

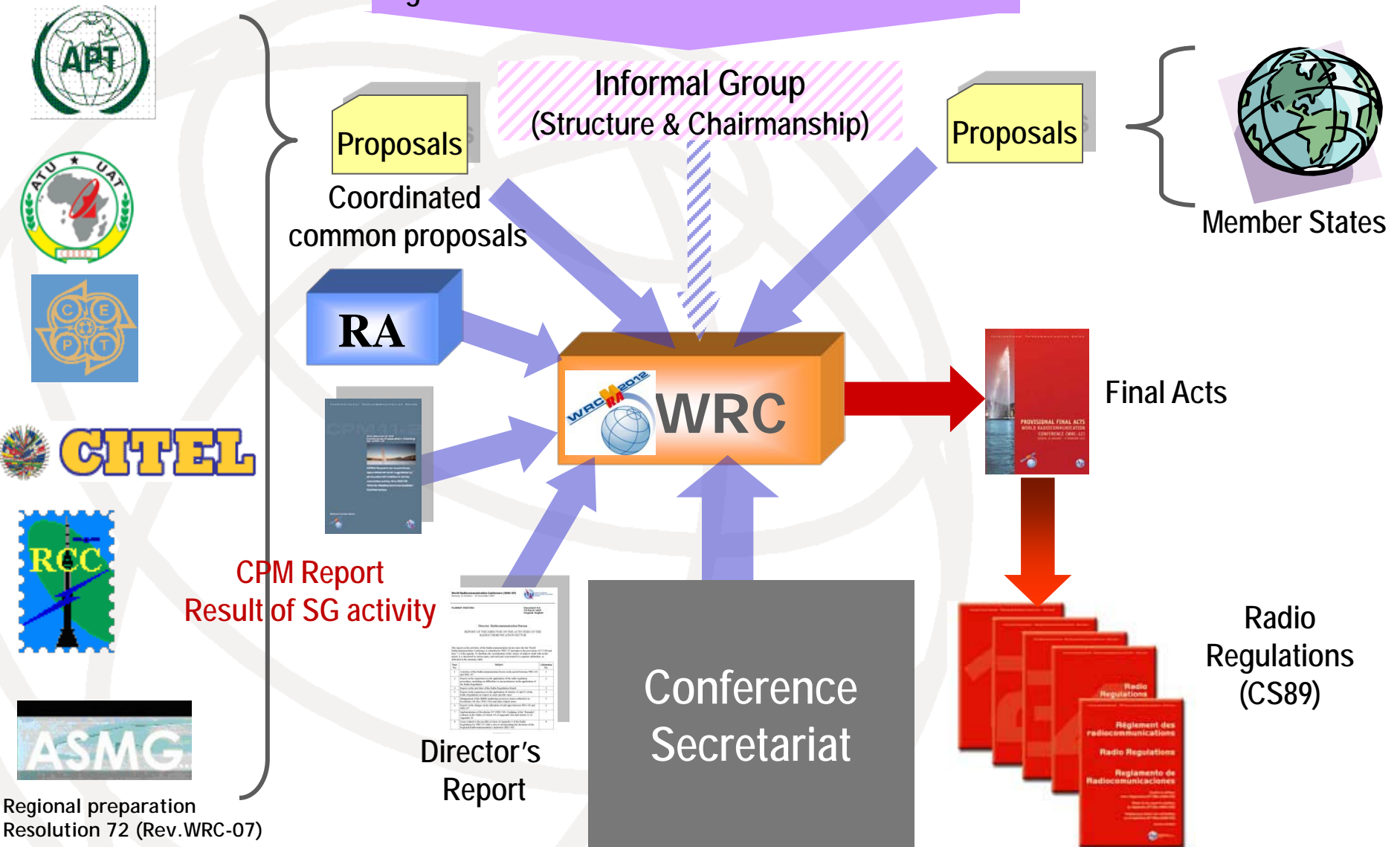
WRC-12 outcome on Satellite Regulations

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San Jose, Costa Rica
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WRC-12 preparation

Agenda: draft in WRC Res. & final in Council Res.





