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| **World Radiocommunication Conference (WRC-19)Sharm el-Sheikh, Egypt, 28 October – 22 November 2019** |  |
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| PLENARY MEETING | **Revision 1 to****Document 71-E** |
|  | **25 October 2019** |
|  | **Original: English** |
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| Belgium/France/Italy/Liechtenstein (Principality of)/Luxembourg/Netherlands (Kingdom of the) |
| Proposals for the work of the Conference |
|  |
| Agenda item 7(A) |

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

7(A) Issue A – Bringing into use of frequency assignments to all non-GSO systems, and consideration of a milestone-based approach for the deployment of non-GSO systems in specific frequency bands and services

Introduction

The co-signing Administrations are pleased to submit this proposal addressing agenda item 7, Issue A, of the 2019 World Radiocommunication Conference regarding a milestone-based approach for the deployment of non-GSO systems in specific frequency bands and services. The co-signing Administrations also support the proposal developed by the European Conference of Postal and Telecommunications administrations (CEPT) on agenda item 7, Issue A. However the CEPT proposal does not specify a commencement date of the milestone process. This contribution proposes 1 January 2023 as a commencement date, with a first milestone at 10% on 1January 2025.

Background

WRC-19 should set milestones and transitional measures for non-GSO systems with the aim of providing enough time to the different constellations under development to come to fruition. It is also essential for the space industry to avoid any unnecessary burdens that would lead to dismissing any of these projects through the definition of too restrictive regulations, whilst avoiding the warehousing of scarce spectrum and orbital resources. Therefore, the co-signing Administrations support a solution which offers a schedule compatible to all satellite projects currently under development.

The solution offered by the co-signing Administrations consists in setting the date of the commencement of the milestone process at 1 January 2023 for the milestones set out in the CEPT contribution on agenda item 7, Issue A: 10% after two years, 30% after four years and 100% after seven years. In this way, the first milestone of 10% which non-GSO systems currently under development should comply with will fall on 1 January 2025. In fact, the co-signing Administrations understand that many of such systems will operate under ITU filings whose regulatory deadline falls on or before the proposed date of the commencement of the milestone process (1 January 2023). Therefore, the co-signing Administrations believe that such a definition for the first milestone is compatible with the development and deployment schedule of all real systems.

The co-signing Administrations also propose that, for those non-GSO systems operating under an ITU filing expiring after 1 January 2023, the milestone process should begin at the end of the seven-year regulatory period of that ITU filing.

Among other things, the co-signing Administrations developed this proposal by taking the following into account:

• The space industry is currently working on the development of real non-GSO systems, and not on projects barely aimed at warehousing scarce spectrum and orbital resources.

• Such non-GSO systems are expected to use new technologies that take time to be fully developed and tested. Strict milestones would impose unnecessary time constraints that would force operators and manufacturers to select simpler technologies, that, although may be implemented faster, are not necessarily the most spectrally efficient.

• The Radio Regulations shall not be used to eliminate real non-GSO constellations projects and WRC-19 agenda item 7, Issue A, shall not be used as a tool to reduce the number of competing non-GSO systems.

• The solution offered by the co-signing Administrations has no impact on non-GSO constellations already in-orbit and fully deployed.

• When defining a set of milestones, it should be considered that the need of building more than a single spacecraft, of using more than one launch to deploy them, of validating a constellation’s design through the initial deployment of few prototypes, and the challenges related to acquiring the needed finance to support a complex project are issues that need time to be addressed. In particular, milestones which would allow for time margins should be developed, in order to make sure that any reasonable delay in any of the activities above are duly taken into account.

The complementary elements with regard to the CEPT contribution are highlighted in yellow in the attached document.

Proposal

WRC-19 is invited to consider the proposal for the commencement date of the milestone process on agenda item 7, Issue A, provided below.

ARTICLE 11

Notification and recording of frequency
assignments1, 2, 3, 4, 5, 6, 7, 8    (WRC‑15)

Section II − Examination of notices and recording of frequency assignments
in the Master Register

MOD BEL/F/I/LIE/LUX/HOL/71/1#50014

11.44 The notified date24, MOD 25, MOD 26of bringing into use of any frequency assignment to a space station of a space system shall be not later than seven years following the date of receipt by the Bureau of the relevant complete information under No. **9.1** or **9.2** in the case of satellite networks or systems not subject to Section II of Article **9** or under No. **9.1A** in the case of satellite networks or systems subject to Section II of Article **9**. Any frequency assignment not brought into use within the required period shall be cancelled by the Bureau after having informed the administration at least three months before the expiry of this period.     (WRC‑19)

