ITU-R Preparatory Studies for WRC-12

WRC-12 Agenda Item (Chapter)	WRC Resolution (English only) TIES	Responsible Group	Latest information
1			
1.1	Res. 26 (Rev.WRC 07)		
1.2 (6)	Res. 951 (Rev.WRC 07)	WP 1B	Doc. 1B/158 Annexes 7(e), 8 & 9(f)
1.3 (1)	Res. 421 (WRC 07)	WP 5B	Doc. 5B/296 Annexes 14, 16, 18(f) & 19(e)
1.4 (1)	Res. 413 (Rev.WRC 07)	WP 5B	Doc. 5/141
			Doc. 5B/296 Annexes 11, 20(f) & 21(e)
	Res. 417 (WRC 07)	WP 5B	Doc. 5B/296 Annexes 12, 20(f) & 21(e)
	Res. 420 (WRC 07)	WP 5B	Doc. 5B/296 Annexes 4, 5, 13, 20(f) & 21(e)
1.5 (3)	Res. 954 (WRC 07)	WP 5C (a)	Doc. 5C/129 Annexes 2(e) & 3
			Doc. 5C/217 Annexes 1(f) & 4
1.6 (4)	Res. 950 (Rev.WRC 07)	WP 1A (b)	Doc. 1A/207 Annexes 7(e) & 9(f)
			Doc. 7C/146 Annexes 11 & 13
			Doc. 7D/129 Annex 3
	Res. 955 (WRC 07)	WP 1A	Doc. 1A/207 Annexes 8(e) & 9(f)
1.7 (5)	Res. 222 (Rev.WRC 07)	WP 4C	Doc. 4C/338 Annexes 9, 14(e) & 15(f)
1.8 (3)	Res. 731 (WRC 2000)	WP 5C	Doc. 5C/129 Annex 18
	Res. 732 (WRC 2000)	WP 5C	Doc. 5C/129 Annex 18
			Doc. 5C/217 Annexes 5(f) & 6
1.9 (1)	Res. 351 (Rev.WRC 07)	WP 5B	Doc. 5B/175 Annex 1
			Doc. 5B/296 Annexes 22(f) & 23(e)
1.10 (1)	Res. 357 (Rev.WRC 07)	WP 5B	Doc. 5/117(Rev.1)
			Doc. 5B/175 Annex 14
			Doc. 5/296 Annexes 6, 24(f) & 25(e)
1.11 (4)	Res. 753 (WRC 07)	WP 7B	Doc. 7B/181 Annexes 1(f), 2(e), 13 & 14
1.12 (4)	Res. 754 (WRC 07)	WP 7B	Doc. 7B/181 Annexes 3(f), 4(e) & 12
1.13 (5)	Res. 551 (WRC 07)	WP 4A	Doc. 4A/278 Annexes 1, 2, 10, 12, 15(e) & 16
1.14 (2)	Res. 611 (WRC 07)	WP 5B	Doc. 5B/296 Annexes 2, 9, 26(f) & 27(e)
1.15 (2)	Res. 612 (WRC 07)	WP 5B	Doc. 5B/296 Annexes 3, 8, 17, 28(f) & 29(e)
1.16 (4)	Res. 671 (WRC 07)	WP 7C	Doc. 7C/93 Annex 11(f)
			Doc. 7C/146 Annexes 5(e), 10, 14, 15, 16
1.17 (3)	Res. 749 (WRC 07)	JTG 5-6	Doc. 5-6/88 and its annexes
1.18 (5)	Res. 613 (WRC 07)	WP 4C	Doc. 4C/338 Annexes 16(e) & 17(f)
1.19 (6)	Res. 956 (WRC 07)	WP 1B	Doc. 1B/158 Annexes 5(e) & 6(f)
1.20 (3)	Res. 734 (Rev.WRC 07)	WP 5C	Doc. 5C/129 Annexes 7(f) & 8(e)
			Doc. 5C/217 Annexes 9, 10 & 11
1.21 (2)	Res. 614 (WRC 07)	WP 5B	Doc. 5/140
			Doc. 5B/296 Annexes 10, 30(f) & 31(e)
1.22 (3)	Res. 953 (WRC 07)	WP 1A	Doc. 1A/207 Annexes 3(e), 4 & 5(f)
1.23 (2)		WP 5A	Doc. 5A/168 Annex 2(f)
			Doc. 5A/305 Annexes 4(e) & 5
1.24 (4)	Res. 672 (WRC 07)	WP 7B	Doc. 7B/181 Annexes 5(f) & 6(e)
1.25 (5)	Res. 231 (WRC 07)	WP 4C	Doc. 4C/338 Annexes 8, 13, 18(e), 19(f), 20 & 21
2 (6)	Res. 27 (Rev.WRC 07)		
	Res. 28 (Rev.WRC 03)		
3			
4 (6)	Res. 95 (Rev.WRC 07)		

