



Preparations for RA-15 and WRC-15

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ITSO/ITU WORKSHOP on Satellite Communications

Afralti, Nairobi

8 - 12 June 2015



150 1865 2015



WRC-15 Preparation

Contents

Part I – Overview of the WRC process

Part II – ITU preparations for WRC-15

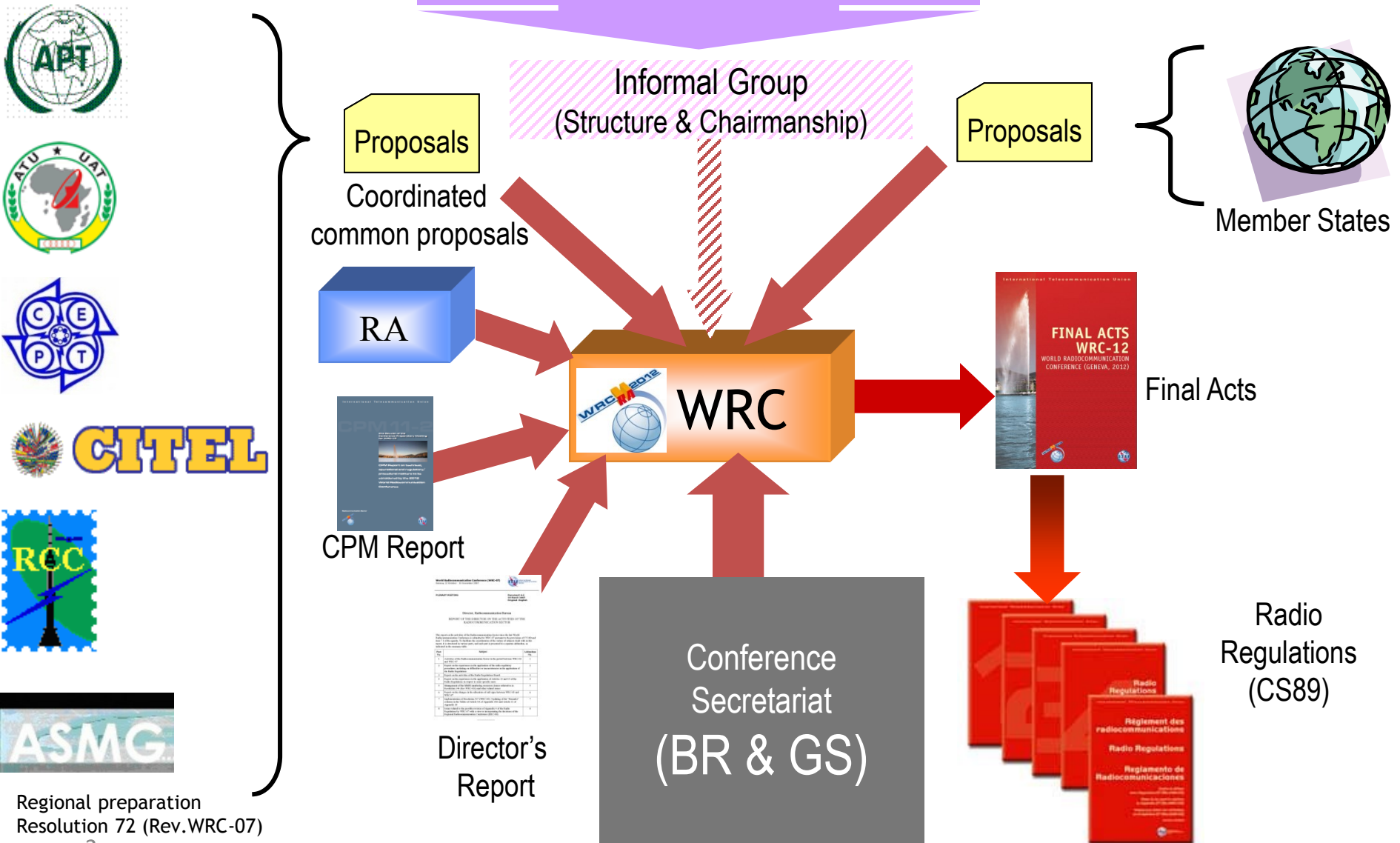
Part III – Regional preparations for WRC-15

Part IV – Topics on the WRC-15 Agenda

Additional Information

The WRC Process

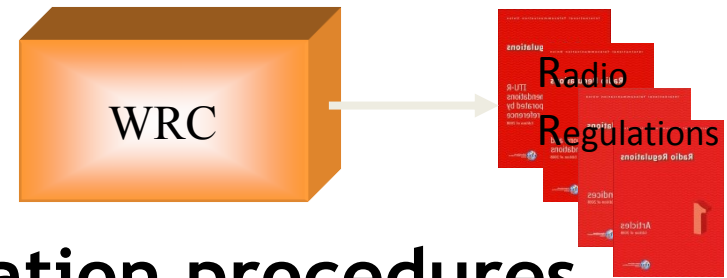
Agenda: in WRC Res, finalized in Council Res



WRC Purposes

✓ Updates the Radio Regulations (CS 89) (*treaty status*)

- Spectrum Allocation
- Coordination and Notification procedures
- Administrative and operational procedures



✓ Adopts Resolutions

✓ Held every 3-4 years (CS 90)

Main Steps towards WRC-15

WRC-12: WRC-15 Agenda > **Resolution 807** (WRC-12)

1st Session Conference Preparatory Meeting CPM15-1
held on 20 – 21 Feb. 2012; Results in CA/201 of 19.03.12 + **Add. 1 of 15.01.13**

Council-12 Res. 1343 (on line): WRC-15 Agenda, Date & Venue
Subsequently approved by ITU Member States (CV 42/CV 47)

NEW! → PP-14 Res. 185 Global flight tracking for civil aviation

2nd Session Conference Preparatory Meeting CPM15-2
held on 23 Mar. – 2 Apr. 2015, **Report of the CPM to WRC-15**

Final meetings of regional groups

RA-15: 26-30 Oct. 2015 – WRC-15: 2-27 Nov. 2015

WRC-15 Preparation Stages (1/3)

