World Radio Conference 2012
WRC-12

(Noumea, 11-15 April 2011)

Cristian Gomez, ITU

International Telecommunication Union
Committed to connecting the world

WRC-12 Preparation

Contents

Part I – The WRC process and WRC cycle

Part II – ITU preparations for WRC-12

Part IV – Regional preparations for WRC-12

Part V – Possible solutions proposed for WRC-12 Agenda items

Additional Information

The WRC Process

Agenda: draft in WRC Res & final in Council Res

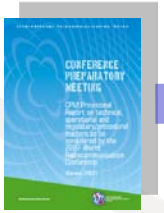
Informal Group
(Structure & Chairmanship)

Proposals

Coordinated common proposals

Proposals

Member States



CPM Report

WRC

Final Acts

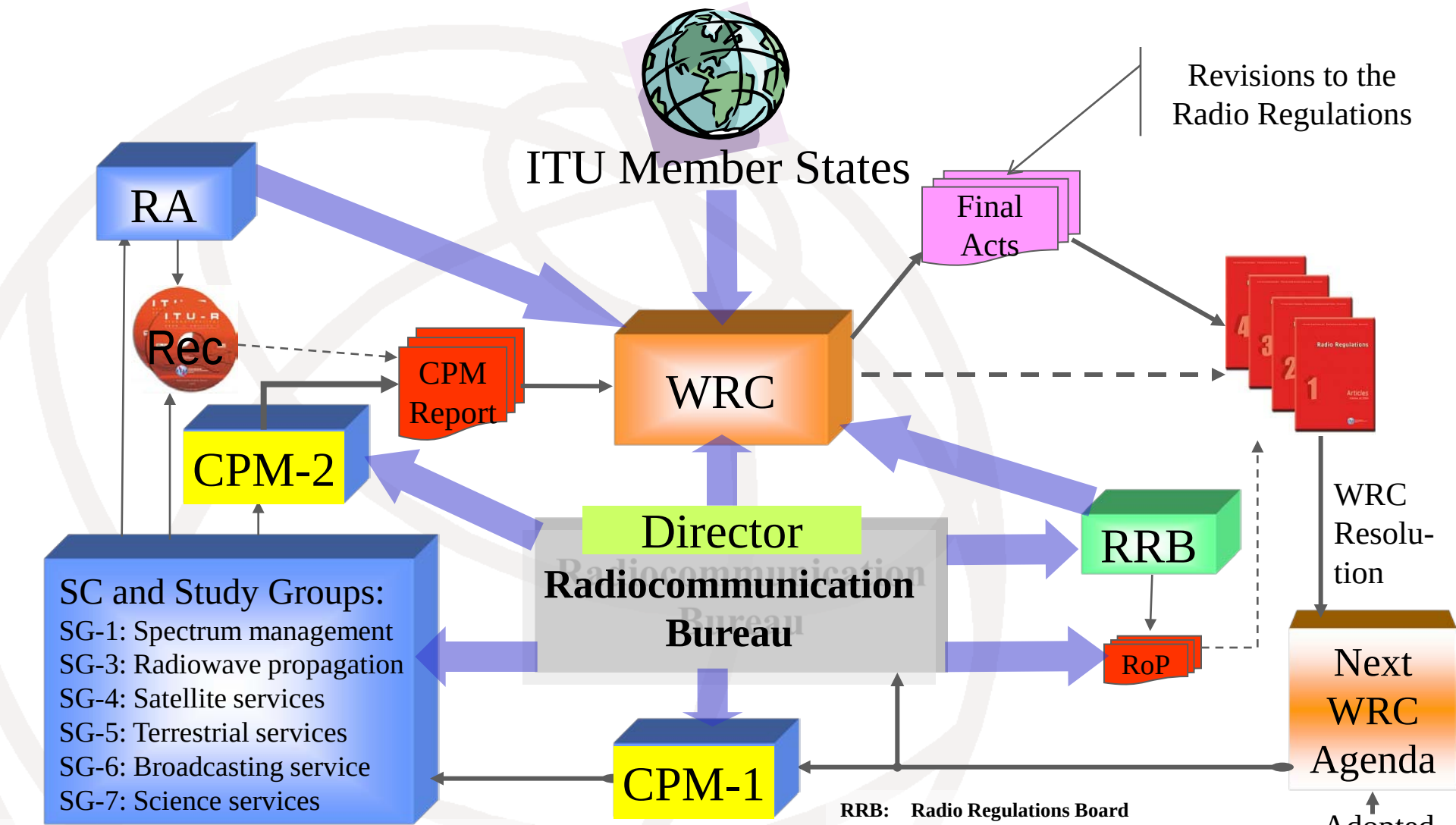
Radio Regulations (CS89)

Director's Report

Conference Secretariat
(BR & GS)

Regional preparation
Resolution 72 (Rev.WRC-07)

The WRC Cycle



CPM: Conference Preparatory Meeting
Rec: ITU-R Recommendation
RoP: Rules of Procedure
RR: Radio Regulations (treaty status)

RRB: Radio Regulations Board
SGs: Radiocommunication Study Groups
SC: Special Committee (Regulat. & Procedural)
RA: Radiocommunication Assembly
WRC: World Radiocommunication Conference

WRC-12 Preparation

Contents

✓ **Part I** – The WRC process and WRC cycle

Part II – **ITU preparations for WRC-12**

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Additional Information

Main Steps towards WRC-12

WRC-07: Draft Agenda (Resolution 805 (WRC-07))

Council-08: Agenda (C08 Resolution 1291 (MOD))

Conference Preparatory Meeting (CPM):

→ CPM11-1: 19 – 20 Nov. 2007 (Results in CA/171 of 20.12.07)

