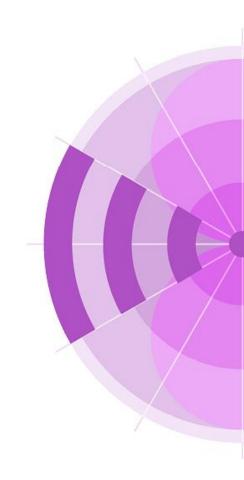
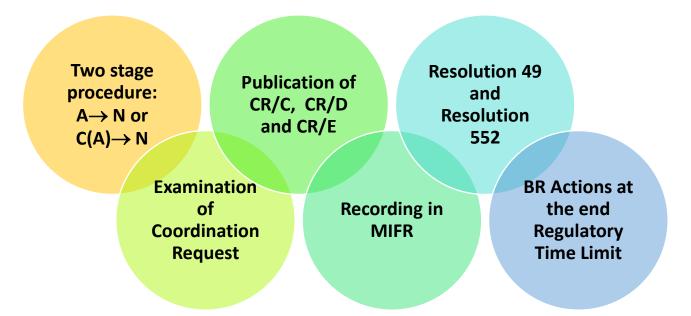


Coordination and Notification Procedures (Non-Planned Space Services)

Timur Kadyrov Space Services Department ITU Radiocommunication Bureau



Contents







Interference-free operation

- Mechanisms to achieve it
 - Allocation
 - Transmit power limits
 - Licensing
 - Monitoring
- Access to spectrum
 - Planned
 - Coordinated
- First Come First Served (subject to some restrictions) and Obligatory Negotiations

One of the Main Purpose of RR is Interference-free operation





Non planned satellite services

- Geostationary-satellite networks: in all services and frequency bands except those concerning Planned Services
- Non-geostationary- satellite networks: in certain frequency bands governed by No. 9.11A procedure
- Non-geostationary- satellite networks: all pertinent services and certain frequency bands, for which only the Advance Publication procedure is required before notification





Non-Planned Procedures

ARTICLE 11

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



Radio Regulations

Article 9 & Article 11





Part A1 AR9 page 1 rev	Part A1 AR11 page 1 rev							
Rules concerning	Rules concerning							
ARTICLE 9 of the RR [*] Rules concerning the late payment of cost recovery fees and cancellation	ARTICLE 11 of the RR Consolidation of frequency assignments of different GSO networks submitted by an administration at the same orbital position into frequency assignments of a single satellite network							
of satellite network filings due to non-payment of cost recovery fees in accordance with Council Decision 482								
In accordance with Council Decision 402	Troduction							
1 The provisions of Nos. 9.2B.1 and 9.38.1 o footnotes 7 to § 4.1.5, 8 to § 4.1.15, 16 to § 4.2.8, 17 to § Appendix 30 , footnotes 9 to § 4.1.5, 10 to § 4.1.15, 19 to §	noted the request of WRC-12 for a detailed description of the ication Bureau's actions with respect to consolidating frequency assignments ostationary-satellite orbit (GSO) networks submitted by an administration at the sition, into frequency assignments of a single satellite network.							
of Article 5, of Appendix 30A and footnote 1 to the title of Article 8 of Appendix 30B, stipulate that if the payments 1 with the above provisions are not received in accordan Decision 482, as amended, on the implementation of c filings, the Bureau shall cancel the publication after inform	Rules of broken the Board understands that the consolidation of frequency assignments of GSO rks shall only be possible for assignments recorded in the MIFR, associated etworks at exactly the same orbital position, upon request by the administration attain acting on behalf of a group of named administrations) that notified the he following principles shall apply.							
period of a maximum of six months after issue of the i	ocedure ructure of notice							
issued upon receipt of the filing by the Bureau and sent to 3 Due to administrative delay related mainly t financial institutions and internal validation between the Management Department of the General Secretariat, the non-payment of a satellite network notice is normally confirmation at the BR IFIC meeting which normally take	Regulations Board ion of recorded frequency assignments of several satellite networks into one onsist in aggregating all alphanumerical data related to frequency assignments d GSO satellite networks contained in the Space Network Systems database ladiocommunication Bureau and the associated graphical data contained in the ference Management Software (GIMS) reference database. entity of the satellite network (Appendix 4, Annex 2, A1)							
the six-month deadline for cost-recovery fees of the consid	by the Radiocommunication s of the Radio Regulations,							
4 In view of the above, the Board decided that Regional Agreements, Resoluti	No. 10 days and a share the second							
the payment has been received after the six-month deadlin where the late payment is considered, shall continue to be of World and Regional Radioco	ommunication Conferences Group of administrations							
5 Any satellite network filing for which a pay meeting where a decision to cancel that filing for non-pay	Edition of 2017 bital information (Appendix 4, Annex 2, A4)							
be taken into account, and the information would be n Regulations Board.	rks to be consolidated shall have an identical orbital position (A.4.a.1). Frent values for the longitudinal tolerance (A.4.a.2.a.b) and/or inclination J.a.2.c), the smallest values shall be used for a consolidated network. It is understood ufat the operation of the consolidated satellite networks would be within the							
	smaller longitudinal tolerance and/or inclination excursion.							

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Coordination Approach - Elements

- Submit a coordination request
- Fulfil requirements mentioned in the RR
- Negotiate with concerned administrations and get agreements
- Record the coordinated assignments in the MIFR (Master International Frequency Register) to be taken into account by other administrations





Coordination Approach - Provisions

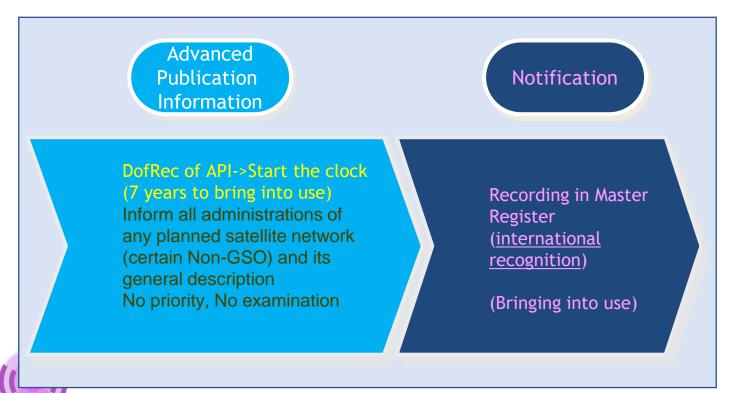
ITURRS

Elements	Relevant Provisions
Procedures	Articles 9 & 11
Submission format	Appendix 4
Technical & operational limits	Article 5, Articles 21 & 22 etc.
Criteria and methods to identify coordination requirements	Appendix 5 (Appendices 7 and 8)



