

PLENARY MEETING

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Working Group 5

PROPOSED MODIFICATIONS TO THE DRAFT CPM REPORT

CHAPTER 5, AGENDA ITEM 7, ISSUE E

AGENDA ITEM 7

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) to facilitate rational, efficient, and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit;*

Resolution 86 (Rev.WRC-07): Implementation of Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference

5/7/5 Issue E – Failure of a satellite during the bringing into use period¹

5/7/5.1 Executive summary

WRC-12 discussed the issue of a satellite failure during the bringing into use period in new RR No. **11.44B** that renders the satellite technically incapable of operating in a given frequency band (see section 9 of WRC-12 [Document 554](#)), and invited the ITU-R to study, as a matter of urgency, to determine what regulatory changes, if any, should be made to the Radio Regulations (RR) under WRC-15 agenda item 7 to address this issue. Furthermore, WRC-12 decided that in case of such failure, the notifying administration may submit the case to the Radio Regulations Board (RRB) for its consideration and decision on a case-by-case basis.

This issue was studied within ITU-R and six methods are included below to address this issue.

¹ Note that WRC-12 established the current ninety-day period for bringing frequency assignments into use. It should be noted that Issue H under agenda item 7 includes Method H3 which proposes changing the length of the BIU period from 90 days to one year (see § 5/7/8.5.3 and § 5/7/8.6.3). Should this period be changed it could impact the Methods under this Issue E.

5/7/5.2 Background

WRC-12 introduced the additional provisions No. **11.44.2** and No. **11.44B** in the RR in order to better define the bringing into use of a frequency assignment to a space station in the geostationary-satellite orbit. According to RR No. **11.44B**, “A frequency assignment to a space station in the geostationary-satellite orbit shall be considered as having been brought into use when a space station in the geostationary-satellite orbit with the capability of transmitting or receiving that frequency assignment has been deployed and maintained at the notified orbital position for a continuous period of ninety days....”.

However, the current provisions regarding the bringing into use (BIU) do not address a possible scenario of a satellite failure during the bringing into use period. Because of this fact, consideration was given as to how this issue could be addressed.

5/7/5.3 Summary of technical and operational studies, including a list of relevant ITU-R Recommendations

The satellite network operator has a few possibilities to restore the services in case of a failure of a satellite during the BIU period. Usually, the options are relocating a satellite from its existing fleet, purchasing or leasing a satellite already in orbit, or in the worst case procuring and launching a new satellite. However, the current situation results in an uncertainty for the notifying administration and the satellite network operator awaiting the RRB decision on the status of the frequency assignments in subject. Therefore, it may be important to have an RR provision that would define a clear applicable approach in a case of a failure of a satellite during the period of BIU. Such provision would provide an administration with a clear understanding on the status of its frequency assignments before taking a decision on a replacement satellite.

Furthermore, it is believed that the intention of the current RR provisions is not to penalize genuine satellite network projects, but rather to prevent bringing into use of several satellite networks at different orbital positions by moving a single satellite from one position to another with brief stops at each position, declaring bringing of the networks into use and suspending the assignments, until the ultimate orbital position is reached. Launch of a satellite to operate one satellite network is certainly a genuine project and it would thus be appropriate to consider the assignments in case of a failure of such newly launched satellite during the BIU period defined in RR No. **11.44B** as being brought into use, and consequently allowing the notifying administration to suspend the use of the corresponding recorded frequency assignments.

However, adding provisions to the RR to award BIU status to a satellite failure during the BIU/bringing back into use (BBIU) period following a suspension of frequency assignments under RR No. **11.49** (see No. **11.49.1**) could have the opposite effect and encourage abuse of the BIU rules by sanctioning the movement of aging and older satellites from one orbital location to another without worry about potential satellite failure. Since there have not been any demonstrable events of a satellite failure during the BIU period, it may be premature to modify the current regulatory procedures.