1. **1st Session of the CPM-15 (CPM15-1):**
(Organised in accordance with Res. ITU-R 2-6)
 - ✓ **Define framework of the preparatory studies and structure of draft CPM Report (Chapter Rapporteurs)**
 - ✓ **Identify ITU-R Responsible & Concerned Groups for each WRC-15 Agenda Item, in addition to the Special Committee**
⇒ **8 existing Working Parties + JTG 4-5-6-7 (ai 1.1 & 1.2)**
2. **Study of the WRC-15 agenda items at:**
Meetings of ITU-R responsible & concerned groups (WPs/JTG)
 - ⇒ Carry out the necessary technical/regulatory studies
 - Development of new or revised ITU-R Rec. & Report(s)
 - ⇒ Development of draft CPM texts
 - **Propose method(s) of satisfying WRC-15 Agenda Items**
 - **Prepare preliminary draft examples of regulatory texts**
 - ⇒ **Submission of texts to the CPM Rapporteurs**
Q3 of 2014, about 14 months before WRC-15

WRC-15 Preparation Stages (2/3)

3. **CPM Management Team meeting**
(Organised in accordance with Res. ITU-R 2-6)
(CPM Steering Committee and
Chairmen of Study Groups and Responsible Groups)
Geneva, **Q3 of 2014**
⇒ prepare the draft CPM Report to WRC-15
4. **Special Committee on
Regulatory/Procedural matters meeting**
Geneva, **Q4 of 2014**
⇒ review regulatory/procedural parts of the draft
CPM Report
⇒ prepare a report to the CPM15-2 based on:
 - Results of studies of the SC Working Party
 - Extracts from the draft CPM Report
 - Contributions from ITU-R membership

WRC-15 Preparation Stages (3/3)

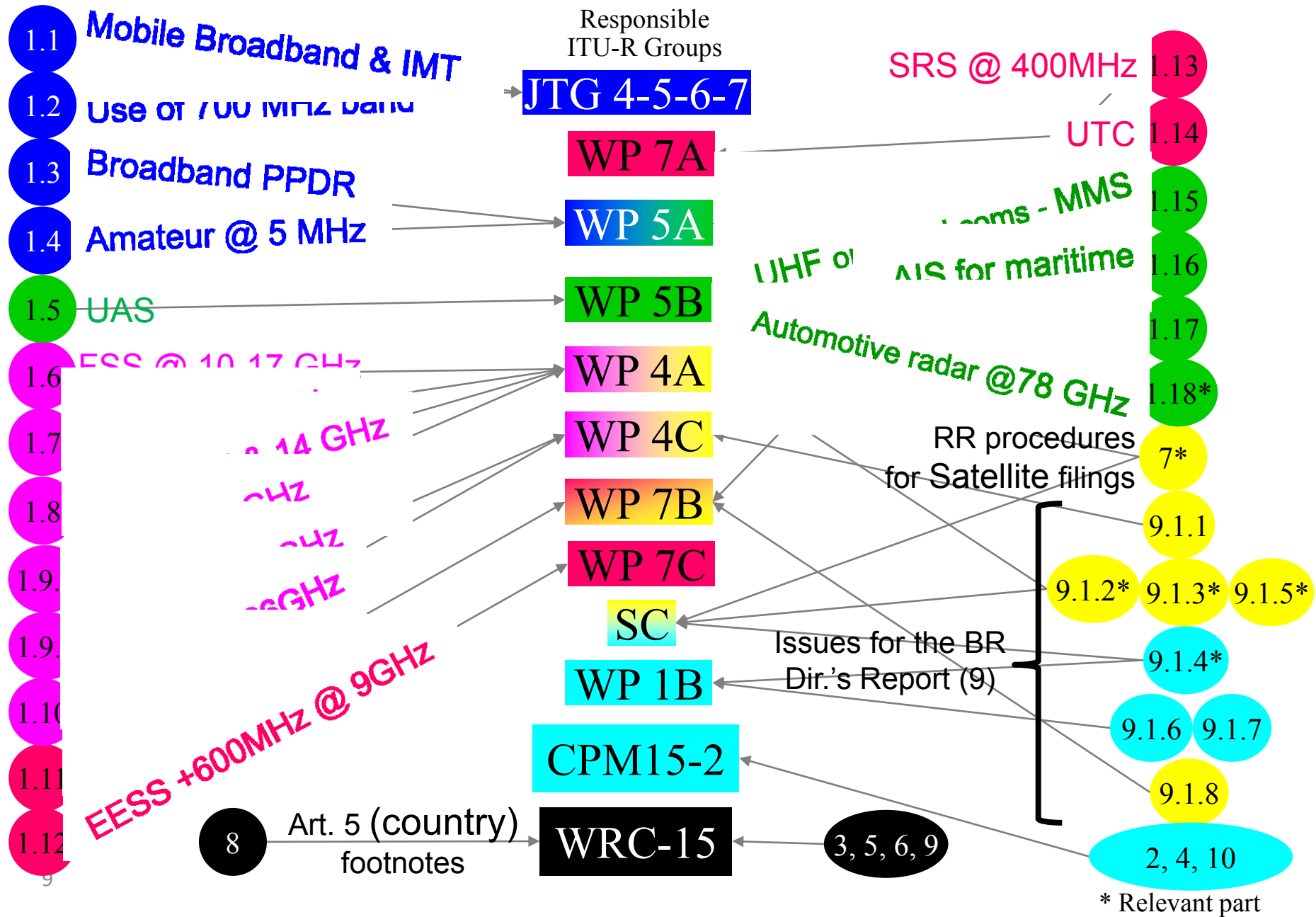
5. 2nd Conference Preparatory Meeting (CPM15-2) (Organised in accordance with Res. ITU-R 2-6)

- ⇒ Geneva, **23 March – 2 April 2015**, >6 months before WRC-15
- ⇒ prepare consolidated CPM Report to WRC-15, using:
 - the draft CPM Report
 - the Report of the Special Committee
 - Contributions from ITU-R membership
- ⇒ Consider the preliminary BR Dir. Report to WRC-15