Two Stage Procedure

Satellite networks not subject to coordination procedure







Two Stage Procedure

Satellite networks not subject to coordination procedure

Advance Publication of Information (API) on Satellite Networks

(Section I of Article 9)

> Inform all administrations of any planned satellite network (GSO or Non-GSO) and its general description

No priority, No examination

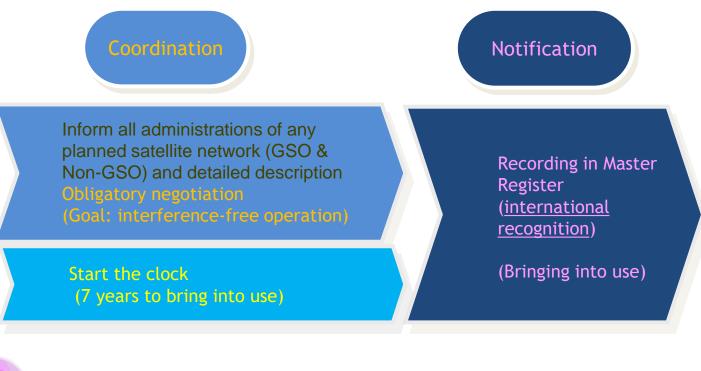
Start of Regulatory Time limit to be recorded in the MIFR and brought into use





Two Stage Procedure

Satellite networks subject to coordination procedure







Coordination of Satellite networks

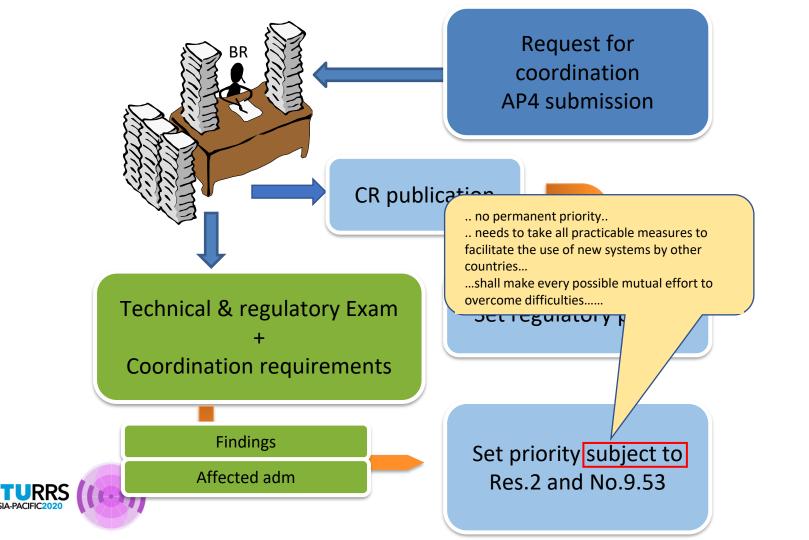
Procedure for effecting coordination

(Section II, Article 9)

- Contains (almost) all cases of coordination for non-planned satellite networks (GSO and Non-GSO), earth and terrestrial stations
- Not contained in Article 9









No.9.35 Examination

Examination w.r.t. in conformity with Allocation Table and Other provisions Listed in RoP under No.11.31

- Favourable and Unfavourable groups of frequency assignments are split
- Findings: Favourable A- Unfavourable N-

Groups with findings N- are not examined further





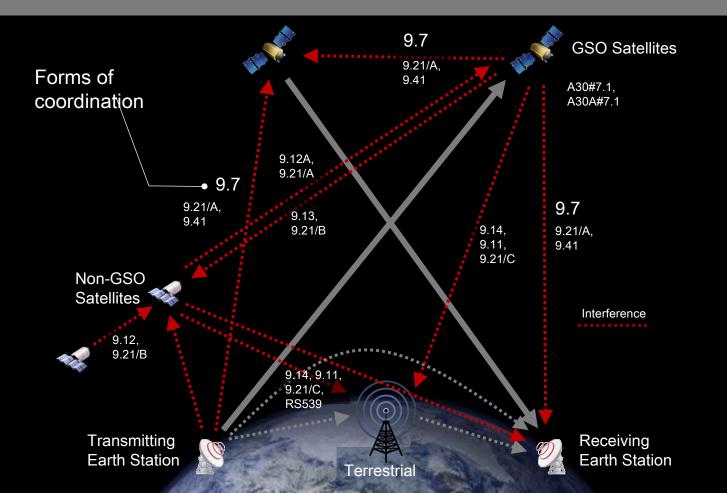
No.9.36 Examination

- Coordination Requirement for groups with "A –"
- Establish forms of coordination
- Identify administrations with which coordination may need to be effected for various forms of coordination
- Identify list of satellite networks





Coordination requirements (No. 9.36 of RR)



Forms of coordination

Cases	Provision
GSO to GSO	9.7, Art7 AP30/30A
Certain ES of GSO to NGSO	9.7A
NGSO to Certain ES of GSO	9.7B
BSS (GSO/NGSO) to Terrestrial Services	9.11, Res.539
NGSO to NGSO	9.11A/9.12
NGSO to GSO	9.11A/9.12A
GSO to NGSO	9.11A/9.13
NGSO/GSO to Terrestrial Services	9.11A/9.14
the requirement to seek the <u>agreement</u> of other administrations is included in a footnote to the Table of Allocation	9.21





Footnote refers Nos 9.11A or 9.21

No.9.11A (Coordination examined under No.11.32)

e.g. 5.208 The use of the band 137-138 MHz by the mobile-satellite service is subject to coordination under No. 9.11A.