5/7/5.4 Analysis of the results of studies

In view of the summary of technical and operational studies above, one possible way to address this issue is to allow a frequency assignment to be considered as having been brought into use in case of a frequency assignment that could not be brought into use in accordance with RR No. **11.44B** or brought back into use in accordance with RR No. **11.49.1** due to a failure of a satellite during the bringing into use/bringing back into use period.

Another view is to continue to use the current procedures in the RR since the failure of any satellite during the current BIU or BBIU period would be extremely rare. In the case of a newly-launched or

in-orbit satellite failure during the current BIU or BBIU period, administrations already have the possibility of petitioning the RRB for relief under the current procedures and if not successful at the RRB then to petition a WRC. There is no regulatory difference between a newly launched satellite or an in-orbit satellite and to add provisions giving special treatment to a newly launched satellite penalizes operators conducting legitimate satellite fleet movements. Additionally, the proposed method could open the door for abuse of the BIU procedures by using ageing satellites to move to different orbital locations for BIU/BBIU.

5/7/5.5 Methods to satisfy issue E

Concerns were expressed that, as a result of the implementation of some of these methods, except Method E3, the same frequency assignment could benefit from repeated applications of provisions associated to these methods.

5/7/5.5.1 Method E1

Under this method, a possible addition of a footnote to RR No. **11.44B** is proposed, which would indicate that in case of a failure of a satellite during the BIU period, the corresponding frequency assignments shall be considered as having been brought into use under RR No. **11.44B**.

5/7/5.5.2 Method E2

This is an optional, additional method to Method E1. Under this method, the same footnote to RR No. **11.44B**, as specified under Method E1, is proposed. Furthermore, another footnote to RR No. **11.49** is proposed, which would indicate that in case of a failure during the BBIU period of a satellite, used for bringing frequency assignments back into use, the corresponding frequency assignments will be considered as having been brought back into use under RR No. **11.49.1**.

5/7/5.5.3 Method E3

Under this method there would be no change to the Radio Regulations.

5/7/5.5.4 Method E4

In Method E4, a situation of satellite failure during the bringing into use period is considered. There are some concerns that if during this period the satellite suffers a failure on orbit then the frequency assignments of the associated network shall not be considered as brought into use and consequently it is not possible to apply RR No. **11.49** to its frequency assignments, i.e. to suspend its usage. In order to address this concern, an additional provision RR No. **11.44.3** allows to extend for 3 years the date of bringing into use from the date of the failure. In other words in applying this method the regulatory time-limit for the protection of frequency assignments could be 10 years plus 90 days without applying the suspension provision as described in RR No. **11.49**.

5/7/5.5.5 Method E5

Method E5 considers the situation of satellite failure during the bringing into use period, that such failure rendering the satellite technically incapable of transmitting or receiving in a given frequency band. In this method the satellite failure during the bringing into use period will be considered on a case-by-case basis mostly due to the non-recurrence of that issue. Also, this method will provide a clear regulatory implementation and guidelines on how this issue will be considered.

This method proposes an additional footnote to RR No. **11.44B** which indicates that in case of a satellite failure during the bringing into use period, the notifying administration can notify the case as soon as possible but no later than sixty days from the date of the failure to the BR with all supporting evidences. The BR will examine those evidences, then the BR will develop a report on the matter which includes its verifications and findings. The RRB shall consider that case by careful

investigation, taking into account all supporting materials, including the BR report; the RRB shall decide on the matter, as appropriate. In this case the satellite failure during the bringing into use period will be considered on a case-by-case basis.

5/7/5.5.5 Method E6

This method proposes an additional footnote to RR No. **11.44B** which indicates that in case of a satellite failure during the bringing into use period, the notifying administration can notify the case as soon as possible but no later than sixty days from the date of the failure to the BR with all supporting evidence. The BR will examine that evidence, and if the BR investigation confirms that the space station was technically capable of transmitting and/or receiving the notified frequency assignment(s), then the Bureau will consider the required bringing into use period as completed. If the Bureau is not in a position to take a decision on the completion of the BIU period within three months then the BR will develop a report on the matter which includes its verifications, and findings and submit that report to the RRB. The RRB shall consider that case by careful investigation, taking into account all supporting materials, including the BR report; the RRB shall decide on the matter, as appropriate. In this case the satellite failure during the ninety-day bringing into use period will be considered on a case-by-case basis.

