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| **World Radiocommunication Conference (WRC-19) Sharm el-Sheikh, Egypt, 28 October – 22 November 2019** |  |
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| PLENARY MEETING | **Addendum 1 to Document 92(Add.19)-E** |
|  | **11 October 2019** |
|  | **Original: English** |
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| India (Republic of) | |
| 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 for the bringing into use (BIU) and the bringing back into use (BBIU) of frequency assignments to a space station in a GSO satellite network. However, there are no provisions in the RR that specifically address the BIU of frequency assignments to space stations in non-GSO systems.

With advances in technology, deployment of non-GSO systems composed of multiple, multi-satellite constellations also used for providing the services that are mostly provided using GSO satellites like FSS, BSS. The current Radio Regulatory provisions for non-GSO does not address adequately the possibility of spectrum warehousing and resurgence of paper satellite networks.

Hence, WRC-19, under agenda item 7 issue A, address these issues to bring out a regulatory mechanism for non-GSO satellites or systems similar to the ones that exist for GSO satellite networks.

Views and Proposals

# 1 Bringing into Use (BIU)

Number of satellites required to BIU non-GSO constellation

India is of the view that the seven-year period is adequate for administrations to design, develop and finance their non-GSO system and achieve the deployment of, at least, one satellite. As a consequence, India proposes that the bringing into use of frequency assignments to non-GSO systems should continue to be achieved by the deployment of one satellite into one of the notified orbital planes within the seven-year regulatory period under RR No. **11.44**.

Period required period to BIU

India proposes a minimum period of 90 days for bringing into use of frequency assignments as currently required for the fixed-satellite service (FSS) and the mobile-satellite service (MSS) non-GSO systems in the Rule of Procedure (RoP) for RR No. **11.44**.

# 2 Milestone Approach for Deployment of the Constellation

While the ITU regulatory period of seven years (as per RR No. **11.44**) for bringing into use any frequency assignments to a space station of a satellite network or system has proved to be an adequate period of time to design and develop a system and achieve the deployment of, at least, one space station on one of the notified orbital planes of the non-GSO system, India is of the position that the milestone regime should provide additional time for operators to complete the full deployment of the non-GSO system. However, such period of time of such milestone based approach should be commensurate and fair, and at the same time should not be too long as to misuse this process to warehouse and block spectrum against non-GSO systems who are back in the queue, that have been fully deployed beforehand and that have not been able to complete coordination with non-GSO systems which have not yet been deployed.

Milestones and Commencement Date

India agrees with a three-milestone approach as proposed in the CPM Report. Such approach has:

i) a required percentage of satellites deployed at each milestone;

ii) a period of time associated with each milestone counted from a date of commencement of the new milestone process (see further down);

iii) a regulatory consequence for failing to meet each milestone (Deployment Factor).

Milestone Parameters

The milestone-based approach ought to require administrations or satellite operators to prove their commitment to the deployment of the system and the efficient use of spectrum.

Consequently, India is of the view that the first milestone (MS1) should occur no later than one year after the end of the seven-year regulatory period associated with the satellite system filing (RR No. **11.44**) and a minimum level of deployment such as 10% of notified satellites.

Finally, the total number of years allowed for the complete deployment of the system should not be more than six or seven with a preference for complete deployment of the constellation (100% satellites) at the last milestone (i.e., Milestone 3, or MS3).

Taking this consideration into account, India supports Option F from the CPM Report, as best suited to achieve the objectives of this agenda item; see Table below.

| Milestone | Parameters | CPM  Option F |
| --- | --- | --- |
| MS1 | Timing | 1 year |
| % satellites | 10% |
| Deployment factor | 10 |
| MS2 | Timing | 3 years |
| % satellites | 33% |
| Deployment factor | 3.03 |
| MS3 | Timing | 6 years |
| % satellites | 100% |
| Deployment factor | 1 |

Deployment Factor

It addresses the consequences of failing to meet a particular milestone and leads to a scaling of the constellation based on the number of satellites actually deployed as of a milestone date.