No.9.21 (Agreement examined under No.11.31)

e.g. 5.286 The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to **agreement** obtained under No. 9.21

IMPORTANT: For 9.11A applicable cases see also RoP Table 9.11A-1; other space services to which 9.11A applies





Publications

CR/C Publications

API publications will be described later







The BR publishes the information (network data) in a Special Section of BR IFIC on DVD-ROM, which also contains,

RADIOCOMMUNICATION BUREAU COMMENTS

- Relating to the Findings with respect to No.11.31 (No.9.35 examination)
- Relating to the coordination examination with respect to No.9.36
 - Administrations identified under all Forms of Coordination
 - List of Satellite networks (9.36.2)
 - Potentially Affected Administrations for some (9.36.1) for information only





CR/C Special Section



ette demande de coorr rtu du numéro 9.30 du	LE ALE LE LE	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL / INFORMATION RECEIVED BY THE	142.5 E	BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER	2863 / 06.02.2018 117520225
ESPONSIBLE ADM DM. RESPONSABI ENSEIGNEMENTS atte demande de coorr rtu du numéro 9.30 du	A. CHN LE REÇUS PAR LE BUREAU LE	NOMINAL LONGITUDE LONGITUD NOMINAL	142.5 E		117520225
ette demande de coorr rtu du numéro 9.30 du		/ INFORMATION RECEIVED BY THE		NÚMERO DE IDENTIFICACIÓN	11/520225
rtu du numéro 9.30 du	fination, soque par la Puseau des m		E BUREAU ON / IN	IFORMACIÓN RECIBIDA POR LA O	FICINA EL 04.07.2017
t subordonnée au typ X dans la case pertin	Règlement des radiocommunicatio t 9.36 et est publiée conformémen e de coordination indiqué dans la c ente.	ns, a été examinée au t au numéro 9.38. Elle 9.35 and 9.36 and	30 of the Radio Regu is published in accor in indicated in the left-l	d by the Radiocommunication Bureau lations, has been examined under Nos. Hone with Nos 9.38. It is subject to the hand column by an X in the relevant box	Radiocomunicaciones de conformidad con el punto № 9.30. Reglamento de Radiocomunicaciones, se ha examinado de conformi con los № 9.35 y 9.35 y se publica de conformidad con el № 9.38. E sujeta al formulario de coordinación indicado en la columna de izquierda con una X en la casilla correspondiente.
 9.7 9.7A 9.7B AP30#7.1 AP30A#7.1 R\$539 R\$33#3 	Confo des ra dans i leur d avant i	mément aux numéros 9.50 à 9.52 du Règ diocommunications, les Administrations ide e Tableau l caprès sont priese de comm cision à l'Administration responsable et au l a date limite indiquée ci-dessous.	glement In accordar the Adminis uniquer to commu Bureau administrat below.	nce with Nos. 9.50-9.52 of the Radio Regu strations identified in Table I below are reg unicate their decision to the Resp tion and the Bureau by the deadline in	quested Radiocomunicaciones, se solicita a las administracion señaladas en el cuadro I a continuación que comuniquen
pe de coordination m 9.11	entionné dans le Tableau II / Form	of coordination referred to in Table II / Formu	lario de coordinación i	remitido al cuadro II	
(9.11A 9.12 9.12A <u>9.12A</u> <u>9.12A</u> <u>9.12A</u> <u>9.12A</u> <u>9.14</u> (9.21/A (9.21/A (9.21/C RS33#2.1	le Tab coordi RS33 à l'Adr limite réagin sera d influer 9.14 e	ministrations, énumérées ou non-énumérée leau II chartes, qui n'acceptent pas la dema atoin au titre des numéros 8-11 à 8-14, 1 21, sont priées de communiquer leurs obser inistration responsaible et au Bureau avant indiquée cidessous. Toute Administration pas au titre du numéro 8-52 avant cette dat considérée comme n'étant pas défavorat de et dans les ac souverts par les numéros IRS3382-1, les dispositions des numéros	ande de Administrat 9.21 et not agree t vations 9.14, 9.21 a la date comments qui ne by the dea responding blement regarded as 9.11 à and RS33#	tions listed or not listed in Table II below, w to the request for coordination under Nos. and RS33#2.1 are requested to communica to the responsible administration and the adline indicated below. Any administrati y under No. 8.25 within this deadline si s unaffected and, in the cases of Nos. 9.11 #2.1, the provisions of Nos. 9.48 and 9.4	9.11 to cuadro II, que no estén de acuerdo con la solicitud tet heir corotinación de conformidad con los Nº 3.11 a 9.14, 9.2 Bureau RS33#2.1 que comuniquen sus observaciones a indicado más abajo. Se considerará que toda administrac indicado más abajo. Se considerará que toda administrac to 19.14 que no responda de conformidad con el Nº 9.52 dentro to 9.14







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Page 3

			ableau I /Table I /Cuadro I /表一 /Таблица I / الجدول I / Таble I							
	Disposition / Provision / Disposición / 条款 /	Résumé des conditions régissant la coordination	Summary of coordination requirements	Resumen de los requisitos de coordinación						
	اللكم / Положение	协调要求概述	Сводные потребности в координации	موجز بمتطلبات التنسيق						
x	9.7	ARG, ARM, ARS/ARB, ARS, AUS, AZE, B, BEL, BLR, BÓL, BUL, CAN, CLM, CYP, CZE, D, E, EGY, ETH, F/EUT, F, G, GRC, HOL, I, IND, INS, IRN, IRQ, ISR, J, KAZ, LAO, LUX, MAU, MCO, MEX, MLA, MLD, MNG, NCG, NOR, NZL, PAK, PNG, QAT, RUS/IK, RUS, S, SNG, SUI, THA, TON, TUR, UAE, UKR, USA, VTN								
	9.7A									
	9.7B									
х	AP30#7.1	CAN, F, G, HOL, ISR, J, LUX, NCG, RUS/IK, RUS, UAE, U	JSA							
х	AP30A#7.1	EGY, F, G, HOL, LUX, QAT, RUS/IK, UAE								
	RS539									
	RS33#3									