Participants: **3042**

Countries: **165**

Companies: **101**

- 33 Agenda items (Successfully addressed **without a vote**)
- First ITU **paperless** World conference in 6 Languages

(1) Update spectrum use by passive services in 275 – 3 000 GHz band

WRC-12 DECISION

Allocation to services		
Region 1	Region 2	Region 3
275-13 000	(Not allocated) <u>MOD 5.565</u>	

MOD 5.565 The following frequency bands in the range 275-1 000 GHz ~~may be used~~ are identified for use by administrations for ~~experimentation with, and development of, various active and~~ passive services applications. ~~In this band a need has been identified for the following spectral line measurements for passive services:~~

- radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;
- Earth exploration-satellite service (passive) and space research service (passive): 275-~~286277~~ GHz, ~~294296~~-306 GHz, ~~316313-356334~~ GHz, ~~342-349 GHz, 363361-365 GHz, 374369-392389 GHz, 397-399 GHz, 409-411 GHz,~~ 416-434 GHz, ~~442439-467444~~ GHz, ~~496477-502506~~ GHz, 523-527 GHz, 546538-581568 GHz, 624611-630629 GHz, 634-654 GHz, ~~659657-661 GHz, 684-692 GHz, 713-718 GHz, 730729-733732 GHz,~~ 750-754 GHz, 771-776 GHz, 823-846 GHz, ~~851850-854853~~ GHz, 857-862 GHz, 866-882 GHz, 905-928 GHz, and 951-956 GHz, 968-973 GHz and 985-990 GHz.

The use of the range 275-1 000 GHz by the passive services does not preclude use of this range by active services. Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations wishing to make frequencies in the 275-1 000 GHz range available for active service applications are urged to take all practicable steps to protect these passive services from harmful interference until the date when the Table of Frequency aAllocations Table is established in the above-mentioned 275-1 000 GHz frequency range band. All frequencies in the range 1 000-3 000 GHz may be used by both active and passive services.

(2) Possible procedures for free-space optical-links

WRC-12 DECISION

- **NO change** to the Radio Regulations for free-space optical systems
- **SUP - RESOLUTION 950** - Consideration of the use of the frequencies between 275 and 3 000 GHz
- **SUP - RESOLUTION 955** - Consideration of procedures for free-space optical links
 - **SUP RES-950** *resolves*
2 that administrations may submit for inclusion in the Master International Frequency Register details on systems which operate between 275 and 3 000 GHz and which may be recorded by the Radiocommunication Bureau under Nos. **8.4**, **11.8** and **11.12**,
instructs the Director of the Radiocommunication Bureau
to accept submissions referred to in *resolves* 2, and to record them in the Master International Frequency Register (MIFR)
 - To continue accepting such notices and recording them under No.**8.4** (non-conforming assignment and recorded for information only), indicating No.**4.4** in the findings – *currently recorded in the MIFR* – 1 Space Station (EESS) and 3 Radioastronomy Stations

Recognition that the commercialization and extensive use of these bands are still far in the future and there is no immediate threat to the various passive services that the scientific community wishes to use for their scientific purposes

to consider the results of ITU-R studies in accordance with Resolution 222 (Rev.WRC-07) in order to ensure long-term spectrum availability and access to spectrum necessary to meet requirements for the aeronautical mobile-satellite (R) service, and to take appropriate action on this subject, while retaining unchanged the generic allocation to the mobile-satellite service in the bands 1 525-1 559 MHz and 1 626.5 - 1 660.5 MHz

WRC-12 DECISION

- **MOD** Resolution **222** to implement/establish for priority access for AMS(R)S
- Any Administration claiming priority shall present to frequency coordination meeting *its spectrum requirements* calculated in accordance with agreed methodology
- After coordination is complete, if any Administration is not satisfied it may request BR to call for Re-assessment Meeting which is to prepare a report and decide whether additional frequency coordination is required

Consider a primary allocation to the SRS (Earth-to-space) within the band 22.55 – 23.15 GHz, taking into account ITU-R studies, in accordance with Resolution 753

WRC-12 DECISION

Allocation to services		
Region 1	Region 2	Region 3
22.55-23.15	FIXED INTER-SATELLITE 5.338A MOBILE <u>SPACE RESEARCH (Earth-to-space) ADD 5.532A</u> 5.149	
23.15-23.55	FIXED INTER-SATELLITE 5.338A MOBILE	

ADD 5.532A The location of earth stations in the space research service shall maintain a separation distance of at least 54 km from the respective border(s) of neighbouring countries to protect the existing and future deployment of fixed and mobile services unless a shorter distance is otherwise agreed between the corresponding administrations. Nos. **9.17** and **9.18** do not apply.

