

PLENARY MEETING

**Addendum 1 to
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Member States of the Inter-American Telecommunication Commission (CITEL)

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

BACKGROUND:

WRC-12 and WRC-15 adopted a series of specific provisions, including RR No. **11.44B**, that clarified the requirements associated with the bringing into use (BIU) and the bringing back into use (BBIU) of frequency assignments to a space station in a geostationary satellite network. However, there were no provisions adopted to address the BIU of frequency assignments to space stations in non-GSO systems. In this context, in order to complete the recording of frequency assignments to non-GSO systems, it has been the practice of the Bureau to declare the BIU of frequency assignments to non-geostationary networks and systems successfully completed when one satellite is deployed into a notified orbital plane and capable of transmitting and/or receiving those frequency assignments. This practice, reflected for FSS and MSS non-GSO systems in section 2 of the Rules of Procedure for RR No. **11.44**, has been used for a number of years irrespective of the number of satellites or of the number of orbital planes indicated in the notification information provided under RR No. **11.2**.

During the 2015-2019 study period, the ITU-R studied both the bringing into use of frequency assignments to non-GSO systems, and the possibility of adopting a milestone-based approach for the deployment of non-GSO satellite systems comprised of multiple, multi-satellite constellations in particular frequency bands. On bringing into use (BIU), the ITU-R concluded that the practice of the Bureau noted above should be reflected in the Radio Regulations.

On the milestone-based deployment approach, the ITU-R concluded that balancing the need to prevent warehousing of orbital/spectrum resources that may result from securing international recognition and protection of any non-geostationary satellite systems through the deployment of a single satellite, and the operational requirements associated with the design, development and deployment of non-GSO satellite systems, would be achieved by adoption of a milestone-based approach for the deployment of non-geostationary satellite systems. This approach would provide an additional period beyond the seven-year regulatory period in No. **11.44** for the deployment of the number of satellites, as notified and/or recorded, with the objective to help ensure that the Master International Frequency Register (MIFR) reasonably reflects actual deployment of such non-GSO systems. There is no support for applying the milestone-based approach to the science services.

These proposals below reflect the general consensus developed within the ITU-R and are based on various options presented in the CPM Report for WRC-19 Agenda item 7 – issue A. Adoption of the proposals below will address both of the ITU-R conclusions, and provide a set of regulations that is equitable, and appropriately limited to addressing both the absence of a BIU standard for non-GSO systems and a milestone-based deployment approach in specific bands and services.

As part of these proposals, the Conference is invited to instruct the ITU-R to conduct studies for the development of a technical basis for determining tolerances for various orbital parameters of non-GSO space stations.

A. Proposals for Bringing into Use:

ARTICLE 11

Notification and recording of frequency assignments^{1, 2, 3, 4, 5, 6, 7, 8} (WRC-15)

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

MOD IAP/6340A19A1/1

11.44 The notified date^{24, MOD25, MOD26} of bringing into use of any frequency assignment to a space station of a satellite network or 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-159)

Reasons: To include in Article **11**, provisions for addressing the bringing into use of all non-GSO systems, and to add “system” to align the wording of the first sentence with the rest of the provision.

MOD IAP/6340A19A1/2

²⁵ **11.44.2** The notified date of bringing into use of a frequency assignment to a space station ~~in the geostationary satellite orbit of a satellite network or system~~ shall be the date of the commencement of the ~~ninety-day~~continuous period defined in No. **11.44B** or [MOD] No. 11.44C, as applicable. (WRC-129)

Reasons: Modification to add non-GSO systems to No. **11.44.2**. The GSO period remains specified in No. **11.44B**.

MOD IAP/6340A19A1/3

²⁶ **11.44.3**, ~~and 11.44B.1 and 11.44C.3~~ Upon 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 [MOD] No. 11.44, ~~and/or No. 11.44B~~, or [MOD] No. 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-159)

Reasons: Consequential modification to extend the current regulation to non-GSO system frequency assignments.

