their actual operational parameters.

If there is still no reply within 15 days following the reminder, the Board concluded that the Bureau shall inform the administrations concerned that it is not in a position to perform the compatibility analysis under § 4.1.31.

[1bis] The administrations concerned may request the Bureau to use a different master database.

Reasons: *This Rule specifies how the Bureau shall perform the compatibility analysis based on the actual operational parameters of the affected networks as prescribed in § 4.1.31 of Article 4 of Appendix* ***30A****.*

Effective date of application of this Rule: 1 January 2025.

ADD

§ 4.1.33

The Board understands that the "latter assignment" mentioned in this provision refers to a frequency assignment identified as potentially affected when examining the submission subject to § 4.1.30.

With respect to the condition for not updating the reference situation of a frequency assignment which is still identified as affected, it is not clear if "based on its submitted feeder-link coverage area" refers to the originally submitted coverage area (i.e. the one in the List) or to the coverage area that was submitted as an "actual operational parameter" in application of § 4.1.31. In addition, the provision does not give clear instruction on whether the reference situation of the "still affected" satellite network should be updated when the administrations concerned reach agreement under § 4.1.30*bis.* The Board thus instructed the Bureau, when a frequency assignment subject to § 4.1.30 is entered in the List, to consult both the notifying administration having requested the application of § 4.1.30 and the notifying administration of the affected satellite network and not to update the reference situation of the frequency assignments which are still identified as affected, based on the originally submitted coverage area, unless both parties agree to update the reference situation.

Reasons: *To clarify the issue of updating the reference situation when a frequency assignment subject to § 4.1.30 is entered in the List.*

Effective date of application of this Rule: 1 January 2025.

Rules concerning

APPENDIX 30B to the RR

Art. 6

Procedures for the conversion of an allotment into an assignment for the introduction of an additional system or for the modification of an assignment in the List

ADD

6.38

The Board understands that the Bureau conducts an examination under §§ 6.5, 6.21 and 6.22 of Article 6 of Appendix **30B** to identify potentially affected allotments in the Plan and frequency assignments in the List based on their characteristics in the Plan and in the List. However, in application of § 6.38, the Bureau shall take into account, to the extent possible, the actual operational parameters, as provided by the administration of frequency assignments that have already been brought into use and recorded in the Master Register in its compatibility analysis. Such parameters may be different from the parameters of the corresponding frequency assignments in the List.

Upon receipt of a request for assistance from either the notifying administration applying § 6.37 or an administration identified under § 6.5 of Appendix **30B**, the Board decided that the Bureau shall request the notifying administrations of satellite networks which are identified as affected to provide their actual operational parameters within 30 days. If there is no reply within the 30 days, the Bureau shall send a reminder giving an additional 15-day period to reply.

Upon receipt of the requested operational parameters, the Bureau shall perform the compatibility analysis using those parameters instead of the corresponding parameters of the affected satellite network in the List. The compatibility analysis under § 6.38 shall be performed based on the same principles as those established in application of § 6.21, including footnote 7*bis* to § 6.21 *c)*, and the latest available Appendix **30B** master database.[2bis] The Bureau shall inform both the notifying administration having requested the application of § 6.37 and the notifying administration of the affected satellite network of the results of its compatibility analysis.

The notifying administration of the affected satellite network should also be invited to make modifications to the characteristics of the frequency assignments recorded in the Master Register in order to align them with their actual operational parameters.

If the Bureau does not receive a reply within 15 days following the reminder, the Board concluded that the Bureau shall inform the administrations concerned that it is not in a position to perform the compatibility analysis under § 6.38.

[2bis] The administrations concerned may request the Bureau to use a different master database.

Reasons: *This Rule specifies how the Bureau shall perform the compatibility analysis based on the actual operational parameters of the affected satellite networks as prescribed in § 6.38 of Article 6 of Appendix* ***30B****.*

Effective date of application of this Rule: 1 January 2025.

ADD

6.40

The Board understands that the "latter assignment" mentioned in the provision refers to a frequency assignment identified as potentially affected when examining the submission subject to § 6.37.

With respect to the condition for not updating the reference situation of a frequency assignment which is still identified as affected, it is not clear if "based on its submitted uplink coverage area" refers to the originally submitted coverage area (i.e. the one in the List) or to the coverage area that was submitted as an "actual operational parameter" in application of § 6.38. In addition, this provision does not give clear instruction on whether the reference situation of the "still affected" satellite network should be updated when the administrations concerned reach agreement under § 6.37*bis*. The Board thus instructed the Bureau, when a frequency assignment subject to § 6.37 is entered in the List, to consult both the notifying administration having requested the application of § 6.37 and the notifying administration of the affected satellite network and not to update the reference situation of the frequency assignments which are still identified as affected, based on the originally submitted coverage area, unless both parties agree to update the reference situation.

Reasons: *To clarify the issue of updating the reference situation when a frequency assignment subject to § 6.37 is entered in the List.*

Effective date of application of this Rule: 1 January 2025.

Annex 23

Addition of new rules of procedure on § 4.1.32 of Article 4 of Appendix **30A**
and on § 6.39 of Article 6 of Appendix **30B**

Rules concerning

APPENDIX 30A to the RR

(Rules are arranged by paragraph numbers of Appendix **30A**)

Art. 4

Procedures for modifications to the Region 2 feeder-link Plan or for additional uses in Regions 1 and 3

ADD

4.1.32

1 This provision indicates to the Bureau how to generate the satellite antenna gain diagram for an affected frequency assignment in the Regions 1 and 3 feeder-link List when examining a submission under § 4.1.30. The first step to generate the diagram is to create the −10 dB contour of minimum ellipses for all territories inside each service area of the satellite network(s) identified under § 4.1.1b) of Appendix **30A**. A question arises as to which space station antenna pattern shall be used in application of § 4.1.32. The Board instructed the Bureau to use the Appendix **30A** reference receiving space station antenna pattern for Regions 1 and 3 without fast roll-off for creating the minimum ellipse covering a territory and the −10 dB contour of each individual minimum ellipse. The pattern corresponds to the pattern code APSRR_403V01 in the Antenna Pattern Library maintained by the Bureau.