5/7/5.6 Regulatory and procedural considerations for issue E

5/7/5.6.1 Method E1

ARTICLE 11

Notification and recording of frequency assignments^{1, 2, 3, 4, 5, 6, 7, 7bis} (WRC-12)

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

MOD

11.44B A frequency assignment to a space station in the geostationary-satellite orbit shall be considered as having been brought into use when a space station in the geostationary-satellite orbit with the capability of transmitting or receiving that frequency assignment has been deployed and maintained at the notified orbital position for a continuous period of ninety days. The notifying administration shall so inform the Bureau within thirty days from the end of the ninety-day period^{21bis}. (WRC-~~12~~15)

ADD

^{21bis} **11.44B.1** In the case of a space station in the geostationary-satellite orbit that experienced a failure during the ninety-day period of bringing a frequency assignment into use under No. **11.44B**, which renders the space station technically incapable of transmitting or receiving that frequency assignment, the frequency assignment shall be considered as having been brought into use. The notifying administration shall so inform the Bureau within thirty days from the end of the ninety-day period. Upon receipt of this information, the Bureau shall suspend the frequency assignment under No. **11.49**. (WRC-15)

5/7/5.6.2 Method E2

ARTICLE 11

Notification and recording of frequency assignments^{1, 2, 3, 4, 5, 6, 7, 7bis} (WRC-12)

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^{21bis} **11.44B.1** In the case of a space station in the geostationary-satellite orbit that experienced a failure during the ninety-day period of bringing a frequency assignment into use under No. **11.44B**, which renders the space station technically incapable of transmitting or receiving that frequency assignment, the frequency assignment shall be considered as having been brought into use. The notifying administration shall so inform the Bureau within thirty days from the date of the satellite failure. Upon receipt of this information, the Bureau shall suspend the frequency assignment under No. **11.49**. (WRC-15)

MOD

11.49 Wherever the use of a recorded frequency assignment to a space station is suspended for a period exceeding six months, the notifying administration shall, as soon as possible, but no later than six months from the date on which the use was suspended, 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 No. **11.49.1** when applicable, so inform the Bureau, as soon as possible. The date on which the recorded assignment is brought back into use^{22, 22bis} shall be not later than three years from the date of suspension. (WRC-~~12~~15)

ADD

^{22bis} **11.49.2** In the case of a space station in the geostationary-satellite orbit that experienced a failure during the ninety-day period of bringing a frequency assignment back into use under No. **11.49.1**, which renders the space station technically incapable of transmitting or receiving that frequency assignment, the frequency assignment shall be considered as having been brought back into use. The notifying administration shall so inform the Bureau within thirty days from the date of the satellite failure. Upon receipt of this information, the Bureau shall suspend the frequency assignment under No. **11.49**. (WRC-15)

5/7/5.6.3 Method E3

NOC

ARTICLE 11

Notification and recording of frequency assignments^{1, 2, 3, 4, 5, 6, 7, 7bis} (WRC-12)

5/7/5.6.4 Method E4

ARTICLE 11

Notification and recording of frequency assignments^{1, 2, 3, 4, 5, 6, 7, 7bis} (WRC-12)

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

MOD

11.44 The notified date^{20, 21} of bringing into use of any frequency assignment to a space station of a satellite network 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**, as appropriate. Any frequency assignment not brought into use within the required period^{21bis} shall be cancelled by the Bureau after having informed the administration at least three months before the expiry of this period. (WRC-~~12~~15)

