



30TH WORLD RADIOCOMMUNICATION SEMINAR

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Regulatory procedure for satellite systems not subject to coordination and Earth stations



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Non-plan procedures – at a glance

- **Not subject to coordination**

- **Submit** advance Publication Information (API)
- **Commenting** procedure
- Submit **Notification** for recording
- **Bring into use** frequency assignments in a satellite in a respective orbit

- **Subject to coordination**

- **Submit** request for coordination (CR)
- **Commenting** procedure
- Submit **Notification** for recording
- **Bring into use** frequency assignments in a satellite in a respective orbit

Procedure for not subject to coordination are applicable to the following:

- For non-geostationary-satellite networks
 - For all the non-geostationary-satellite networks where the frequency bands/service are not subject to the coordination procedure under Section II of Article 9
- For geostationary-satellite networks
 - *Only for* the use of inter-satellite links of a geostationary space station communicating with a non-geostationary space station which are not subject to the coordination procedure under Section II of Article 9

What does it mean by *not subject to coordination*?

- Coordination procedures are specified in Section II of Article **9**
 - Examples: No.**9.7** for geostationary satellite networks, No.**9.11A** for coordination required in a footnote etc.
- When we refer to “not subject to coordination”, it means the frequency assignments for the satellite networks or satellite systems are not subject to any of the coordination procedures spelt out in Section II of Article **9**
- However, they are subject to the following procedures of Article **9**:
 - The advance publication procedure of Section I of Article **9**
 - The procedures for commenting and resolution of difficulties of Sub-Section IA of Article **9**
- The notification procedure is the same for all satellite networks, spelt out in Article **11**

Satellite networks not subject to coordination

- Submission of the API does not give a priority. It starts the regulatory process, which permits the assignments to be notified, at the earliest within 4 months after the date of the publication of the API (No. **9.1**).
- Frequency assignments that are notified and recorded in the MIFR with a favourable finding shall have the right to international recognition. For such an assignment, this right means that other administrations shall take it into account when making their own assignments, in order to avoid harmful interference. (No. **8.3**)
- For the API, the notice is examined for completeness (Nos. **9.2A** and **9.2B**) and correctness (Rules of Procedure), but there are no examinations under No. **9.35** or **11.31**, no finding is given, and there is no identification of coordination requirement by the Bureau.
- The information submitted and published permit other administrations to check it against their own usage and plans, and to submit comments if necessary.
- There is a commenting procedure, a publication of these comments received, a procedure for the cooperation and resolution of any difficulties, and possibility to request for BR assistance
- For the notification, there is a formal examination under No. **11.31**, but there is no verification of the completion of coordination agreement

How to know if a frequency band for Non-GSO is subject to coordination under section II of Article 9?

- To know whether a frequency band is subject to coordination, check the footnotes in **the Table of Frequency Allocations in Article 5**
 - For NGSO satellite networks, pay particular attention to No.9.21, No.9.11A – No.9.14
 - For coordination under No.9.11A please note §2.3 of Rules of Procedure related to No.9.11A: the procedure is applicable to all other space and terrestrial services with respect to those satellite services having allocations with equal rights and mentioned in the specific footnotes to which this provision applies (check TABLE 9.11A-1 of the Rules of Procedure).

Non-conforming assignments

- For assignments that are not in conformity with the Table of Frequency Allocations or the other provisions of the Radio Regulations, they shall not cause harmful interference to, and shall not claim protection from harmful interference (No.4.4)
- Such an assignment are still required to be notified, and they shall be recorded for information purposes
- If these non-conforming assignments cause harmful interference to those that are in conformity, the station using these non-conforming assignments shall immediately eliminate this harmful interference (No.8.5).
- Rule of Procedure: When notifying the use of frequency assignments to be operated under No. 4.4, the notifying Administration shall provide a confirmation that it has determined that these frequency assignments will not cause harmful interference into the stations of other administrations operating in conformity with the Radio Regulations and the measures it would need to take in order to comply with the requirement to immediately eliminate harmful interference

Advance Publication Information (API)