SUP Resolution **753** - Use of the band 22.55-23.15 GHz by the space research service

Protect the primary services in the band 37 - 38 GHz from interference resulting from AMS operations, taking into account the results of ITU-R studies, in accordance with Resolution 754

WRC-12 DECISION

MOD

Allocation to services		
Region 1	Region 2	Region 3
37-37.5	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.547	
37.5-38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	

SUP Resolution 754 - Consideration of modification of the aeronautical component of the mobile service allocation in 37-38 GHz band for protection of other primary services in the band

To consider the results of ITU-R studies (RES 551) and decide on spectrum usage of the 21.4 – 22 GHz band for the BSS and the associated feeder-link bands in Regions 1 and 3

WRC-12 DECISION - 3 ISSUES

Issue A

- Sharing Between BSS Networks
(Intra-service issues)

Issue B

- New allocations to the fixed-satellite service (Earth-to-space)
(feeder-link issues)

Issue C

- Sharing between the broadcasting satellite service and terrestrial services
(inter-service issues)

To consider the results of ITU-R studies (RES 551) and decide on spectrum usage of the 21.4 – 22 GHz band for the BSS and the associated feeder-link bands in Regions 1 and 3

Issue A

- Sharing Between BSS Satellite Networks (*Intra-service issues*)

- Interim to Definitive Procedure
- Special Procedure
- Due Diligence
- Reviewing number of submissions and harmonizing technical parameters

Issue B

- New allocations to the fixed-satellite service (Earth-to-space)
(feeder-link issues)

Allocation to services		
Region 1	Region 2	Region 3
24.65-24.75	24.65-24.75	24.65-24.75
FIXED	INTER-SATELLITE	FIXED
FIXED-SATELLITE (Earth-to-space)	RADIOLOCATION- SATELLITE (Earth-to-space)	FIXED-SATELLITE (Earth-to-space)
ADD 5.532A		ADD 5.532A
INTER-SATELLITE		INTER-SATELLITE
		MOBILE
		5.533

Allocation to services		
Region 1	Region 2	Region 3
24.75-25.25	24.75-25.25	24.75-25.25
FIXED	FIXED-SATELLITE	FIXED
FIXED-SATELLITE (Earth-to-space)	(Earth-to-space) 5.535	FIXED-SATELLITE (Earth-to-space) 5.535
ADD 5.532A		MOBILE

Issue C

- Sharing between the broadcasting satellite service and terrestrial services (*inter-service issues*)

Power flux-density limits for transmitting stations in the 21.4-22 GHz band (Resolution 755 (WRC-12))

**PFD LIMIT FOR FIXED OR
MOBILE SERVICES
(5.530A)**

**31 December 2015
or next WRC**

**PFD LIMIT FOR BSS
(Table 21-4 of
Article 21)**

18 February 2012

Extending existing 1^{mary} and 2^{ndary} RDSS (space-to-Earth) allocations at 2483.5 – 2500 MHz to make global primary allocation

WRC-12 DECISION

- Include a *primary allocation* to RDSS in Region 1
- Upgrade the RDSS secondary allocation in Region 3 *to primary status*
- No impact on RDSS systems in operation or filed before WRC-12
- RDSS *pdf coordination threshold* in Appendix 5 to protect terrestrial services (except RLS) in the band 2 483.5-2 500 MHz
- Consequential upgrade of RLS to primary status in some countries
- MSS *pdf coordination threshold* in Appendix 5

SUP Resolution 613 - Global primary allocation to the radiodetermination-satellite service in the frequency band 2 483.5-2500 MHz (space-to-Earth)

WRC-12 Agenda item 1.18

Region 1	Region 2	Region 3
2483.5-2500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIODETERMINATION-SATELLITE (space-to-Earth) 5.398 Radiolocation ADD 5.398A 5.150 MOD 5.399 5.402 ADD 5.401	2483.5-2500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIOLOCATION RADIODETERMINATION-SATELLITE (space-to-Earth) 5.398 5.150 5.402	2483.5-2500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIOLOCATION RADIODETERMINATION-SATELLITE (space-to-Earth) 5.398 5.150 5.402 ADD 5.401