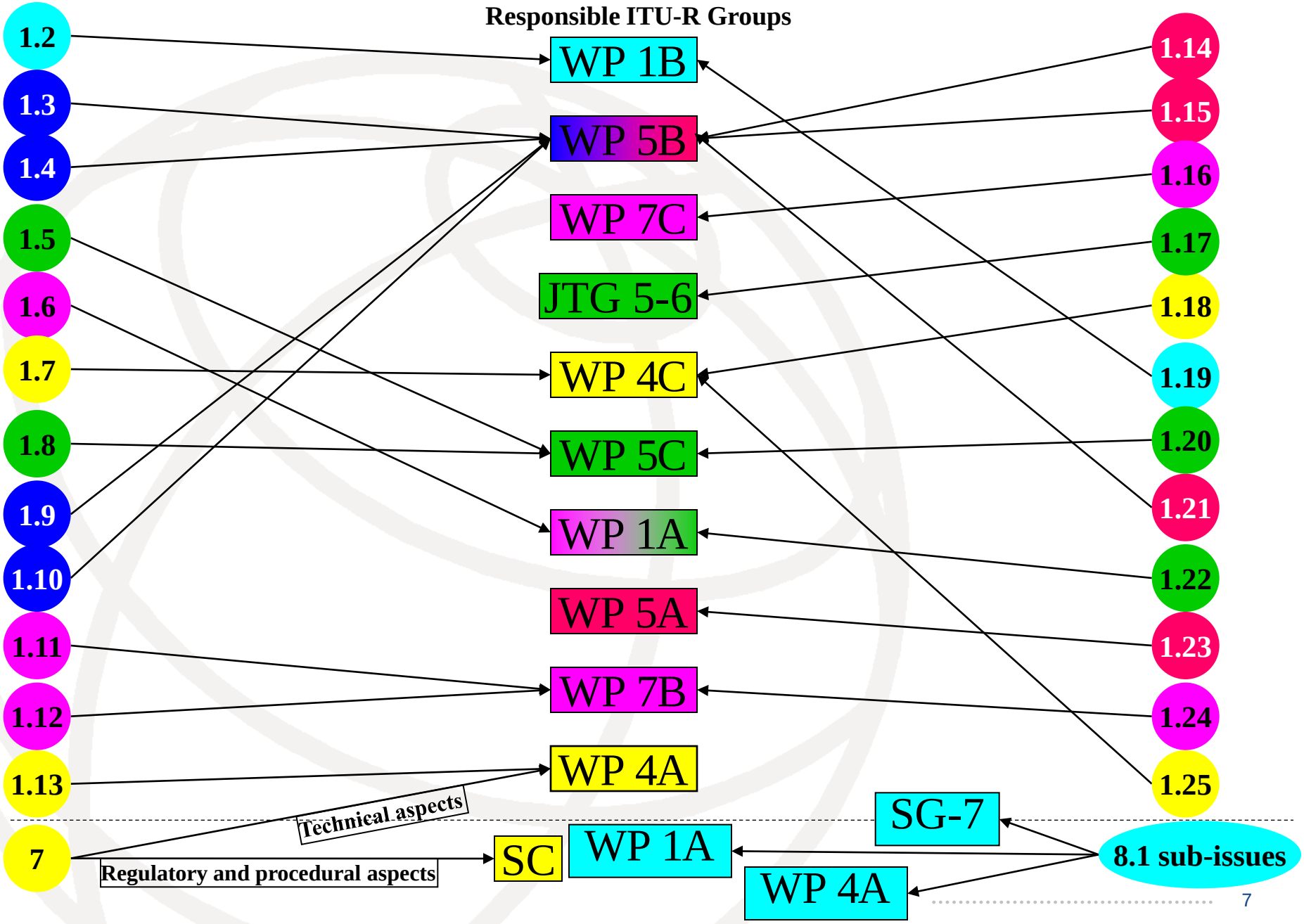
→ Meetings of ITU-R Working Parties/Joint Task Group

→ CPM11-2: 14 – 25 Feb. 2011 (Invitation in CA/191 of 01.06.10)