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24 11.44.1In the case of space station frequency assignments that are brought into use prior to the completion of the coordination process, and for which the Resolution **49 (Rev.WRC‑15)** orResolution **552 (Rev.WRC‑15)** data, as appropriate, have been submitted to the Bureau, the assignment shall continue to be taken into consideration for a maximum period of seven years from the date of receipt of the relevant information under No. **9.1A**. If the first notice for recording of the assignments in question under No. **11.15** related to No. **9.1** or No. **9.1A** has not been received by the Bureau by the end of this seven-year period, the assignments shall be cancelled by the Bureau after having informed the notifying administration of its pending actions six months in advance.     (WRC‑15)

MOD BEL/F/I/LIE/LUX/HOL/71/2#50016

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25 11.44.2The notified date of bringing into use of a frequency assignment to a space station of a satellite system shall be the date of the commencement of the continuous period defined in No. **11.44B** or MOD No. **11.44C**, as applicable.    (WRC‑19)

MOD BEL/F/I/LIE/LUX/HOL/71/3#50017

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26 11.44.3, 11.44B.1 and ADD 11.44C.3Upon receipt of this information and whenever it appears from reliable information available that a notified frequency assignment has not been brought into use in accordance with No. **11.44**, No. **11.44B** or No. MOD **11.44C** as the case may be, the consultation procedures and subsequent applicable course of action prescribed in No. **13.6** shall apply, as appropriate.     (WRC‑19)

MOD BEL/F/I/LIE/LUX/HOL/71/4#50018

11.44C A frequency assignment to a space station in a non-geostationary-satellite orbit with the “Earth” as the reference body shall be considered as having been brought into use when a space station in the non-geostationary-satellite orbit with the capability of transmitting or receiving that frequency assignment has been deployed for a continuous period of 90 daysADD BB and, for frequency assignments to which Resolution **[BEL/F/I/LIE/LUX/HOL-A7(A)-NGSO-MILESTONES] (WRC-19)** applies, has been maintained on one of the notified orbital planesADD AA of the non‑geostationary-satellite system for a continuous period of 90 days. The notifying administration shall so inform the Bureau within 30 days from the end of the 90-day periodMOD 26, ADD CC. On receipt of the information sent under this provision, the Bureau shall make that information available on the ITU website as soon as possible.    (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/5#50019

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AA 11.44C.1In examining information provided by an administration in application of Nos. MOD **11.44C**, the following data items in Table A in Annex 2 of Appendix **4** shall be used, as appropriate, to determine if at least one of the orbital planes of the space stations in the non-geostationary-satellite system deployed corresponds to one of the notified orbits:

– Item A.4.b.4.a, the inclination of the orbital plane of the space station;

– Item A.4.b.4.d, the altitude of the apogee of the space station;

– Item A.4.b.4.e, the altitude of the perigee of the space station; and

– Item A.4.b.5.c, the argument of the perigee of the orbit of the space station (only for orbits whose altitudes of the apogee and perigee are different).     (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/6#50021

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BB 11.44C.2 A frequency assignment to a space station in a non-geostationary-satellite system orbit with a reference body that is not “Earth” shall be considered as having been brought into use when the notifying administration informs the Bureau that a space station with the capability of transmitting or receiving that frequency assignment has been deployed and operated in accordance with the notification information.     (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/7#50036

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CC 11.44C.3 A frequency assignment to a space station in a non-geostationary-satellite orbit with a notified date of bringing into use more than 120 days prior to the date of receipt of the notification information shall also be considered as having been brought into use if the notifying administration confirms, when submitting the notification information for this assignment, that a space station in a notified orbital plane (see also No. ADD **11.44C.1**) with the capability of transmitting or receiving that frequency assignment has been deployed and maintained as provided for in No. MOD **11.44C** for a continuous period of time from the notified date of bringing into use until the date of receipt of the notification information for this frequency assignment.     (WRC‑19)

MOD BEL/F/I/LIE/LUX/HOL/71/8#50023

11.49 Wherever the use of a recorded frequency assignment to a space station of a satellite network or to all space stations of a non-geostationary satellite system is suspended for a period exceeding six months, the notifying administration shall inform the Bureau of the date on which such use was suspended. When the recorded assignment is brought back into use, the notifying administration shall, subject to the provisions of Nos. **11.49.1** or ADD **11.49.2** when applicable, so inform the Bureau, as soon as possible. On receipt of the information sent under this provision, the Bureau shall make that information available as soon as possible on the ITU website and shall publish it in the BR IFIC. The date on which the recorded assignment is brought back into use28, ADD DD shall be not later than three years from the date on which the use of the frequency assignment was suspended, provided that the notifying administration informs the Bureau of the suspension within six months from the date on which the use was suspended. If the notifying administration informs the Bureau of the suspension more than six months after the date on which the use of the frequency assignment was suspended, this three-year time period shall be reduced. In this case, the amount by which the three-year period shall be reduced shall be equal to the amount of time that has elapsed between the end of the six-month period and the date that the Bureau is informed of the suspension. If the notifying administration informs the Bureau of the suspension more than 21 months after the date on which the use of the frequency assignment was suspended, the frequency assignment shall be cancelled.     (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/9#50024