ADD

^{21bis} **11.44.3** In the case of a space station in the geostationary-satellite orbit that experienced a failure during the ninety-day bringing into use period defined in No. **11.44B** for a notified frequency assignment, the notifying administration shall so inform the Bureau as soon as possible but no later than sixty days from the date of the failure. Upon receipt of such information and accompanying request from the notifying administration, the deadline for the notified date of bringing into use of that frequency assignment may be extended after careful consideration by the RRB taking into account relevant part of the course of action mentioned in No. **13.6** for not more than three years from the date of the failure. The Bureau shall publish the information about the extension as soon as possible on the ITU website and in the BR IFIC. (WRC-15)

5/7/5.6.5 Method E5

ARTICLE 11

Notification and recording of frequency assignments^{1, 2, 3, 4, 5, 6, 7, 7bis} (WRC-12)

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

MOD

11.44B A frequency assignment to a space station in the geostationary-satellite orbit shall be considered as having been brought into use when a space station in the geostationary-satellite orbit with the capability of transmitting or receiving that frequency assignment has been deployed and maintained at the notified orbital position for a continuous period of ninety days. The notifying administration shall so inform the Bureau within thirty days from the end of the ninety-day period^{21bis}. (WRC-~~12~~15)

ADD

^{21bis} **11.44B.1** In the case of a space station in the geostationary-satellite orbit that experienced a failure during the ninety-day period of bringing a notified frequency assignment into use under No. **11.44B**, which renders the space station technically incapable of transmitting or receiving the notified frequency assignment, the notifying administration can notify the Bureau, within sixty days of the failure; the Bureau will examine any evidence provided by the administration on the failure. The Bureau will analyse the evidence, prepare a report, and request for a decision from the Board. The Board shall decide on whether to consider the ninety-day period of bringing into use as completed, as appropriate. (WRC-15)

5/7/5.6.6 Method E6

ARTICLE 11

Notification and recording of frequency assignments^{1, 2, 3, 4, 5, 6, 7, 7bis} (WRC-12)

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

MOD

11.44B A frequency assignment to a space station in the geostationary-satellite orbit shall be considered as having been brought into use when a space station in the geostationary-satellite orbit with the capability of transmitting or receiving that frequency assignment has been deployed and maintained at the notified orbital position for a continuous period of ninety days. The notifying administration shall so inform the Bureau within thirty days from the end of the ninety-day period^{21bis}. (WRC-~~12~~15)

ADD

^{21bis} **11.44B.1** In the case of a space station in the geostationary-satellite orbit that experienced a failure during the ninety-day period of bringing a notified frequency assignment into use under No. **11.44B**, which renders the space station technically incapable of transmitting or receiving the notified frequency assignment, in order for an administration to request application of No. **11.49** for these assignments it shall inform the Bureau within sixty days of the date of the satellite failure and provide any due diligence information that may be required. The Bureau will examine any evidence provided by the administration on the failure. The Bureau will analyse the evidence provided by the notifying administration regarding the operational capabilities of the failed satellite. The Bureau during its analysis may seek any further clarification under No. **13.6**, taking into consideration any previous information which have been submitted by the administration. If the Bureau's investigation confirms that the space station was technically capable of transmitting and/or receiving the notified frequency assignment(s), then the Bureau will consider the ninety-day period required of bringing into use as completed, and publish the decision in the next BR IFIC following this decision, with all corresponding documents between administrations and the Bureau, and the assignment is entitled for a three year suspension. If within sixty days the Bureau not being informed by the administration with a request to apply No. **11.49** then the related frequency assignments shall not be considered as having been brought into use.

If the Bureau is not in a position to take a decision on the completion of the BIU period within three months, the Bureau shall prepare a report, and request for a decision from the Board. The Board shall decide on whether to consider the ninety-day period of bringing into use as completed, or not, as appropriate.

In case that the Board's decision confirms that the space station was technically capable of transmitting and/or receiving the notified frequency assignment(s), then the Bureau will consider the ninety-day period required for bringing into use as completed, and publish the decision in the next BR IFIC following the Board's decision, and the assignment is entitled for a three-year suspension. (WRC-15)