2 To ensure that there are enough test points to generate each minimum ellipse, the individual set of test points per national territory should be those contained in the corresponding feeder-link Plan assignment plus the originally submitted test points associated with the service area and located inside that territory. If the total number of test points for any territory in a service area is less than 20, the Bureau shall consult the notifying administration of the identified satellite network to find out whether it wishes to add more test points in that territory.

3 In creating the minimum ellipses, the Board decided that a rotation accuracy of 1.0° and a pointing error of 0.1° should be taken into account.

4 The test points taken from national assignments in the feeder-link Plan or added during the application of § 4.1.32 are only for the purpose of generating the minimum ellipses and the combined ellipses and will not be used in technical examinations.

***Reasons**: The rule clarifies the space station antenna pattern and the approach to be used in generating the minimum ellipses and −10 dB contours in application of § 4.1.32. It also clarifies which*

test points as well as rotation accuracy and pointing error are to be used in the generation of the minimum ellipse and the combined ellipse.

Effective date of application of this Rule: 1 January 2025.

Rules concerning

APPENDIX 30B to the RR

Art. 6

Procedures for the conversion of an allotment into an assignment, for the introduction of an additional system or for the modification of an assignment in the List

ADD

6.39

1 This provision indicates to the Bureau how to generate the uplink satellite antenna gain diagram for a frequency assignment to an additional system not subject to Resolution **170 (Rev.WRC-23)** or to a conversion of an allotment into a frequency assignment with modification outside the envelope of the allotment and not subject to Resolution **170 (Rev.WRC-23)** during the examination of a submission under § 6.37. The first step to generate the diagram is to create the −10 dB contour of minimum ellipses for all territories inside each service area of the satellite network identified under § 6.5. A question arises as to which space station antenna pattern shall be used in application of § 6.39. The Board instructed the Bureau to use the Appendix **30B** space station antenna co-polar pattern for receiving and transmitting antennas for all Regions without fast roll-off for creating the minimum ellipse covering a territory and the −10 dB contour of each individual minimum ellipse, as it is also used for the determination of coordination requirements and interference assessment in the FSS Plan. The co-polar pattern corresponds to the pattern code APSRR_401V01 in the Antenna Pattern Library maintained by the Bureau.

2 To ensure that there are enough test points to generate each minimum ellipse, the individual set of test points per national territory should be those contained in the national allotment plus the originally submitted test points associated with the service area and located inside that territory. If the total number of the test points for any territory in a service area is less than 20, the Bureau shall consult the notifying administration of the identified satellite network to find out whether it wishes to add more test points in that territory.

3 In creating the minimum ellipses, the Board decided that a rotation accuracy of 1.0° and a pointing error of 0.1° should be taken into account.

4 The test points taken from the national allotment or added during the application of § 6.39 are only for the purpose of generating the minimum ellipses and the combined ellipses and will not be used in technical examinations.

***Reasons**: This rule clarifies the space station antenna patterns and the approach to be used in generating the minimum ellipses and −10 dB contours in application of § 6.39. It also clarifies which test points as well as rotation accuracy and point error are to be used in the generation of the minimum ellipse and the combined ellipse.*

Effective date of application of the Rule: 1 January 2025.

ANNEX 24

Modification to existing rules of procedure on Article 7 of Appendix **30B** and addition of new rules of procedure on Annex 7 to Appendix **30B**

Rules concerning

APPENDIX 30B to the RR

Art. 7

Procedure for the addition of a new allotment to the Plan for a new Member State of the Union

MOD

§ 7.3

New allotment to the Plan for a new Member State of the Union

[*Editor's note: no change is proposed to §§ 1 to 8.2, or to § 9, of the current Rule.*]

8.3 Each new possible orbital position shall be examined by the Bureau as follows:

– regenerate the elliptical beam parameters;

– recalculate the required power density values to meet the *C/N* criteria of § 1.2 of Annex 1 to~~f~~ Appendix **30B**;

– using the methods and criteria~~3~~ contained in Appendices 1 and 2 to Attachment 1 to Resolution **170 (Rev.WRC-23)**~~of Annex 3 and Annex 4 of Appendix **30B**~~, determine whether the new allotment at that orbital position is compatible with the allotments and the assignments as mentioned in § 7.5 of Article 7.

Reasons: *All requests from a new Member State received before 17 November 2007 had already been processed and implemented accordingly. WRC-23 decided that the methods and criteria contained in Appendices 1 and 2 to Attachment 1 to Resolution **170 (Rev.WRC-23)** shall apply.*

Effective date of application of this Rule: 1 January 2025.

~~3 For a request from a new Member State received before 17 November 2007, a single entry of 25 dB and an aggregate *C/I* of 21 dB shall be applied.~~

ADD

Note: The World Radiocommunication Conference (Dubai, 2023) (WRC-23) took a decision on the procedure under Article 7 of Appendix **30B** at its 13th plenary meeting, see § 13.10 of Document CMR23/528, which reads as follows:

13.10 On issues related to the Article **7** procedure of Appendix **30B**, it was proposed that the following text be approved and included in the minutes of the Plenary:

"WRC-23 urges administrations with Appendix **30B** Part A submissions received before 12 March 2020 to make all efforts to accommodate Article **7** submissions of other administrations and to take into account the results of the analyses of the Bureau and the measures to avoid further degradation of the *C/I* level when preparing their Part B submissions.

WRC-23 instructed the Bureau to contact the additional seven countries (Eritrea, Estonia, Latvia, Saint Lucia, Tajikistan, Timor-Leste and Turkmenistan) and the State of Palestine, which still have no allotment in the Appendix **30B** Plan, and to identify orbital resources should they wish to initiate the process under Article **7**."

ADD

Annex 7

Measures in order to facilitate the addition of a new allotment to the Plan for a new Member State of the Union

§ 5 *a)*

§ 5 states that "*should the power density of the proposed new allotment be limited to a single minimum value… meeting the carrier-to-noise (C/N) objectives and an overall aggregate carrier-to-interference value of 21 dB, as indicated in Annex 1 to Appendix 30B,…*" additional measures including § 5 a) shall be applied.

The Board noted that, when applying § 7.3 of Article 7 of Appendix **30B** for identifying technical characteristics of possible new allotments, the power density values are calculated based on the *C/N* criteria of § 1.2 of Annex 1 of Appendix **30B** without consideration of aggregate *C/I* values.