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DD 11.49.2 The date of bringing back into use of a frequency assignment to a space station in the non-geostationary satellite orbit with the “Earth” as the reference body shall be the date of the commencement of the 90‑day period defined below. A frequency assignment to a space station in the non-geostationary-satellite orbit shall be considered as having been brought back into use when a space station in the non-geostationary satellite orbit with the capability of transmitting or receiving that frequency assignment has been deployed for a continuous period of 90 daysADD EE and, for frequency assignments to which Resolution **[BEL/F/I/LIE/LUX/HOL-A7(A)-NGSO-MILESTONES] (WRC‑19)** applies, has been maintained on one of the notified orbital planesADD FF of the non‑geostationary-satellite system for a continuous period of 90 days. The notifying administration shall so inform the Bureau within 30 days from the end of the 90-day period.     (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/10#50025

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EE11.49.3 A frequency assignment to a space station in a non-geostationary satellite orbit with a reference body that is not “Earth” shall be considered as having been brought back into use when the notifying administration informs the Bureau that a space station with the capability of transmitting or receiving that frequency assignment has been deployed and operated in accordance with the notification information.     (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/11#50026

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FF 11.49.4In examining information provided by an administration in application of No. ADD **11.49.2**, the following data items in Table A in Annex II of Appendix **4** shall be used, as appropriate, to determine if at least one of the orbital planes of the space stations in the non-geostationary-satellite system deployed corresponds to one of the notified orbits:

– Item A.4.b.4.a, the inclination of the orbital plane of the space station;

– Item A.4.b.4.d, the altitude of the apogee of the space station;

– Item A.4.b.4.e, the altitude of the perigee of the space station; and

– Item A.4.b.5.c, the argument of the perigee of the orbit of the space station (only for orbits whose altitudes of the apogee and perigee are different).     (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/12#50059

Section III – Maintenance of the recording of frequency assignments to non-GSO satellite systems in the Master Register     (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/13#50060

11.51 For frequency assignments to some non-GSO satellite systems in specific frequency bands and services, draft new Resolution **[BEL/F/I/LIE/LUX/HOL**-**A7(A)-NGSO-MILESTONES] (WRC‑19)** shall apply.     (WRC‑19)

ARTICLE 13

Instructions to the Bureau

Section II − Maintenance of the Master Register and of World Plans by the Bureau

MOD BEL/F/I/LIE/LUX/HOL/71/14#50061

13.6*b)* whenever it appears from reliable information available that a recorded assignment has not been brought into use, or is no longer in use, or continues to be in use but not in accordance with the notified required characteristicsADD 1 as specified in Appendix **4**, the Bureau shall consult the notifying administration and request clarification as to whether the assignment was brought into use in accordance with the notified characteristics or continues to be in use in accordance with the notified characteristics. Such a request shall include the reason for the query. In the event of a response and subject to the agreement of the notifying administration the Bureau shall cancel, suitably modify, or retain the basic characteristics of the entry. If the notifying administration does not respond within three months, the Bureau shall issue a reminder. In the event the notifying administration does not respond within one month of the first reminder, the Bureau shall issue a second reminder. In the event the notifying administration does not respond within one month of the second reminder, action taken by the Bureau to cancel the entry shall be subject to a decision of the Board. In the event of non-response or disagreement by the notifying administration, the entry will continue to be taken into account by the Bureau when conducting its examinations until the decision to cancel or modify the entry is made by the Board. In the event of a response, the Bureau shall inform the notifying administration of the conclusion reached by the Bureau within three months of the administration’s response. When the Bureau is not in a position to comply with the three-month deadline referred to above, the Bureau shall so inform the notifying administration together with the reasons therefor. In case of disagreement between the notifying administration and the Bureau, the matter shall be carefully investigated by the Board, including taking into account submissions of additional supporting materials from administrations through the Bureau within the deadlines as established by the Board. The application of this provision shall not preclude the application of other provisions of the Radio Regulations.    (WRC‑19)

ADD BEL/F/I/LIE/LUX/HOL/71/15#50062

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1 13.6.1 See also No. ADD **11.51**, for frequency assignments of non-geostationary-satellite systems recorded in the Master Register.     (WRC‑19)

APPENDIX 4 (REV.WRC‑15)

**Consolidated list and tables of characteristics for use in the
application of the procedures of Chapter III**

ANNEX 2

Characteristics of satellite networks, earth stations
or radio astronomy stations[[1]](#footnote-1)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

