

RESOLUTION 32 (WRC-19)

Regulatory procedures for frequency assignments to non-geostationary-satellite networks or systems identified as short-duration mission not subject to the application of Section II of Article 9

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

considering

- a) that some non-geostationary (non-GSO) satellites with short-duration missions have to date been operating for their entire mission duration without being notified or recorded;
- b) that successful and timely development and operation of non-GSO networks or systems with short-duration missions may require regulatory procedures which take account of the short development cycle, short lifetimes and typical missions of such satellites, and therefore the application of certain provisions of Articles 9 and 11 may need to be adapted to take account of the nature of these satellites;
- c) that these satellites typically have a short (one to two years) development time and are low cost, often using off-the-shelf components;
- d) that the operational lifetime of these satellites generally ranges from several weeks up to not more than three years;
- e) that non-GSO satellites with short-duration missions utilize low-Earth orbits;
- f) that non-GSO satellites with short-duration missions are being used for a wide variety of applications, including remote sensing, space weather research, upper atmosphere research, astronomy, communications, technology demonstration and education, and therefore may operate under various radiocommunication services;
- g) that advances in the field of satellite technology have resulted in non-GSO satellites with short-duration missions becoming a means for developing countries to become involved in space activities,

considering further

- a) that the application of provisions of Articles 9 and 11 to frequency assignments to non-GSO networks or systems identified as short-duration mission as prescribed in this Resolution should not adversely or otherwise affect the regulatory treatment of other systems;
- b) that the application of any modified regulatory procedure should not change the sharing status with respect to networks and systems not applying the modified regulatory procedure, both terrestrial and space, in frequency bands which may be used by non-GSO systems with short-duration missions,

RES32-2

recognizing

- a) that Resolution ITU-R 68 seeks to improve awareness and increase knowledge on existing regulatory procedures for small satellites;
- b) that non-GSO networks or systems operating in frequency bands not subject to Section II of Article 9 are, irrespective of the period of validity of their associated frequency assignments, subject to Nos. 9.3 and 9.4;
- c) that non-GSO systems with short-duration missions are not to be used for safety-of-life services,

noting

- a) Report ITU-R SA.2312, on characteristics, definitions and spectrum requirements of nanosatellites and picosatellites, as well as systems composed of such satellites;
- b) that No. 22.1 states that “Space stations shall be fitted with devices to ensure immediate cessation of their radio emissions by telecommand, whenever such cessation is required under the provisions of these Regulations” (see also Appendix 4 data item A.24.a),

resolves

- 1 that this Resolution shall apply only to non-GSO networks or systems identified by the notifying administration as effecting short-duration missions and corresponding to the following criteria:
 - 1.1 the network or system shall operate under any space radiocommunication service on frequency assignments that are not subject to the application of Section II of Article 9;
 - 1.2 the maximum period of operation and validity of frequency assignments of a non-GSO network or system identified as short-duration mission shall not exceed three years from the date of bringing into use of the frequency assignments (see the Annex to this Resolution for the definition of date of bringing into use for such networks or systems), without any possibility of extension, after which the recorded assignments shall be cancelled;
 - 1.3 the total number of satellites in a non-GSO network or system identified as short-duration mission shall not exceed 10 satellites¹;
- 2 that non-GSO networks or systems corresponding to *resolves* 1 of this Resolution shall comply with the conditions for use of the frequency band that is allocated to the service within which they operate;
- 3 that non-GSO networks or systems identified as short-duration mission using spectrum allocated to the amateur-satellite service shall operate in accordance with the definition of the amateur-satellite service as contained in Article 25;
- 4 that non-GSO networks or systems with short-duration missions shall have the capability to cease transmitting immediately in order to eliminate harmful interference;

¹ The typical mass of each satellite should not normally exceed 100 kg.

5 that, for the purpose of this Resolution, a non-GSO network or system identified as short-duration mission shall have a single launch date associated with the first launch (in the case of systems with multiple launches) and that launch date shall be defined as the date on which the first satellite of the non-GSO network or system with a short-duration mission is placed into its notified orbital plane,

instructs the Director of the Radiocommunication Bureau

1 to expedite the online publication of notices “as received” for such networks or systems, in addition to the normal publication of notices;

2 to provide the necessary assistance to administrations in the implementation of this Resolution;

3 to report to WRC-23 on the implementation of this Resolution,

invites administrations

1 to avoid heavily used frequency bands when assigning frequencies to a non-GSO network or system with a short-duration mission;

2 to exchange information associated with non-GSO networks or systems identified as short-duration mission and to make every possible effort to resolve interference that may be unacceptable to existing or planned satellite networks or systems, including those with short-duration missions;

3 to provide their comments on the application of No. 9.3, upon receipt of the International Frequency Information Circular (BR IFIC) containing information published under No. 9.2B, as soon as possible within a period of four months from the date of publication of the BR IFIC, and to communicate to the notifying administration, with copy to the Radiocommunication Bureau, these comments on the particulars of the potential interference to its existing or planned systems.