Date of Commencement of the Milestone Process

In terms of the Date of Commencement of the milestone process, the following factors need to be taken into account:

– the issue of overfilling, leading to spectrum warehousing and resurgence of so-called “paper satellite networks”, was identified by the Director of the BR in 2015;

– that a delayed Date of Commencement of the milestone process is undesirable, as it would create uncertainty with respect to the non-GSO system with which other systems must coordinate;

– that the first milestone (MS1) should not occur later than 1 January 2023, so that WRC‑23 has the necessary hindsight, perspective and time to possibly adjust the overall milestone approach if cases of potential difficulty were reported to RRB before the conference.

India is therefore of the position that the Date of Commencement of the milestone process should be the first day after the end of WRC-19 (i.e. 23 November 2019).

Transitional Measures

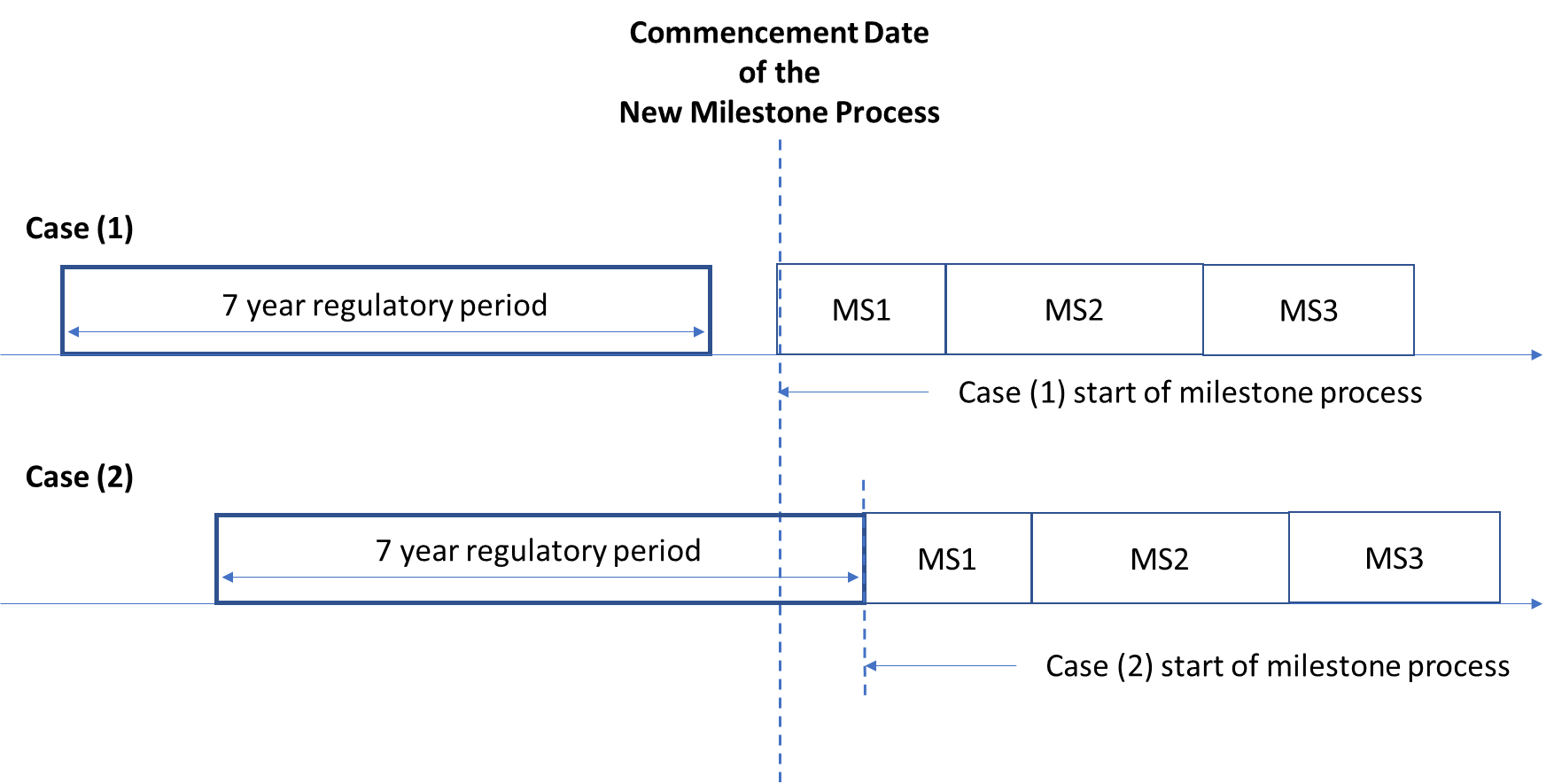
The CPM also discussed transitional measures for systems whose filings expire before the new milestone process has been agreed, in particular expire before an agreed date of commencement of the new milestone process.