However, when the requesting administration selects the characteristics of the new allotment from those proposed by the Bureau, it may request the Bureau to increase the power density values of the selected new allotment if any of its aggregate *C/I* values are less than 21 dB. The Board instructed the Bureau to then recalculate the power density values for the new allotment in order to meet the 21-dB aggregate *C/I* target, taking into account any appropriate limitation contained in Articles **21** and **22** and Annex 3 to Appendix **30B**.

§ 5 *b)*

This provision indicates that, in examining a proposed new allotment, §§ 5 *a)* and 5 *d)* of Annex 7 shall not be applied to frequency assignments already entered in the List; however, it does not mention which criteria should be used in that case instead of those under §5 *a)*.

The Board instructed the Bureau that, with respect to frequency assignments entered in the List on or before the date of receipt of the proposed new allotment under examination:

– a frequency assignment shall be considered as being affected if either one of the single-entry carrier-to-interference ratios ((*C/I)d* and (*C/I*)*u*) or the overall aggregate carrier-to-interference ratio ((*C/I)agg*), is not equal to or greater than its associated value specified in§ 2.1 of Annex 4 to Appendix **30B**; and

– if the frequency assignment in the List is identified as affected, the proposed new allotment should not be taken into account when updating the reference situation of that frequency assignment, when the proposed new allotment is entered in the List and/or the Plan.

Reasons: *To clarify the course of action to implement the grandfathering clause under § 5 b) of Annex 7, in particular that, for frequency assignments entered in the List on or before the date of receipt of the proposed new allotment under examination, the criteria under Annex 4 shall be used.*

Effective date of application of these Rules: 1 January 2025.

ANNEX 25

Addition of new rules of procedure on Resolution **8 (WRC-23)**

Rules concerning

RESOLUTION 8 (WRC-23)

Tolerances for certain orbital characteristics of space stations deployed as part of non-geostationary-satellite orbit systems in the fixed-satellite, broadcasting-satellite or mobile-satellite service

1 When the modification of a frequency assignment subject to Section II of Article **9** is submitted in application of *resolves* 9 of Resolution **8 (WRC-23)**, it shall be examined under No. **11.43A** to determine whether the coordination requirements remained unchanged following the procedure indicated in § 2 of the rules of procedure on No. **11.43A**. If, due to the modifications, new coordination requirements are identified for the frequency assignments that are subject to Resolution **35 (Rev.WRC-23)** and Resolution **8 (WRC-23)**[8] and have space stations whose deviations in altitude or inclination were the basis for the modifications, the Board concluded that such frequency assignments shall receive an unfavourable finding and be returned to the notifying administration.

2 When applying *resolves* 9 and in order to demonstrate a non-increase in interference and subsequent non-increase in coordination requirements following the method contained in § 2 of the rule of procedure on No. **11.43A** and in the absence of appropriate criteria or calculation methods, the Board decided that the notifying administration may provide technical justifications based on dynamic interference assessments in the form of a cumulative distribution function of the interference level, expressed as an interference-to-noise (*I/N*) ratio, for various locations and percentages of time, created in the subsequently filed non-geostationary-satellite orbit (non-GSO) systems or geostationary-satellite orbit (GSO) networks by the existing non-GSO system based on its initial characteristics and modified characteristics, respectively. The Bureau shall thoroughly study the technical justifications provided by the notifying administration in order to make its findings under No. **11.43B**.

3 The Board noted that *resolves* 16 of Resolution **8 (WRC-23)** limits the modifications to be submitted under that *resolves* to any sub-items of Appendix **4** data item A.4.b.4, except data item A.4.b.4.b (i.e. the number of satellites in the orbital plane), and any sub-items of data items A.14, A.4.b.6.a and A.4.b.7. Modifications involving the change of Appendix **4** data item A.4.b.4.b (i.e. a decrease in the number of satellites in the orbital plane) shall be submitted under *resolves* 11 *c)* of Resolution **35 (Rev.WRC-23)**.

However, noting the condition for a favourable finding under No. **11.43B** described in *resolves* 14 *c)* ii) of Resolution **35 (Rev.WRC-23)**,[9] the Board decided that a modification submitted

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[8] The frequency assignments subject to Resolution **35 (Rev.WRC-23)** are those frequency assignments of non-GSO systems in the frequency bands and in the services listed in the table under *resolves* 1 of Resolution **35 (Rev.WRC-23)**.

[9] The modifications are limited to the reduction of the number of orbital planes (Appendix 4 data item A.4.b.2) and modifications to the longitude of the ascending node (Appendix 4 data item A.4.b.4.j) associated with the remaining orbital planes, or reduction of the number of space stations per plane

under *resolves* 10 of Resolution **8 (WRC-23)** involving the change of data item A.4.b.4.b will be treated as complying with the condition in *resolves* 16 *c)* ii), provided that the notifying administration indicates that the modification is submitted in simultaneous application of *resolves* 11 of Resolution **35 (Rev.WRC-23**) and *resolves* 10 of Resolution **8 (WRC-23)**. Similarly, such a modification may be treated as complying with the condition in *resolves* 14 *c)* ii) of Resolution **35 (Rev.WRC-23)** if it involves changes to any sub-item of data item A.4.b that is not listed in *resolves* 14 *c)* ii) of Resolution **35 (Rev.WRC-23)** when such modification is associated with the application of *resolves* 10 of Resolution **8 (WRC-23)**.

If, due to modifications, any of the conditions contained in *resolves* 16 *c)* i), 16 *c)* ii) or 16 *c)* iii) are not met, except when only the condition under *resolves* 16 *c)* ii) is not met because the number of satellites in data item A.4.b.4.b is reduced as a result of a simultaneous application of *resolves* 11 of Resolution **35 (Rev.WRC-23)** and *resolves* 10 of Resolution **8 (WRC-23)**, the Board further decided that all modified frequency assignments subject to Resolution **35 (Rev.WRC-23)** shall receive an unfavourable finding and shall be returned to the notifying administration.

4 The notifying administration will be invited to apply Section II of Article **9** for all frequency assignments receiving unfavourable findings under §§ 1 and 3 above.