MOD BEL/F/I/LIE/LUX/HOL/71/16#50064

**TABLE A**

GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK,
EARTH STATION OR RADIO ASTRONOMY STATION     (Rev.WRC‑19)

| **Items in Appendix** | ***A \_ GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION***  | **Advance publication of a geostationary-satellite network** | **Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9** | **Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9** | **Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)**  | **Notification or coordination of a non-geostationary-satellite network** | **Notification or coordination of an earth station (including notification under Appendices 30A or 30B)**  | **Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)** | **Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)** | **Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)** | **Items in Appendix** | **Radio astronomy** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| \* \* \* | **\* \* \*** |  |  |  |  |  |  |  |  |  | \* \* \* |  |
| **A.18** | **COMPLIANCE WITH NOTIFICATION OF AIRCRAFT EARTH STATION(S)** |  | **A.18** |  |
| A.18.a | a commitment that the characteristics of the aircraft earth station (AES) in the aeronautical mobile-satellite service are within the characteristics of the specific and/or typical earth station published by the Bureau for the space station to which the AES is associatedRequired only for the band 14-14.5 GHz, when an aircraft earth station in the aeronautical mobile-satellite service communicates with a space station in the fixed-satellite service |  |  |  | **+** | **+** |  |  |  |  | A.18.a |  |
| **A.19** | **COMPLIANCE WITH § 6.26 OF ARTICLE 6 OF APPENDIX 30B** |  |  |  |  |  |  |  |  |  | **A.19** |  |
| A.19.a | a commitment that the use of the assignment shall not cause unacceptable interference to, nor claim protection from, those assignments for which agreement still needs to be obtained Required if the notice is submitted under § 6.25 of Article 6 of Appendix **30B** |  |  |  |  |  |  |  |  | **+** | A.19.a |  |
| **A.20** | **COMPLIANCE WITH *resolves* 10*b)* iii) AND 16*b)* iii) OF RESOLUTION [BEL/F/I/LIE/LUX/HOL-A7(A)-NGSO-MILESTONES] (WRC-19) *Editor’s note:*** *Resolves 16b iii) is linked with the Post-Milestone Option 1 of resolves 5* |  |  |  |  |  |  |  |  |  | **A.20** |  |
| A.20.a | a commitment stating that the characteristics as modified will not cause more interference or require more protection than the characteristics provided in the latest notification information published in Part I‑S of the BR IFIC for the frequency assignments to the non-geostationary satellite system |  |  |  |  |  | **0** |  |  |  |  |  |

ADD BEL/F/I/LIE/LUX/HOL/71/17#50063

DRAFT NEW RESOLUTION [BEL/F/I/LIE/LUX/HOL-A7(A)-NGSO-Milestones] (WRC-19)

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

The World Radiocommunication Conference (Sharm el-Sheikh, 2019),

considering

*a)* that filings for frequency assignments to non-geostationary satellites systems composed of hundreds to thousands of non-GSO satellites have been received by ITU since 2011 in particular in frequency bands allocated to the fixed-satellite service (FSS) or the mobile-satellite service (MSS);

*b)* that design considerations, availability of launch vehicles to support multiple satellite launches, and other factors mean that notifying administrations may require longer than the regulatory period stipulated in No. MOD **11.44** to complete implementation of non-GSO systems referred to in *considering* *a)*;

*c)* that any discrepancies between the deployed number of orbital planes/satellites per orbital plane of a non-GSO system and the Master Register have, to date, not significantly impinged upon the efficient use of the orbital/spectrum resource in any frequency band used by non-GSO systems;

*d)* that the bringing into use and the recording in the Master International Frequency Register (MIFR) of frequency assignments to space stations in non-GSO systems by the end of the period referred to in No. MOD **11.44** do not require the confirmation by the notifying administration of the deployment of all the satellites associated with these frequency assignments;

*e)* that ITU‑R studies have shown that the adoption of a milestone-based approach will provide a regulatory mechanism to help ensure that the MIFR reasonably reflects the actual deployment of such non-GSO satellite systems in certain frequency bands and services, and improve the efficient use of the orbital/spectrum resource in those frequency bands and services;

*f)* that in defining the timeline and objective criteria for the milestone-based approach, there is a need to seek a balance between the prevention of spectrum warehousing, the proper functioning of coordination mechanisms, and the operational requirements related to the deployment of a non-geostationary satellite system;

*g)* that extensions to milestones are undesirable, as they create uncertainty with respect to the non-GSO FSS system with which other systems must coordinate,

recognizing

*a)* No. MOD **11.44C** addresses the bringing into use of frequency assignments to non-GSO satellite systems;

*b)* that any new regulatory mechanism for management of frequency assignments to non-GSO systems in the Master Register should not impose an unnecessary burden;