As for the transitional measures, India supports Option 1 of the CPM Report, as it is simple and fulfils the requirements of the issue under this agenda item, i.e.:

**• Case (1)**: For systems with a regulatory period (RR No. **11.44**) ending before the Date of Commencement of the new milestone process, the date of milestones would be counted from such Date of Commencement;

**• Case (2)**: For systems with a RR No. **11.44** period ending after the Date of Commencement of the new milestone process, the date of milestones would be counted from the date of expiry of their regulatory period (RR No **11.44**).

The following figure shows these two cases.



Taking all of the above into account, India has proposed changes in the Radio Regulations as in the following pages.

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 IND/92A19A1/1#50014

11.44 The notified date24, MOD 25, MOD 26of 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‑19)

**Reasons:** Footnotes Nos. **11.44.2** and **11.44.3** are changed to include non-geostationary satellites or systems for the date of commencement of the continuous period of operation.

NOC

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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)

**Reasons:** No change is required as this provision address BIU of frequency assignments that are both GSO and NGSO.

MOD IND/92A19A1/2#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 network or 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)

**Reasons:** To include non-geostationary satellites or systems for the date of commencement of the continuous period of operation.

MOD IND/92A19A1/3#50017

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26 11.44.3, 11.44B.1 and 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 [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‑19)

**Reasons:** To include non-geostationary satellites or systems also in the examination of frequency assignments that are recorded in the MIFR and is no longer in use, or continues to be in use but not in accordance with the notified required characteristics.

MOD IND/92A19A1/4#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 and maintained on one of the notified orbital planesADD AA of the non‑geostationary-satellite system for a continuous period of 90 days ADD BB. 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 and shall publish it in the BR IFIC subsequently.    (WRC‑19)

**Reasons:** To apply these provisions only to those NGSO systems for which reference body is Earth.

ADD IND/92A19A1/5#50020

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AA 11.44C.1 For purposes of No. [MOD] **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 advance publication, coordination or notification information for the system’s frequency assignments, that possesses the general characteristics of items A.4.b.4.a through A.4.b.4.f, and A.4.5.c (only for orbits whose altitudes of the apogee and perigee are different) in Table A of Annex 2 to Appendix **4**.     (WRC‑19)

**Reasons:** The frequency assignments and the orbital plane for NGSO systems can be taken from the corresponding advance publication, coordination or notification information provided by the administration.

ADD IND/92A19A1/6#50021

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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:** To apply these provisions only to those NGSO systems for which reference body is Earth.

ADD IND/92A19A1/7#50022

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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 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)

**Reasons:** To guide an administration in informing the Bureau of BIU of frequency assignments of a NGSO systems as for GSO under RR No. **11.44B.2**.

MOD IND/92A19A1/8#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 **11.49.2** 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, ADD DD, ADD EE, ADD FF 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)

**Reasons:** As a consequence to introduction of period for continuous of operations of NGSO systems similar to GSO systems introduction of provision for suspension and BBIU are introduced.

ADD IND/92A19A1/9#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 and maintained on one of the notified orbital planes 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)

**Reasons:** As a consequence to introduction of for continuous of operations of NGSO systems, duration of continuous operation after BBIU is defined similar to RR No. **11.49.1**.

ADD IND/92A19A1/10#50025

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EE11.49.3 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:** To exclude the NGSO satellites whose reference body is other than “Earth” from complying the provisions of RR No. **11.49**.

ADD IND/92A19A1/11#50027

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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 advance publication, coordination or notification information for the system’s frequency assignments, that possesses the general characteristics of Items A.4.b.4.a through A.4.b.4.f, 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**.     (WRC‑19)

**Reasons:** The frequency assignments and the orbital plane for NGSO systems can be taken from the corresponding advance publication, coordination or notification information provided by the administration.