<https://www.itu.int/en/ITU-R/space/Pages/API.aspx>

- API is a **mandatory** procedure (No. **9.1**)
for all satellite network **not subject to coordination** procedure
- From the date of receipt of the API, the frequency assignments shall be brought into use within 7 years
- Information required are specified in Annex 2 of Appendix **4**, BR carries out examination for completeness (Nos **9.2A** and **9.2B**) and correctness (Rules of Procedure)
- Information to be captured using BR space software **SPACECAP** and **GIMs** validated with **BRSIS Validation**, in the SNS V9.1 format
- Notices must be submitted online through the eSubmission system
- Frequency ranges and carrier frequencies of emissions are submitted in API, as compared to assigned frequencies and bandwidths in Coordination and Notification notices.
- No formal examination under No. **11.31** is carried out, however BR checks in detail whether the frequency bands are subject or not subject to coordination to ensure that the correct procedure is followed, and BR also advises on whether they are in accordance with the Table of Frequency Allocation and some other requirements of the Radio Regulations
- Publication in API/A special section of the BRIFIC
- Cost recovery fee: **570** CHF (amateur-satellite service is exempted from cost recovery fee)

Procedure for commenting and resolution of difficulties

No. 9.3 Commenting procedures

Comments to an API/A should be submitted to the notifying Administration and the SpaceCom comment file submitted to the Bureau within **4 months** from the date of publication of the API/A special section

BR now makes the comments available “as received” on the web

The Bureau publishes the list of administrations which have sent comments within the 4-month period in an **API/B** special section in a BR IFIC

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS BUREAU DES RADIOCOMMUNICATIONS		INTERNATIONAL TELECOMMUNICATION UNION RADIOCOMMUNICATION BUREAU		UNIÓN INTERNACIONAL DE TELECOMUNICACIONES OFICINA DE RADIOCOMUNICACIONES	
RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATELITE		PRISMA-I1		SECTION SPÉCIALE N° SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	
				API/B/827	
				BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA	
				2864 / 20.02.2018	
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE	I	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL	NGSO	NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NÚMERO DE IDENTIFICACIÓN	117545350 / 117545350
RÉFÉRENCE DE LA SECTION SPÉCIALE (BR IFIC / DATE) SPECIAL SECTION REFERENCE (BR IFIC / DATE) REFERENCIA DE LA SECCIÓN ESPECIAL (BR IFIC / FECHA)					
API/A/12034 (BR IFIC 2854 / 19.09.2017)					
1. La présente Section spéciale est publiée conformément au numéro 9.5 du Règlement des radiocommunications, et concerne la demande de coordination publiée dans la section spéciale API/A indiquée ci-dessus. 2. Les administrations qui ont soumis des observations au titre du numéro 9.3 dans le délai de quatre mois suivant la date de publication de la Section spéciale API/A précitée, sont indiquées ci-dessous et le tableau contient un résumé de ces observations.		1. This Special Section is published in accordance with No. 9.5 of the Radio Regulations, in respect of the request for coordination published in the API/A Special Section referenced above. 2. Administrations that have submitted comments under No. 9.3 within four months of the date of publication of the mentioned API/A Special Section are listed below and the table contains a summary of the comments.		1. Esta Sección Especial se publica de conformidad con lo dispuesto en el número 9.5 del Reglamento de Radiocomunicaciones, en lo que respecta a la solicitud de coordinación publicada en la Sección Especial API/A antes citada. 2. Las administraciones que han presentado comentarios conforme al número 9.3 dentro de un plazo de cuatro meses a partir de la fecha de publicación de la Sección Especial API/A mencionada, se indican a continuación y en el cuadro se presenta un resumen de los comentarios.	
ALG, AUS, BHR, BLR, CAN, CHN, CYP, D, E, EGY, F, HOL, J, KAZ, KOR, MLA, MRC, PAK, QAT, RUS, USA					