Reasons: *§§ 1 and 2 aim at providing clarifications on the Bureau's actions in case modifications are submitted under resolves 9 of Resolution **8 (WRC-23)**.*

*§ 3 aims at providing clarifications on the Bureau's actions in case modifications are submitted under resolves 10 of Resolution **8 (WRC-23)** or in case of a simultaneous application of resolves 11 of Resolution **35 (Rev.WRC-23)** and resolves 10 of Resolution **8 (WRC-23)**.*

Effective date of application of this Rule: 1 January 2025.

(Appendix 4 data item A.4.b.4.b) and modifications of the initial phase angle of the space stations (Appendix 4 data item A.4.b.4.h) within planes.

ANNEX 26

Addition of new rules of procedure on Resolution 35 (Rev.WRC-23)

ADD

Rules concerning

RESOLUTION 35 (Rev.WRC-23)

A milestone-based approach for the implementation of frequency assignments to space stations in a non-geostationary-satellite system in specific frequency bands and services

For the application of *resolves* 17 *b)* i) of Resolution **35 (Rev.WRC-23)**, the Board understands that all satellites in any orbital plane not listed in the final complete deployment information, and all orbital planes where no satellite is listed in the final complete deployment information, submitted under *resolves* 2, 3, 7 or 8, as appropriate, of Resolution **35 (Rev.WRC-23)** will have to be suppressed from the notice. Consequently, any beams and groups of frequency assignments solely associated with such orbital planes or satellites will also have to be suppressed.

Regarding frequency assignments that were associated with the remaining orbital planes and satellites, if the modifications to the notified characteristics of the satellite system provided for under *resolves* 11 of Resolution **35 (Rev.WRC-23)** were not submitted following failure to reach the established milestones, the Board concluded that, in the application of *resolves* 17 *b)* ii), a symbol will be inserted into the "Remarks" field indicating that those frequency assignments are not in compliance with Resolution **35 (Rev.WRC-23)** and will no longer be taken into account under subsequent examinations under Nos. **9.36**, **11.32** or **11.32A**. The information recorded under the date of protection or "2D-date" (i.e. the date from which a frequency assignment is taken into account as defined in § 1 *e)* of Appendix **5**) and the information concerning the status of coordination agreements will also be removed for those frequency assignments.

Following those actions, the Board noted that such frequency assignments will be recorded in the Master Register for information purposes only and shall not cause harmful interference to, or claim protection from, a station operating in accordance with the Radio Regulations, in a manner similar to a recording with a request for the application of No. **4.4**. The Board instructed the Bureau to publish the updated status of such frequency assignments in a BR IFIC.

Noting that *resolves* 17 applies only in cases where a notifying administration fails to provide the required information and in order to avoid retaining unused frequency assignments in the Master Register, the Board also instructed the Bureau to apply No. **13.6** before recording and publishing the updated status of such frequency assignments.

Reasons: *The Bureau reported on the application of resolves 17 b) of Resolution **35 (WRC-19**) to the World Radiocommunication Conference (Dubai, 2023). The Rule will ensure that the procedure applied in this case is documented and transparent.*

Effective date of application of this Rule: immediately upon approval.

ANNEX 27

Addition of new rules of procedure on Resolution **121 (WRC-23)**

Rules concerning

RESOLUTION 121 (WRC-23)

Use of the frequency band 12.75-13.25 GHz by earth stations in motion on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service

ANNEX 1 TO RESOLUTION 121 (WRC-23)

Procedure to be followed by the administrations and the Bureau for submission of the earth stations in motion on aircraft and vessels operating in the frequency band 12.75-13.25 GHz (Earth-to-space) and for the protection of allotments in the Plan, assignments in the Appendix 30B List and those submitted under Articles 6 and 7 of Appendix 30B as well as under Resolution 170 (Rev.WRC-23)

Section A – Procedure for entering assignments to earth stations in motion on aircraft and vessels in the Appendix 30B ESIM List

ADD

§ 3 *a)*

The Board noted that the footnotes attached to provisions § 3 *a)* and § 14 *a)* of Section A and § 6.1 of Section B require that the "*other provisions*" mentioned in those provisions shall be identified and included in the Rules of Procedure. As the earth stations in motion on aircraft and vessels in the frequency band 12.75-13.25 GHz should operate within the envelope of the supporting frequency assignments in the List of Appendix **30B**, the "*other provisions*" should be the same as those applied in the examination of an Appendix **30B** notice.

In this regard, the rules of procedure on § 6.3 *a)* of Appendix **30B** list the "*other provisions*" that are contained in Articles **21** and **22** of the Radio Regulations with respect to which Appendix **30B** notices are examined under § 6.3 *a)*, § 6.19 *b)*, § 7.5 *a)* or § 8.8 of Appendix **30B,** including "*conformity with the power limits for earth stations as stipulated in provisions Nos. **21.8** … and **21.12**, … account being taken of provisions Nos. **21.9** and **21.11***" and "*conformity with the minimum angle of elevation of earth stations as stipulated in provisions Nos. **21.14**…*".

However, the Board noted that Nos. **21.8** and **21.12** of the Radio Regulations and Annex 2 to Resolution **121 (WRC-23)** are intended to protect terrestrial services. Since the limitations contained in No. **21.8** are less stringent than those contained in Annex 2 to Resolution **121 (WRC-23)**, the Board concluded that examination under **No. 21.8** is not necessary. In addition, noting the nature of earth stations in motion on aircraft and vessels, as typical stations, and considering the WRC-15 decision related to No. **21.14** that removed the limitation on the setting of

grid points with an elevation angle of at least 3°, the Board further concluded that the examination under No. **21.14** is not required either.

The Board also decided that the "other provisions" that are contained in Article **22** and that shall be applied in examinations under § 3 *a)* and § 14 *a)* of Section A and § 6.1 of Section B are the following:

– conformity with the power limits for earth stations in motion on aircraft and vessels as stipulated in No. **22.26** under the conditions specified in No. **22.37** where the earth stations in motion on aircraft and vessels are subject to those power limitations; and

– conformity with the limit specified in No. **22.8**.

Other provisions of Articles **21** and **22** will not be taken into account in the regulatory examination under § 3 *a)* and § 14 *a)* of Section A and § 6.1 of Section B since the Board understands that those provisions are to be applied between administrations as appropriate.

ADD

§ 14 *a)*

See the rules of procedure on § 3 a) above.

Section B – Procedure for notification and recording in the Master International Frequency Register of assignments to earth stations in motion on aircraft and vessels dealt with under this Resolution

ADD

§ 6.1

See the rules of procedure on § 3 *a)* of Section A above.