ADD IND/92A19A1/12#50060

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

**Reasons:** The provision of RR Nos. **11.44** and **11.49** for NGSO satellites or systems are applicable to certain frequencies and services only.

ADD IND/92A19A1/13#50059

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

ARTICLE 13

Instructions to the Bureau

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

MOD IND/92A19A1/14#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)

**Reasons:** To apply this provision to NGSO satellites and systems.

ADD IND/92A19A1/15#50062

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

**Reasons:** To apply this provision to NGSO satellites and systems.

ADD IND/92A19A1/16#50063

DRAFT NEW RESOLUTION [IND/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. **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. **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 the Effective Date 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 systems brought into use and having reached the end of the period referred to in No. **11.44** prior to the Effective Date 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 A.4.b.4.a through A.4.b.4.f, 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 Nos. **11.44** and [MOD] **11.44C**,in the frequency bands and for the services listed in the Table below:

NOTE − There is a view that for any frequency band where the milestone based approach is intended to apply, it should apply to all co-primary satellite services in the bands that are subject to coordination under No. **9.12**. Another view is that the milestone process should only apply to intended services, irrespective of coordination requirements. This aspect has not been fully examined in ITU-R deliberations.

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

| 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) | Option 1:  FIXED-SATELLITE (space-to-Earth)  Option 2:  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) | Option 1:  FIXED-SATELLITE (space-to-Earth)  Option 2:  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) | | |
| 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 | Option 1:  FIXED-SATELLITE (space-to-Earth) (except non-GSO MSS feeder links)  FIXED-SATELLITE (Earth-to-space) (except non-GSO MSS feeder links)  Option 2:  FIXED-SATELLITE (space-to-Earth) (Earth-to-space) | | |
| 19.60-19.70 | Option 1:  FIXED-SATELLITE (space-to-Earth) (except non-GSO MSS feeder links) (Earth-to-space)  Option 2:  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)  INTER-SATELLITE | |
| 27.50-29.50 | Option 1:  FIXED-SATELLITE (Earth-to-space) (except non-GSO MSS feeder links)  Option 2:  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) | | |
| 40.50-41.25 | 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) | | |