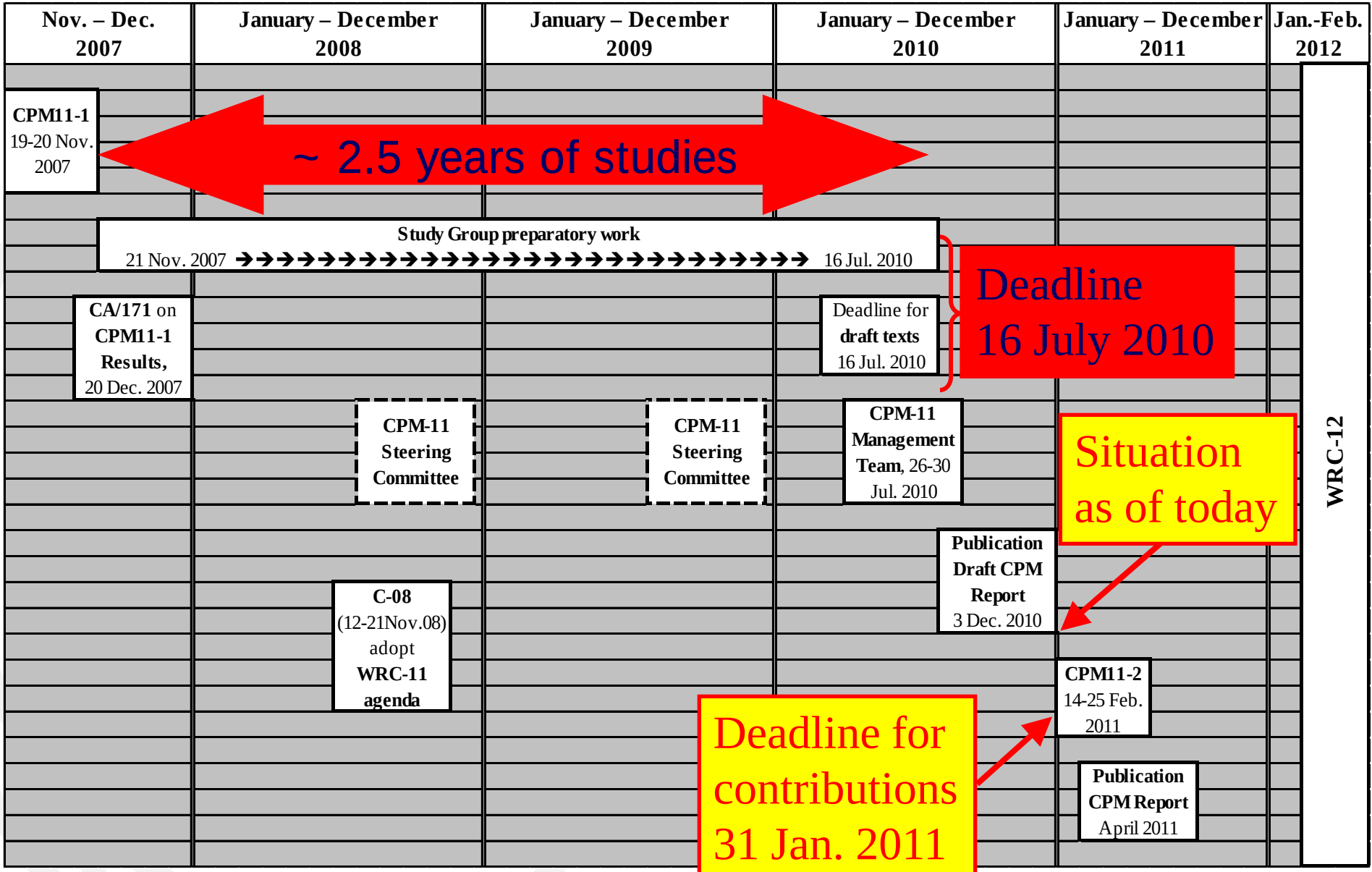
Final Meetings of regional groups

→ Member States' proposals to WRC-12

Agenda items & Resp. Groups



Timetable towards WRC-12



CPM Report – Table of contents

Chapters of CPM Report	WRC-12 Agenda items
1. Maritime and Aeronautical issues	1.3, 1.4, 1.9, 1.10
2. Radiolocation and Amateur issues	1.14, 1.15, 1.21, 1.23
3. Fixed, Mobile and Broadcasting issues	1.5, 1.8, 1.17, 1.20, 1.22
4. Science issues	1.6, 1.11, 1.12, 1.16, 1.24
5. Satellite issues	1.7, 1.13, 1.18, 1.25, 7
6. Future work programme and other issues	1.2, 1.19, 2, 4, 8.1, 8.2

Purpose of CPM11-2

➢ ***Second session of the CPM (CPM11-2)***

(see Res. ITU-R 2-5, Web page at: http://www.itu.int/ITU-R/go/rcpm)

Geneva, 14 – 25 February 2011

(see CA/191 at: http://www.itu.int/md/R00-CA-CIR-0191)

⇒ **prepare the consolidated CPM Report to WRC-12, using:**

- ✓ **the draft CPM Report (available 2 months before)**
- ✓ **the Report of the Special Committee**
- ✓ **Contributions from ITU-R membership**

(deadline for submission on 31 January 2011)

⇒ **Consider the preliminary draft of BR Director's Report to WRC-12**

⇒ **Meeting structure would be based on the structure of the draft CPM Report**

CPM-11 Chairman & Vice-Chairmen

Chairman, CPM

Mr. A. NALBANDIAN (ARM), E-mail: albert.nalbandian@ties.itu.int

Vice-Chairmen, CPM

Mr K. ABDELKADER (TUN), E-mail: k.abdelkader@anf.tn

Mr A. JONSSON (S), E-mail: anders.jonsson@pts.se

Mr. V. GLUSHKO (RUS), E-mail: glushko@geyser.ru

Mrs. S. TAYLOR (USA), E-mail: shayla.taylor@itt.com

Contributions to CPM11-2

- **CPM Web page** (www.itu.int/ITU-R/go/rcpm)
- **Draft CPM Report to WRC-12 as Doc. CPM11-2/1** (http://www.itu.int/md/R07-CPM11.02-C-0001)
- **SC Report to CPM11-2 as Doc. CPM11-2/2** (http://www.itu.int/md/R07-CPM11.02-C-0002)

All meetings

ITU-R Meetings schedule - Meeting sessions - Member Information and Delegate Registration

Session CPM11-2 (Geneva, 14-25 February 2011)

- Contributions XML ?
  - Guidelines for the preparation of contributions English only
  - Templates
- Information Documents (INFO)
- Administrative Documents (ADM)
- Temporary Documents (DT)
- Administrative Circulars (CA) XML ?
- CPM - Archives

Scope

The CPM shall prepare a consolidated report to be used in support of the work of World Radiocommunication Conferences, based on:

- contributions from administrations, the Special Committee, the Radiocommunication Study Groups (see also No. 156 of the Convention), and other sources (see Article 19 of the Convention) concerning the regulatory, technical, operational and procedural matters to be considered by such conferences;
- the inclusion, to the extent possible, of reconciled

Inter-session preparatory studies

Future steps towards WRC-12

- ***Final Meetings of regional groups*** **(APT, AMSG, ATU, CEPT, CITEL, RCC)**

⇒ **Finalize regional common proposals to WRC-12 using CPM Report and other information**

- ***Radiocommunication Assembly 2012 (RA-12):***

Geneva, 16 – 20 January 2012

⇒ **CS 91: Provide necessary technical bases for WRC-12 and respond to WRC requests (CV135)**

⇒ **CV136: Report on progress in matters for possible inclusion on WRC-15 Agenda**

⇒ **Election of Ch & V-Ch for CPM and SC (CV242)**

- ***World Radiocommunication Conference 2012 (WRC-12):*** **Geneva, 23 Jan. – 17 Feb. 2012**

WRC-12 Preparation

Contents

✓ Part I – The WRC process and WRC cycle

✓ Part II – ITU preparations for WRC-12

Part IV – **Regional preparations for WRC-12**

Part V – Possible solutions proposed for WRC-12 Agenda items

Additional Information

Regional preparation for WRC-12

✓ Resolution 80 (Rev. Marrakesh, 2002)

"World radiocommunication conference process"

Administrations of ITU membership encouraged to:

- Plan WRC preparations on the basis of 2 consecutive WRCs;
- Harmonize regional common proposals for WRC;
- Formally/informally collaborate with a view to resolving differences on WRC agenda items (a.i.);
- Indicate for proposed WRC a.i., the possible financial implications on the BR (ITU-R studies and BR implementation).