5			
6			
7 (5)	Res. 86 (Rev.WRC 07)	**SC** (d)	Doc. SC-WP/16 Annex 1(e)
		WP 4A (c)	Doc. 4A/278 Annex 14(e)
8 (6)			
8.1 (6)			
8.1.1 (6)	Issue A - Res. 63 (Rev.WRC 07)	**WP 1A**	Doc. 1A/207 Annex 6
	Issue B - Res. 547 (Rev.WRC 07)	**WP 4A**	
	Issue C - Res. 673 (WRC 07)	**SG 7**	Doc. 7C/146 Annexes 3(e), 12 & 17
8.1.2 (6)		**SC**	Doc. SC-WP/16 Annex 2
8.1.3 (6)	Res. 80 (Rev.WRC 07)	**WP 4A**	Doc. 4A/278 Annex 18
8.2 (6)	Res. 806 (WRC-07)		

Notes

- NOTE 1 - All appropriate regulatory/procedural studies on relevant agenda items will be carried out by the Special Committee on Regulatory/Procedural matters (SC) on the basis of proposals from the membership of ITU and the relevant ITU-R Study Groups.
- NOTE 2 - In addition to responsible groups, concerned ITU-R groups have been identified. A concerned ITU-R group may be either a contributing group on a specific item, or an interested group that will follow the work on a specific issue and act as appropriate - (see Annex 1 of Addendum 1 to CA/171)

Other Notes

- (a) This work should be based on requirements developed by SG 6
- (b) This work should be based on requirements developed by SG 7
- (c) Technical aspects
- (d) Regulatory and procedural aspects
- (e) Working Document towards Draft CPM texts
- (f) Framework/Work Plan/Milestones/Organisation of studies

Chapters of the draft CPM Report to WRC-12

- (1) - Chapter 1 - Maritime and aeronautical issues
- (2) - Chapter 2 - Radiolocation and amateur issues
- (3) - Chapter 3 - Fixed, mobile and broadcasting issues
- (4) - Chapter 4 - Science issues
- (5) - Chapter 5 - Satellite issues
- (6) - Chapter 6 - Future work programme and other issues

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Chairman, CPM-11

INFORMATION ON EXECUTIVE PROGRESS REPORTS FOR WRC-12 AGENDA ITEMS, AS OF 7 DECEMBER 2009

Annex 1 to this document contains information on executive progress Reports on the ITU-R preparatory studies for WRC-12 Agenda items, from the Responsible Groups or their Chairman, as of 7 December 2009.

Annex 1

Executive progress Reports

WRC-12 Agenda item	WRC Resolution	Responsible Group	Executive progress Report	Source: Document
1.1	26 (Rev.WRC-07)	-	-	-
1.2	951 (Rev.WRC-07)	WP 1B	During the September 2009 meeting of WP 1B, the following actions were taken: – The work plan for WRC-12 Agenda item 1.2 was updated, considering the potential fifth meeting of the group (see **Doc. 1B/158 Annex 9**). – The working document toward draft CPM text on WRC-12 Agenda item 1.2 was significantly modified and further developed. The resulting text was included in **Doc. 1B/158 Annex 7**. WP 1B agreed to identify three issues with respect to Agenda item 1.2 and for all the issues several Methods have been discussed. For Issue A – Terrestrial in particular fixed and mobile convergence, 4 Methods have been included into the draft CPM text; for the Issue B – Satellite convergence, one Method has been included into the draft CPM text; and for the Issue C – General allocation issues, 2 Methods have been included into the draft CPM text. Advantages and disadvantages for all the Methods were initially discussed. Further considerations to all the Methods will be given during the next WP 1B meeting. – The working document towards a preliminary draft new Report on WRC-12 Agenda item 1.2 was further developed, and progress was made on some of the studies contained in this Report (see **Doc. 1B/158 Annex 8**). The meeting also agreed that there was no need at this stage to send any liaison statements in relation to WRC-12 Agenda item 1.2 from WP 1B to any of the concerned Working Parties. Future work under WRC-12 Agenda item 1.2 will continue to be considered in future WP 1B meetings in February and June 2010.	**Doc. 1B/158, Section 2.4** (Sep. 2009)