In addition to the frequency bands contained in the table above, for which consensus was agreed for inclusion in the example of a draft new WRC Resolution, other frequency bands were proposed. These frequency bands, for which no consensus to include in the example draft new WRC Resolution was reached at CPM, are shown in the table below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bands (MHz) | Region1 | | Region 2 | | Region 3 |
| 137-137.025 | MOBILE-SATELLITE (space-to-Earth) | | | | |
| 137.025-137.175 | Mobile-satellite (space-to-Earth) | | | | |
| 137.175-137.825 | MOBILE-SATELLITE (space-to-Earth) | | | | |
| 137.825-138 | Mobile-satellite (space-to-Earth) | | | | |
| 137-138 | MOBILE-SATELLITE (space-to-Earth) | | | | |
| 148-149.9 | MOBILE-SATELLITE (Earth-to-space) | | | | |
| 399.9-400.05 | MOBILE-SATELLITE (Earth-to-space) | | | | |
| 400.15-401 | MOBILE-SATELLITE (space-to-Earth) | | | | |
| 1.980-2.010 | MOBILE-SATELLITE (Earth-to-space) | | | | |
| 2.170-2.200 | MOBILE-SATELLITE (space-to-Earth) | | | | |
| 3.400-4.200 | FIXED-SATELLITE (space-to-Earth) | | | | |
| 5.091-5.150 | Option 1:  FIXED-SATELLITE (Earth-to-space)  Option 2:  FIXED-SATELLITE (Earth-to-space)  AERONAUTICAL MOBILE-SATELLITE (R) | | | | |
| 5.150-5.250 | FIXED-SATELLITE (Earth-to-space) | | | | |
| 5.725-5.85 | FIXED-SATELLITE (Earth-to-space) |  | | | |
| 5.85-6.70 | FIXED-SATELLITE (Earth-to-space) | | | | |
| 6.70-6.725 | FIXED-SATELLITE (Earth-to-space)  FIXED-SATELLITE (space-to-Earth) | | | | |
| 6.725-7.025 | FIXED-SATELLITE (space-to-Earth) | | | | |
| 7.025-7.075 | FIXED-SATELLITE (Earth-to-space)  FIXED-SATELLITE (space-to-Earth) | | | | |
| Bands (GHz) | Region 1 | Region 2 | | Region 3 | |
| 7.250-7.375 | Option 1:  FIXED-SATELLITE (space-to-Earth)  Option 2:  FIXED-SATELLITE (space-to-Earth)  MOBILE-SATELLITE (space-to-Earth) | | | | |
| 7.375-7.45 | FIXED-SATELLITE (space-to-Earth) | | | | |
| 7.45-7.55 | Option 1:  FIXED-SATELLITE (space-to-Earth)  Option 2:  FIXED-SATELLITE (space-to-Earth)  METEOROLOGICAL-SATELLITE (space-to-Earth) | | | | |
| 7.55-7.75 | FIXED-SATELLITE (space-to-Earth) | | | | |
| 7.90-8.175 | FIXED-SATELLITE (Earth-to-space) | | | | |
| 8.175-8.215 | FIXED-SATELLITE (Earth-to-space) | | | | |
| 8.215-8.40 | FIXED-SATELLITE (Earth-to-space) | | | | |
| 14.5-14.8 | FIXED-SATELLITE SERVICE (Earth-to-space) | | | | |
| 15.43-15.63 | FIXED-SATELLITE (Earth-to-space) | | | | |
| 20.2-21.2 | Option 1:  FIXED-SATELLITE (space-to-Earth)  Option 2:  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)  INTER-SATELLITE |  | | FIXED-SATELLITE (Earth-to-space)  INTER-SATELLITE | |
| 24.75-25.25 | FIXED-SATELLITE (Earth-to-space) | | | | |
| 30-31 | Option 1: FIXED-SATELLITE (Earth-to-space)  Option 2:  FIXED-SATELLITE (Earth-to-space)  MOBILE-SATELLITE (Earth-to-space) | | | | |
| 42.5-43.5 | FIXED-SATELLITE (Earth-to-space) | | | | |
| 43.5-47 | Option 1:  MOBILE-SATELLITE  Option 2:  MOBILE-SATELLITE  RADIONAVIGATION-SATELLITE | | | | |

Normal process

2 that for the frequency assignments to which *resolves* 1 applies, and for which the end of the seven-year regulatory period is “*Effective Date*” 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;

Transition Options 1+2

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 “Effective Date”, 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 “Effective Date”;

NOTE − Values of M, P and DF in this Resolution are taken from options of implementations in the options 3/7/1.3.2.1.

Normal process and Transition Options 1+2

4 that upon receipt of the required deployment information submitted in accordance with *resolves* 2or3 above, the Bureau shall:

– promptly make this information available “as received” on the ITU website;

– 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 this Resolution if the number of satellites communicated to the Bureau under *resolves* 2 or 3 above is less than P3% of the total number of satellites (rounded down to the lower integer) indicated in the latest notification information published in the BR IFIC (Part I‑S) for the frequency assignments; and

– publish the results of action taken pursuant to *resolves* 4b) above in the BR IFIC and the ITU website;

Normal process and Transition Options 1+2 and post-milestone procedures alternative 1

5 that, if the number of satellites (rounded down to the lower integer) communicated to the Bureau under *resolves* 2 or 3 above is P3% or between P3% and 100%, as applicable, 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 14 of this Resolution are not applicable;

Normal process and Transition Options 1+2 and post-milestone procedures alternative 2

5 that, if the number of satellites (rounded down to the lower integer) communicated to the Bureau under *resolves* 2 or 3 above is P3% or between P3% and 100%, as applicable, of the total number of satellites indicated in the latest notification information published in the BR IFIC (Part I‑S) for the frequency assignments, no further action is required under the subsequent *resolves* of this Resolution;

Normal process and Transition Option 1

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 “M1”-year period after the end of the seven-year period referred to in No. **11.44**;

*b)* no later than 30 days after the expiry of the “M2”-year period after the end of the seven-year period referred to in No. **11.44**;