Consider extension to band 7850 – 7900 MHz of existing MetSat allocation at 7750 – 7850 MHz, limited to non-GSO MetSat (space-to-Earth), in accordance with Resolution 672

WRC-12 DECISION

- **ADD** *global primary* MetSat allocation(space-to-earth) in the band **7850 – 7900** MHz, *limited to NGSO MetSat*
- To apply the pfd limits currently applicable to 7250 – 7850 MHz in Table **21.4** of Article **21** in RR
- In order to apply the same parameters required for the determination of coordination distances for a RX MetSat ES, as in the already allocated band 7750 – 7850 MHz, the frequency band in Table 8C of Appendix **7** to be amended
- **SUP** Resolution 672 - Extension of the allocation to the meteorological-satellite service in the band 7750-7850 MHz

Consider possible additional allocations to the MSS with particular focus on the bands between 4 GHz and 16 GHz

WRC-12 DECISION

- **No change** to Article 5 of the Radio Regulations under Agenda item 1.25.
- **SUP Resolution 231 (WCR-07)** - Additional allocations to the mobile-satellite service with particular focus on the bands between 4 GHz and 16 GHz

Needs more spectrum to further develop telephony and data (High speed data) MSS applications

Sharing difficulty in the range 4-16GHz

No allocation at WRC-12 and search for another band 22-26GHz at WRC-15

A.I. of WRC-15 : To consider Spectrum requirements and New Allocations to MSS (E-s and s-E) within 22-26 GHz including satellite component for Broadband applications and IMT

Consider possible changes to API, coordination, notification and recording procedures for satellite networks – Resolution 86

Satellite regulations

The Conference agreed on a long series of changes and improvements to the applicable regulations with special emphasis to the ones affecting directly the rights of access to the orbit/spectrum resources:

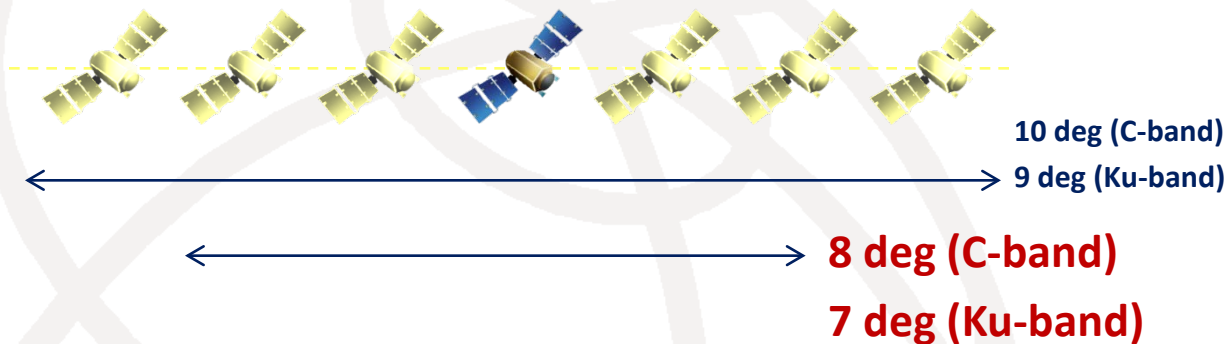
- ✓ enhancement of the satellite frequency coordination requirements by reducing the coordination arc in the most demanding frequency bands (C and Ku), and
- ✓ better control by the ITU of the spacecraft movements in the orbit
- ✓ clearer definition of the date of bringing into use of a satellite network (i.e., a technically capable satellite must occupy an orbital location for at least 90 days to be considered as “in use” or “back in use”),
- ✓ extension of the suspension period to 3 years (as it is considered to be a more realistic timeframe),

Consider possible changes to API, coordination, notification and recording procedures for satellite networks – Resolution **86**

8 most important issues

1. Coordination Arc
2. No. **9.36.2** Network List
3. Nos. **9.41** & **9.42**
4. Nos. **11.41** & **11.42** in case of interference
5. No. **11.41** status after coordination completed
6. Bringing into Use
7. No. **11.49** Suspension
8. MOD to No. **13.6**

1. Coordination Arc



**Coordination Arc
reduced by 2 deg**

10 to 8 degrees (C-band)

9 to 7 degrees (Ku-band)