- No. 9.4 Cooperation and Resolution of Difficulties

- Both administrations shall endeavor to **cooperate** in joint efforts to resolve any difficulties and shall exchange any additional relevant information that may be available
- Either party can request for the **assistance** of the Radiocommunication Bureau (**No.9.3**)
- **In case of difficulties**, the administration responsible for the planned satellite network shall **explore all possible means** to resolve the difficulties without considering the possibility of adjustment to networks of other administrations **If no such means can be found**, it **may request the other administrations to explore** all possible means to meet its requirements
- The administrations concerned shall **make every possible effort** to resolve the difficulties by means of **mutually acceptable adjustments** to their networks

Modification of characteristics for satellite networks not subject to coordination

- According to No.9.2, amendments to the information for API shall be sent to the Bureau as soon as they become available
- Changes that are obligatory for a new API submission (No.9.2):
 - Additional frequency band
 - Modification of the direction of transmission
 - Modification of reference body
- In addition to the above, it is a good practice to submit a modification to the API any change in characteristics including orbital characteristics, service area (adding earth stations) etc. This will allow other administrations/operators the chance to submit comments before the modifications are notified for recording in the Master Register.
- If during the notification, there are changes in characteristics from the information published in API/A, other administrations can submit comments following the Part I-S (No.11.28.1).

Notification for recording in the Master Register

- Any frequency assignment to a transmitting station and to its associated receiving stations shall be notified to the Bureau if the use of that assignment is capable of causing harmful interference to any service of another administration; or if that assignment is to be used for international radiocommunication; or if it is desired to obtain international recognition for that assignment etc. (No.11.2)
- **Even non-conforming assignments** recorded under No. 8.4 (i.e. operating under No 4.4) shall also be notified
- Notification must be received by the Bureau by the end of the **7-year regulatory limit** (No.11.44.1)
- Complete **AP4 information** must be submitted (Nos.11.15 and 11.28), captured using Spacecap and GIMs, and submitted through e-Submission (Resolution 55 and Rules of Procedure on Receivability of Space Notices). Incomplete notices will be returned to the administration (No.11.27).
- Cost recovery fee: **7030 CHF** for a notification of a satellite network not subject to coordination
- **Technical and regulatory examination** under No.11.31 (compliance with Table of frequency allocation, verification of PFD limits etc.) will be conducted and **findings** will be given
 - Favourable – recorded in the Master Register
 - Unfavourable – returned to the administration

NOTE:

- examination under No.11.32 i.e. *verification of completion of coordination* is **not** conducted for satellite networks not subject to coordination
- Due diligence under Resolution 49 is **not** required for satellite networks not subject to coordination
- Resubmission to retain original date of receipt under No.11.46 is not possible for satellite networks not subject to coordination

Publications: Notifications

PART I-S	<p>Complete Information received by the Bureau. Constitutes an acknowledgement of receipt Published within 2 months from date of receipt.</p>
PART II-S	<p>Frequency Assignments which obtained FAVORABLE FINDING after the examination by the Bureau. They are recorded in the MIFR!</p> <p>This also include those assignments that obtained unfavourable finding but No.4.4/8.4 is requested, recorded in the MIFR for information only</p>
PART III-S	<p>Frequency Assignments which obtained UNFAVORABLE FINDING after the examination by the Bureau. They are returned to the Administration with the reasons for the unfavourable finding.</p> <p>For those not subject to coordination, they are returned under No.11.36.</p>

Notice returned to administration under No.11.36

- Frequency assignments that received unfavourable findings under No.11.31 (for example due to non-conformity with Table of frequency allocation or PFD exceedance) will be returned to the administration under No.11.36
- BR will send a communication to the administration explaining the reason for the unfavourable finding with an indication of the appropriate action
- Note that a notice returned under No.11.36 cannot be resubmitted under No.11.46 to benefit from retaining the original date of receipt
- The notice can be submitted again as long as it is still within the 7-year period, but it will be treated as a modification with a new date of receipt and new cost recovery fee, regardless of whether there are modified parameters, or with exactly the same parameters with an additional request for No.4.4