Page 4

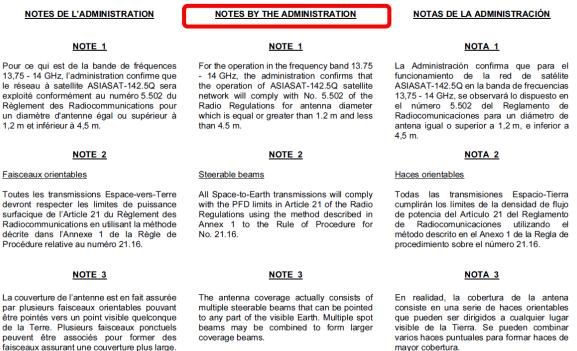
			Tableau II /Table II /Cuadro II /表二 /Таблица II / اجبران ال									
	Disposition / Provision / Disposición / 条款 / Положение / بنكم		Administrations susceptibles d'être défavorablement influencés (à tirre d'information uniquement, voi numéro 9.36.1) See No. 9.36.1) Administrations (for information only, información, véase el N° 9.36.1)									
			可能受影响的主管部门(仅供参考,见第 9.36.1款) Потенциально затрагиваемые администрации (исключительно для информации, см. п. 9.36.1) الاطلاح فنظ) (исключительно для информации, см. п. 9.36.1)									
X	9.11											
X	9.11	A										
		9.12										
		9.12A										
	x	9.13	AUS, CAN, CYP, D, F, G, HOL, IND, LIE, LUX, NOR, NZL, RUS/IK, RUS, USA									
		9.14										
x	9.21	/A ¹	ARS/ARB, AUS, AZE, B, BEL, BLR, CAN, CLM, CYP, D, E, EGY, F, G, HOL, I, INS, IRN, IRQ, ISR, J, KOR, LAO, LUX, MCO, MLA, MLD, NOR, NZL, PAK, PNG, QAT, RUS/ RUS, S, THA, TUR, UAE, UKR, USA									
х	9.21	/B ¹	CAN, NOR									
X	9.21	/C ¹	AUS, INS, IRN, J, KAZ, KGZ, KOR, KRE, LAO, MLA, NZL, RUS, SNG, USA/GUM, USA/HWA, UZB									
	RS3	3#2.1										



¹ 9.21/A, 9.21/B et 9.21/C – au titre du numéro 9.21, administrations ayant des réseaux OSG, des réseaux non-OSG et des stations de Terre, respectivement. ¹ 9.21/A, 9.21/B au 9.21/C – Under No. 9.21, administrations with GSO networks, Non-GSO networks and terrestrial stations, respectively. ¹ 9.21/A, 9.21/B y 9.21/C – De conformidad con el N° 9.21, administrationse con redes OSG, redes no OSG y estaciones terrestres, respectivamente. ¹ 9.21/A, 9.21/B y 9.21/C – De conformidad con el N° 9.21, administrationes con redes OSG, redes no OSG y estaciones terrestres, respectivamente. ¹ 9.21/A, 9.21/B и 9.21/C – Be conformidad con el N° 9.21, administrationes con redes OSG, redes no OSG y estaciones terrestres, respectivamente. ¹ 9.21/A, 9.21/B и 9.21/C – Be conformidad con el N° 9.21, administrationes con redes OSG, redes no OSG y estaciones terrestres, respectivamente. ¹ 9.21/A, 9.21/B и 9.21/C – Be conformidad con el N° 9.21, administrationes una terrestres, respectivamente. ¹ 9.21/A, 9.21/B и 9.21/C – Be conformidad con el N° 9.21, administrationes con redes OSG, redes no OSG y estaciones terrestres, respectivamente. ¹ 9.21/A, 9.21/B и 9.21/C – Be conformidad con el N° 9.21, administrationes con redes OSG, redes no OSG y estaciones terrestres, respectivamente. ¹ 9.21/A, 9.21/B и 9.21/C – Be conformidad con statistical de la destructure certa FCO, et al FCO и наземные станции, соответственно. ¹ 9.21/A, 9.21/B и 9.21/C - Ве соответственно. ¹ 9.21/A, 9.21/B и 9.21/C - Ве соответственно.



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mayor cobertura.



CR/C/4521









BR comments- Example

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OBSERVATIONS DU BUREAU DES	RADIOCOMMUNICATION BUREAU	OBSERVACIONES DE LA OFICINA DE
RADIOCOMMUNICATIONS	COMMENTS	RADIOCOMUNICACIONES
Relatives à la Conclusion conformément au <u>Nº 11.31</u>	Relating to the Findings with respect to No. 11.31	Relativas a la Conclusión según N.º 11.31
Assignations de fréquence 59 500 MHz et dans la bande 54 000 – 58 000 MHz	Frequency assignments 59 500 MHz and those in the 54 000 – 58 000 MHz band	Asignaciones de frecuencia 59 500 MHz y en la banda 54 000 – 58 000 MHz
DEFAVORABLE Pour les assignations pour lesquelles la puissance surfacique, à toutes les altitudes comprises entre 0 km et 1 000 km au-dessus de la surface de la Terre, produite par une station du service inter-satellites dépasse la limite indiquée au numéro 5.556A.	UNFAVOURABLE For assignments with PFD at all altitudes between 0 km and 1 000 km above the Earth's surface produced by a station in the inter-satellite service, exceeding the limit stated in No.5.556A.	DESFAVORABLE Para asignaciones con DFP en altitudes entre 0 km y 1 000 km sobre la superficie de la Tierra producidas por una estación del servicio entre satélites que excede los límites indicados en en número 5.556A.
Assignations de fréquence dans la bande 14 500 –	Frequency assignments in the 14 500 – 14 750	Asignaciones de frecuencia en la banda 14 500
14 750 MHz	MHz band	- 14 750 MHz
DÉFAVORABLE pour les assignations de fréquence dans la bande 14,5 - 14,75 GHz, pour les territoires situés en dehors des pays énumérés dans les Résolutions 163 et 164 (CMR-15), zone de service non conforme aux Résolutions 163 & 164 (CMR-15).	UNFAVOURABLE , for frequency assignments in the 14.5 – 14.75 GHz band for territories outside of countries listed in Resolutions 163 & 164 (WRC-15), service area not in accordance with Resolutions 163 & 164 (WRC-15).	DESFAVORABLE para las asignaciones de frecuencias en la banda 14,5 - 14,75 GHz para territorios situados fuera de los países enumerados en las Resoluciones 163 y 164 (CMR-15), la zona de servicio no se ajusta a lo dispuesto en las Resoluciones 163 y 164 (CMR-15).
Assignations de fréquence 4 210, 4 250, 4 290	Frequency assignments 4 210, 4 250, 4 290	Asignaciones de frecuencia 4 210, 4 250, 4 290
MHz et dans les bandes 4 100 – 4 200 et 27 000 –	MHz and those in the 4 100 – 4 200 and 27 000	MHz y en las bandas 4 100 - 4 200 y 27 000 -
27 600 MHz	– 27 600 MHz bands	27 600 MHz
DEFAVORABLE	UNFAVOURABLE	DESFAVORABLE
Aucune attribution au Service Fixe par Satellite	No allocation for Fixed-Satellite Service	No hay atribución al Servicio Fijo por Satélite
[Terre-vers-Espace] dans la Région 1	[Earth-to-space] in Region 1	[Tierra–espacio] en la Región 1