MOD Table 5-1 of Ap5

ITU-R to study

➤ Add. CA reduction (C & Ku) + (Ka)

BR report to **WRC-15**

- **Results**
- **ADD RES-756 (COM5/5)**

Satellite regulations

Nos. **9.36.2, 9.41, 9.42, 9.42.1**

- Identification of the *specific satellite networks* or Earth stations with which coordination needs to be effected

Nos. **11.41, 11.41.2, 11.41B, 11.42, 11.42.1, 11.42A**

- Suppression of provisional/definitive entry status, indication of coordination efforts, treatment of harmful interference actually caused by a No. **11.41** recorded assignment
- Commitment by administration to comply with No. **11.42**

2. No. 9.36.2 Network List

No longer for info only
MOD No. 9.36.2

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 SATELÍTE		INMARSAT-KA 174W		SECTION SPÉCIALE N° SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	
STATION TERRENNÉ EARTH STATION ESTACIÓN TERRENA		---		BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA	
ADM. RESPONSABLE RESPONSABLE ADM. ADM. RESPONSABLE		G		2714 / 06.03.2012	
LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL		174 W		NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NÚMERO DE IDENTIFICACIÓN	
				111520384	
RENSEIGNEMENTS REÇUS PAR LE BUREAU LE / INFORMATION RECEIVED BY THE BUREAU ON / INFORMACIÓN RECIBIDA POR LA OFICINA EL				26.10.2011	

Cette demande de coordination, reçue par le Bureau des radiocommunications en vertu du numéro 9.30 du Règlement des radiocommunications, a été examinée au titre des numéros 9.30 et 9.36 et est publiée conformément au numéro 9.36. Elle est subdivisée au type de coordination indiqué dans la colonne de gauche par un X dans la case pertinente.

This request for coordination, received by the Radiocommunication Bureau pursuant to No. 9.30 of the Radio Regulations, has been examined under Nos. 9.30 and 9.36 and is published in accordance with No. 9.36. It is subject to the form of coordination indicated in the left-hand column by an X in the relevant box.

Esta solicitud de coordinación, recibida por la Oficina de Radiocomunicaciones de conformidad con el punto 9.30 del Reglamento de Radiocomunicaciones, se ha examinado de conformidad con los N.ºs 9.30 y 9.36 y se publica de conformidad con el N.º 9.36. Esta solicitud se formulará de coordinación indicado en la columna de la izquierda por un X en la casilla pertinente.

Type of coordination mentioned in the Table / Form of coordination referred to in Table

X	9.7A	
	9.7B	
X	AP30W.1	
	RS53B	
	RS53C	
	RS53D	
	9.11	
X	9.11A	
	9.12	
	9.12A	
X	9.13	
	9.14	
	9.21A	
	9.21B	
	9.21C	
	RS33A.1	

DATE LIMITE POUR LA DÉCISION / EXPIRY

II. List of satellite networks (for information only, see No. 9.36.2)

II. Liste des réseaux à satellite
 (à titre d'information uniquement, voir N° 9.36.2)
 二、卫星网络清单 (仅供参考, 见第9.36.2款)

II. List of satellite networks
 (for information only, see No. 9.36.2)
 II. Список спутниковых сетей (исключительно для информации, см. п. 9.36.2)

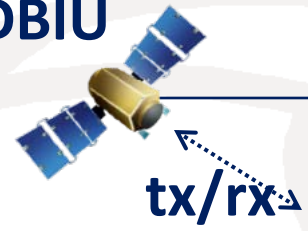
II. Lista de redes de satélite
 (sólo para información, véase el N.º 9.36.2)
 II. قائمة بالشبكات الساتلية (انظر الرقم 9.36.2 للمعلم فقط)

Liste des réseaux à satellite pour lesquels Delta T/T > 6% ou situés à l'intérieur de l'arc de coordination (au titre du N° 9.7)
 List of satellite networks for which Delta T/T > 6% or which are within the coordination arc (under No. 9.7)
 Lista de redes de satélite para las que Delta T/T > 6% o que están dentro del arco de coordinación (según N.º 9.7)
 Delta T/T > 6% 的卫星网络清单或位于协调弧内的卫星网络清单 (依据 9.7)
 Список спутниковых сетей, для которых Дельта T/T > 6% или которые находятся внутри дуги координации (согласно № 9.7)
 قائمة بالشبكات الساتلية التي تكون فيها قيمة دلتا T/T > 6% أو التي تقع داخل قوس التنسيق (موجب الرقم 9.7)