Bringing into use of frequency assignments for NGSO satellite networks

- Must be within 7 years from the receipt of API (No.11.44)
- Reference body: Earth
 - FSS, BSS, MSS Service
 - **One satellite** deployed in **one notified orbital** plane with capability of transmitting or receiving that frequency assignment (No.11.44C)
 - Maintained for a continuous period of operation of **90 days** (11.44C)
 - Other services
 - **One satellite** deployed in **one notified orbital plane** with capability of transmitting or receiving that frequency assignment (No.11.44D)
- Reference body: not Earth
 - **One satellite** deployed with capability of transmitting or receiving that frequency assignment (No.11.44E)

Others:
provisional recording,
suspension, bringing
back into use,
extension of period of
validity

Notified orbital plane: *an orbital plane of the non-GSO system, as provided in the most recent notification, that corresponds to the altitude of apogee and perigee, inclination and argument of perigee*

Resolution 32 (WRC-19) Regulatory procedures for frequency assignments to NGSO networks or systems identified as short-duration mission not subject to the application of Section II of Article 9 (NGSO-SDM)

- NGSO-SDM must meet the following criteria
 - Using bands not subject to coordination
 - total number of satellites ≤ 10
 - Period of validity ≤ 3 years
 - shall have the capability to cease transmitting immediately in order to eliminate harmful interference (a commitment required for Notification item A.24.a of Appendix 4)
- Notifying administration must identify in the submission whether the non-GSO networks or systems is operating as short-duration mission (NGSO-SDM) (Appendix 4 data item A.1.g)
- For the following bands used for space operation service which are normally subject to coordination under Section II of Article 9, they are exempt from coordination procedures *if submitted as NGSO-SDM under Res32* and meet all additional conditions:
 - 137.175-137.825 MHz downlink, exempt from No.9.21

Note that the use of the entire band 137.025-138 MHz for space operation service (space-to-Earth) is limited to NGSO-SDM under Res 32 and Res 660 (WRC-19)
 - 148-149.9 MHz uplink (must meet PFD limit to qualify for exemption from coordination procedures)

Some difference in the regulatory procedure for NGSO-SDM

- **Comments** to API/A to be made promptly available “as-received”, on the ITU website (No. **9.3.1**)
- Additional **commitment** required for Notification (item A.24.a of Appendix **4**) that, in the case that unacceptable interference caused by NGSO-SDM is not resolved, the administration shall undertake steps to eliminate the interference or reduce it to an acceptable level
- In the application of No. **11.44**, the **date of bringing into use** of a NGSO-SDM shall be defined as the **launch date of the first satellite**
- Notification information **cannot be communicated** to the Bureau **at the same time as API**, and **can only be submitted after the launch of the first satellite, but not more than 2 months after date of bringing into use**
- **Findings** under No. **11.31** **and characteristics** to be published in the BR IFIC and on BR website within no more than 4 months from the date of receipt of complete information of the Notification
- Period of validity cannot be extended beyond three years, after which the recorded assignments shall be cancelled;
- Provisions concerning modifications to recorded assignment (Nos. **11.43A**, **11.43B**) and suspension of frequency assignments (**11.49**) cannot be applied for NGSO-SDM