BR comments- Example

Relatives à l'examen conformément au Nº 9.36	Relating to the examination with respect to No. 9.36 See pages 3-4 for the summary. Details are	Relativas al examen según N.º 9.36
Voir les pages 3-4 pour le résumé. Pour plus de détails, voir les pages qui suivent.	provided on pages that follow.	Véanse las páginas 3-4 para el resumen. Se indican los detalles en las páginas siguientes.
关于根据第9.36款的审查	Относительно экспертизы по п. 9.36	المتعلقة بالتفحص وفقاً للرقم 36.9
见第 3-4 页的概述。详细情况见以下各页。	Сводные данные см. на стр. 3-4. Подробная информация приводится на следующих	انظر الصفحتين 3-4 للاطلاع على الملخص. وللمزيد من التفاصيل انظر الصفحات التالية.
I. Nécessité d'une coordination au niveau du grou; 一、需要在组的层次进行的协调	 I. Coordination requirements at group level I. Потребности в координации на уровне группы 	I. Requisitos de coordinación a nivel de grupo ا. متطلبات التنسيق على مستوى المجموعة

Admin		tifiées au titre d 读识别的主管部			strations identified under No ии, идентифицированные	Administraciones identificadas según N.º 9.7 por : الإدارات المحددة وفقاً للوقم 7.9 بموجب:						
B1a Beam designation	B2 Emi-Rcp	BR7a Group id.	GHz	Delta T/T Delta T/T	Delta T/T Дельта T/T	Delta T/T دلتا T/T		coordination _讣 调弧	Coordinat Дуга коорд	i (Arco de coordinación قوس التنسيق	
CIU	R	117673811	5			A	CYP J RUS	F KOR TON	G LAO UAE	IND LUX VTN	ISR QAT	
		117673812	5				CYP J RUS	F KOR TON	G LAO UAE	IND LUX VTN	ISR QAT	
		117673813	5				CYP J RUS	F KOR TON	G LAO UAE	IND LUX VTN	ISR QAT	
		117673814	5				CYP J RUS	F KOR TON	G LAO UAE	IND LUX VTN	ISR QAT	
		117687838	6				CYP J TON	F LAO UAE	G LUX VTN	IND QAT	ISR RUS	
		117687839	6				CYP J TON	F LAO UAE	G LUX VTN	IND QAT	ISR RUS	
		117687840	6				CYP J TON	F LAO UAE	G LUX VTN	IND QAT	ISR RUS	
		117687841	6				CYP J TON	F LAO UAE	G LUX VTN	IND QAT	ISR RUS	
IS1R	R	117673840 117673841	54 59	ISR UAE								





List of satellite networks

II. Liste des réseaux à satellite (voir N° 9.36.2 二、卫星网络清单(见第9.36.2款)

II. List of satellite networks (see No. 9.36.2) II. Список спутниковых сетей (см. п. 9.36.2)

Liste des réseaux à satellite pour lesquels Delta T/T > 6% est identifié dans le cas l'uniquement (réseau utile et réseau brouilleur utilisant en partage la même bande de fréquences dans le même sens de transmission en puis sont situés à l'intérieur de l'arc de coordination (au titre du N° 9.7)

II. Lista de redes de satélite (véase el N.º 9.36.2)

ال. قائمة بالشبكات الساتلية (انظر المقم 2.36.9)

List of satellite networks for which Delta T/T > 6% identified under Case I only Wanted and interfering networks sharing the same frequency band in the same direction of transmission) of which are within the coordination arc (under No. 9.7)

Lista de redes de satélites para los que Delta T/T > 6% identificadas con arreglo al Caso I solamente (Redes deseada e interferente que comparten la misma banda de frecuencias en la misma dirección de transmisión) o que se encuentran dentro del arco de coordinación (según N.º 9.7)

仅在情形一(使用网络和干扰网络在同一传输方向上共用同一个频段)中由于Delta T/T > 6%,或落入协调弧之内 而得到确认的卫星网络清单(依据 9.7) Список спутниковых сетей, для которых критерий Дельта T/T > 6% определен в рамках только случая I (полезная и мешающая сети, совместно использующие одну и ту же полосу частот для передачи в одном и том же направлении) или которые располагаются в пределах координационной дуги (согласно № 9.7)

قائمة الشبكات الساتلية التي تكون فيها النسبة دلنا KT>6% تخددة في الحالة ا فقط (الشبككان المطلوبة والمسببة للنداخل تتقاسمان نطاق التردد نفسه في اتجاه الإرسال نفسه) أو التي تدخل ضمن قوس التنسيق (بموجب الرقم

(7.9)

A1f1 Notifying adm.	A1f3 Inter. sat. org.	A1a Sat. Network	A4a1 Orbital long.	BR3b Category of notif.	BR25 A/T	BR6a Id. no.	BR26 Causing interference	BR27 Receiving interference	BR28 Detected by coord. arc
ALG		ALCOMSAT-24.8W	24.8 W	C	A	113520121	С	R	
		ALCOMSAT-27.6W	27.6 W	С	A	114520218	С	R	
ARG		ARSAT-C	81 W	С	A	110520406	С	R	
		ARSAT-D	81 W	С	A	113520066	С	R	
		ARSAT-F	91.5 W	C	A	115520101	С	R	
		ARSAT-G	72 W	С	A	115520102	С	R	
		ARSAT-H	38.5 W	С	A	115520103	С	R	
		P-P-SAT-1	81 W	N	A	105500330	С		

Liste des réseaux à satellite pour lesquels Delta T/T > 6% est identifié dans le cas II uniquement (réseau utile et réseau brouilleur utilisant en partage la même bande de fréquences dans des sens de dansmission opposés (utilisation bidirectionnelle)) (au titre du N° 9.7)

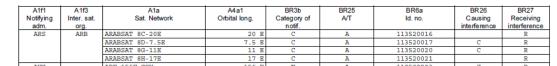
List of satellite networks for which Delta T/T > 6% identified under Case II only Wanted and intenering networks sharing the same frequency band in opposite directions of ission (hid/ectional use)) (under No. 9.7) tran

Lista de redes de satélites para los que Delta T/T > 6% identificadas con arreglo al Caso II solamente (Redes deseada e interferente que comparten la misma banda de frecuencias en direcciones opuestas de transmisión (uso bidireccional)) (según N.º 9.7)

仅在情形二(使用网络和干扰网络在相反传输方向上共用相同频段(双向使用))中由于Delta T/T > 6%而得到确认的卫星网络清单(依据 9.7)