6. RADIOCOMMUNICATION ASSEMBLY 2015 (RA-15): **Geneva, 26 – 30 October 2015**

7. WORLD RADIOCOMMUNICATION CONFERENCE 2015 (WRC-15) **Geneva, 2 – 27 November 2015**

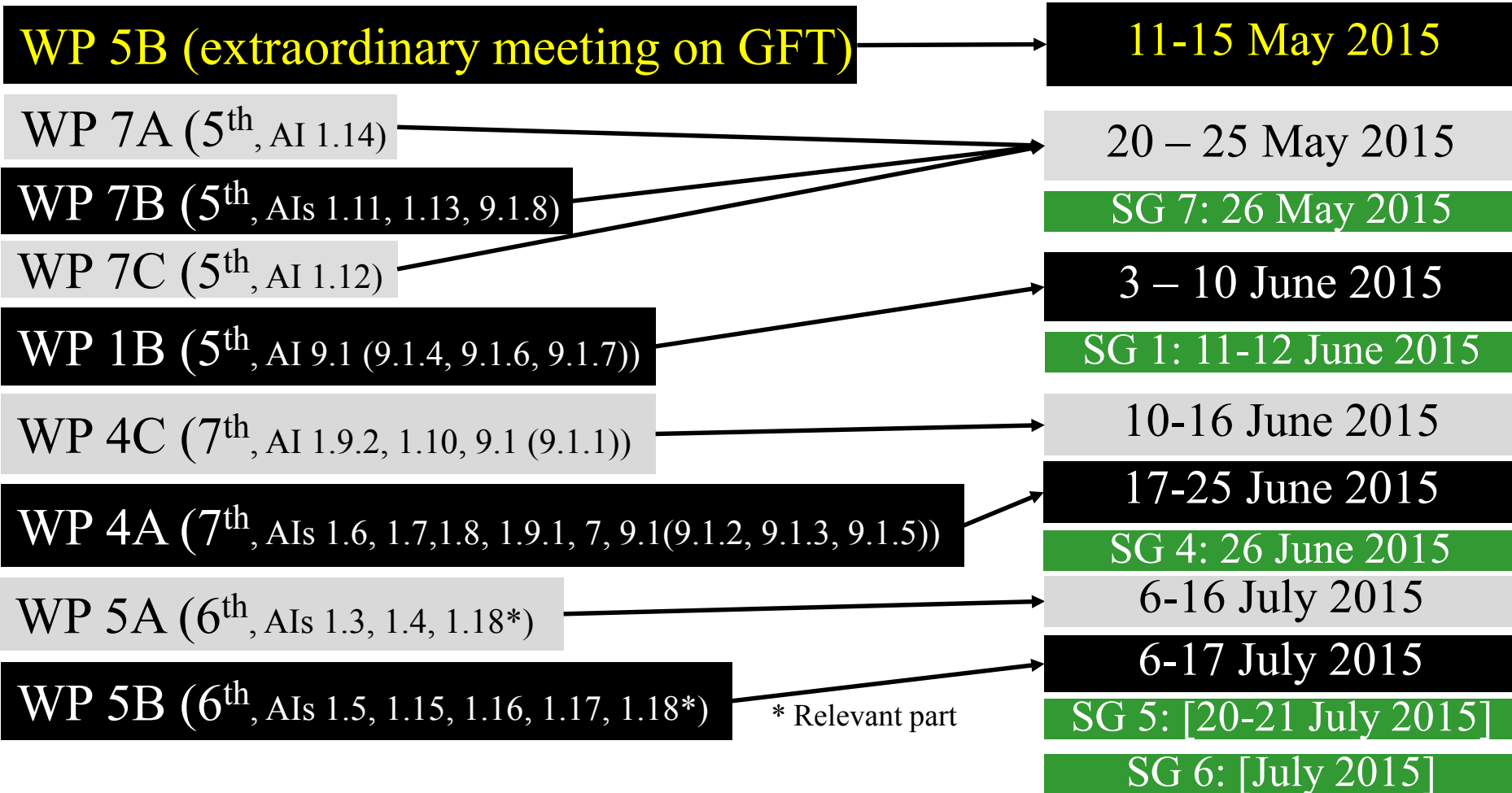
WRC-15 agenda items & Resp. Groups



Meetings of Resp. Groups (after CPM)

Responsible ITU-R Groups

WRC-15 (agenda items, including issues under AI 9.1)