A1f1 Notifying adm.	A1f3 Inter sat. org.	A1a Sat. Network	A4a1 Orbital long.	BR3b Category of noif.	BR25 A/T	BR6a Id. no.	BR26 Causing interference	BR27 Receiving interference	BR28 Detected by coord. arc
ARG		ARBSAT-C	81 W	C	A	110520406	C		
ARS	ARB	ARABSAT 5A-30.5E	30.5 E	C	A	105520072	C		
		ARABSAT 5A-30.5E	30.5 E	N	A	110500040	C		
		ARABSAT 6E-24.5E	34.5 E	C	A	105520076	C		
		ARABSAT 6E-24.5E	34.5 E	N	A	111500139	C		
		ARABSAT 6E-44.5E	44.5 E	C	A	105520077	C		
		ARABSAT 6E-44.5E	44.5 E	N	A	98520245	C		
		ARABSAT-KA-30.5E	30.5 E	N	A	109500199	C		
AUS		AUS-NBN-2	135 E	C	A	111520161	C		
		AUS-NBN-3	140 E	C	A	111520162	C		
		AUS-NBN-4	145 E	C	A	111520163	C		
		AUS-NBN-5	150 E	C	A	111520164	C		
		ENDEAVOUR-143E	143 E	C	A	110520222	C		
		ENDEAVOUR-147E	147 E	C	A	110520223	C		
		ENDEAVOUR-166E	166 E	C	A	110520224	C	R	
		ENDEAVOUR-169E	169 E	C	A	110520225	C	R	
		KACOMM-1	160 E	C	A	109520075	C	R	
		KACOMM-2	154 E	C	A	109520076	C	R	
		KACOMM-3	152 E	C	A	109520077	C	R	
KACOMM-4	137.9 E	C	A	109520078	C	R			
ASE		DAS-ENDEAVOUR-81W	81 W	C	A	105520100	C		
		AZERSAT 95.9	95.9 E	C	A	110520152	C	R	
		AZERSAT A1	43.2 E	C	A	110520123	C	R	
B		AZERSAT B1	58.5 E	C	A	110520124	C	R	
		B-SAT-1Q	61 W	C	A	109520138	C		
BGD		BRGSAT	102 E	C	A	110520163	C		
CAN		ANIK-F3R	111.1 W	C	A	111520060	C		
		ANIK-F3R	118.7 W	C	A	111520021	C		
		CANSAT KA-3	82 W	C	A	96520181	C	R	

CR/C/3026

DBIU



6. Bringing into Use

90
days
continuously

30
days
inform BR

GSO SS assignment **considered BIU**

- Capability to transmit/receive
- At orbital position **continuously for 90 days**
- **Inform BR within 30 days** after 90 days - **ADD 11.44B**

DBIU = start date of 90 days & **required only at notification**

➤ **MOD 11.44, ADD 11.44.2, MOD A.2.a of Ap4**

To prevent satellite “hopping”, request ADM to respond to BR enquiries on BIU in case of use of an already in-orbit satellite

- Last orbital location/frequency assignments (Minutes to Plenary)

➤ ADM **can use a satellite of another administration for the bringing into use**, if no objection within 90 days (Minutes to Plenary)

Date of Suspension



7. No. 11.49 Suspension

DBIU

Inform BR max 6 mths

3 years

- If **Suspension > 6 months, inform BR within 6 months**
DBIU ≤ 3 years (previously 2 years) - MOD 11.49

DBIU GSO SS assignment = start date of 90 days

- Capability to tx/rx
- At orb pos continuously for 90 days
- Inform BR within 30 days after 90 days - **ADD 11.49.1**

- If satellite failure during 90 day BIU period, RRB to decide case-by-case if No. **11.49** appropriate (Minutes to Plenary)

8. Mod to No.13.6

- From reliable information, not BIU/no longer in use/not within notified chars, BR request clarification
- If respond & agrees, BR to cancel/modify/retain assignment
- If no response, 3 + 1 + 1 months (3x), RRB decide, BR cancel (previously, 1 + 1 + 1, BR cancel, RRB confirm)
- If respond but disagree, RRB decide, BR cancel/modify - **MOD 13.6**
- When requested, **ADMs need to provide info (obligation)** on actual use of commercial sat networks (Minutes to Plenary)