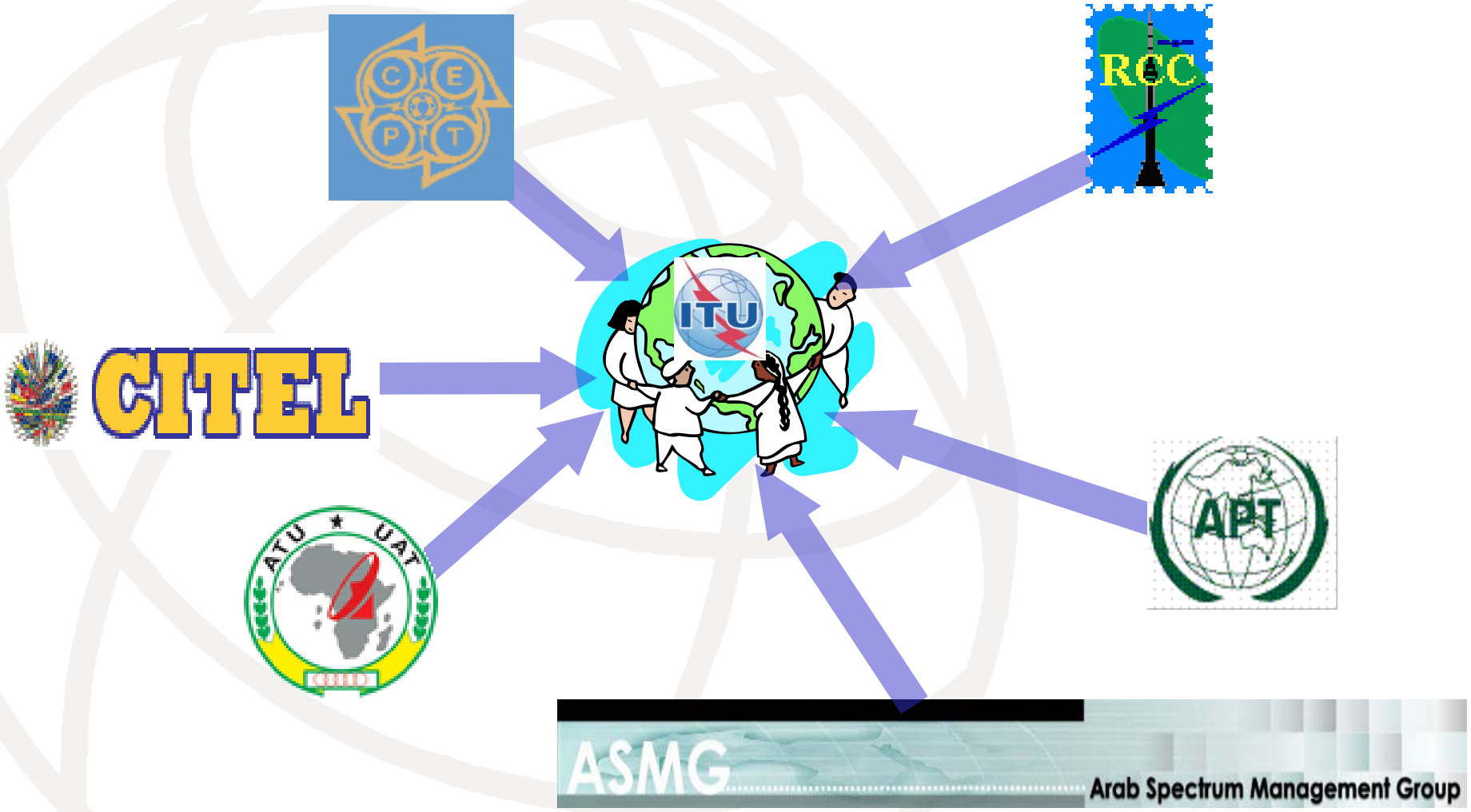
✓ Resolution 72 (Rev. WRC-07)

"World and regional preparations for world radiocommunication conferences"

- *resolves* to invite the regional groups to continue their preparations for WRCs, including the possible convening of joint meetings of regional groups formally and informally

Main regional groups

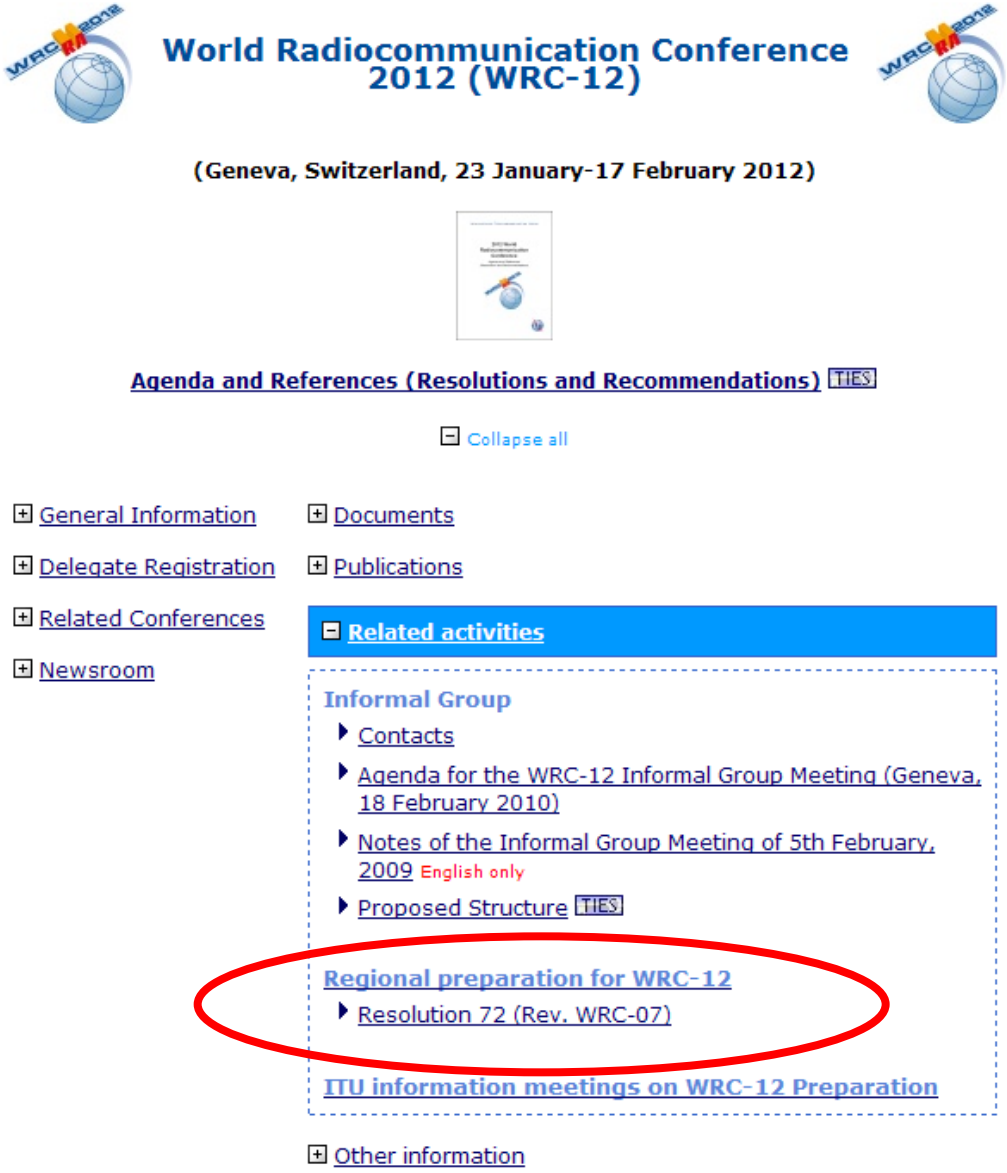
- Six main regional groups:



- For the preparation of common and coordinated proposals

Regional Group Web Pages (1/2)

http://www.itu.int/ITU-R/go/wrc-12



Regional Group Web Pages (2/2)

http://www.itu.int/ITU-R/go/wrc-12-regional

Home : ITU-R : Conferences and Meetings : : Regional preparation for WRC-12

Search

Radiocommunication Sector (ITU-R) | ITU Sectors | Newsroom | Events | Publications | Statistics | About ITU

Regional preparation for WRC-12

European Conference of Postal and Telecommunications Administrations (CEPT)

African Telecommunications Union (ATU)

Regional Commonwealth in the Field of Communications (RCC)

Arab Spectrum Management Group (ASMG)

Inter-American Telecommunication Commission (CITEL)

Asia-Pacific Telecommunity (APT)

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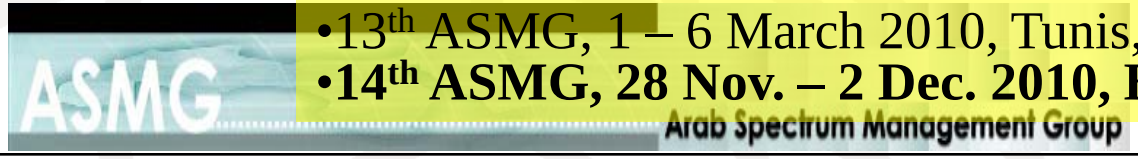
Updated : 2009-08-31

- http://www.itu.int/ITU-R/go/wrc-12-apt
- http://www.itu.int/ITU-R/go/wrc-12-cept
- http://www.itu.int/ITU-R/go/wrc-12-asmg
- http://www.itu.int/ITU-R/go/wrc-12-citel
- http://www.itu.int/ITU-R/go/wrc-12-atu
- http://www.itu.int/ITU-R/go/wrc-12-rcc

Meetings of the regional groups

- APG2012-3, 8 – 12 March 2010, Bangkok, Thailand
- **APG2012-4, 13 – 18 December 2010, Hong Kong, China**

Asia Pacific Telecommunity



- 13th ASMG, 1 – 6 March 2010, Tunis, Tunisia
- **14th ASMG, 28 Nov. – 2 Dec. 2010, Beirut, Lebanon**

- 1st meeting, Geneva, 14-16 Sept. 2009
- **[2nd meeting scheduled on 2011]**

African Telecommunications Union

- CPG12-6, 28 Sep. – 1 Oct. 2010, Berlin, Germany
- **CPG12-7, 27 June – 1 July 2011, United Kingdom**

European Conference of Postal and Telecommunications Administrations

- XV PCC.II, 31 Aug. – 3 Sept. 2010, Fortaleza, Brazil
- **XVI PCC.II, 30 Nov. – 3 Dec. 2010, Bogota, Colombia**

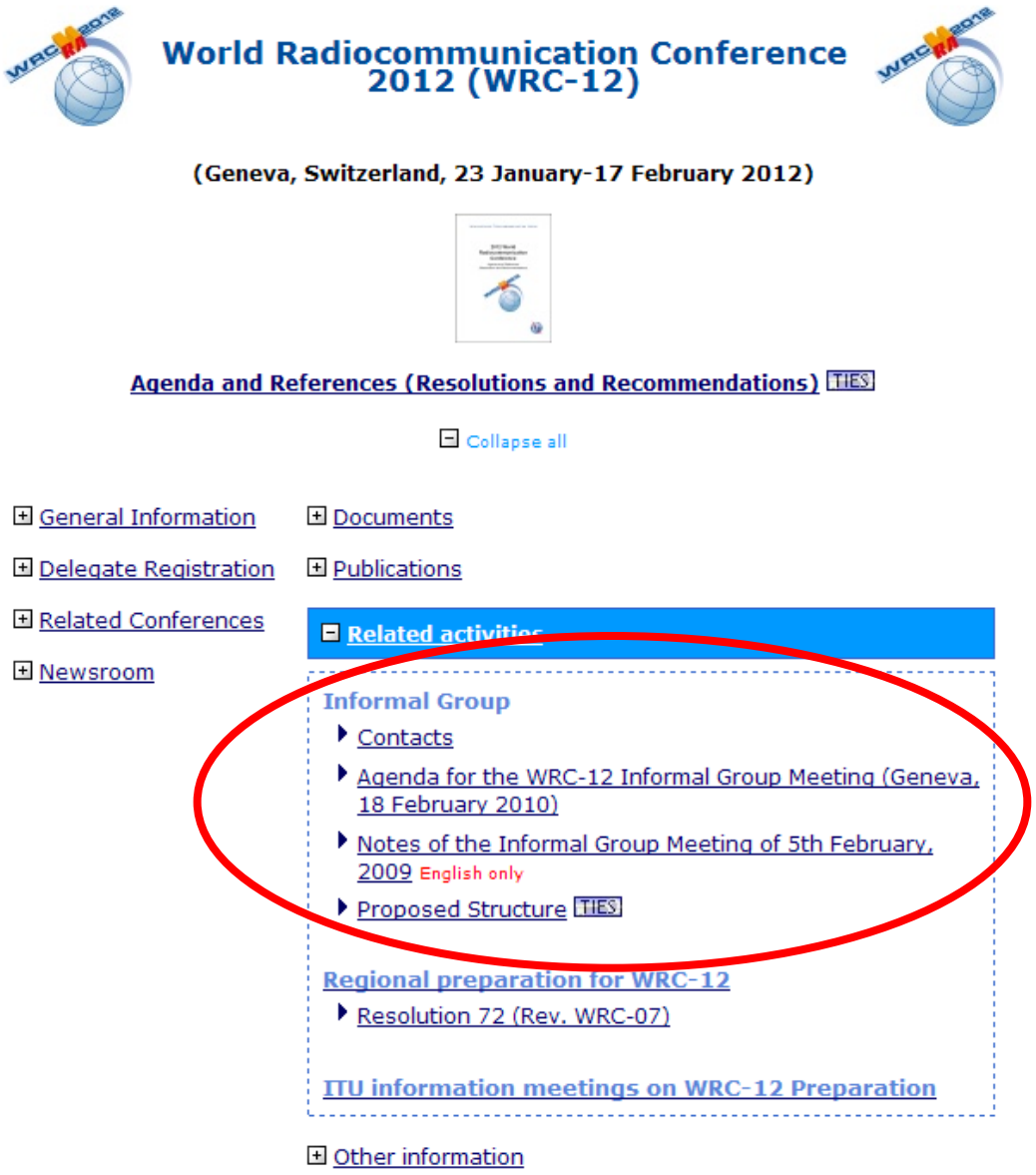
Inter-American Telecommunication Commission