*c)* that since No. **13.6** is applicable to non-GSO systems with frequency assignments that were confirmed to have been brought into use prior to 1 January 2023 in the frequency bands and services to which this Resolution applies, transitional measures are required to provide affected notifying administrations the opportunity to either confirm deployment of satellites in accordance with the notified required characteristics as specified in Appendix **4**, or to complete deployment in accordance with this Resolution;

*d)* that for frequency assignments to non-GSO system brought into use and having reached the end of the period referred to in No. MOD **11.44** prior to 1 January 2023 in the frequency bands and services to which this Resolution applies, affected notifying administrations should be given the opportunity to either confirm the completion of the deployment of satellites in accordance with the Appendix **4** characteristicsof their recorded frequency assignments, or be given sufficient time to complete deployment in accordance with this Resolution;

*e)* that it is not necessary or appropriate for the Bureau, in the interest of improving the efficient use of the orbital/spectrum resource or otherwise, to routinely use the procedures of No. **13.6** to seek confirmation of the deployment of the number of satellites in notified orbital planes for non-geostationary-satellite orbit systems in frequency bands and services not listed in *resolves*1of this Resolution;

*f)* that No. **11.49** addresses the suspension of recorded frequency assignments to a space station of a satellite network or to space stations of a non-geostationary satellite system,

recognizing further

that this Resolution relates to those aspects of non-GSO systems to which *resolves*1 applies with regard to the notified required characteristics as specified in Appendix **4**. The conformity of the notified required characteristics of the non-GSO systems other than those referred to in *recognizing d)* above is outside the scope of this Resolution,

noting

that for the purpose of this Resolution:

– the term “frequency assignments” is understood to refer to frequency assignments to a space station of a non-geostationary satellite system;

– the term “notified orbital plane” means an orbital plane of the non-GSO system, as provided to the Bureau in the most recent advance publication, coordination or notification information for the system’s frequency assignments, that possesses the general characteristics of Items:

– Item A.4.b.4.a, the inclination of the orbital plane of the space station;

– Item A.4.b.4.d, the altitude of the apogee of the space station;

– Item A.4.b.4.e, the altitude of the perigee of the space station; and

– Item A.4.b.5.c, the argument of the perigee of the orbit of the space station (only for orbits whose altitudes of the apogee and perigee are different);

in Table A of Annex 2 to Appendix **4**;

− the term “total number of satellites” is understood to mean the sum of the various values of Appendix **4** data item A.4.b.4.b associated with the notified orbital planes in the most recent notification information submitted to the Bureau,

resolves

1 that this Resolution applies to frequency assignments to non-geostationary satellite systems brought into use in accordance with Nos. MOD **11.44** and MOD **11.44C**,in the frequency bands and for the services listed in the Table below:

| Bands (GHz) | Space radiocommunication services |
| --- | --- |
| Region 1 | Region 2 | Region 3 |
| 10.70-11.70 | FIXED-SATELLITE (space-to-Earth)FIXED-SATELLITE (Earth-to-space) | FIXED-SATELLITE (space-to-Earth) |
| 11.70-12.50 | FIXED-SATELLITE (space-to-Earth) |
| 12.50-12.70 | FIXED-SATELLITE (space-to-Earth)FIXED-SATELLITE (Earth-to-space) | FIXED-SATELLITE (space-to-Earth) | BROADCASTING-SATELLITEFIXED-SATELLITE (space-to-Earth) |
| 12.7-12.75 | FIXED-SATELLITE (space-to-Earth)FIXED-SATELLITE (Earth-to-space) | FIXED-SATELLITE (Earth-to-space) | BROADCASTING-SATELLITEFIXED-SATELLITE (space-to-Earth) |
| 12.75-13.25 | FIXED-SATELLITE (Earth-to-space) |
| 13.75-14.80 | FIXED-SATELLITE (Earth-to-space) |
| 15.43-15.63 | FIXED-SATELLITE (Earth-to-space) |
| 17.30-17.70 | FIXED-SATELLITE (space-to-Earth)FIXED-SATELLITE (Earth-to-space) | None | FIXED-SATELLITE (Earth-to-space) |
| 17.70-17.80 | FIXED-SATELLITE (space-to-Earth)FIXED-SATELLITE (Earth-to-space) | FIXED-SATELLITE (space-to-Earth) | FIXED-SATELLITE (space-to-Earth)FIXED-SATELLITE (Earth-to-space) |
| 17.80-18.10 | FIXED-SATELLITE (space-to-Earth)FIXED-SATELLITE (Earth-to-space) |
| 18.10-19.30 | FIXED-SATELLITE (space-to-Earth) |
| 19.30-19.60 | FIXED-SATELLITE (space-to-Earth) (Earth-to-space) |
| 19.60-19.70 | FIXED-SATELLITE (space-to-Earth) (Earth-to-space) |
| 19.70-20.10 | FIXED-SATELLITE (space-to-Earth) | FIXED-SATELLITE (space-to-Earth)MOBILE-SATELLITE (space-to-Earth) | FIXED-SATELLITE (space-to-Earth) |
| 20.10-20.20 | FIXED-SATELLITE (space-to-Earth)MOBILE-SATELLITE (space-to-Earth) |
| 21.4-22.0 | BROADCASTING-SATELLITE |  | BROADCASTING-SATELLITE |
| 24.65-24.75 | FIXED-SATELLITE (Earth-to-space) |  | FIXED-SATELLITE (Earth-to-space) |
| 24.75-25.25 | FIXED-SATELLITE (Earth-to-space) |
| 27.00-27.50 |  | FIXED-SATELLITE (Earth-to-space) |
| 27.50-29.50 | FIXED-SATELLITE (Earth-to-space) |
| 29.50-29.90 | FIXED-SATELLITE (Earth-to-space) | FIXED-SATELLITE (Earth-to-space)MOBILE-SATELLITE (Earth-to-space) | FIXED-SATELLITE (Earth-to-space) |
| 29.90-30.00 | FIXED-SATELLITE (Earth-to-space)MOBILE-SATELLITE (Earth-to-space) |
| 37.50-38.00 | FIXED-SATELLITE (space-to-Earth) |
| 38.00-39.50 | FIXED-SATELLITE (space-to-Earth) |
| 39.50-40.50 | FIXED-SATELLITE (space-to-Earth)MOBILE-SATELLITE (space-to-Earth) |
| 40.50-42.5 | FIXED-SATELLITE (space-to-Earth)BROADCASTING-SATELLITE |
| 47.20-50.20 | FIXED-SATELLITE (Earth-to-space) |
| 50.40-51.40 | FIXED-SATELLITE (Earth-to-space) |