Reasons: *These Rules are similar to the rules of procedure on the footnotes related to §§ 6.3 a), 6.19 b), 7.5 a) and 8.8 of Appendix* ***30B****. The main difference is that the provisions concerned are only those related to the uplink. In addition, the requirement under No.* ***21.8****, which limits the e.i.r.p. transmitted in the direction of the horizon, is already covered by Annex 2 to Resolution* ***121 (WRC-23)****, where the limits are much more stringent, and No.* ***21.14*** *is not suitable for typical earth stations.*

Effective date of application of these Rules: 1 January 2025

ANNEX 28

Addition of new rules of procedure on Resolution **123 (WRC-23)**

Rules concerning

RESOLUTION 123 (WRC-23)

Use of the frequency bands 17.7-18.6 GHz, 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by aeronautical and maritime earth stations in motion communicating with non-geostationary space stations in the fixed-satellite service

1 The Board noted that r*esolves* 2 of Resolution **123 (WRC-23)** requires that the characteristics of earth stations in motion (ESIMs) shall remain within the envelope characteristics, including any applicable coordination agreement, of typical earth stations associated with the non-geostationary satellite orbit (non-GSO) system in the fixed-satellite service (FSS) with which ESIMs communicate.

1.1 For applying *resolves* 2, the Board decided that the Bureau shall identify whether the ESIM characteristics are within the envelope characteristics of typical earth stations associated with the satellite system with which those aeronautical and/or maritime ESIMs communicate by using the method contained in § 2.3 of the rule of procedure on No. **9.27**. In cases where such examination indicates that coordination requirements of the frequency assignments of aeronautical and/or maritime ESIMs involve any additional satellite network or system, the frequency assignments to the aeronautical and/or maritime ESIMs will be returned to the notifying administration together with an unfavourable finding under No. **11.32**. The results of the Bureau's examination shall be published in its International Frequency Information Circular (BR IFIC).

1.2 In addition to the procedure indicated in § 1.1 above, in cases where ESIMs operate in the frequency bands 27.5-28.6 GHz and 29.5-30 GHz (Earth-to-space), the Board concluded that the minimum elevation angle submitted for ESIMs (see Appendix **4** data item A.36.a) shall be greater than or equal to the minimum elevation angle submitted for the associated group of frequency assignments to the non-GSO FSS system (see Appendix **4** data item A.4.b.7.c*bis*) in order to ensure that ESIMs comply with epfd limits set out in No. **22.5D**.

The Board noted that, for aeronautical ESIMs, the reference minimum elevation angle value of typical earth stations of the associated non-GSO FSS system, when adjusted to an altitude of 15 km, will be greater than the one corresponding to an altitude of 0 km, provided that the same viewing angle is maintained from the non-GSO space station.

Reasons: *§ 1.1 aims at clarifying the procedure for verifying that non-GSO ESIMs remain within the envelope of typical earth stations associated with the non-GSO FSS system, which is also in accordance with the procedure described in Circular Letter CR/461 relating to Resolution **169 (Rev.WRC-19)**.*

*§ 1.2 aims at ensuring that characteristics of non-GSO ESIMs correspond to the characteristics of non-GSO FSS systems required for verifying compliance with Article **22** epfd limits.*

2 The Board noted that *resolves* 3.5 of Resolution **123 (WRC-23)** requires that, with respect to the protection of the Earth exploration-satellite (passive) service operating in the frequency band

18.6-18.8 GHz, any non-GSO FSS system with an orbital apogee of less than 20 000 km operating in the frequency bands 18.3-18.6 GHz and 18.8-19.1 GHz with which aeronautical and/or maritime ESIMs communicate and for which the complete notification information has been received by the Bureau after 1 January 2025 shall comply with the provisions indicated in Annex 3 to the Resolution. Given the fact that Resolution **123 (WRC-23)** entered into force on 1 January 2025, the Board concluded that the provision applies to any non-GSO FSS system with an orbital apogee of less than 20 000 km operating in the frequency bands 18.3-18.6 GHz and 18.8-19.1 GHz with which aeronautical and/or maritime ESIMs communicate and for which the notification information has been received by the Bureau as of, rather than only after, 1 January 2025.

Reasons: *To clarify the scope of application of resolves 3.5 of Resolution **123 (WRC-23)** so that the requirement contained in that resolves is also applicable to non-GSO FSS systems for which complete notification information is received on 1 January 2025. In addition, the Board understands that, although non-GSO FSS systems in the frequency bands 18.3-18.6 GHz and 18.8-19.1 GHz are subject to coordination, the intention of WRC-23 was to apply the provision to non-GSO FSS systems for which a coordination procedure may already have been initiated before 1 January 2025 but for which complete notification information is received on or after 1 January 2025.*

3 In addition, the Board concluded that the Bureau shall examine the characteristics of aeronautical ESIMs with respect to conformity with the pfd limits at the Earth's surface specified in Part II of Annex 1 to Resolution **123 (WRC-23)** by using the methodology contained in the rule of procedure on calculation of power-flux density levels produced by aeronautical ESIMs and their validation with the limits in Annex 3 to Resolution **169 (Rev.WRC-23)**, Annex 2 to Resolution **121 (WRC-23)** and Annex 2 to Resolution **123 (WRC-23)**. The findings shall be in accordance with No. **11.31**.

4 With respect to provisions contained in Part 1 of Annex 1 and in Annex 3 to Resolution **123 (WRC-23)**, the Board further concluded that no examination shall be carried out by the Bureau. The notifying administration of the non-GSO FSS system with which the ESIMs communicate shall ensure compliance with those provisions when providing the commitment required under item A.34.a of Annex 2 to Appendix **4** to operate ESIMS in conformity with the Radio Regulations and Resolution **123 (WRC-23)**.

Reasons: *To clarify what limits have to be examined by the Bureau.*

Effective date of application of this Rule: 1 January 2025.