*c)* no later than 30 days after the expiry of the “M3”-year period after the end of the seven-year period referred to in No. **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 DD/MM/202X (corresponding to 30 days after the expiry of the “M1”-year period after the “Effective Date”);

*b)* no later than DD/MM/202Y (corresponding to 30 days after the expiry of the “M2”-year period after the “Effective Date”);

*c)* no later than DD/MM/20ZZ (corresponding to 30 days after the expiry of the “M3”-year period after the “Effective Date”);

Normal process and Transition Options 1+2

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 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 “P3%” (rounded down to the lower integer) or above 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;

Normal process and Transitional Option 1+2

9that, 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 “P1”% of the total number of satellites (rounded down to the lower integer) indicated in the latest notification information published in the BR IFIC (Part I‑S) for the frequency assignments. In this case, the modified total number of satellites shall not be greater than “DF1” 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 “P2”% 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 “DF2” 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 “P3”% 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 “DF3” times the number of space stations declared as deployed under *resolves* 6*c)* or7*c)*;

Note − If P3 is 100%, there would be no rounding down and no need to apply DF3 (which would be 1).

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;

*Section of the Resolution dealing with the treatment of the notices for modification submitted in accordance with resolves* 9

Treatment of the notices for modification (PART-IS)

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 XX) and the date and time of epoch (Appendix **4** data items XX and YY) 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 published in PART I‑S of the BR IFIC 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 ensure the remark stating that the assignments are subject to the application of this Resolutionas 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;

*Note − An example of the implementation of resolves 10c)iii) of this option for modification information is presented in section 3/7/1.5.2.3.2 below.*

*End of the section of the Resolution dealing with the treatment of the notices for modification submitted in accordance with Resolves* 9

*Section of the Resolution on the non-submission of the deployment information and their associated consequences*

Alternative 1

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

Alternative 2

11 that if the notifying administration fails to provide the required information under *resolves*6*a)*, 6*b)* or 6*c)* or *resolves* 7*a)*, 7*b)* or 7*c)*, as appropriate, the 90-day period referred to in *resolves* 9, as applicable, shall be reduced by the amount of time elapsed between the date as set forth in the relevant part of *resolves*6or7, as applicable, and the actual date of the submission of the required deployment information in accordance with Annex 1;

11*bis* that if the notifying administration fails to submit the modifications to the characteristics of the frequency assignments within the 90-day period referred to in *resolves*9, or within any modified period of time resulting from the application of *resolves*11, the Bureau shall no longer consider the frequency assignments under subsequent examinations under Nos. **9.36**, **11.32** or **11.32A**; frequency assignments subject to subsection IA of Article **9** shallnot cause harmful interference to, nor claim protection from, other frequency assignments recorded in the Master Register with a favourable finding under No.**11.31**;

Note − The 90-day period refers to the period to provide the information for the reduced constellation.

*End of the section of the Resolution on the non-submission of the deployment information and their associated consequences*

*Section of the Resolution on the use of the same spacecraft for more than one filing with overlapping frequency assignments*

Alternative 1

12 that the same spacecraft shall not be used under *resolves* 6 and 7 for overlapping frequency assignments of more than one filing;

Note − The implications of resolves 12 are under study within ITU. No conclusions have yet been reached. The methodology and course of action to implement this method need to be specified.

Alternative 2

*Resolves* 12 is not needed.

NOTE − No provision in Resolution [A7(a)-NGSO-MILESTONES] is needed or appropriate for this subject.

*End of the section on the use of the same spacecraft for more than one filing with overlapping frequency assignments*

*Section of the Resolution on the suspensions of a Recorded frequency assignments*

Alternative 1

13 that, for frequency assignments suspended under No. **11.49**, the date of bringing back into use of frequency assignments shall be no later than the date set as per No. **11.49** or the date of the first next milestone as per *resolves* 6*a)*, 6*b)* or 6*c)* or *resolves* 7*a)*, 7*b)* or 7*c)* as appropriate, whichever date comes first;

14 that the suspension of frequency assignments in accordance with No. **11.49** does not extend the milestone period as specified in *resolves* 6*a)*, 6*b)* or 6*c)* or *resolves* 7*a)*, 7*b)* or 7*c)*, as applicable, nor 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)*, as appropriate;

Alternative 2

13 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;

*End of the Section of the Resolution on the suspension of a recorded frequency assignments*

Note − In the discussion of this Resolution, the need to address the post-milestone approach was raised. To this effect additional resolves were suggested. No consensus was reached for the inclusion of these resolves in the Resolution.