ANNEX TO RESOLUTION 32 (WRC-19)

Application of the provisions of Articles 9 and 11 for non-geostationary-satellite networks and systems identified as short-duration mission

1 The general provisions of the Radio Regulations shall apply to non-geostationary-satellite (non-GSO) networks or systems identified as short-duration mission with the following exceptions/additions/amendments.

2 When submitting advance publication information under No. 9.1, administrations shall submit the orbital characteristics (Appendix 4 data item A.4.b.4) planned at the early development stage of the satellite project.

3 In the application of No. 9.1, the notification information cannot be communicated to the Radiocommunication Bureau (BR) at the same time, and can only be submitted after the launch of a satellite in the case of a network or of the first satellite in the case of a system with multiple launches.

RES32-4

4 Notices relating to non-GSO networks or systems identified as short-duration mission shall be communicated to BR only after the launch of a satellite in the case of a satellite network or of the first satellite in the case of a system requiring multiple launches, and not later than two months after the date of bringing into use. This provision applies instead of No. **11.25** for frequency assignments to non-GSO networks or systems with short-duration missions. Irrespective of the date of receipt of the notified characteristics of the non-GSO network or system with a short-duration mission under this Resolution, the maximum period of validity of frequency assignments of the system shall not exceed the time-limit in *resolves* 1.2 of this Resolution. At the expiry date of period of validity, as described in *resolves* 1.2 of this Resolution, BR shall publish a suppression of the related Special Section.

5 In addition to the application of No. **11.36**, BR shall publish the characteristics of the system together with the findings under No. **11.31** in the International Frequency Information Circular (BR IFIC) and on its website within no more than four months from the date of receipt of complete information under No. **11.28**. When BR is not in a position to comply with the time-limit referred to above, it shall periodically so inform the notifying administration, giving the reasons therefor.

6 In the application of No. **11.44**, the date of bringing into use of a non-GSO network or system identified as short-duration mission shall be defined as the launch date of a satellite in the case of a non-GSO network or of the first satellite in the case of a non-GSO system requiring multiple launches (see *resolves* 5 of this Resolution).

7 Nos. **11.43A**, **11.43B** and **11.49** shall not apply to frequency assignments to non-GSO networks or systems identified as short-duration mission.

RESOLUTION 34 (REV.WRC-19)

**Establishment of the broadcasting-satellite service in Region 3
in the frequency band 12.5-12.75 GHz and sharing with space and
terrestrial services in Regions 1, 2 and 3**

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

considering

that WARC-79 allocated the frequency band 12.5-12.75 GHz to the broadcasting-satellite service (BSS) for community reception in Region 3,

recognizing

that, under Resolution **507 (Rev.WRC-19)**, the ITU Council may wish to empower a future competent radiocommunication conference to establish a plan for the BSS in the frequency band 12.5-12.75 GHz in Region 3,

resolves

1 that, until such time as a plan may be established for the BSS in the frequency band 12.5-12.75 GHz in Region 3, the relevant provisions of Article **9** shall continue to apply to coordination between stations in the BSS in Region 3 and:

- a) space stations in the BSS and the fixed-satellite service (FSS) in Regions 1, 2 and 3;
- b) terrestrial stations in Regions 1, 2 and 3;

2 that the ITU Radiocommunication Sector (ITU-R) shall study urgently the technical provisions which may be appropriate for sharing between stations in the BSS in Region 3 and:

- a) space stations in the BSS and FSS in Regions 1 and 2;
- b) terrestrial stations in Regions 1 and 2;

3 that, until such time as technical provisions are developed by ITU-R and accepted by administrations concerned under Resolution **703 (Rev.WRC-07)**, sharing between space stations in the BSS in Region 3 and terrestrial services in Regions 1, 2 and 3 shall be based on the following criteria, as appropriate:

- a) the power flux-density at the Earth's surface produced by emissions from a space station in the BSS in Region 3 for all conditions and for all methods of modulation shall not exceed the limits given in Annex 5 of Appendix **30**;
- b) in addition to *resolves 3 a)* above, the provisions of Article **21** (Table **21-4**) shall apply in the countries mentioned in Nos. **5.494** and **5.496**;
- c) the limits given in *resolves 3 a)* and *b)* above may be exceeded on the territory of any country provided the administration of that country has so agreed.