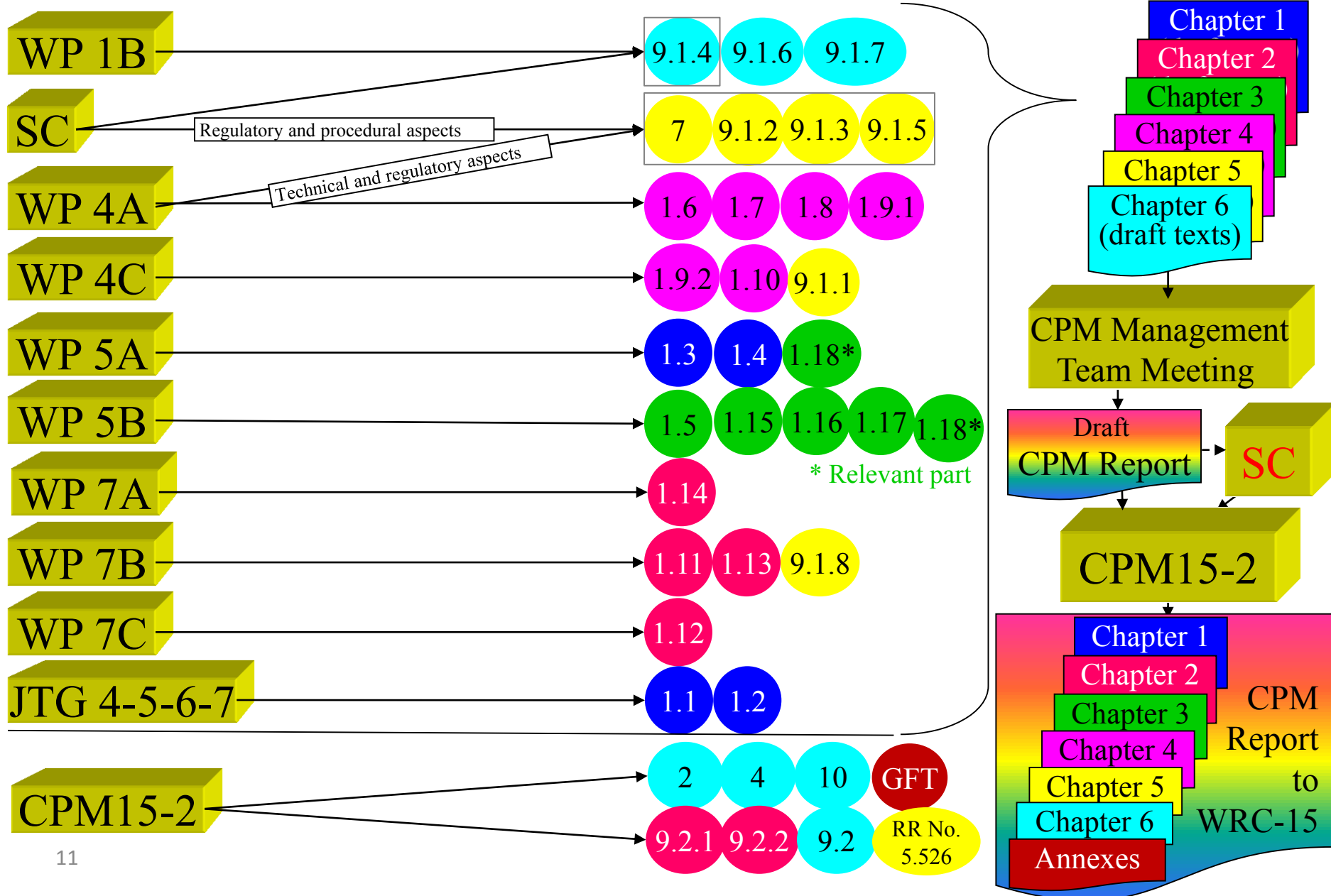


(see the ITU-R Meetings schedule at www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R)

Summary of CPM Report Preparation

Responsible ITU-R Groups

WRC-15 (agenda items, incl. issues under AI 9.1)



CPM Webpage: www.itu.int/go/ITU-R/cpm

➤ CPM Report to WRC-15 available at:
www.itu.int/md/R12-CPM15.02-R-0001/en

Conference Preparatory Meeting (CPM)

prepare a consolidated Report on the ITU-R preparatory studies and possible solutions to the WRC agenda items, to be used in support of the work of World Radiocommunication Conferences. [More >](#)



SECOND SESSION: CPM15-2

- ▶ Monday 2015-03-23 to Thursday 2015-04-02
- ▶ Place : **Switzerland, Geneva**
- ▶ Status : **Confirmed** - [Add to Calendar](#)
- ▶ [Invitation](#)
- ▶ [Tentative schedule of main meeting sessions](#)

CPM15-2 DOCUMENTS

- ▶ [Report of the CPM to WRC-15](#)
- ▶ Contributions "as received" [TIES](#)
- ▶ Contributions [RSS](#) [TIES](#) - Template [W](#)
Deadline: 9 March 2015, 1600 hours UTC
- ▶ [Guidelines for the Preparation of Contributions](#)
English only

WRC-15 Web Page

www.itu.int/go/wrc-15

➤ See [BR CA/219](#) (17 Feb. 2015): www.itu.int/md/R00-CA-CIR-0219

[WRC-15 Homepage](#)

[ITU Inter-regional Workshops on WRC-15 Preparation](#)

[Regional preparation for WRC-15](#)

[WRC-15 Documents and Proposals](#)

[WRC-15 Logos](#)

The World Radiocommunication Conference 2015 (WRC-15) will be held in Geneva, Switzerland, from 2 to 27 November 2015.

About the World Radiocommunication Conference

World radiocommunication conferences (WRC) are held every three to four years. It is the job of WRC to review, and, if necessary, revise the [Radio Regulations](#), the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits. Revisions are made on the basis of an agenda determined by the [ITU Council](#), which takes into account recommendations made by previous world radiocommunication conferences.

[More >](#)

Preparatory process

- ▶ Conference Preparatory Meeting (CPM)
- ▶ ITU Inter-regional Workshops on WRC-15 Preparation - 2nd Workshop (12-13 November 2014)
- ▶ Regional preparation for WRC-15
- ▶ Informal Group (Chairman: Mr. A. Nalbandian albert.nalbandian@ties.itu.int)

QUICK LINKS

[Radiocommunication Assembly 2015 \(RA-15\)](#)

[Invitation and Credentials](#)

[Contacts](#)

Member States:

- ▶ [Circular Letter No. 002](#) (2015-01-19)

State of Palestine:

- ▶ [DM-15/1003](#) (2015-01-19)

Observers:

- ▶ [DM-15/1000](#) (2015-01-19)

BR Administrative Circular (CA):

- ▶ [CA/219](#) (2015-02-17)

AGENDA AND REFERENCES

International Telecommunication Union

World Radiocommunication Conference 2015 (WRC-15)
Agenda and Relevant Resolutions



[Agenda and Relevant Resolutions](#)

[RESOLUTION 185 \(BUSAN, 2014\)](#)
[Global Flight Tracking for Civil Aviation](#)

RA-15 Web Page

www.itu.int/go/ra-15

The Radiocommunication Assembly 2015 will be held from 26-30 October 2015, immediately preceding WRC-15. The duties and functions of the Radiocommunication Assembly are defined in Article 13 of the Constitution and Article 8 of the Convention, while the working methods of the Assembly are described in § 1 of Resolution ITU-R 1-6.