*Section of the Resolution on the post-milestone procedures*

Alternative 1

Note − There would be a need for a new or modified remark associated with the post-milestone procedures to be included in the MIFR. This may be included in resolves 8bis, if appropriate.

15 that every two years after the date specified in *resolves* 2 or 3 subject to validation of *resolves* 5 or *resolves* 6*c)* or *resolves*7*c)*, as appropriate, the notifying administration shall communicate to the Bureau, within thirty days after the end of each two-year period, the complete deployment information in accordance with Annex 1 to this Resolution;

16 that, if a notifying administration fails to implement *resolves* 15, the Bureau shall send to the notifying administration a reminder asking it to provide the required information within thirty days;

17 that, if the notifying administration does not apply No. **11.49** for the non-geostationary-satellite system and if the total number of satellites provided under *resolves* 15 and 16, as appropriate, is for the second consecutive time lower than “90%” of the total number of satellites (rounded down to the lower integer) indicated in the Master Register, *resolves* 18 to 21 apply;

18 that, in application of *resolves*17, the Bureau shall request the notifying administration to provide, within thirty days, the updated notified orbital parameters in order to adjust them to the total number of satellites provided under *resolves* 15 or 16;

19 that, fifteen days before the expiry of the date referred in *resolves* 18, the Bureau shall send a reminder of the deadline to the administration;

20 that, if the notifying administration does not provide information requested under *resolves* 18, the frequency assignments shall be cancelled by the Bureau;

21 that, upon receipt of the modifications to the characteristics of the notified or recorded frequency assignments as referred to in *resolves*18, the Bureau shall,

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

*b)* conduct an examination for compliance with the maximum number of satellites as per *resolves* 17, and either

i)conduct an examination under No.**11.31** when these modifications are 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 XX) and the date and time of epoch (Appendix **4** data items XX and YY) 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, if favourable, not treat these modifications as new notifications of assignments and shall retain their original dates; or

ii) apply Nos. **11.43A** and **11.43B** when these modifications covered other Appendix **4** data items than those referred to in *i) above;* and

*c)* publish the information provided and its findings in the BR IFIC,

Alternative 2

*Resolves* 15 through 21 are not necessary

NOTE − No provision in Resolution [A7(A)-NGSO-MILESTONES] is needed for this subject.

*End of the section of the Resolution on the post-milestone procedures*

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 [IND/A7(A)-NGSO-MILESTONES] (WRC-19)

Information to be submitted about the deployed space stations

Option 1 for Annex 1

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.

B Spacecraft manufacturer

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

*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 spacecraft

*b)* Orbital characteristics of the spacecraft (see **11.44C.4**)

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

Option 2 for Annex 1

A Satellite system information

*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)* Number of space stations currently deployed.

B Space station information to be provided for each space station currently deployed

Space station manufacturer

*a)* Name of the space station manufacturer

*b)* Date of execution of the contract

*c)* Contractual “delivery window”

*d)* Number of space stations procured.

Launch services provider

*a)* Name of the launch vehicle provider

*b)* Date of execution of the contract

*c)* Name of the launch vehicle

*d)* Name and location of the launch facility

*e)* Launch date.

Space station characteristics

*a)* Name of the space station

*b)* Orbital characteristics of the spacecraft

*c)* Frequency band(s) present on board the spacecraft (i.e. frequency bands within which frequency assignments are capable to be transmitted or received by the spacecraft).

Option 3 for Annex 1

A Satellite system information

1 Name of the satellite system

2 Name of the notifying administration

3 Total number of space stations 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.

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 IND/92A19A1/17#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 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 |  |
| **A.20** | **COMPLIANCE WITH *resolves* 6*bis* OF RESOLUTION [IND/A7(a)-NGSO-MILESTONES] (WRC-19)** |  |  |  |  |  |  |  |  |  | **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** |  |  |  | A.20.a |  |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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)