2 that for the frequency assignments to which *resolves* 1 applies, and for which the end of the seven-year regulatory period is 1 January 2023 or later, the notifying administration shall communicate to the Bureau the required deployment information in accordance with Annex 1 to this Resolution no later than 30 days after the end of the regulatory period specified in No. MOD **11.44** or 30 days after the end of the bringing into use period referred to in No. MOD **11.44C**, whichever comes later;

3 that for frequency assignments to which *resolves* 1 applies, and for which the end of the seven-year regulatory period specified in No. MOD **11.44** has expired prior to 1 January 2023, the notifying administration shall communicate to the Bureau the required deployment information in accordance with Annex 1 to this Resolution no later than 30 days after the above mentioned date;

4 that upon receipt of the required deployment information submitted in accordance with *resolves* 2 or 3 above, the Bureau shall:

1. promptly make this information available “as received” on the ITU website;
2. add a remark to the Master Register entry if available or to latest notification information, as appropriate, stating that the assignments are subject to the application of *resolves* 6 to 12 of this Resolution if the number of satellites communicated to the Bureau under *resolves*2 or3aboveis less than 100% of the total number of satellites indicated in the latest notification information published in the BR IFIC (Part I‑S) or in latest notification information received by the Bureau, as appropriate, for the frequency assignments; and
3. publish the results according to *resolves* 4*b)* above in the BR IFIC and the ITU website;

5 that, if the number of satellites communicated to the Bureau under *resolves* 2 or 3 is 100% of the total number of satellites indicated in the latest notification information published in the BR IFIC (Part I‑S) or in latest notification information received by the Bureau, as appropriate, for the frequency assignments, *resolves* 6 to 12 of this Resolution are not applicable;

6 that, for the frequency assignments to which *resolves* 2 applies, the notifying administration shall communicate to the Bureau the required deployment information in accordance with Annex 1 to this Resolution for the milestone period mentioned in subsections *a)* through *c)* of this *resolves* 6:

*a)* no later than 30 days after the expiry of the two-year period after the end of the seven-year period referred to in No. MOD **11.44**;

*b)* no later than 30 days after the expiry of the four-year period after the end of the seven-year period referred to in No. MOD **11.44**;

*c)* no later than 30 days after the expiry of the seven-year period after the end of the seven-year period referred to in No. MOD **11.44**;

7 that, for the frequency assignments to which *resolves* 3 applies, the notifying administration shall communicate to the Bureau the required deployment information in accordance with Annex 1 to this Resolution for the milestone period mentioned in subsections *a)* through *c)* of this *resolves* 7:

*a)* no later than 30 days after the expiry of the two-year period after the commencement date of the milestone process;

*b)* no later than 30 days after the expiry of the four-year period after the commencement date;

*c)* no later than 30 days after the expiry of the seven-year period after the commencement date;