Annex 29

Addition of new rules of procedure on Resolution **678 (WRC-23)**

Rules concerning

PART A1

ADD

RESOLUTION 678 (WRC-23)

Use of the frequency band 14.8-15.35 GHz by the space research service (space-to-space) (Earth-to-space) (space-to-Earth) and associated transitional measures

1 For the Bureau to be able to examine compliance with the power flux-density (pfd) level contained in *resolves* 1.1 of Resolution **678 (WRC-23)**, the Board decided that a commitment not to exceed the pfd level of −156 dB(W/m^2) for more than 2% of the time in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy site observing in the frequency band 15.35-15.4 GHz, is required when notifying earth stations operating in the space research service in the frequency band 14.8-15.35 GHz.

Reasons: *The World Radiocommunication Conference (Dubai, 2023) (WRC-23) decided to upgrade the space research service in the frequency band 14.8-15.35 GHz. To protect radio astronomy sites observing in the frequency band 15.35-15.4 GHz, commitments A.17.g.1 and A.17.g.2 of Appendix* ***4*** *must be provided for non-geostationary satellite systems and geostationary satellite systems, respectively, to meet the pfd and epfd limits specified in resolves 1.2 and 1.3 of Resolution* ***678 (WRC-23)****. However, no such commitment existed for earth stations, even though resolves 1.1 required any earth station in the space research service operating in the frequency band 14.8-15.35 GHz to meet the specified pfd limits to protect radio astronomy sites observing in the frequency band 15.35-15.4 GHz.*

2 In *resolves* 1.5, three pfd limits on the Earth's surface are listed as applicable to space stations in the space research service in the frequency band 14.8-15.35 GHz. The pfd limit of −145.6 dB(W/(m^2 · MHz)) produced at any point on the Earth's surface and not to be exceeded for more than 1% of time within a 24-hour period is applicable to space-to-space links. The Board decided that the Bureau should apply the following methodology in order to establish findings under No. **11.31** related to this pfd limit.

2.1 Direction of transmission

A finding shall be established only for frequency assignments in the satellite transmitting beams. In the case of a receiving beam when transmission is carried out by an associated space station, the finding shall be established for the frequency assignments of this associated space station.

2.2 Case where both space stations are using the geostationary-satellite orbit

The pfd level is calculated using static geometry. The pfd limit is considered as having been exceeded if the pfd level of −145.6 dB(W/(m^2 · MHz)) is exceeded at any point of the Earth' surface.

2.3 Case where any of the space stations is using a non-geostationary-satellite orbit

The pfd level is calculated at each grid point on the Earth's surface through a dynamic simulation over a sufficient simulation running time. For each time step, a space-to-space link is established using the two closest space stations.

To identify whether the pfd limit has been exceeded, the worst 24-hour period (i.e. having the maximum number of events exceeding the value of −145.6 dB(W/(m^2 · MHz)) at any grid point) is considered.

2.4 Space station radiation antenna patterns

Administrations submitting a notice for frequency assignments to a space station in the space research service in the frequency band 14.8-15.35 GHz shall either indicate a standard space station antenna radiation pattern or capture a non-standard antenna pattern in the Graphical Interference Management Software (GIMS).

2.5 Status of the notification of the associated space station

In cases where a notice for frequency assignments to a space station in the space research service in the frequency band 14.8-15.35 GHz is submitted for coordination, but the notice for frequency assignments to the associated space station in the non-geostationary satellite orbit has not yet been communicated to the Bureau, the Bureau shall establish a qualified favourable finding that shall be reviewed at the notification stage.

In cases where a notice for frequency assignments to a space station in the space research service in the frequency band 14.8-15.35 GHz is submitted for notification, but the notice for frequency assignments to the associated space station for advance publication, coordination as appropriate, has not yet been received, the notice for notification referred to above is considered non-receivable (see § 4.3.3. of the rules on receivability).

Reason: *To clarify how the second pfd limit contained in resolves 1.5 of Resolution* ***678 (WRC-23)*** *is examined under No.* ***11.31****.*

Effective date of application of this Rule: 1 January 2025.

Annex 30

Modification to existing rules of procedure (Section B6 of Part B) to specify methods for identification of potentially affected administrations under No. **9.21** for Nos. **5.295A, 5.307A, 5.434A, 5.457F** and **5.480A**

PART B

SECTION B6

MOD

Rules concerning criteria for applying the provisions of No. 9.36 to a frequency assignment in the terrestrial services whose allocation or identification is governed by Nos. 5.292, 5.293, 5.295, 5.295A, 5.296A, 5.297, 5.307A, 5.308, 5.308A, 5.309, 5.323, 5.325, 5.326, 5.341A, 5.341C, 5.346, 5.346A, ~~5.429D,~~ * ~~5.429F~~, 5.430A, 5.431A, 5.431B, 5.432B, ~~5.434~~[1]* 5.434A, 5.457F, 5.480A and 5.553A

…

2 For identification of the administrations whose agreement may need to be obtained, in the context of the provisions of Nos. **5.292**, **5.293**, **5.295**, **5.295A**, **5.296A**, **5.297**, **5.307A**, **5.308**, **5.308A**, **5.309**, **5.323**, **5.325**, **5.326**, **5.341A**, **5.341C**, **5.346**, **5.346A**, ~~**5.429D,**~~ * ~~**5.429F**~~, **5.430A**, **5.431A**, **5.431B**, **5.432B**, ~~**5.434**~~* **5.434A, 5.457F, 5.480A** and **5.553A**, the following criteria are applied:

2.1 the *coordination distance concept* is applied with respect to the services that are allocated according to Article **5** (these services are indicated in the Table below under the heading "Protected service");

TABLE 1

Applicability of No. 9.21

Footnote	Frequency band (MHz)	Allocated service (No. 9.21)	Protected service
5.292 [1]	470-512	FS, MS	BS
5.293 [1]	470-512 and 614-806	FS, MS	BS
5.295	470-512	LMS (IMT)	BS, FS
	512-608	LMS (IMT)	BS
5.295A[3]	470-694	LMS, MMS	BS
	606-614	LMS, MMS	RAS
5.296A	470-698	LMS (IMT)	BS, FS
	585-610	LMS (IMT)	RNS
5.297	512-608	FS, MS	BS
5.307A	614-694	LMS (IMT), MMS	BS
5.308	614-698	MS	BS
5.308A	614-698	MS (IMT)	BS

~~[1] See also Rules of Procedure to Nos. **5.312A, 5.316B, 5.341A** and **5.346.**~~

* WRC-23 deleted the reference to No. **9.21** from the modified Nos. **5.429D** and **5.434** as explained in Circular Letter CCRR/73.