Regulatory Procedures for Earth Station

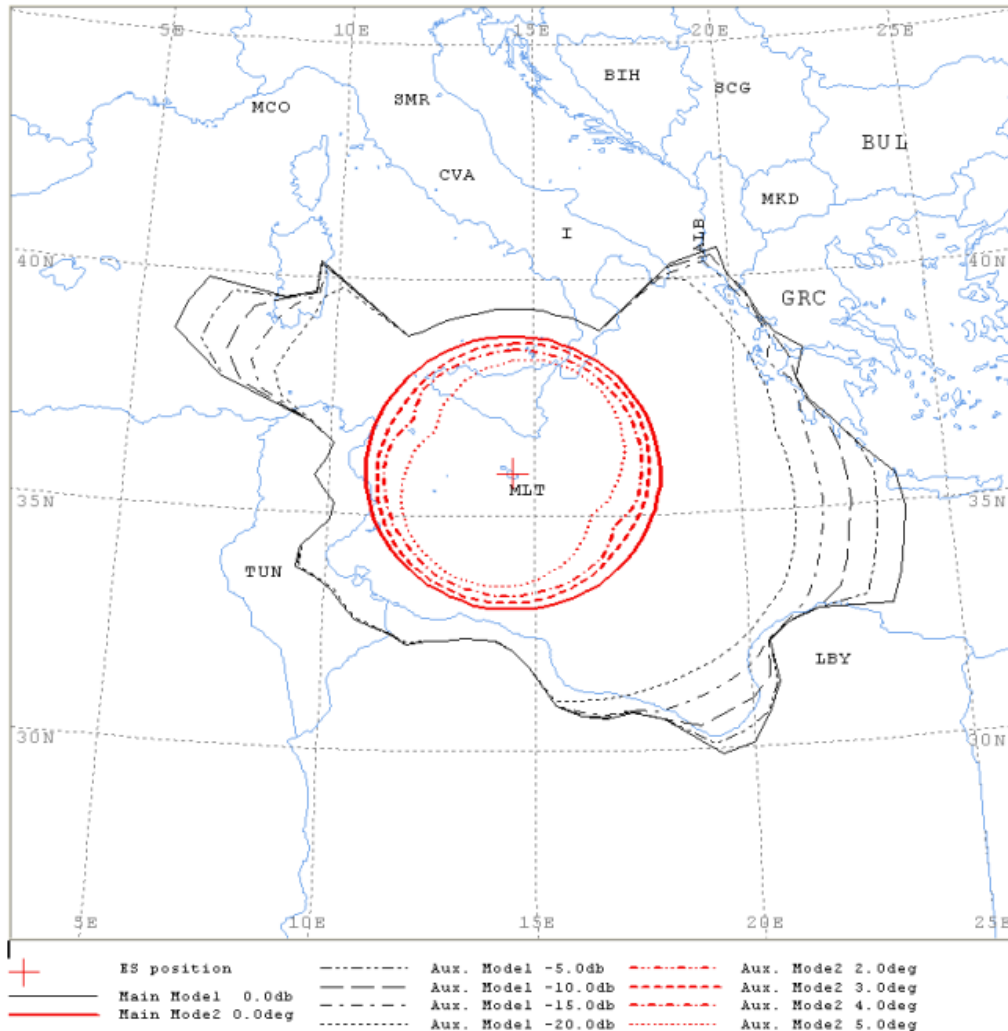
Forms of Coordination for Earth Stations

Cases	Provision
A specific or typical earth station (NGSO) for which the requirement to coordinate is included in a footnote referring to No.9.11A in respect of terrestrial stations	No.9.15
A specific or typical earth station earth station (GSO/NGSO) in respect of terrestrial stations	No.9.17
A specific earth station in respect of other earth stations operating in the opposite direction of transmission, or A typical mobile earth station in respect of specific earth stations operating in the opposite direction of transmission	No.9.17A
The requirement to seek the agreement of other administrations is included in a footnote to the Table of Allocation	No.9.21
A specific earth station in a GSO satellite network in the FSS in respect of a non-GSO satellite system in the FSS	No.9.7A

Regulatory Procedure for Earth Station

- For Nos. **9.15**, **9.17** and **9.17A**
 - Use BR software GIBC/Ap7 to generate the coordination area and identify the administrations within the coordination area
 - Requests for coordination with AP4 information shall be sent by the requesting administration to the identified administrations (No. **9.29**)
 - Since this is coordination between administrations, with *no submission* to the Bureau, there is *no publication* by the Bureau, and *no identification of affected administrations by the Bureau*
- For Nos. **9.21**, **9.7A**
 - Submit the requests for coordination with AP4 information to the Bureau (No. **9.30**)
 - The Bureau will carry out examination and identify any administration with which coordination may need to be effected
 - Results will be published in CR/C special sections of the BRIFIC
- Notification for recording under to the BR is required under No. **11.2**
 - The Bureau carries out examination w.r.t. conformity with RR and coordination requirements

Identification of coordination requirement for earth stations



ex: **Rcv GSO ES (FSS)** w.r.t. **Terrestrial** – Coordinaiton under No.9.17

AP7 (GIBC) program identifies affected countries: Countries included in Coordination Distance/Area

Thank you!

ITU – Radiocommunication Bureau

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