8 that, upon receipt of the required deployment information submitted in accordance with *resolves* 6 or 7, the Bureau shall:

*a)* promptly make this information available “*as received*” on the ITU website;

*b)* conduct an examination of the information provided for compliance with the minimum number of satellites to be deployed as prescribed for each period in *resolves* 9*a)*, 9*b)* or 9*c)* as appropriate;

*c)* modify the Master Register entry if available or latest notification information, as appropriate, for the frequency assignments to the system to remove the remark added according to *resolves*4*b)* if the number communicated to the Bureau under *resolves* 6, or *resolves* 7, is 100% of the total number of satellites indicated in the Master Register entry if available or latest notification information, as appropriate, for the non-geostationary satellite system. In case the above condition is satisfied, *resolves* 6 to 12 of this Resolution are not applicable;

*d)* publish this information and its findings in the BR IFIC and shall make that information available on the ITU website as soon as possible;

9 that, the notifying administration shall also submit to the Bureau, no later than 90 days after the expiry of the milestone period referred to in *resolves* 6*a)*, 6*b)*, 6*c)* or *resolves* 7*a)*, 7*b)*, 7*c)*, as appropriate, the modifications to the characteristics of the notified or recorded frequency assignments if the number of space stations declared as deployed:

*a)* under *resolves* 6*a)* or7*a)*, as appropriate,is less than 10% of the total number of satellites (rounded down to the lower integer) indicated in the latest notification information received by the Bureau for the frequency assignments. In this case, the modified total number of satellites shall not be greater than ten times the number of space stations declared as deployed under *resolves* 6*a)* or7*a)*;

*b)* under *resolves* 6*b)* or7*b)*, as appropriate, is less than 30% of the total number of satellites (rounded down to the lower integer) indicated in the latest notification information received by the Bureau for the frequency assignments. In this case, the modified total number of satellites shall not be greater than 3.33 times the number of space stations declared as deployed under *resolves* 6*b)* or7*b)*;

*c)* under *resolves* 6*c)* or7*c)*, as appropriate,is less than 100% of the total number of satellites indicated in the latest notification information received by the Bureau for the frequency assignments. In this case, the modified total number of satellites shall be the number of space stations declared as deployed under *resolves* 6*c)* or7*c)*;

9*bis* that the Bureau shall, no later than forty-five (45) days before any deadline for submission by a notifying administration under *resolves*2, *resolves*3, subsections *a)*, *b)* or *c)* of *resolves*6 and subsections *a)*, *b)* or *c)* of *resolves* 7, send a reminder to the notifying administration to provide the information required;

10 that, upon receipt of the modifications to the characteristics of the notified or recorded frequency assignments as referred to in *resolves* 9:

*a)* the Bureau shall promptly make this information available “as received” on the ITU website;

*b)* the Bureau shall conduct an examination for compliance with the maximum number of satellites as per *resolves* 9*a)*, 9*b)* or 9*c)* and Nos. **11.43A**/**11.43B**, as appropriate:

i) should the Bureau reach a favourable finding under No.**11.31**; and

ii) should the modifications be limited to the reduction of the number of orbital planes (Appendix **4** data item A.4.b.1) and the modifications to the RAAN (Appendix **4** data item A.4.b.4.g) the longitude of the ascending node (Appendix **4** data item A.4.b.6.g) and the date and time of epoch (Appendix **4** data items A.4.b.6.h and A.4.b.6.i) associated with the remaining orbital planes or the reduction of the number of space stations per plane (Appendix **4** data item A.4.b.4.b) and the modifications of the initial phase of the space stations (Appendix **4** data item A.4.b.4.h) within planes; and

iii) should the notifying administration provide a commitment stating that the characteristics as modified will not cause more interference or require more protection than the characteristics provided in the latest modification information received by the Bureau for the frequency assignments (see Appendix **4** data item A.20);

*c)* the Bureau, for the purpose of No. **11.43B**, shall not treat these modifications as new notifications of frequency assignments and shall retain the original dates of entry of the frequency assignments in the Master Register;

*d)* the Bureau shall publish the information provided and its findings in the BR IFIC;

11 that, if a notifying administration fails to communicate the information required under *resolves* 2, *resolves*3, *resolves* 6*a),* 6*b),* 6*c)*, *resolves* 7*a)*, 7*b),* 7*c), resolves*9, as appropriate, the Bureau shall promptly send to the notifying administration a reminder asking the administration to provide the required information within thirty (30) days from the date of reminder from the Bureau;

11*bis* that, if a notifying administration fails to provide information after the reminder sent under *resolves* 11, the Bureau shall send to the notifying administration a second reminder asking it to provide the required information within fifteen (15) days from the date of the second reminder;