1.3	421 (WRC-07)	WP 5B	The following documents have been developed within WP 5B: – Draft new Report ITU-R M.[UAS-SPEC] - Characteristics of unmanned aircraft systems (UAS) and spectrum requirements to support their safe operation in non-segregated airspaces (Doc. 5/177, source: 5B/TEMP/168)); – a preliminary draft new Report ITU-R M.[UAS-Bands] - Frequency band study to support control links for unmanned aircraft systems (Doc. 5B/TEMP/187); – work plan and milestones (Doc. 5B/TEMP/189); – a working document towards draft CPM text (Doc. 5B/TEMP/183). The current draft text towards the draft CPM text primarily deals with background information as well as the spectrum requirement (34 MHz terrestrial and 56 MHz satellite systems). However, whilst a number of candidate bands have been identified no sharing studies have been completed and hence no methods have yet been developed. It is anticipated that at the next meeting of WP 5B in May 2010 be reached on the Report on the frequency band study.	**Doc. 5/192, Section 4** (Dec. 2009)
1.4	413 (Rev.WRC-07) 417 (WRC-07) 420 (WRC-07)	WP 5B	The following documents have been developed within WP 5B: – Working document towards a preliminary draft new Report ITU-R M.[MLS-AMSRS] - Sharing in the band 5 030-5 091 MHz between the international standard microwave landing system (MLS) and a satellite system of the aeronautical mobile-satellite (route) service (AMS(R)S) (Doc. 5B/TEMP169); – Preliminary draft new Report ITU-R M.[AM(R)S_1GHz_sharing] - AM(R)S sharing feasibility in the 960-1 164 MHz band (Doc. 5B/TEMP/185); – A preliminary draft new Report on compatibility between FM broadcasting and aeronautical radionavigation systems around 108 MHz (Doc. 5B/296 (Annex 11)); – A new Report on the assessment of potential interference between FM broadcasting and VDL Mode 4 (Doc. 5/141), which was approved at SG 5 in May 2009; – Draft new Report ITU-R M.[AMRS-RNSS-RAS] - Initial considerations on compatibility between a proposed new aeronautical mobile (R) service (AM(R)S) system and both radionavigation-satellite service (RNSS) operating in the 5 000-5 010 MHz band and radio astronomy in the adjacent band 4 990-5 000 MHz which has been submitted to SG 5 for approval (see Doc. 5/189, source: Doc. 5B/TEMP/204);	**Doc. 5/192, Section 4** (Dec. 2009)

			– Preliminary draft new Report ITU-R M.[AMRS-RNSS] - Initial considerations on compatibility between a proposed new aeronautical mobile (R) service (AM(R)S) system and radionavigation satellite service (RNSS) systems operating in the 5 010-5 030 MHz band (Doc. 5B/TEMP/206); – Preliminary draft new Report ITU-R M.[AMRS-5 GHz] - Spectrum requirements for surface applications at airports in the 5 GHz range (Doc. 5B/TEMP/205); – Work plan and milestones (Doc. 5B/TEMP/171); – A working document towards draft CPM text (Doc. 5B/TEMP/202). The current draft CPM text is essentially complete. For Resolutions 413 (Rev.WRC-07) and 417 (WRC-07) there are single methods to satisfy the agenda item as well as example regulatory text. However for Resolution 420 (WRC-07) where there are two views about whether resolves 1 is met or not and hence whether any further action under this Resolution is required. There are 2 methods described including the no change. It is anticipated that at the next meeting of WP 5B in May 2010 there will only be a need for minor modification to the current text to tidy the text for Resolutions 413 (Rev.WRC-07) & 417 (WRC-07) but more extensive work will be required to complete the text in relation to Res. 420 (WRC-07).	
1.5	954 (WRC-07)	WP 5C [1]	For the CPM text, there are now four Methods to satisfy the Agenda item, and their consequential regulatory and procedural considerations, have now been identified: Method 1: is approval of a WRC Resolution encouraging the broadcast community to develop a database of frequency used in each country for ENG; and, no change to Article 5 of the Radio Regulations; Method 2: consists in the designation of frequency bands/tuning ranges for terrestrial ENG applications in a footnote in the Table of Frequency Allocations of the Article 5 of the Radio Regulations; Method 3: includes in a WRC Recommendation or WRC Resolution a list of frequency bands for harmonisation of tuning ranges for ENG use on a regional/worldwide basis. This Method would not require any change to the Article 5 of the Radio Regulations;	**Doc. 5/193, Section 3.3** (Dec. 2009) and WP 5C Chairman