MOD IAP/6340A19A1/4

11.44C ~~(SUP-WRC-03)-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 and maintained on one of the notified orbital planes^{ADDAA} of the non-geostationary satellite system for a continuous period of ninety days^{ADDBB}. The notifying administration shall so inform the Bureau within 30 days from the end of the ninety-day period^{MOD26, ADDCC}.~~ On receipt of the information sent under this provision, the Bureau

shall make that information available on the ITU website as soon as possible and shall publish it in the BR IFIC subsequently. (WRC-19)

Reasons: This new provision provides a fixed period for continuous deployment with the capability of transmitting/receiving frequency assignments to constitute BIU of frequency assignments to non-GSO systems. The start of the ninety-day period has to be before the end of regulatory period.

ADD IAP/6340A19A1/5

AA **11.44C.1** For purposes of [MOD] No. **11.44C**, the term “notified orbital plane” means an orbital plane of the non-GSO system, as provided to the Bureau in the most recent notification information for the system’s frequency assignments, that corresponds to Items A.4.b.4.a, A.4.b.4.d, A.4.b.4.e, and A.4.b.5.c (only for orbits whose altitudes of the apogee and perigee are different) in Table A of Annex 2 to Appendix 4. (WRC-19)

Note: References to Appendix 4 items in Nos. 11.44C.1 and 11.49.4, and in Resolution [A7(A)-NGSO-MILESTONES] (WRC-19) need to be aligned with any renumbering of relevant items in Appendix 4, Annex 2, Table A that is achieved under Agenda item 7, Issue H.

Reasons: This new provision provides a description of what is meant by the term “notified orbital plane” for purposes of the new regulation in [MOD] No. **11.44C**. The goal here is to characterize the orbit in a manner consistent with Appendix 4, but not to specify any specific orbital tolerances for individual parameters. The subject of tolerances for non-GSO system frequency assignments requires further ITU-R study in terms of the list of characteristics that may be appropriate for specification; the values of any tolerances for listed characteristics; and whether any distinction needs to be drawn for tolerances between satellite services in which non-GSO systems are operated.

ADD IAP/6340A19A1/6

BB **11.44C.2** A frequency assignment to a space station in a non-geostationary-satellite system 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)

Reasons: This provision creates an exception to the general rule requiring deployment into a notified orbital plane for frequency assignments to non-GSO systems that do not specify the Earth as the reference body in Appendix 4. Here, due to the variety of potential systems, mostly of a scientific nature, there is no fixed period required for confirmation of BIU by the notifying administration.

ADD IAP/6340A19A1/7

CC **11.44C.4** 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 non-geostationary orbit with the capability of transmitting or receiving that frequency assignment has been deployed and maintained on one of the notified orbital planes as provided for in [MOD] No. **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)

Reasons: This provision provides a parallel provision to No. **11.44B.2** to clarify that BIU confirmation can occur more than 30 days after completion of BIU.

MOD IAP/6340A19A1/8

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 11.49.2, when as 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 ~~ADDDD, ADDEE, ADDFF~~ 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-19⁵)

Reasons: The addition of new footnotes ~~ADDDD, ADDEE~~ and ~~ADDD~~ is necessary to allow the establishment of parallel provisions for bringing frequency assignments to non-GSO systems back into use following a suspension. The other changes are for editorial improvement.

ADD IAP/6340A19A1/9

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 ninety-day period defined below. A frequency assignment to such 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 and maintained on one of the notified orbital planes for a continuous period of ninety days. The notifying administration shall so inform the Bureau within 30 days from the end of the ninety-day period. (WRC-19)

Reasons: This provision parallels [ADD] No. **11.44C** for bringing back into use.

ADD IAP/6340A19A1/10

EE 11.49.3 A frequency assignment to a space station in a non-geostationary-satellite system 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)

Reasons: This provision parallels [ADD] No. **11.44C.2** for bringing back into use of frequency assignments to non-GSO satellite networks and systems not orbiting the Earth.

ADD IAP/6340A19A1/11

FF **11.49.4** For purposes of No. [ADD] **11.49.2**, the term “notified orbital plane” means an orbital plane of the non-GSO system, as provided to the Bureau in the most recent notification information for the system’s frequency assignments, that corresponds to Items A.4.b.4.a, A.4.b.4.d, A.4.b.4.e, and A.4.b.5.c (only for orbits whose altitudes of the apogee and perigee are different) in Table A of Annex 2 to Appendix 4. (WRC-19)

Note: References to Appendix 4 items in Nos. 11.44C.1 and 11.49.4, and in Resolution [A7(A)-NGSO-MILESTONES] (WRC-19) need to be aligned with any renumbering of relevant items in Appendix 4, Annex 2, Table A that is achieved under Agenda item 7, Issue H.