RESOLUTION 907 (WRC-12)

Use of modern electronic means of communication for administrative correspondence related to advance publication, coordination and notification of satellite networks including that related to Appendices 30, 30A and 30B, earth stations and radio astronomy stations

resolves

1 that **modern electronic means of communication shall be used** whenever possible in the administrative correspondence between administrations and the Radiocommunication Bureau related to advance publication, coordination and notification, including correspondence related to Appendices **30**, **30A** and **30B** and, where applicable, to due diligence for satellite networks, earth stations and radio astronomy stations;

2 that other, traditional means of communication can continue to be used if modern electronic means are not available,

RESOLUTION 908 (WRC-12)

Electronic submission and publication of advance publication information

resolves

that administrations shall **submit API using a secure paperless electronic approach** upon being advised that the means for electronic submission of API for satellite networks or systems subject to coordination has been implemented and upon receiving assurances that such means are indeed secure

- **WRC-12 reaffirmed that recent and repeated cases of intended harmful interference represent infringements and that Member States under the jurisdiction of which the signals causing this harmful interference are transmitted have the *obligation to take the necessary actions***

Section I – Interference from Radio Stations

No. 15.1 § 1 All stations are forbidden to carry out unnecessary transmissions, or the transmission of superfluous signals, or the transmission of false or misleading signals, or the transmission of signals without identification (except as provided for in Article 19).

Section V – Reports of Infringements

WRC-12 MOD

No. 15.21 §13 If an administration has information of an infringement of the Constitution, the Convention or the Radio Regulations (in particular Article 45 of the Constitution and No. 15.1 of the Radio Regulations) ***committed by a station*** ~~over which it may exercise authority,~~ ***under its jurisdiction,*** the administration shall ascertain the facts, ~~fix the responsibility~~ and take the necessary actions.

RESOLUTION COM5/1 (WRC-12)

Use of modern electronic means of communication for administrative correspondence related to advance publication, coordination and notification of satellite networks including that related to Appendices 30, 30A and 30B, earth stations and radio astronomy stations

resolves

1 that modern electronic means of communication shall be used whenever possible in the administrative correspondence between administrations and the Radiocommunication Bureau related to advance publication, coordination and notification, including correspondence related to Appendices **30**, **30A** and **30B** and, where applicable, to due diligence for satellite networks, earth stations and radio astronomy stations;

2 that other, traditional means of communication can continue to be used if modern electronic means are not available,

RESOLUTION COM5/2 (WRC-12)

Electronic submission and publication of advance publication information

resolves

that administrations shall submit API using a secure paperless electronic approach upon being advised that the means for electronic submission of API for satellite networks or systems subject to coordination has been implemented and upon receiving assurances that such means are indeed secure

- **WRC-12 reaffirmed that recent and repeated cases of intended harmful interference represent infringements and that Member States under the jurisdiction of which the signals causing this harmful interference are transmitted have the *obligation to take the necessary actions***