STRUCTURE

To be determined

THIS MEETING

- ▶ Monday 2015-10-26 - Friday 2015-10-30
- ▶ Place : **Switzerland [Geneva]**
- ▶ Status : **Confirmed** - [Add to Calendar](#)
- ▶ Invitation
- ▶ Registration and Practical information
- ▶ RA-15 Sharepoint site **TIES**
- ▶ Contributions submission: xxx
 - ▶ Templates
- ▶ Meeting sessions
- ▶ Captioning **TIES** **New**
- ▶ Webcast **TIES**

DOCUMENTS

- ▶ Member Contributions **TIES**
- ▶ Study Group Contributions **TIES**
 - ▶ Study Group 1 (SG 1) - Spectrum management
 - ▶ Study Group 3 (SG 3) - Radiowave propagation
 - ▶ Study Group 4 (SG 4) - Satellite services
 - ▶ Study Group 5 (SG 5) - Terrestrial services
 - ▶ Study Group 6 (SG 6) - Broadcasting service
 - ▶ Study Group 7 (SG 7) - Science services
 - ▶ Coordination Committee for Vocabulary (CCV)
- ▶ Information Documents (INFO) **TIES**
- ▶ Administrative Documents (ADM) **TIES**
- ▶ ITU RA-15 Sync Applications
- ▶ Informal Documents on SharePoint **TIES**
English only

Invitations

Related activities

- ▶ Member states
 - ▶ Circular Letter No. 003 (*Invitation letter to RA-15 for Member States*)
 - ▶ Circular Letter No. XX (*Invitation letter for meeting of Heads of delegations*)
- ▶ Sector Members
(*Invitation letter to RA-15 for Sector Members*)
- ▶ State of Palestine
(*Invitation letter to RA-15 for the State of Palestine*)
- ▶ Observers
(*Invitation letter to RA-15 for Observers*)
- ▶ Administrative Circular CACE/716
(*Radiocommunication Assembly preparatory work*)
- ▶ Administrative Circular CACE/xxx
(*Appointment of Chairmen and Vice-Chairmen*)

References

Related ITU-R Texts

Circulars

- ▶ Working methods (Resolution ITU-R 1)
- ▶ Guidelines for the working methods
- ▶ Format of ITU-LR Recommendations

➤ See **CACE/716** (17 Feb. 2015): www.itu.int/md/R00-CACE-CIR-0716

WRC-15 Web Page

www.itu.int/go/wrc-15

[YOU ARE HERE](#) [HOME](#) > [ITU-R](#) > [CONFERENCES AND MEETINGS](#) > [WRC](#) > [WRC-15](#)

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INVITATION LETTERS

- ▶ Member States:
 - ▶ Circular Letter No. 002
- ▶ State of Palestine
- ▶ Observers

PREPARATORY PROCESS

- ▶ Conference Preparatory Meeting (CPM)
- ▶ ITU Inter-regional Workshops on WRC-15 Preparation - 2nd Workshop (12-13 November 2014)
- ▶ Regional preparation for WRC-15
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[Agenda and Relevant Resolutions](#)

[RESOLUTION 185 \(BUSAN, 2014\)](#)
[Global Flight Tracking for Civil Aviation](#)

QUICK LINKS

- ▶ [Radiocommunication Assembly 2015 \(RA-15\)](#)
- ▶ [WRC-15 Logos](#)
- ▶ [World Radiocommunication Conference 2012 \(WRC-12\)](#)
- ▶ [Radiocommunication Assembly 2012 \(RA-12\)](#)

WRC Regional Preparation

www.itu.int/go/wrc-15-regional

Regional preparation for WRC-15

YOU ARE HERE [HOME](#) > [ITU-R](#) > [CONFERENCES AND MEETINGS](#) > [WRC](#) > [WRC-15](#) > [REGIONAL PREPARATION](#)
FOR WRC-15

SHARE    



Asia-Pacific
Telecommunity (APT)



Arab Spectrum
Management Group
(ASMG)



African
Telecommunications Union
(ATU)



European Conference of Postal
and Telecommunications
Administrations (CEPT)



Inter-American
Telecommunication
Commission (CITEL)



Regional Commonwealth
in the Field of
Communications (RCC)

Resolution 72 (Rev. WRC-07)

ASIA-PACIFIC TELECOMMUNITY (APT)

AFRICAN TELECOMMUNICATIONS UNION (ATU)

INTER-AMERICAN TELECOMMUNICATION COMMISSION (CITEL)



CITEL

- ▶ <http://www.citel.oas.org/en/Pages/PCCII>
- ▶ Chairman of the Working Group for the Preparation of CITEL for Regional and World Radiocommunication Conferences:
Mr. Héctor Budé, Uruguay, hbude@ursec.gub.uy

ARAB SPECTRUM MANAGEMENT GROUP (ASMG)

EUROPEAN CONFERENCE OF POSTAL AND TELECOMMUNICATIONS ADMINISTRATIONS (CEPT)