Reasons: This provision parallels [ADD] No. **11.44C.1** for bringing back into use.

B. Proposals for a Milestone-Based Deployment Approach for Specific Bands and Services:

ADD IAP/6340A19A1/12

Section III - Maintenance of the recording of frequency assignments to non-GSO satellite systems in the Master Register

Reasons: This provision establishes a new Section III in Article **11** to serve as the location for the new provision [ADD] No. **11.51** below to serve as the mechanism to make new Resolution [IAP/A7(A)-NGSO-MILESTONES] (WRC-19) mandatory for those systems included in the Resolution.

ADD IAP/6340A19A1/13

11.51 For frequency assignments to some non-GSO satellite systems in specific bands and services, Resolution [IAP/A7(A)-NGSO-MILESTONES] (WRC-19) shall apply. (WRC-19)

Reasons: This provision is the mechanism to make the new Resolution mandatory for all non-GSO systems in the bands and services to which the Resolution applies.

ARTICLE 13

Instructions to the Bureau

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

MOD IAP/6340A19A1/14

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 characteristics^{ADD1} 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-159)

Reasons: This provision adds a note to No. **13.6** to indicate that Resolution [IAP/A7(A)-NGSO-MILESTONES] (WRC-19) addresses one aspect of what it means for certain non-GSO systems to be operating in accordance with their notified characteristics.

ADD IAP/6340A19A1/15

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

Reasons: This provision is a new note to No. **13.6** to indicate that Resolution [IAP/A7(A)-NGSO-MILESTONES] (WRC-19) addresses one aspect of what it means for certain non-GSO systems to be operating in accordance with their notified characteristics.

ADD IAP/6340A19A1/16

DRAFT NEW RESOLUTION [IAP/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 orbit (non-GSO) satellite systems comprised of hundreds to thousands of non-GSO satellites have been received by the 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 [MOD] No. **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 International Frequency Register (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 Register of frequency assignments to space stations in non-GSO systems by the end of the period referred to in [MOD] No. **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 of the issue have shown that the adoption of a milestone-based approach will provide a regulatory mechanism to help ensure that the Master Register 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) that [MOD] No. **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 the number of orbital planes in a non-GSO system (item A.4.b.1) and the number of satellites in each orbital plane (item A.4.b.4.b) are among the notified required characteristics as specified in Appendix 4;

d) that since [MOD] 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 2021 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;

e) that for frequency assignments to non-GSO system brought into use and having reached the end of the period referred to in [MOD] No. **11.44** prior to 1 January 2021 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 characteristics of their recorded frequency assignments, or be given sufficient time to complete deployment in accordance with this Resolution;

f) 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 [MOD] 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 I* of this Resolution;

g) that [MOD] 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 orbit system;
- the term “notified orbital plane” means an orbital plane of the non-GSO system, as provided to the Bureau in the most recent notification information for the system’s frequency assignments, that corresponds to Items A.4.b.4.a, A.4.b.4.d, A.4.b.4.e, and Item A.4.b.5.c (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,

resolves

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

Frequency bands and services for application of the milestone-based approach

Bands (GHz)	Space radiocommunication services ^{NOTE}		
	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-SATELLITE FIXED-SATELLITE (space-to-Earth)
12.7-12.75	FIXED-SATELLITE (space-to-Earth) FIXED-SATELLITE (Earth-to-space)	FIXED-SATELLITE (Earth-to-space)	BROADCASTING-SATELLITE FIXED-SATELLITE (space-to-Earth)
12.75-13.25	FIXED-SATELLITE (Earth-to-space)		
13.75-14.50	FIXED-SATELLITE (Earth-to-space)		

Bands (GHz)	Space radiocommunication services ^{NOTE}		
	Region 1	Region 2	Region 3
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) FIXED-SATELLITE (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)		
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)		
40.50-42.50	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)		
NOTE: Assignments in any FSS bands used for feeder links by a non-GSO system for which the service links are not provided under a service/band listed in the above table are exempted from the milestone approach.			