- COMs: 7 – 9 September 2010, Baku, Azerbaijan
- WG-6: 27 – 29 October 2010, Minsk, Belarus
- **WG-7 followed by COMs: [April 2011]**

Regional Commonwealth in the field of Communications

Informal group on WRC-12 Preparation

http://www.itu.int/ITU-R/go/wrc-12



Informal Group on WRC-12 Preparation

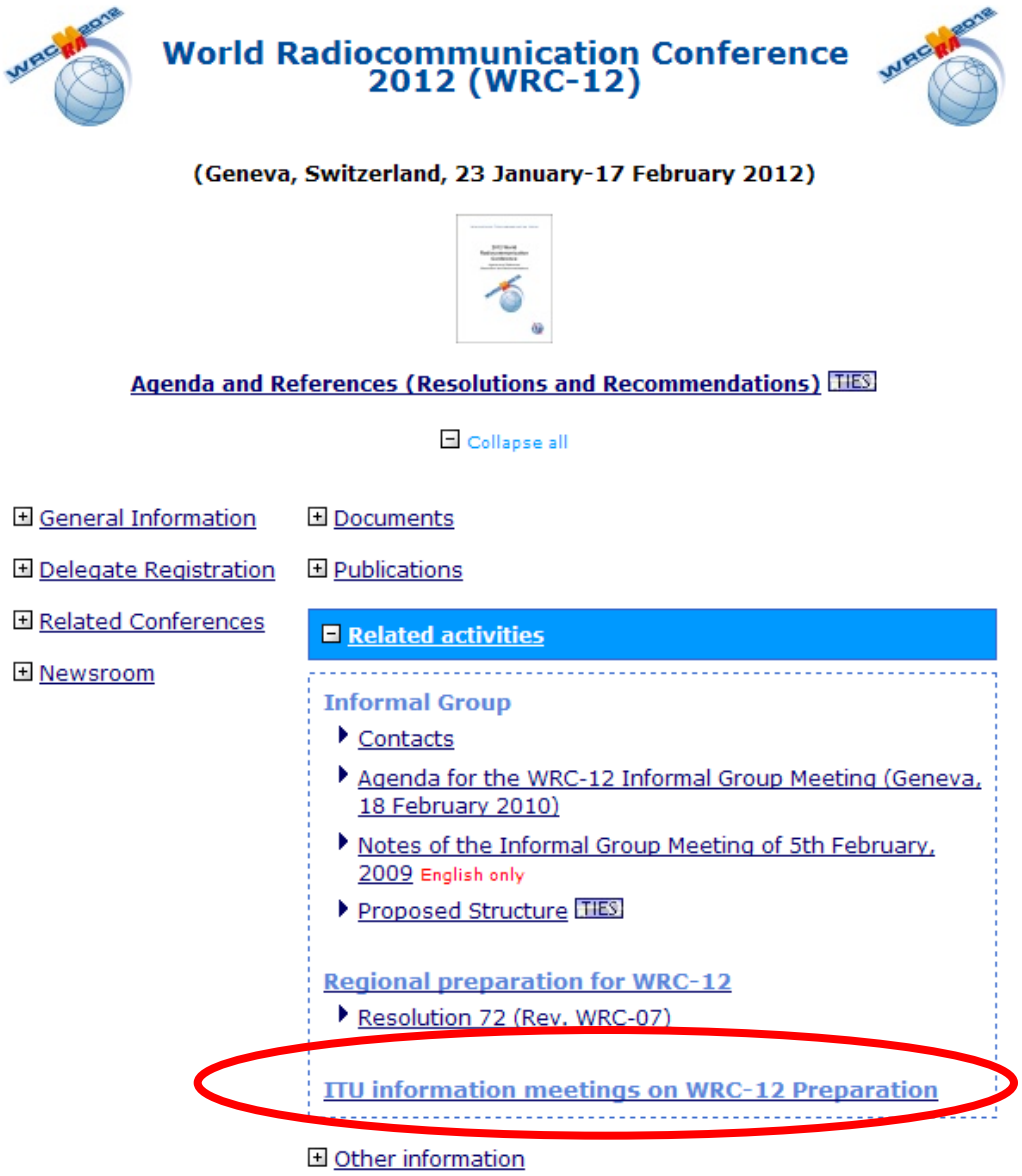
Next meeting, 2nd or 3rd day of CPM11-2
(see: http://www.itu.int/ITU-R/go/wrc-12&related-activities=1)
Proposed structure of WRC-12 as of 1st meeting, 18 Feb. 2010

COM 1 **Steering**	COM 4	COM 5	COM 6
COM 2 **Credentials**	**WG 4A (radiolocation issues):** § § 1.14, 1.15, 1.21, 3*, 5*	**WG 5A (science issues):** § § 1.6, 1.11, 1.12, 1.16, 1.24, 8.1.1 (Issue C), 3*, 5*	**WG 6A (general issues):** § § 1.2, 1.19, 1.22, 3*, 5*, 8.1(8.1.1 Issue A and other parts)
COM 3 **Budget**	**WG 4B (aeronautical issues):** §§ 1.3, 1.4, 1.7, 3*, 5*	**WG 5B (satellite issues):** §§ 1.13, 1.18, 1.25, 7, 8.1.1 (Issue B), 8.1.2 (satellite issues), 8.1.3, 3*, 5*	**WG 6B (update regulations):** § § 1.1, 2, 3*, 4, 5*, 6, 8.1.2 (non-satellite issues)
COM 7 **Editorial**	**WG 4C (maritime and amateur issues):** §§ 1.9, 1.10, 1.23, 3*, 5*	**WG 5C (fixed, mobile and broadcasting issues):** §§ 1.5, 1.8, 1.17, 1.20, 3*, 5*	**WG 6C (future work program):** § 8.2