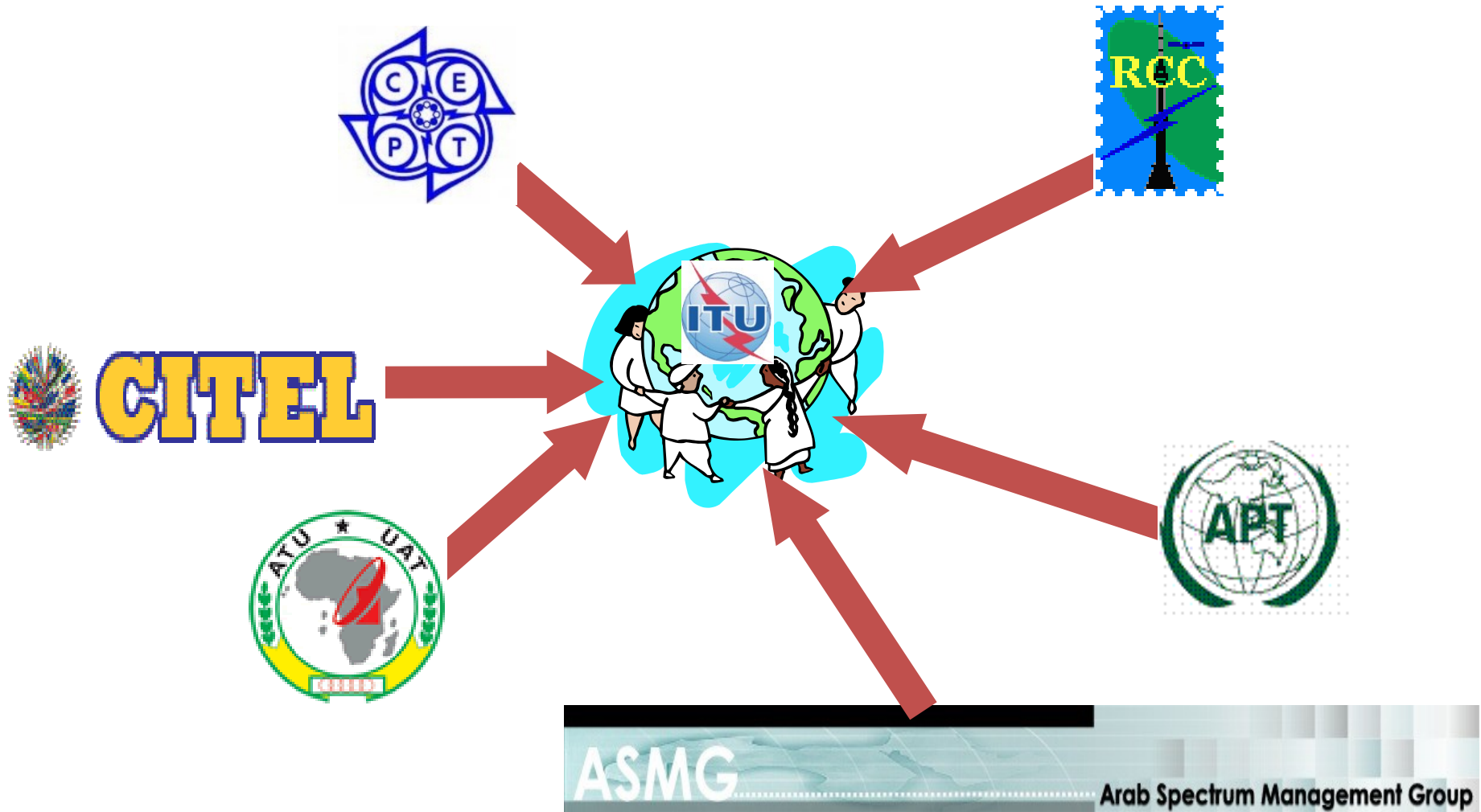
REGIONAL COMMONWEALTH IN THE FIELD OF COMMUNICATIONS (RCC)



- ▶ <http://www.en.rcc.org.ru>
- ▶ Chairman, RCC WG (WRC-15/RA-15):
Mr. Albert Nalbandian, Armenia,
albert.nalbandian@ties.itu.int
- ▶ Preparations for WRC-15 and RA-15

Main regional groups

✓ Six main regional groups:



✓ For the preparation of common and coordinated proposals

Regional meetings on WRC-15

Preparation of common & coordinated proposals (Res. 72 (Rev. WRC-07))



Asia Pacific Telecommunity

- APG15-4, 9-14 February 2015, Bangkok, Thailand
- APG15-5, [27 July-1 Aug.] 2015, [Seoul, Korea (Rep. of)]



- 2nd meeting, 19-23 May 2014, Dubai, UAE
- 3rd meeting, 15-19 February 2015, Doha, Qatar



African Telecommunications Union

- APM15-3, 26-30 January 2015, Abuja, Nigeria
- APM15-4, [20-24 July] 2015, [Nairobi, Kenya]



European Conference of Postal and Telecommunications Administrations

- CPG15-6, 3-6 February 2015, Malta
- CPG15-7, [2-5] June 2015, [Portugal]



CITEL

- XXIV PCC.II, 29 Sep. – 3 Oct. 2014, Merida City, Mexico
- XXV PCC.II, 23-27 February 2015, Medellin, Colombia

Inter-American Telecommunication Commission



Regional Commonwealth in the field of Communications

- WG 5th, end of 2014, Moscow, Russian Federation
- COM 5th, 4 - 5 December 2014, Astana, Kazakhstan
- WG 6th, 25-27 Feb 2015, Moscow, Russian Federation

ITU Inter-regional Workshops on WRC-15 Preparation



[Webpage](#)

- Scheduled halfway through the preparatory cycle
 - ⇒ Presentation and review of the on-going preparatory studies of the ITU-R responsible groups for CPM-15
 - ⇒ Presentation of the preliminary views, draft priorities and positions of the regional groups
 - ⇒ **Online** [archives of video presentations](#) **and** [documents](#)



[Webpage](#)

- Scheduled few months prior to CPM15-2
 - ⇒ Presentation of the Draft CPM Report to WRC-15 (explanation of the draft Methods to satisfy the WRC-15 Agenda items)
 - ⇒ Presentation and review of the regional groups' draft views, positions and common proposals
 - ⇒ **Online** [archives of video presentations](#) **and** [documents](#)

**3rd
Meeting,
[1-3 Sep.
2015]***

- Planned to be held few months prior to WRC-15
 - ⇒ Presentation of the CPM & Dir. Reports to WRC-15
 - ⇒ Presentation and review of the regional groups' draft views, positions and common proposals

*see the ITU-R Meetings schedule at www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R

Information also provided at:

- ✓ **Meetings of regional groups & sub-groups**
(APT/APG, AMSG, ATU, CEPT/ECC/CPG, CITELE/PCC.II-WG, RCC/COMs-WG)
- ✓ **BR World and Regional Seminars**
 - ⇒ Provide progress status reports, informing about the development of ITU-R studies on all WRC-15 Agenda items

CPM-15 Chairman & Vice-Chairmen

(see details at: <http://www.itu.int/online/compass/cvc.v2.sh?topic=CPM>)