2 that for the frequency assignments to non-geostationary satellite systems to which *resolves 1* applies, and for which the end of the seven-year regulatory period is on or after 1 January 2021, 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 [MOD] No. **11.44** or 30 days after the end of the bringing into use period in [MOD] No. **11.44C**, whichever comes last;

3 that for frequency assignments to which *resolves 1* applies, and for which the end of the seven-year regulatory period specified in [MOD] No. **11.44** has expired prior to 1 January 2021, the notifying administration shall communicate to the Bureau the required deployment information in accordance with Annex 1 to this Resolution no later than 1 February 2021;

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

- a) promptly make this information available “as received” on the ITU website;
- b) add a remark to the Master Register entry, if available, or to the latest notification information, as appropriate, stating that the assignments are subject to the application of this Resolution if the number of satellites communicated to the Bureau under *resolves 2* or 3 above is less than 100% of the total number of satellites indicated in the latest notification information published in the BR IFIC (Part I-S) for the frequency assignments; and
- c) publish the results of action taken pursuant to *resolves 4b*) 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 above is 100% of the total number of satellites indicated in the latest notification information published in the BR IFIC (Part I-S) for the frequency assignments, *resolves 6* to 15 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 as of the expiry of the milestone period mentioned in subsections a) through c) of this *resolves 6* (see also *resolves 8*):

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

7 that, for frequency assignments to which *resolves 3* applies, the notifying administration shall communicate to the Bureau the complete deployment information in accordance with Annex 1 to this Resolution as of 1 January of the year mentioned in subsections a) through c) of this *resolves 7* (see also *resolves 8*):

- a) no later than 1 February 2024 (corresponding to 30 days after the expiry of the three-year period after 1 January 2021);
- b) no later than 1 February 2026 (corresponding to 30 days after the expiry of the five-year period after 1 January 2021);
- c) no later than 1 February 2028 (corresponding to 30 days after the expiry of the seven-year period after 1 January 2021);

8 that, for purposes of *resolves* 6 and 7, if the total number of satellites deployed as part of the system during the relevant milestone period is greater than the number of satellites that remain deployed as part of the system as of the expiry of the relevant milestone period, the notifying administration may report the total number of satellites deployed during the period, or a lesser value if appropriate, provided it includes with the complete deployment information in accordance with Annex 1 a detailed explanation of the circumstances which led to having the reduced number of satellites deployed as of the expiry of that milestone period, and an indication of whether any of the satellites no longer counted as of the expiry of the relevant milestone period have been or will be used to satisfy milestone obligations associated with frequency assignment(s) of any other non-geostationary satellite system(s) subject to this Resolution and, if so, how many satellites and the identity of the non-geostationary satellite system(s) in question;

9 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* 10a), 10b) or 10c) 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 stating that the assignments are subject to the application of this Resolution 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 for the non-geostationary satellite system;
- d) publish this information and its findings in the BR IFIC;

10 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* 6a), 6b), 6c), or *resolves* 7a), 7b), 7c), 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* 6a) or 7a), as appropriate, is less than 10% of the total number of satellites (rounded down to the lower integer) indicated in the latest notification information published in Part I-S of the BR IFIC for the frequency assignments. In this case, the modified total number of satellites shall not be greater than ten (10) times the number of space stations declared as deployed under *resolves* 6a) or 7a);
- b) under *resolves* 6b) or 7b), as appropriate, is less than 50% of the total number of satellites (rounded down to the lower integer) indicated in the latest notification information published in Part I-S of the BR IFIC for the frequency assignments. In this case, the modified total number of satellites shall not be greater than two (2) times the number of space stations declared as deployed under *resolves* 6b) or 7b);
- c) under *resolves* 6c) or 7c), as appropriate, is less than 100% of the total number of satellites indicated in the latest notification information published in Part I-S of the BR IFIC for the frequency assignments. In this case, the modified total number of satellites shall not be greater than the number of space stations deployed under *resolves* 6c) or 7c);

11 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;