Footnote	Frequency band (MHz)	Allocated service (No. 9.21)	Protected service
5.309 [1]	614-806	FS	BS, MS
5.323	862-960	ARNS	FS, MS
5.325 [1]	890-942	RLS	FS, MS
5.326 [1]	903-905	LMS,MMS	FS
5.341A[2]	1 429-1 452 1 492-1 518	LMS (IMT)	AMS
5.341C	1 429-1 452 1 492-1 518	LMS (IMT)	AMS
5.346[2]	1 452-1 492	LMS (IMT)	AMS
5.346A	1 452-1 492	LMS (IMT)	AMS
~~**5.429D***~~	~~3 300-3 400~~	~~LMS (IMT)~~	~~RLS~~
5.429F	3 300-3 400	LMS (IMT)	RLS
5.430A	3 400-3 600	LMS, MMS	FS, FSS
5.431A and 5.432B[1]	3 400-3 500	LMS, MMS	FS, FSS
5.431B	3 400-3 600	LMS (IMT)	FS, FSS
5.434A	3 600-3 800	LMS, MMS	FS, FSS
5.457F	6 425-7 125	LMS (IMT)	FS, MS
5.480A	10 000-10 500	LMS (IMT)	RLS, FS
~~**5.434***~~	~~3 600-3 700~~	~~LMS (IMT)~~	~~FS, FSS~~
5.553A	45 500-47 000	LMS (IMT)	AMS, RNS

[1] Different category of service.

[2] For frequency assignments subject to this provision the No. 9.21 procedure does not apply to those administrations whose territories are outside of the distances specified in the corresponding Rules of Procedure on No. **5.341A** and No. **5.346**.

[3] Secondary service.

3 In the calculation of the coordination distances the following approach is used:

…

3.1*bis* For the protection of the broadcasting (television) service in the frequency band 470-694 MHz in the context of the provisions of Nos. **5.295A** and **5.307A**, the coordination distances are calculated at a height of 10 m above ground level at the border of the territory of any other administration, using the propagation curves provided in the GE06 Agreement at 1% of time and 50% of locations with the coordination trigger field strengths as provided in § 4.1.3.2 of Annex 2 to the GE06 Agreement and given in Table 2*bis*.

TABLE 2*bis*

Coordination trigger field strengths for protection of BS, in the context of Nos. 5.295A and 5.307A

Service to be protected	Trigger field strength (dB(μV/m))	
	470-582 MHz	582-694 MHz
BS	13.229	15.229

Reason: *The frequency band 470-694 MHz was allocated to the mobile, except aeronautical mobile, service under No.**5.295A** on a secondary basis and under No. **5.307A** on a primary basis in some Region 1 countries subject to agreement obtained under No. **9.21**. To initiate coordination with respect to the broadcasting service, the coordination trigger field strengths are as provided in § 4.1.3.2 of Annex 2 to the GE06 Agreement in accordance with Nos. **5.295A** and **5.307A**.*

…

3.7 For protection of the radiolocation service in the frequency band 3 300-3 400 MHz from IMT in the context of the provisions of No~~s~~. ~~**5.429D** and~~ **5.429F**, the coordination distance is contained in Table 3.

TABLE 3

Coordination distance for protection of the RLS (from the IMT system, effective antenna height 30 m) in the frequency band between 3 300-3 400 MHz

Footnote	Frequency range (MHz)	Allocated service (application) (No. 9.21)	Protected service	Coordination distance (km)
~~**5.429D**~~ **5.429F**	3 300-3 400	LMS (IMT)	RLS	616

NOTE – The coordination distance was calculated using the propagation curves of Recommendation ITU-R P.528-3 for 1% of time and 50% of locations with the interference level of –107 dBm for protection of the airborne radar at the height of 10 000 m derived from Recommendation ITU-R M.1465-3. A reference IMT Advanced station was assumed as having radiated power of 31 dBW (e.i.r.p.) and a bandwidth of 10 MHz as used in Report ITU-R M.2292-0.

3.8 For the protection of the fixed and fixed-satellite services in the frequency bands between 3 400 MHz and 3 ~~700~~800 MHz from the mobile, except aeronautical mobile, service in the context of the provisions of Nos. **5.430A**, **5.431A** and **5.432B**, and from IMT in the context of the provisions of Nos. **5.431B** and ~~**5.434**~~**5.434A**, the power flux-density of –154.5 dB(W/m^2 · 4 kHz)[2] produced at the height of 3 m above ground level is used.

Based on the above pfd value the coordination distances are calculated using Recommendation ITU-R P.452-~~16~~18 ~~for~~ at 20% of time with a smooth Earth terrain profile.

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2 This value was decided by WRC-07 based on the protection of a typical earth station in the fixed-satellite service.

Reasons: *WRC-23 deleted reference to No.* ***9.21*** *from the modified Nos.* ***5.429D*** *and* ***5.434*** *dealing with the identification of the frequency bands, 3 300-3 400 MHz and 3 600-3 700 MHz for administrations wishing to use IMT systems. Consequently, the provisions for Nos.* ***5.429D*** *and* ***5.434*** *should be removed from the Rules of Procedure in Part B, Section B6. To reflect the upgraded allocation of the frequency band 3 600-3 800 MHz to the mobile, except aeronautical mobile, service on a primary basis in Region 1 subject to agreement obtained under No.* ***9.21*** *in accordance with No.* ***5.434A****.*

…

3.10 For the protection of stations in the radioastronomy service in the frequency band 606-614 MHz from the radio services indicated in Column 3 of Table 1, in the context of the provisions of No. **5.295A**, coordination trigger distances of 1 053 km for a base station in the mobile service and 445 km for a land mobile station in the mobile service are used with respect to the border of a neighbouring country.

Reason: *The frequency band 470-694 MHz was allocated to the mobile, except aeronautical mobile, service in some Region 1 countries on a secondary basis subject to agreement obtained under No.* ***9.21****. The frequency band 608-614 MHz is allocated to the radioastronomy service in the African Broadcasting Area on a primary basis by No.* ***5.304****; in Region 1, except the African Broadcasting Area, and in Region 3, it is allocated on a secondary basis. To initiate coordination with respect to the radioastronomy service, the coordination trigger distance criteria are given based on the study results contained in Annex 3 to Document 6-1/130.*

3.11 For the protection of the fixed and mobile services in the frequency band 6 425-7 125 MHz from IMT, in the context of the provisions of No. **5.457F**, a coordination trigger distance of 200 km with respect to the border of a neighbouring country is used.