Chairman

Mr. A. ZOURMBA (CME), E-mail: aboubakar.zourmba@ties.itu.int

Vice-Chairmen, CPM

Mr M. AL-MUATHEN (UAE),

E-mail: almuathen77@hotmail.com

Mr G. FELDHAKE (USA),

E-mail: glenn.s.feldhake@nasa.gov

Dr. S. M. SHARMA (IND),

E-mail: shesh.sharma@ties.itu.int

Mr. N. VARLAMOV (RUS),

E-mails: varlamov@ties.itu.int ;
intcoop@minsvyaz.ru

Dr. K.-J. WEE (KOR),

E-mail: kjwee@kcc.go.kr

CPM-15 Report

Chapters of CPM Report	WRC-15 Agenda Items
1. Mobile and Amateur Issues	1.1, 1.2, 1.3, 1.4
2. Science Issues	1.11, 1.12, 1.13, 1.14
3. Aeronautical, Maritime and Radiolocation Issues	1.5, 1.15, 1.16, 1.17, 1.18
4. Satellite Services	
4.1. Fixed-Satellite Service	1.6, 1.7, 1.8, 1.9.1
4.2. Mobile-Satellite Service	1.9.2, 1.10
5. Satellite Regulatory Issues	7, 9.1.1*, 9.1.2*, 9.1.3*, 9.1.5*, 9.1.8*, 9.3
6. General Issues	2, 4, 9.1.4*, 9.1.6*, 9.1.7*, 10
	* issues under 9.1

CPM-15 Report – Chapter Rapporteurs

(see details at <http://www.itu.int/ITU-R/go/rcpm-chp-rapporteurs>)

<u>Chapters</u>	<u>Rapporteurs</u>
1. Mobile and Amateur issues	
- Agenda items 1.1 and 1.2	Ms C. COOK (CAN), Cindy.Cook@ic.gc.ca
- Agenda items 1.3 and 1.4	Mr Ch. GLASS (USA), cglass@ntia.doc.gov
2. Science issues	Mr A. VASSILIEV (RUS), alexandre.vassiliev@ties.itu.int
3. Aeronautical, Maritime and Radiolocation issues	Mr M. WEBER (D), martin.weber@bnetza.de
4. Satellite services	
4.1- Fixed-satellite service	Mr X. GAO (CHN), gaoxiaoyang@chinasatcom.com
4.2- Mobile-satellite service	Mr M.A. NAZARI (IRN), a.nazari@cra.ir
5. Satellite regulatory issues	Mr K. AL-AWADHI (UAE), khalid.alawadi@tra.gov.ae
6. General issues	Mr P.N. NGIGE (KEN), ngige@cck.go.ke

Radio Regulations 2012 Edition

Radio Regulations
Edition of 2012

<http://www.itu.int/pub/R-REG-RR-2012>



The Radio Regulations, Edition of 2012, contains the complete texts of the Radio Regulations as adopted by the World Radiocommunication Conference (Geneva, 1995) (WRC-95) subsequently revised and approved by the World Radiocommunication Conference (Geneva, 1997) (WRC-97), the World Radiocommunication Conference (Istanbul, 2000) (WRC-2000), the World Radiocommunication Conference (Geneva, 2003) (WRC-03), the World Radiocommunication Conference (Geneva, 2007) (WRC-07) and the World Radiocommunication Conference (Geneva, 2012) (WRC-12), including all Appendices, Resolutions, Recommendations and ITU-R Recommendations incorporated by reference.

Available: end-November 2012. (Online versions in all 6 languages are free of charge --at least through mid-2014--as per ITU Council 2012's decision)



ITEM DETAIL		ARTICLE	PRICE	CART
MULTILINGUAL	DVD including all 4 volumes, in all six official languages of ITU	37268	398 CHF	ADD
ENGLISH	Zipped PDF format		Free of charge	DOWNLOAD
	Zipped MS Word format		Free of charge	DOWNLOAD
	A5 Paper (hard-copy complete set)	37262	398 CHF	ADD
ARABIC			Free of charge	DOWNLOAD

Topics on WRC-15 Agenda (1/7)

Broadband

- Additional spectrum for mobile BB applications (and band identification for IMT)
- Use of the 700 MHz band in Region 1 by the mobile (with IMT Id.) and other services
- Additional spectrum for Broadband PPDR for a revision of Res. 646 (Rev. WRC-12)

Amateur Radio for emergency

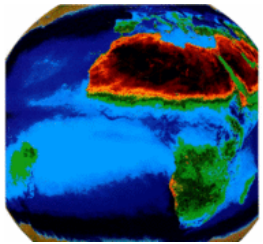
New 2^{ndary} allocation at 5.25-5.45 MHz to bridge the propagation gap between 3.5 & 7.0 MHz amateur radio bands and maintain stable communication over various distances & 24 h/day, especially for use when providing emergency communications



Topics on WRC-15 Agenda (2/7)

Climate monitoring, weather forecast

Earth observations



- New 1^{mary} allocation to EESS (E-to-s) at 7/8 GHz to accommodate \uparrow & \downarrow TT&C in the same transponder, increasing efficiency and reducing satellite complexity, [56 MHz] needed
- Extension of current EESS (active) allocation at 9.3-9.9 GHz by up to 600 MHz within the bands 8.7-9.3 GHz and/or 9.9-10.5 GHz for future high-resolution radars (SAR) to satisfy global environment monitoring of great value for the global community (50 cm resolution \rightarrow 1200 MHz bandwidth)



Topics on WRC-15 Agenda (3/7)

Space Research



Possibility of increasing the 5 km distance limitation & allowing SRS (s-to-s) use of the 410-420 MHz band for proximity operations by space vehicles communication with orbiting manned space vehicle

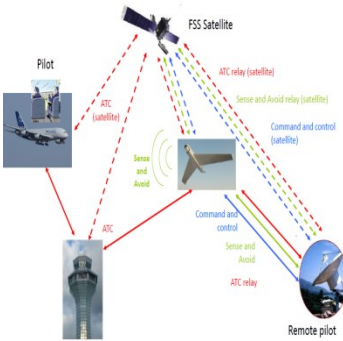
UTC and leap seconds



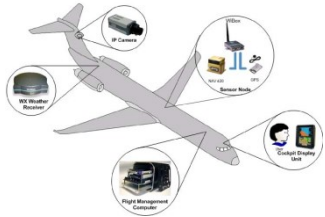
Feasibility of achieving a continuous reference time-scale, by the modification of Coordinated Universal Time (UTC) or another method