*** relevant parts.**

Information Meetings Web Pages

http://www.itu.int/ITU-R/go/wrc-12



ITU information meetings on WRC-12 Preparation

- **ITU Headquarters, Geneva,**
  Organized in collaboration with ATU

⇨**Presentation of the organization, preliminary views, priorities and positions of the 6 regional groups**

⇨**Presentation and review of the ITU-R preparatory studies by some Chairmen of the responsible groups**

- **ITU Headquarters, Geneva**

⇨**Presentation of the Draft CPM Report to WRC-12 (explanation of the draft Methods to satisfy the WRC-12 Agenda items)**

⇨**Presentation and review of the regional groups' draft preliminary views, positions and common proposals**

3rd Meeting

- **Planned to be held in 2011**

⇨**Presentation of the CPM & Dir. Reports to WRC-12**

⇨**Presentation and review of the regional groups' draft views, positions and common proposals**

2nd ITU Information meeting

Web page at: http://www.itu.int/ITU-R/go/wrc-12-info

(see CA/192 at: http://www.itu.int/md/R00-CA-CIR-0192)

Hours	Day 1 (24.11.10)	Day 2 (25.11.10)
0900-1030	1000 hours – Opening: Mr. V. Timofeev (Director, Radiocommunication Bureau) Status of the preparation for WRC-12: Mr. Ph. Aubineau (ITU-R Counsellor for CPM)	Review of WRC-12 Agenda items 1.6, 1.11, 1.12, 1.16 and 1.24 (science issues) Presentation by: Mr. J. E. Zuzek (Rapporteur for Chapter 4 of the draft CPM Report) Panelists: APT, ASMG, ATU, CEPT, CITEL, RCC, BR
1045-1200	Review of WRC-12 Agenda items 1.3, 1.4, 1.9, 1.10 (maritime and aeronautical issues) Presentation by: Mr. C. Rissonne (Rapporteur for Chapter 1 of the draft CPM Report) Panelists: APT, ASMG, ATU, CEPT, CITEL, RCC, BR	Review of WRC-12 Agenda items 1.7, 1.13, 1.18, 1.25 & 7 (satellite issues) Presentation by: Mr. Y. Henri (Head, BR Space Service Department) Panelists: APT, ASMG, ATU, CEPT, CITEL, RCC, BR
1200-1400	Lunch Break	
1400-1530	Review of WRC-12 Agenda items 1.14, 1.15, 1.21 and 1.23 (radiolocation and amateur issues) Presentation by: Mr. V. Glushko (Rapporteur for Chapter 2 of the draft CPM Report) Panelists: APT, ASMG, ATU, CEPT, CITEL, RCC, BR	Review of WRC-12 Agenda items 1.2, 1.19, 2, 4, 8.1 & 8.2 (future work programme and other issues) Presentation by: Mr. A. Nalbandian (CPM Chairman, acting Rapporteur for Chapter 6 of the draft CPM Report) Panelists: APT, ASMG, ATU, CEPT, CITEL, RCC, BR
1545-1700	Review of WRC-12 Agenda items 1.5, 1.8, 1.17, 1.20 and 1.22 (fixed, Mobile and broadcasting issues)	Closing session

➔ **Exchange of views and explanations to better understand the preliminary positions on WRC-12 agenda items**

Information also provided at:

- ✓ **Meetings of regional groups & sub-groups (APT/APG, AMSG, ATU, CEPT/ECC/CPG, CITEL/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-12 Agenda items**

WRC-12 Preparation

Contents

✓ Part I – The WRC process and WRC cycle

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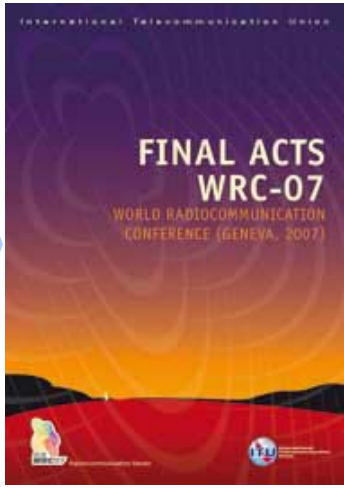
Part V – **Possible solutions proposed for WRC-12 Agenda items**

Additional Information

Scope of WRC-12 vs WRC-07

WRC-07 (22.10-16.11.2007)

- 30 agenda items, 3100 proposal, 2800 del.!
- almost all services (terrestrial: FS, MS, BS, Amat.S, RAS, RLS, space: FSS, BSS, MSS, EESS, SRS, SO, MetSat, Amat.Sat)
- several applications: IMT, HAPS, HF, GMDSS



WRC-12 (23 January - 17 February 2012)

- 33 agenda items,
- again almost all services (terrestrial: RLS, AM(R)S, passive services, FS, BS, MS, Maritime MS, Amat.S, space: AMS(R)S, SRS, BSS, MSS, MetAids, RDSS, MetSat) and other issues (Res.951, SRDs, Cognitive Radio)
- and many applications and systems : UAS, ENG, HAPS, oceanographic radar, ...

List of WRC-12 Agenda items

http://www.itu.int/ITU-R/go/rcpm-wrc-12-studies

WRC-12 Agenda Items

WRC-12 Agenda Item	Title
1.23	to consider an allocation of about 15 kHz in parts of the band 415-526.5 kHz to the amateur service on a secondary basis, taking into account the need to protect existing services;
1.24	to consider the existing allocation to the meteorological-satellite service in the band 7 750 7 850 MHz with a view to extending this allocation to the band 7 850-7 900 MHz, limited to non-geostationary meteorological satellites in the space-to-Earth direction, in accordance with Resolution 672 (WRC 07);
1.25	to consider possible additional allocations to the mobile-satellite service, in accordance with Resolution 231 (WRC 07);
2	to examine the revised ITU R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with Resolution 28 (Rev.WRC 03), and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with principles contained in the Annex 1 to Resolution 27 (Rev.WRC 07);
3	to consider such consequential changes and amendments to the Radio Regulations as may be necessitated by the decisions of the Conference;
4	in accordance with Resolution 95 (Rev.WRC 07), to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation;
5	to review, and take appropriate action on, the Report from the Radiocommunication Assembly submitted in accordance with Nos. 135 and 136 of the Convention;
6	to identify those items requiring urgent action by the Radiocommunication Study Groups in preparation for the next world radiocommunication conference;
7	to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: "Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks", in accordance with Resolution 86 (Rev.WRC 07);
8	in accordance with Article 7 of the Convention:
8.1	to consider and approve the Report of the Director of the Radiocommunication Bureau:
8.1.1	on the activities of the Radiocommunication Sector since WRC 07;
8.1.2	on any difficulties or inconsistencies encountered in the application of the Radio Regulations; and
8.1.3	on action in response to Resolution 80 (Rev.WRC 07);
8.2	to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution 806 (WRC 07),