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

- 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* 10*a*), 10*b*) or 10*c*) and Nos. **11.43A/11.43B**, as appropriate;
- 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 if:
 - i) the Bureau reaches a favourable finding under No. **11.31**; and
 - ii) the modifications are limited to the reduction of the number of orbital planes (Appendix 4 data item A.4.b.1); modifications to the right ascension of the ascending node of each plane (Appendix 4 data item A.4.b. 5.a), the longitude of the ascending node (Appendix 4 data item A.4.b.6.g) and its date and time (Appendix 4 data items A.4.b.6.h and A.4.b.6.i.a) 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.5.b) within planes; and
 - iii) the notifying administration provides 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 (see Appendix 4 data item A.20);
- d) the Bureau shall ensure the remark stating that the assignments are subject to the application of this Resolution as defined in *resolves* 6 or 7 is retained until the milestone process of this Resolution is complete;
- e) the Bureau shall publish the information provided and its findings in the BR IFIC;

13 that, if a notifying administration fails to communicate the information required under *resolves* 2, *resolves* 3, subsections *a*), *b*) or *c*) of *resolves* 6, or subsections *a*), *b*) or *c*) of *resolves* 7, 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;

14 that, if a notifying administration fails to provide information after the reminder sent under *resolves* 13, 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;

15 that if the notifying administration fails to provide the information required under *resolves* 13 and 14, the Bureau shall:

- a) modify the entry in the Master Register 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; or
- b) cancel the entry in the event that the notifying administration never provided the information required under *resolves* 2 or 3, as appropriate; and
- c) no longer consider the frequency assignments under subsequent examinations under Nos. **9.36**, **11.32** or **11.32A**, and inform administrations with frequency assignments subject to subsection IA of Article 9 that those assignments shall not cause harmful interference to, nor claim protection from, other frequency assignments recorded in the Master Register with a favourable finding under No. **11.31**;

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

instructs the Radiocommunication Bureau

1 to take the necessary actions to implement this Resolution;

2 to report any difficulties it encounters in the implementation of this Resolution to the upcoming WRC.

ANNEX 1 TO RESOLUTION [IAP/A7(A)-NGSO-MILESTONES] (WRC-19)

Information to be submitted about the deployed space stations

A Satellite system information

1. Name of the satellite system
2. Name of the notifying administration
3. Total number of space stations deployed with the capability of transmitting or receiving the frequency assignments.
4. Orbital plane number indicated in the latest notification information published in Part I-S of the BR IFIC for the frequency assignments into which each space station is deployed.

B Launch information to be provided for each deployed space station

1. Name of the launch vehicle provider
2. Name and location of the launch facility
3. Launch date.

Note: References to Appendix 4 items in Nos. 11.44C.1 and 11.49.4, and in Resolution [A7(A)-NGSO-MILESTONES] (WRC-19) need to be aligned with any renumbering of relevant items in Appendix 4, Annex 2, Table A that is achieved under Agenda item 7, Issue H.

Reasons: This Resolution contains and implements the milestone-based deployment approach for frequency assignments to certain FSS, BSS and MSS non-GSO systems in specific frequency bands.

APPENDIX 4 (REV. WRC-19~~5~~)

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 stations² (Rev.WRC-192)

Footnotes to Tables A, B, C and D

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)

MOD IAP/6340A19A1/17

TABLE A
GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK,
EARTH STATION OR RADIO ASTRONOMY STATION (Rev.WRC-195)

Items in Appendix	<i>A - GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION</i>	<i>Advance publication of a geostationary-satellite network</i>	<i>Advance publication of a non-geostationary-satellite network subject to coordination under Section II</i>	<i>Advance publication of a non-geostationary-satellite network not subject to coordination under Section II</i>	<i>Notification or coordination of a geostationary-satellite network</i>	<i>Notification or coordination of a non-geostationary-satellite network</i>	<i>Notification or coordination of an earth station (including notification under Appendices 30A or 30B)</i>	<i>Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)</i>	<i>Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)</i>	<i>Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)</i>	Items in Appendix	Radio astronomy
* * *	* * *									* * *		
A.18	COMPLIANCE WITH NOTIFICATION OF AIRCRAFT EARTH STATION(S)											
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 associated Required 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		
<u>A.20</u>	<u>COMPLIANCE WITH <i>Resolves 11c)iii</i> of Resolution [A7(A)-NGSO-MILESTONES] (WRC-19)</u>									<u>A.20</u>		
A.20.a	<u>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</u>	-	-	-	-	-	0	-	-	<u>A.20.a</u>		

Reasons: This Appendix 4 element is needed to implement *resolves 11c)iii* of Draft New Resolution [A7(A)-NGSO-MILESTONES] (WRC-19).