Topics on WRC-15 Agenda (4/7)

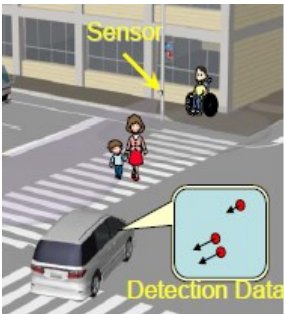
Aeronautical Issues



Unmanned Aircraft Systems – Consider use of FSS bands (not App. 30/30A/30B) for control and non-payload communications of UAS in non-segregated airspaces



Consider possible spectrum requirements & regulatory actions, including appropriate aeronautical allocations, to support WAIC



Automotive Radar Applications

Consider a primary allocation to the RLS at 77.5-78.0 GHz for automotive applications (with short range high resolution radars)

Topics on WRC-15 Agenda (5/7)

Maritime Issues

Consider spectrum demands for on-board communication stations in the maritime mobile service (MMS) in the UHF band



Regulatory provisions & spectrum allocations to enable possible new AIS technology and other new applications to improve maritime radiocommunication

Topics on WRC-15 Agenda (6/7)

Satellite communications

Allocation issues

Possible additional primary allocations for **FSS**:

- of 250 MHz (Reg. 1) in E-s & s-E directions **within 10-17 GHz** to overcome shortfall in spectrum available @ 10-15 GHz
 - of **250 MHz (Reg. 2)** & **300 MHz (Reg. 3)** in E-s direction **within 13-17 GHz**, to overcome the bandwidth limitation in the E-s direction vs the s-E direction
- & review the regulatory provisions of current FSS allocations

Possible new **FSS & MMSS** allocations **at 7/8 GHz**

- to increase spectrum available for current & future FSS applications, **estimated at ~100 MHz max**
- for MMSS, to address operations beyond territorial waters with additional regulatory measures

Spectrum requirements & possible additional allocations to **MSS**, incl. Sat. comp. for BB applications (IMT), **22-26 GHz**



Topics on WRC-15 Agenda ^(7/7)

Satellite communications

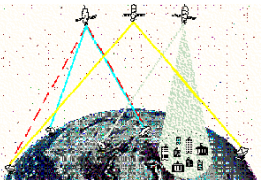
Other issues



Review the use of the band 5091-5150 MHz by the FSS (E-to-s) (limited to feeder links of N-GSO MSS systems)
→ Possible extension of the allocation beyond 2018



Review provisions relating to ESVs at 5.925-6.425 & 14-14.5 GHz, to take account of the technological advancements and compatibility improvements



Regulatory notification/coordination procedures for an efficient use of spectrum/orbit resources - Res.86

- ✓ Coordination Arc reduction and technical criteria
- ✓ Protection of the MSS in the band 406-406.1 MHz



Other issues for WRC-15

Other satellite issues

- Satellite orb. & frequency spectrum to deliver International Public Telecommunication Services in developing countries
- FSS ES operation @ 3.4-4.2 GHz, as an aid to safe operation of aircraft & reliable distribution of meteorological information in some Reg. 1 countries
- Regulatory aspects for nano- & pico-satellites

Spectrum management & general issues

- Updating & rearrangement of the RR (excepting Art. 1, 4-9, 11, 13-18, 21-23 & 59)
- Review of definitions of fixed-service, fixed stations and mobile station
- Spectrum management guidelines for emergency & disaster relief radiocommunication

WRC-18 preliminary Agenda

Resolution 808 (WRC-12)

Following issues in addition to standing agenda items on IbR of ITU-R Rec., review of WRC Res. & Rec., Country footnotes, Res.86, BR Dir.'s Report:



- Regulatory actions, including spectrum allocations, to support GMDSS modernization and implementation of e-navigation



- Appropriate regulatory procedures for notifying satellite networks needed to facilitate the deployment and operation of nano-satellites and pico-satellites

✓ Part

✓ Part

✓ Part

✓ Part

**Thank you for your
attention!**

?

5

List of radio service abbreviations

www.itu.int/go/WRC-15

List of radio service abbreviations ⁽¹⁾

Abbreviations	Radio services	RR definition
AMS	aeronautical mobile service	No. 1.32
AM(R)S	aeronautical mobile (route) service	No. 1.33
AMSS	aeronautical mobile-satellite service	No. 1.35
AMS(R)S	aeronautical mobile-satellite (route) service	No. 1.36
ARNS	aeronautical radionavigation service	No. 1.46
ARNSS	aeronautical radionavigation-satellite service	No. 1.47
ARS	amateur service	No. 1.56
ARSS	amateur-satellite service	No. 1.57
BS	broadcasting service	No. 1.38
BSS	broadcasting-satellite service	No. 1.39
EESS	Earth exploration-satellite service	No. 1.51
FS	fixed service	No. 1.20
FSS	fixed-satellite service	No. 1.21
ISS	inter-satellite service	No. 1.22
LMS	land mobile service	No. 1.26
LMSS	land mobile-satellite service	No. 1.27
MetAids	meteorological aids service	No. 1.50
MetSat	meteorological-satellite service	No. 1.52

List of radio service abbreviations (2)

Abbreviations	Radio services	RR definition
MMS	maritime mobile service	No. 1.28
MMSS	maritime mobile-satellite service	No. 1.29
MRNS	maritime radionavigation service	No. 1.44
MRNSS	maritime radionavigation-satellite service	No. 1.45
MS	mobile service	No. 1.24
MSS	mobile-satellite service	No. 1.25
RAS	radio astronomy service	No. 1.58
RDS	radiodetermination service	No. 1.40
RDSS	radiodetermination-satellite service	No. 1.41
RLS	radiolocation service	No. 1.48
RLSS	radiolocation-satellite service	No. 1.49
RNS	radionavigation service	No. 1.42
RNSS	radionavigation-satellite service	No. 1.43
SOS	space operation service	No. 1.23
SFTSS	standard frequency and time signal service	No. 1.53
SFTSSS	standard frequency and time signal-satellite service	No. 1.53
SRS	space research service	No. 1.55