WRC-12 Agenda items by bands (1/5)

kHz/MHz	Agenda item No. and possible solution(s)
9 to 14 kHz	1.16: 1mary MetAids allocation for lightning detection in [9]-11.3 kHz, with provisions to protect existing RNS.
461 to 510 kHz	1.23: Possible new worldwide 2dary ARS allocation of about 15 kHz in some portions of the band.
3 000 kHz to 30 MHz	1.9: MOD RR App. 17 to facilitate introduction of new digital technologies for the MMS 1.15: New 1mary or 2dary RLS allocations for oceano-graphic radars in portions of pre-identified sub-bands.
112 to 117.975 MHz	1.4: No change to RR needed. Compatibility of new AM(R)S systems with BS systems below 108MHz will be pursued in ITU-R Rec./Rep.

WRC-12 Agenda items by bands (2/5)

MHz	Agenda item No. and possible solution(s)
154-156	1.14: No change or new 1mary RLS allocation for aerospace surveillance, tracking and manoeuvring spacecrafts + conditions to protect allocated services.
156.7625-156.7875 & 156.8125-156.8375	1.10: New 1mary or 2dary MSS (E-to-s) allocation to improve satellite detection of AIS messages.
161.9625-161.9875 & 162.0125-162.0375	1.10: New 2dary MSS (E-to-s) with or without 1mary MMS and 2dary AMS allocations for protection of AIS frequencies vs FS & MS.
495-505 & 510-525	1.10: New worldwide 1mary MMS allocation to broadcast safety and security information.

WRC-12 Agenda items by bands (3/5)

MHz	Agenda item No. and possible solution(s)
760-862	1.17: Several solutions proposed for sharing between MS and a) BS, b) ARNS and c) FS in Regions 1 and 3 (ref. to the GE-06 Agreement).
960 to 1164	1.4: New means for sharing and coordination between new AM(R)S and ARNS systems.
1525 to 1559 & 1626.5 to 1660.5	1.7: Keep generic the 1mary MSS allocation with possible development of new RR provisions or Res. to meet the long-term AMS(R)S spectrum needs.
2483.5 to 2500	1.18: Make the RDSS allocations 1mary on a worldwide basis with pfd coordination threshold and a new footnote with regard to the RLS.

WRC-12 Agenda items by bands (4/5)

MHz/GHz	Agenda item No. and possible solution(s)
5000 to 5030 MHz	1.4: Use 5091-5150 MHz or add new 1mary allocation to AM(R)S in 5000-5010 MHz with measures to protect RNSS and RAS.
5850 to 6724 MHz	1.20: For HAPS gateway links, use existing identified spectrum outside this band or identify 2 x 80 MHz channels in this range for countries listed in a new RR Article 5 footnote.
7750 to 7900 MHz	1.24: Extension of 1mary MetSat allocation to the band 7 850-7 900 MHz for all Regions under same conditions of sharing with FS and future MS systems.
15.4 to 15.7 GHz	1.21: 1mary RLS allocation from 15.4 / 15.5 / 15.55 to 15.7 GHz with clarifications on the use of the band and/or on protection of ARNS & RAS in adjacent bands.

WRC-12 Agenda items by bands (5/5)

GHz	Agenda item No. and possible solution(s)
21.40 to 22.00	**1.13: Development of regulatory coordination procedure for use of this band by the BSS in Regions 1 and 3, including sharing with TS.**
22.55 to 23.15	**1.11: new 1mary SRS (Earth-to-space) allocation, with may be also conditions to improve protection of non-GSO ISS links.**
37-38	**1.12: High probability of harmful interference from AMS system to receiving earth stations of SRS and FSS as well as FS receiving stations ➔ exclusion of AMS from MS allocation or apply very stringent pfd limit to emissions from MS airborne station.**

WRC-12 Agenda items by bands (4/5)

GHz	Agenda item No. and possible solution(s)
71 to 238	1.8: Studies on FS use of these bands, may result in new Unwanted Emission Power Masks in 81-86 and 92-95 GHz band to protect EESS @86-92 GHz.
275 to 3 000	1.6(Res.950): specify the frequency bands identified for radio astronomy and passive remote sensing. The 1 to 3 THz band is of interest for passive observations and can be shared without constraint with active services.
Above 3 000	1.6(Res.955): studies of free-space optical systems may lead to extension of the RR Table of Frequency Allocations above 3 THz.

Other WRC-12 Agenda items (1/2)

Agenda item No.	Possible solution(s)
1.2 (Res.951):	- to deal with convergence of FS & MS applications, either no change to RR or possible revisions of some RR service/station definitions &/or of RR Appendix 4; - some additional spectrum allocation principles may also be proposed in a new WRC Resolution.
1.3 (UAS):	Require 34 / 56 MHz for terrestrial / satellite components resp. for safe operation of UAS, using either current AM(R)S and AMS(R)S/MSS/AMSS/FSS allocations or new AM(R)S and AMS(R)S allocations.
1.5 (ENG):	- rationalization of the spectrum used by ENG with a database of country-specific ENG bands; - harmonization of tuning ranges within frequency bands for ENG with WRC Res/Rec or ITU-R Rec/Rep.

Other WRC-12 Agenda items (2/2)

Agenda item No.	Possible solution(s)
1.19 (SdR & CRS):	- for both SdR and CRS, no change required to RR. - for CRS, a new WRC Res. or a new ITU-R Res. may be proposed to provide guidance for future studies and (for WRC Res) on implementation of CRS.
1.22 (SRDs):	Effect of SRD emissions on Radiocommunication services: a) no change to RR; or b) new WRC Res to study regional & global harmonization of certain SRDs; or c) approach similar to ISM or d) new RR provisions to define SRD applications and conditions of operation.
1.25 (MSS):	For estimated needs for year 2020 of [240 to 335] MHz in each direction, possible new MSS allocations: 5150-5250 MHz (MSS s-E), 7055-7250 MHz (MSS s-E), 8400-8500 MHz (MSS E-s), 10.5-10.6 GHz (MSS s-E), 13.25-13.4 GHz (MSS s-E), 15.43-15.63 GHz (MSS E-s).

Thank you…

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