11*ter* that, if a notifying administration fails to provide the required information under *resolves*11 and 11*bis*, the Bureau shall treat the case as it would treat a non-response case under No. **13.6**, and continue to take the entry into account when conducting its examinations until the decision is made by the Board to cancel the entry or modify the entry by suppressing the notified orbital parameters of all satellites not listed in the last complete deployment information submitted under *resolves* 6 or 7, as appropriate;

11*quater* that the same spacecraft shall not be used for the deployment information to be provided under *resolves* 6 and 7 for overlapping frequency assignments of more than one non-geostationary satellite system having different orbital parameters, or belonging to another administrationunless those overlapping frequency assignments are suspended under No. **11.49** for all non-geostationary satellite systems except the non-geostationary satellite system identified in Annex 1;

12 that the suspension of the use of frequency assignments under No. **11.49** at any point prior to the end of the applicable milestone periods specified in *resolves* 6*a)*, 6*b)* or 6*c)* or *resolves* 7*a)*, 7*b)* or 7*c)* of this Resolution shall not alter or reduce the requirements associated with any of the remaining milestones as derived from *resolves* 6*a)*, 6*b)* or 6*c)* or *resolves* 7*a)*, 7*b)* or 7*c)* of this Resolution, as applicable;

13that if the number of satellites deployed in a non-geostationary satellite system falls below 90% of the total number of satellites indicated in the Master Register entry, the administration will inform the Bureau of the date when this event occurred, no later than 90 days. If it remains below 90% for a continuous period of three years, the notifying administration of that non-geostationary satellite system shall submit to the Bureau the modifications to the characteristics of the notified or recorded frequency assignments to reflect the total number of satellites deployed, no later than 90 days after the three years period;

14 that *resolves* 13 does not apply to frequency assignments of non-geostationary-satellite system where the notifying administration has applied No. **11.49**;

15 that, upon receipt of the information as referred to in *resolves* 13:

*a)* the Bureau shall promptly make this information available “as received” on the ITU website;

*b)* the Bureau shall conduct an examination for compliance with the maximum number of satellites as per *resolves* 13and Nos. **11.43A**/**11.43B**, as appropriate:

i) should the Bureau reach a favourable finding under No.**11.31**; and

ii) should the modifications be limited to the reduction of the number of orbital planes (Appendix **4** data item A.4.b.1) and the modifications to the RAAN (Appendix **4** data item A.4.b.4.g) the longitude of the ascending node (Appendix **4** data item A.4.b.6.g) and the date and time of epoch (Appendix **4** data items A.4.b.6.h and A.4.b.6.i) associated with the remaining orbital planes or the reduction of the number of space stations per plane (Appendix **4** data item A.4.b.4.b) and the modifications of the initial phase of the space stations (Appendix **4** data item A.4.b.4.h) within planes; and

iii) should the notifying administration provide a commitment stating that the characteristics as modified will not cause more interference or require more protection than the characteristics provided in the latest modification information received by the Bureau for the frequency assignments (see Appendix **4** data item A.20);

*c)* the Bureau, for the purpose of No. **11.43B**, shall not treat these modifications as new notifications of frequency assignments and shall retain the original dates of entry of the frequency assignments in the Master Register;

*d)* the Bureau shall publish the information provided and its findings in the BR IFIC;

instructs the Radiocommunication Bureau

to take the necessary actions to implement this Resolution and report to subsequent WRCs on the results of the implementation of this Resolution.

Annex 1 to draft new
Resolution [BEL/F/I/LIE/LUX/HOL-A7(A)-NGSO-MILESTONES] (WRC-19)

Information to be submitted about the deployed space stations

A Identity of the satellite system

*a)* Name of the satellite system

*b)* Name of the notifying administration

*c)* Country symbol

*d)* Reference to the advance publication information or to the request for coordination, as applicable

*e)* Reference to the notification.

*f)* Total number of space stations deployed.

B Spacecraft manufacturer

In case of multiple contracts for satellite procurement with one or more satellites per contract, the relevant information shall be submitted for each contract:

*a)* Name of the spacecraft manufacturer.

*b)* Number of satellites procured.

C Launch services provider

In cases where a contract for launch procurement covers more than one satellite, the relevant information shall be submitted for each satellite:

*a)* Name of the launch vehicle provider

*b)* Name of the launch vehicle

*c)* Name and location of the launch facility

*d)* Launch date.

D Space station characteristics

For each spacecraft:

*a)* Name of the space station

*b)* Orbital characteristics of the space station (see No. **11.44C.3**)

*c)* Frequency assignments that the space station can transmit or receive.

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1. 2 The Radiocommunication Bureau shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Appendix and related decisions of future conferences. Additional information on the items listed in this Annex together with an explanation of the symbols is to be found in the Preface to the BR IFIC (Space Services).    (WRC‑12) [↑](#footnote-ref-1)