Список спутниковых сетей, для которых критерий Дельта Т/Т > 6% определен в рамках только случая II (полезная и мешающая сети, совместно использующие одну и ту же полосу частот при передаче в противоположных направлениях (реверсивное использование частот)) (согласно № 9.7)

قائمة الشيكات الساتلية التي تكون فيها النسبة دلتا (TT>68 عددة في الحالة ا| فقط (الشبكتان المطلوبة والمسببة للنداخل تقاسمان نطاق التردد نفسه في اتجاهي الإرسال المتعاكسين (استخدام ثنائي الاتجاه)) (موجب الوقع 7.9)







Potentially affected Administrations

III. Administrations susceptibles d'être défavorablement influencées au niveau du groupe (à titre d'information uniquement, voir N° 9.36.1) 三、在组的层面潜在的受干扰的主管部门(仅供参考,见 III. Потенциально затрагиваемые администрации на 第9.36.1款)

III. Potentially affected administrations at group level (for information only, see No. 9.36.1)

уровне группы (исключительно для информации, см. п. 9.36.1)

III. Administraciones posiblemente afectadas a nivel de arupo (sólo para información, véase el N.º 9.36.1)

الدارات التي يحتمل أن تتأثر تأثراً غير مؤات على مستوى المجموعة (انظر الرقم 1.36.9 للعلم فقط)

B1a Beam designation	B2 Emi-Rcp	BR7a Group id.	GHz	Adminis	influencé	es au titre	être défavoral du N° 9.13 部门 9.13	blement	Potentially aff		иально затр		1		9.13	ectadas según N. الإدارات التي ۽
ClU	R	117687838	6	F	IND											
		117687839	6	F	IND											
		117687840	6	F	IND											
		117687841	6	F	IND											
KA1U	R	117673881	28	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	NZL	RUS/IK	RUS	USA
		117673884	28	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	NZL	RUS/IK	RUS	USA
		117673887	28	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	NZL	RUS/IK	RUS	USA
		117673890	28	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	NZL	RUS/IK	RUS	USA
S1U	R	117673832	1	AUS	F	G	PNG	SLM								
		117673833	1	AUS	F	G	PNG	SLM								
TKA1U	R	117673893	28	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	NZL	RUS/IK	RUS	USA
KA1D	E	117673855	18	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	RUS/IK	RUS	USA	
		117673859	18	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	RUS/IK	RUS	USA	
		117673863	18	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	RUS/IK	RUS	USA	
		117673867	18	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	RUS/IK	RUS	USA	
S1D	E	117673836	2	AUS	F	G	NOR	PNG	SLM							
		117673837	2	AUS	F	G	NOR	PNG	SLM							
TKA1D	E	117673878	18	CAN	CYP	D	F	G	HOL	LIE	LUX	NOR	RUS/IK	RUS	USA	

B1a Beam designation	B2 Emi-Rcp	BR7a Group id.	GHz	Administrations susceptibles d'être défavorablement Potentially affected administrations under No. 9.14 A influencées au titre du N° 9.14 潜在的受干扰的主管部门 9.14 Администрации, потенциально затрагиваемые согласно № 9.14									dministraciones posiblemente afectadas según 9.14 الإدارات التي يحتمل أن تتأثر بموجب الرقم 14.9			
SID	E	117673836	2	AFG F/AMS KAZ NPL SLM USA/HWL	ARS F/KER KGZ NRU SMO USA/JAR	AUS/CHR F/NCL KIR/PHX NZL/CKH SNG USA/JON	AUS/HMD F/OCE KIR NZL/NIU THA USA/MDW	AUS/ICO F/REU KOR NZL/TKL TJK USA/MRA	AUS/NFK F/WAL KRE NZL TKM USA/PLM	AUS FJI LAO OMA TLS USA/SMA	BGD FSM MAU/ROD PAK TON USA/WAK	BRM G/DGA MAU PHL TUV UZB	BRU IND MHL PLW UAE VTN	BTN INS MLA PNG USA/ALS VUT	CBG IRN MLD RUS USA/GUM XZZ/XSP	CLN J MNG SEY USA/HWA YEM
		117673837	2	AFG	ARS	AUS/CHR	AUS/HMD	AUS/ICO		AUS	BGD	BRM	BRU	BTN	CBG	CLN





Comment on CR/C

- An administration having received a request for coordination (through publication of CR/C) <u>shall examine</u> the matter with respect to interference which may be caused to, or caused by, its own assignments
- inform the requesting administration and the BR within four months from the date of publication of the BR IFIC of either:
 - its agreement to the proposed use, or
 - its disagreement, giving reasons for the disagreement





Special Section	Provision	Methods	Final/Subject
List of Adms in CR/C	9.7, 9.7A, 9.7B, Art7 of AP30/30A	∆T/T, pfd mask, Band Overlap	Final
List of Adms in CR/C	9.7	Coordination Arc	Subject to request for inclusion or exclusion under Nos.9.41/9.42
List of Adms in CR/C	9.11 to 9.14, 9.21	Band Overlap, eirp, pfd mask	Subject to comment under No.9.52





For coordination request under Nos. 9.11 to 9.14 and 9.21:

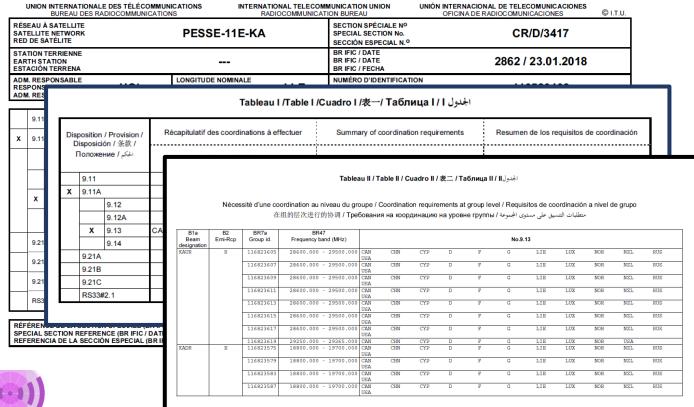
- An Adm informs its disagreement under No.9.52 using SpaceCom within 4 month
- No disagreement within 4 month means agreement to the proposed assignments in CR/C (No.9.52C)
- CR/D contains list of administrations having submitted their disagreement (No.9.53A)
- Final List of coordination requirements (Adms) published in CR/D





ITURRS







For coordination request under Nos. 9.7, 9.7A, 9.7B:

- An Adm requests for inclusion or exclusion of administration/network as coordination requirement under Nos.9.41 using SpaceCom within 4 month
- No request within 4 month means agreement to the requirements published in CR/C (No.9.43)
- CR/E contains list of administrations/ satellite networks, requested and confirmed by the Bureau for inclusion (No.9.42)
- Final List of coordination requirements (Adms and networks) published in CR/E + CR/C
- During coordination additional networks can be included with mutual agreement (No.9.42.1)







UNION INTERNATIONALE DES TÉLÉCOMMU BUREAU DES RADIOCOMMUNICATIO			UNIÓN INTERNACIONAL DE TELECOMUNICACIONES OFICINA DE RADIOCOMUNICACIONES		
RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATÉLITE	ALGSAT-24.8W	SECTION SPÉCIALE Nº SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	CR/E/1474		
STATION TERRIENNE EARTH STATION ESTACIÓN TERRENA		BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA	2863 / 06.02.2018		
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL	NUMÉRO D'IDENTIFICATIO IDENTIFICATION NUMBER NÚMERO DE IDENTIFICAC	116520428		

-	x	9.4	.iste des rés 卫星网络清			List of satellite network Список спутниковых с			II. Lista de rede		: بالشبكات الساتل
		要在	Liste des rés aux à satellite pour lesquels Delta T/T est supérieur à 6% mais qui ne sont PAS dans l'arc de coordination (au re du N° 9.7) List of satellite networks for which Delta T/T > 6% but are NOT within the coordination arc (under No. 9.7) Lista de code de codélites pars les cuyles ATT > 6% person De consumerant deter de code de code de code de code Delta T/T > 6% person De consumerant deter de code d								
	B1a Beam designat AL1R	1	A1f1 Notif. adm.	A1f3 Inter. sat. org.	A1a Sat. Network	A4a1 Orbital long.	BR3b Category of notif.	BR25 A/T	BR6a Id. no.	BR26 Causing interference	BR27 Receiving interference
			EGY	org.	EGJAN1A EGJAN2A EGJAN3A	7 W 6 W 2 W	C C	A A A	114520032 114520079 114520080	C C C	
					EGJANJA EGJANJA EGJANJA	11 E	С	A A	114520080 114520081 114520082	C C	
					EGJAN6A EGJAN7A EGJAN8A	18 E 21 E 23 E	С	A A A	114520083 114520084 114520085	c c	
			G		UKMMSAT-A3 EMARSAT-10F	33.5 W	С	A	114520085 112520178 114520194	C C	R
			0111		EMARSAT-10S EMARSAT-11G/M	98.5 E 127 E	C C	A	114520211 115520080	C	
					EMARSAT-11X EMARSAT-12D-M	73 W 130.9 W	C C	A	115520074 116520037	C C	
					EMARSAT-12F EMARSAT-12Y-M EMARSAT-13P	44 E 9 W 123 E		A A A	116520046 116520036 116520291	C C	
					EMARSAT-13V-M EMARSAT-9G/M	8 W 127 E	C	A A	116520378 112520445	C C	
					EMARSAT-91	79 E	С	A	113520106	C	



Coordination Approach Earth Station Coordination Procedure

Coordination

Notification

Inform concerned administrations of detailed descriptions of planned earth stations (no publication, no identification of affected administrations by the Bureau)

Earth stations should be associated with a satellite network for which API and/or CR have been published

Recording in Master Register (<u>international</u> <u>recognition</u>)

(Bringing into use by the Planned date)





Recording in MIFR

"Assignments (final characteristics) have to be <u>notified</u> under Article 11 to be recorded in the MIFR for international recognition <u>within the</u> <u>regulatory period</u>

Recording in MIFR

Assignments (final characteristics) have to be notified under **Article 11** to be recorded in the MIFR for international recognition <u>within the regulatory</u> <u>period</u>

In order to be recorded in the MIFR assignments shall

- Be in conformity with Allocation Table and Other provisions listed in RoP under No.11.31 (No. 11.31 examination)
- Complete required coordination requirements (No. 11.32 examination)

Or

• Be favourable in examination on probability of harmful interference (C/I) (No.11.32A examination)





Article 11 Notification

- Assignments can als
 - Under Nos.4.4/8.4
 - Unfavourable f
 - Information only no meeting on the meeting of the second second
 - Under No.11.41
 - Unfavourable finding under Nos11.32 and 11.32A
 - Requirement of No.11.41.2 (indication of harmful interference)
- Bringing into use of assignments have to be 11.44B) within the regulatory period

No. 8.5

If harmful interference to the reception of any station whose assignment is in accordance with No. 11.31 is actually caused by the use of a frequency assignment which is not in conformity with No. 11.31, the station using the latter frequency assignment must, upon receipt of advice thereof, immediately eliminate this harmful interference.

No. 11.42

"... the administration responsible for the station using the frequency assignment recorded under No. 11.41 shall, upon receipt of a report providing the particulars relating to the harmful interference, immediately eliminate this harmful interference.

2 (elimination

1.47 and





Publication in Parts of the BR IFIC

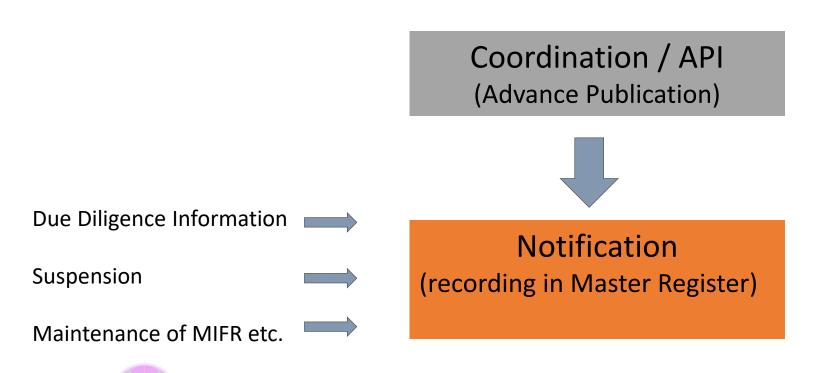
• Part I-S - Acknowledgement of receipt, particulars of complete frequency assignment notices

• Part II-S - Findings (mostly favouralbe) resulting in the recording of the frequency assignment in the MIFR;

• Part III-S - Unfavourable Findings resulting in the return of the notice to the notifying administration.