Section I – Interference from Radio Stations

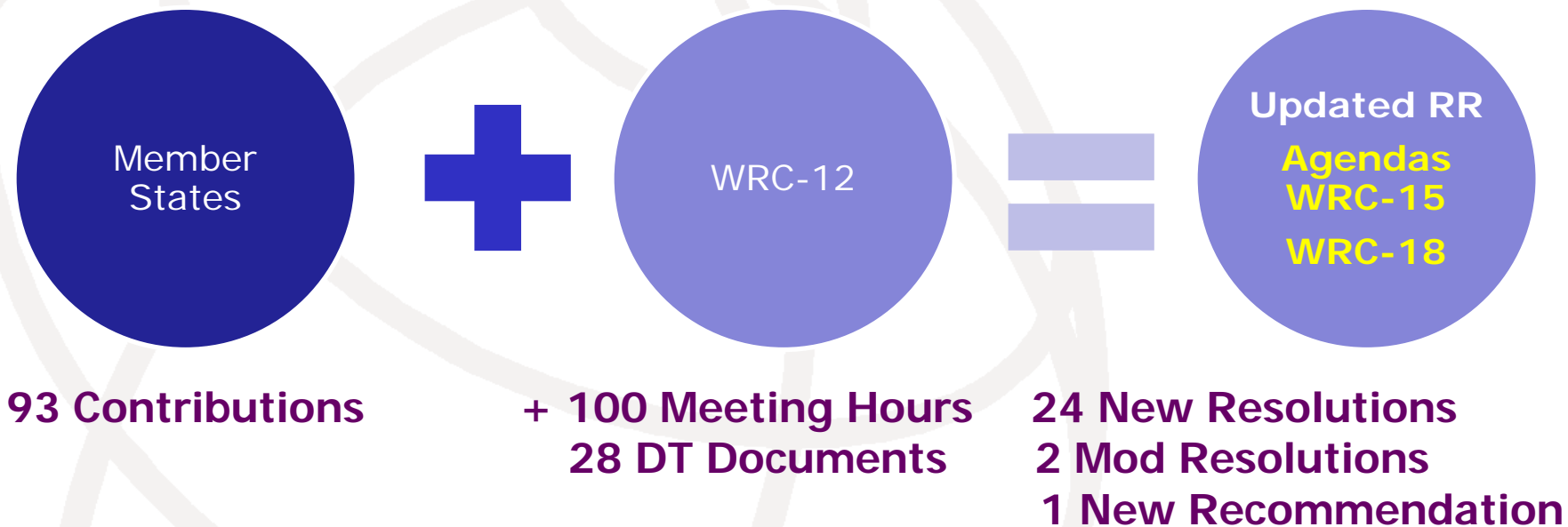
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Section V – Reports of Infringements

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Looking to the Agenda of future WRCs



1.6) Additional Primary Allocation to FSS , review of current regulatory provisions within ranges:

1.6.1) 250 MHz in the range between 10 GHz - 17 GHz in Region 1 (Earth-to-space and space-to-Earth)

1.6.2) 250 MHz in Region 2 and 300 MHz in Region 3 within the range 13-17 GHz (Earth-to-space)

1.7) To review use of 5091-5150 MHz by FSS (E-s) limited to feeder links NGSO MSS (RES 114)

1.8) To review provisions relating to ESVs

1.9) New allocations to:

1.9.1) FSS in the frequency bands 7150-7250 MHz (s-E) and 8400-8500 MHz (E-s)

1.9.2) Maritime MSS in the frequency bands 7375-7750 MHz and 8025-8400 MHz

1.10) To consider Spectrum requirements and New Allocations to MSS (E-s and s-E) within 22-26 GHz including satellite component for Broadband applications and IMT

1.11) Primary Allocation EESS (E-s) in the 7-8 GHz range

1.12) Extension by up to 600 MHz to current worldwide allocation to EESS (active) in 9300-9900 MHz, within 8700-9300 MHz and/or 9900-10 500 MHz

- 1.13) To review No. **5.268** , possibly increasing the 5 km distance limitation and allowing space research service (space-to-space) use for proximity operations by space vehicles communicating with an orbiting manned space vehicle
- 1.14) Feasibility of achieving a continuous reference time-scale, whether by the modification of coordinated universal time (UTC) or some other method
- 1.17) Spectrum requirements and regulatory actions, including appropriate aeronautical allocations, to support **Wireless Avionics Intra Communication (WAIC)**

Standing AI 7 modified as follows:

“to consider possible changes, and other options,...advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, ...to facilitate rational, efficient, and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit; “

Resolution 757 (COM6/10) (WRC-12)

Regulatory aspects for nano- and picosatellites

resolves to invite WRC-18

to consider whether modifications to the regulatory procedures for notifying satellite networks are needed to facilitate the deployment and operation of nano- and picosatellites, and to take the appropriate actions

WPs 4A, 4B and 4C are responsible for studies related to satellite services and **WPs 7A, 7B, 7C and 7D** for studies related to Sciences services

- Studies are very active
- **Sharing** and **protection criteria** are being intensively investigated for existing space allocations
- Studies are also on-going for newly allocated bands for future enhancements and newly planned systems, addressing **frequency sharing with other services**
- These studies contribute not only to the development of **ITU-R Recommendations** but also to WRC-15 preparation (and CPM Report)
- **Free online access to current ITU-R Recommendations** is provided to all users at:
<http://www.itu.int/pub/R-REC/en>

WRC-12 outcome on Satellite Regulations

Merci!

San Jose, Costa Rica
30 October – 1 November 2012