Reason*: To reflect the requirements in relation to No.* ***5.457F****, which identifies the frequency band 6 425-7 125 MHz for IMT subject to agreement obtained under No.* ***9.21****, it is proposed to use the most stringent value of 200 km for the identification of affected administrations for the protection of the fixed and mobile services under No.* ***9.21****, taken from results of Study C of Annex 4.16 to Document 5D/1776, taking into account the worst-case fixed-service system parameters provided in Recommendation ITU-R F.758-7.*

3.12 For the protection of stations in the fixed and radiolocation services in the frequency band 10-10.5 GHz from IMT as indicated in Column 3 of Table 1, in the context of the provisions of No. **5.480A**, a coordination trigger distance of 500 km for IMT stations of Mexico with respect to the border of the United States is used.

Reason: *To reflect the requirements in relation to No.* ***5.480A****, which identifies the frequency band 10-10.5 GHz for IMT subject to agreement obtained under No.* ***9.21****, it is proposed to use the most stringent value of 500 km taken from Annexes 4.20 and 4.23 to Document 5D/1776 for the protection of the fixed and radiolocation services in the frequency band 10-10.5 GHz, where that separation distance was obtained by Monte Carlo simulations using Recommendations ITU-R P.528 at 5% of time and for IMT stations with an e.i.r.p. of 17.5 dBW and a radar system at a height of 9 000 m, and using a −6 dB protection ratio (I/N), 6 dB noise figure and 42 dBi antenna gain.*

Effective date of application of this Rule: 1 January 2025.

Annex 31

Addition of new rules of procedure on the calculation of power-flux density levels produced by aeronautical earth stations in motion (A-ESIM) and their validation with the limits contained in Annex 3 to Resolution **169 (Rev.WRC-23)**, Annex 2 to Resolution **121 (WRC-23)** and Annex 2 to Resolution **123 (WRC-23)**

Rules concerning

PART B

ADD

SECTION B8

Calculation of power-flux density levels produced by aeronautical earth stations in motion (A-ESIM) and their validation with the limits contained in Annex 3 to Resolution 169 (Rev.WRC-23), Annex 2 to Resolution 121 (WRC-23) and Annex 2 to Resolution 123 (WRC-23)

Annex 2 to Resolution **121 (WRC-23)** and Annex 2 to Resolution **123 (WRC-23)** contain methodologies and procedures to examine power flux-density levels at the Earth's surface produced by A-ESIM. The corresponding methodology for Resolution **169 (Rev.WRC-23)** is included in Recommendation ITU-R S.2158-0.

Reference bandwidth of the pfd limit

The three methodologies contain the same formula to calculate the transmission power from the maximum or minimum power spectral densities of A-ESIM.

Depending on the set of pfd limits that is considered (i.e. for A-ESIM altitudes up to 3 km or for those above 3 km), two different reference bandwidths need to be considered: 1 MHz and 14 MHz, respectively.

The Board noted that Note 2 of Recommendation ITU-R S.2158-0 indicates: "For the operation of emission bandwidth smaller than the reference bandwidth, this methodology is applicable provided that the notifying administration confirms that A-ESIM operates only one emission within the reference bandwidth. If there is no such confirmation, this methodology is not applicable." Moreover, the remark in Resolution **121 (WRC-23)** states that "the methodology assumes that only one emission within the reference bandwidth of 14 MHz is transmitted by A-ESIM".

As a consequence, the Board understood that the intentions of the World Radiocommunication Conference (Sharm el-Sheikh, 2019) (WRC-19) and the World Radiocommunication Conference (Dubai, 2023) (WRC-23) were to allow only one carrier emission to be in operation within the reference bandwidth of 14 MHz for all three cases addressed in Resolutions **121 (WRC-23)**, **123 (WRC-23)** and **169 (Rev.WRC-23)**.

The Board therefore concluded that when an Administration submits a frequency assignment to an A-ESIM with an emission bandwidth smaller than a 14 MHz reference bandwidth, it also commits to operate only one single emission with that given emission bandwidth in any 14 MHz bandwidth.

When an Administration wishes to simultaneously operate several transmissions with emission bandwidths smaller than a 14 MHz reference bandwidth, the emission characteristics of the carrier

should be suitably modified to indicate that multiple channels per carrier will be operated within a single emission (see Appendix **1** to the Radio Regulations).

Reason: *To ensure that the results of the pfd-limit examination conducted by the Bureau are representative of actual operations of A-ESIM carriers within a 14 MHz reference bandwidth.*

Conditions for compliance with the pfd limits

The methodology contained in Annex 2 to Resolution **121 (WRC-23)**, in Annex 2 to Resolution **123 (WRC-23)** or in Recommendation ITU-R S.2158-0 determines the maximum allowable power P_j for an A-ESIM transmitter.

The methodology then compares the computed P_j with the range of notified power levels of the A-ESIM emission. The minimum and maximum power values for emissions from the A-ESIM, $P_{\text{min\_}emission,j}$ and $P_{\text{max\_}emission,j}$, are calculated from the minimum and maximum power spectral densities of the A-ESIM emission.

An A-ESIM transmission is permitted at a certain altitude *j*, if the following condition is met:

$$P_{max\_emission,j} > P_j > P_{min\_emission,j}$$

Considering that the condition will prevent the use of altitude *j* in cases where the allowable power is high enough to permit the operation of the A-ESIM with its maximum notified power spectral density, the Board concluded that the Bureau should also check the following condition:

$$P_j \geq P_{max\_emission,j}$$

Whenever that condition is met, it is understood that the entire range of power levels of an A-ESIM can be used.

Reasons: *It appears from the contribution in Document 4A/942, on page 15, that the added condition was inadvertently omitted in Recommendation ITU-R S.2158-0 as well as in the methodologies in Resolutions* ***121 (WRC-23)*** *and* ***123 (WRC-23)****. The absence of that condition may result in an unfavourable finding when the allowable power is above the maximum transmission power of an A-ESIM.*

Effective date of application of this Rule: 1 January 2025.