Due Diligence

Resolution 49
 Resolution 552

Due Diligence – Res 49

- Resolution 49: To address the problem of orbit and spectrum reservation without <u>actual</u> <u>use (Res 18 of Kyoto PP)</u>
- Applies to satellite networks in the FSS, MSS, BSS that are <u>subject to coordination</u> procedure
- Information on Identity of the satellite network, Spacecraft manufacturer and Launch services provider is required
- Not submitted within the regulatory deadline results in suppression of submissions





Due Diligence – Information required

Annex 2 to Resolution 49

- A. Identity of the satellite network
- B. Spacecraft manufacturer
- C. Launch services provider



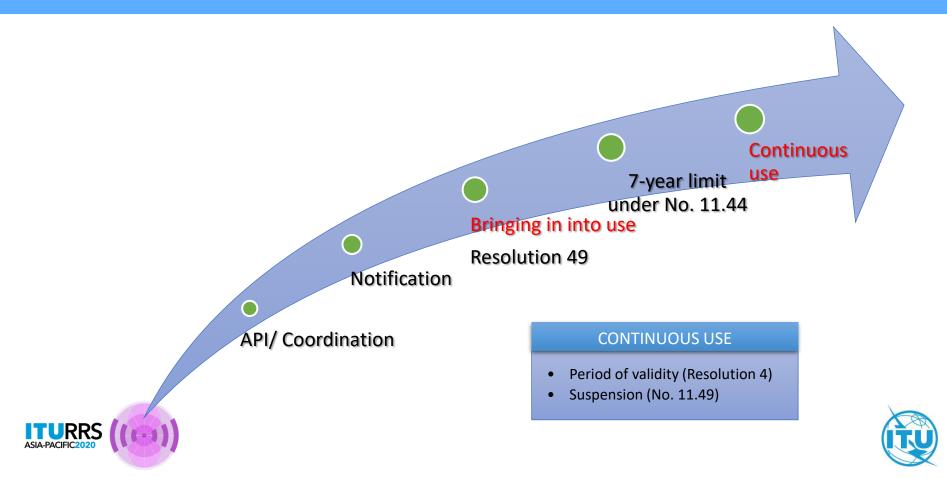


- Similar to Res 49 to some extent
- Applies to BSS in R1 & R3 in 21.4 22GHz
- ITU-ID for new satellites
- DD is required for suspending, shifting or deorbiting

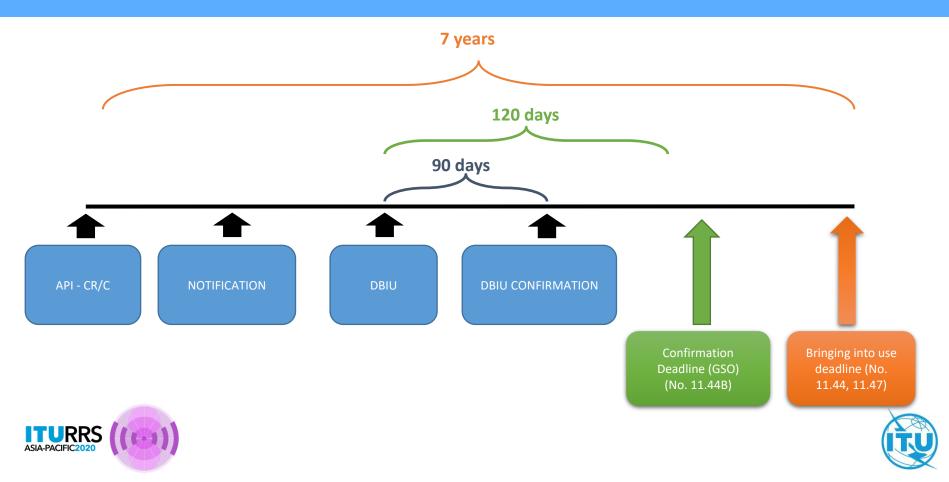




Life Span of a Satellite Network



Time Frame



- Frequency Assignments can be suspended for a period of 3 years under No.11.49.
- BR has to be informed of suspension of use, no later than 6 months from the date of suspension. If not, 3 year suspension period will be reduced by amount of delay
- Frequency Assignments are considered <u>brought back into use only if conditions of</u> No.11.49.1 are met

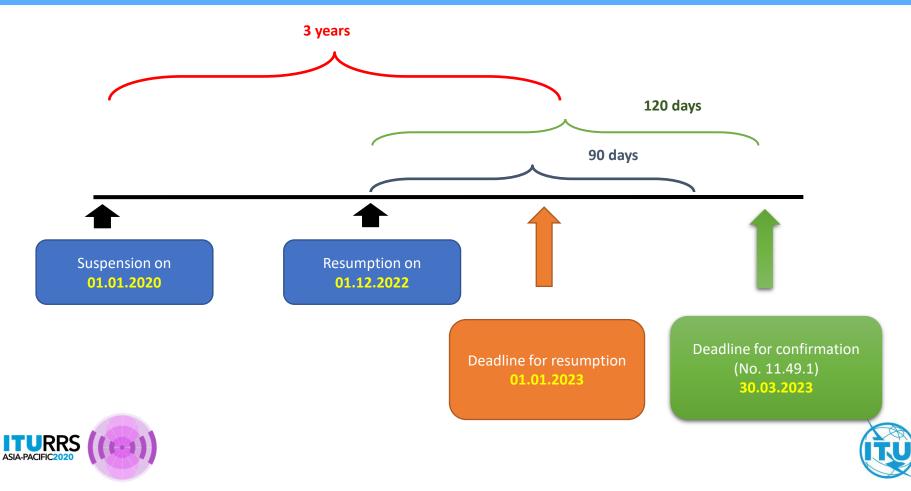
(assignments to GSO Space station-> capability of communication has

been deployed and maintained for 90 days continuous)





Example: Suspension GSO



Resolution 40 (WRC-15)

Bringing (back) into use of satellite networks at different orbital locations using one space station



Needs to provide in the case of a space station already used within the last 3 years

- Last orbital location used for BIU
- Satellite network previously associated at the previous position
- The date on which it was not longer at the previous position





• BR is responsible for maintenance of the MIFR

- Under No.13.6 BR consults administrations and requests for more information about DBIU and/or continuous use based on reliable information available
- Cancelation of the entry shall be subject to a decision of the RRB





Summary of Coordination Approach Inform/Publish characteristics

Fulfil requirements in RR

Negotiate with concerned administrations and get agreements

Record the coordinated assignments in the MIFR

Thank you!

ITU – Radiocommunication Bureau

Questions to brmail@itu.int or timur.kadyrov@itu.int