[1] NOTE – this work should be based on requirements developed by SG 6

			Method 4: consists of the development and approval of ITU-R Recommendations within the regular activities of the ITU-R Study Groups of measures that would provide some level of harmonisation for the use of ENG applications. Some discussions were undertaken on: – how Method 1 might be implemented for coordination by broadcasting organisations and/or administrations; – how the coordination of tuning ranges for ENG would be managed over time; and – whether NOC to Radio Regulations should be considered an advantage or disadvantage depending on the application supported.	
1.6	950 (Rev.WRC-07)	WP 1A [2]	WP 1A will consolidate the draft CPM text for Agenda item 1.6 on Resolution 950 (Rev.WRC-07) at its June 2010 meeting which will occur after the WP 7C and 7D meeting earlier that month. This is in line with the work plan developed by WP 1A and revised in September 2009. The draft CPM text proposes a Method A under which RR No. 5.565 would be modified to simply refer to 3 different Resolutions that would address the use of frequency bands between 275 GHz and 3 000 GHz by EESS, SRS, radio astronomy and ground-based passive sensors. Method B is also proposed as an alternative which updates the specified bands of interest to the passive services as found in RR No. 5.565 between 275 and 1 000 GHz and indicates that the entire 1 000 to 3 000 GHz range is of interest to the passive services and can be shared with any active services due to the atmospheric attenuation and extremely narrow antenna beamwidths at such frequencies. (See **Doc. 1A/207 Annex 7**).	**Doc. 1A/207, Section 2.4.1**, **Annex 7** and **Annex 8** (Sep. 2009)
	955 (WRC-07)	WP 1A	Some work is ongoing in WP 7D which may be considered at the WP 1A meeting in February 2010. A working document toward the draft CPM text for Agenda item 1.6 on Resolution 955 (WRC-07) was issued in February 2009 in which the list of relevant ITU-R Recommendations has been updated. This working document was not modified at the September 2009 meeting of WP 1A and attached to the Chairman's Report for further consideration (see **Doc. 1A/207 Annex 8**).	

[2] NOTE – this work should be based on requirements developed by SG 7

			As there were no contributions on Resolution 955 (WRC-07) at the third WP 1A meeting, contributions on Resolution 955 (Rev.WRC-07) from members are still requested to improve this document during the next meetings of WP 1A in February and June 2010.	
1.7	222 (Rev.WRC-07)	WP 4C	WP 4C decided not to continue working on a preliminary draft new Recommendation on the methodology(ies) to estimate AMS(R)S spectrum requirements within the scope of WRC-12 Agenda item 1.7. However, in the future, such an ITU-R Recommendation could be further developed should the need arises. Concerning AMS(R)S spectrum estimation, WP 4C decided to develop a Report gathering the various estimates submitted through contributions to the meeting (see **Doc. 4C/338 Annex 9**). Concerning the draft CPM text, even though ample time was spent on its development, it is still at a very initial stage and will naturally be subject to further elaboration at the next meetings of WP 4C (March and June-July 2010) (see **Doc. 4C/338 Annex 14**).	**Doc. 4/112, Section 3.1.1** (Sep. 2009)
1.8	731 (WRC-2000) 732 (WRC-2000)	WP 5C	The following documents have been developed within WP 5C: – milestones and work plan (Doc. 5C/TEMP/188); – a working document on requirements and technical characteristics of FS in certain bands above 71GHz (Doc. 5C/TEMP/182); – a working document towards draft CPM text (Doc. 5C/TEMP/183); – a working document towards preliminary draft new Report on compatibility of FS with passive services in and around 71-76/81-86GHz bands (Doc. 5C/TEMP/181). – a draft revision of Report ITU-R F.2107 on characteristics and applications of fixed wireless systems operating in the 57 GHz to 130 GHz bands (Doc. 5/187, source Doc. 5C/TEMP/142Rev1). The current draft text towards the draft CPM text primarily deals with background information as well as the future requirement and development of FS in bands above 71GHz. These include consideration of very high capacity (>10 Gbits/s) systems. However, no text has yet been developed dealing with the identification of potential technical/regulatory solutions to address these requirements or methods to satisfy the agenda item. Therefore, there is urgent need to develop methods to satisfy this agenda item for the next meeting of WP5C (May 10).	**Doc. 5/193, Section 3.4** (Dec. 2009) and WP 5C Chairman

1.9	351 (Rev.WRC-07)	WP 5B	The following draft documents have been developed within WP 5B: – Draft revision of Recommendation ITU-R M.1798 - Characteristics of HF radio equipment for the exchange of digital data and electronic mail in the maritime mobile service, submitted to SG 5 for approval (Doc. 5/192, source: Doc. 5B/TEMP/174); – work plan and milestones (Doc. 5B/TEMP/217); – a working document towards draft CPM text (Doc. 5B/TEMP/172 (Rev.1)). The current draft CPM text is essentially complete with a single method to satisfy the agenda item. That method requires modification to Part A & B of Appendix 17 in order to provide for the implementation of new digital technologies and includes an example of the required modifications to Appendix 17 of the Radio Regulations. It is anticipated that at the next meeting of WP 5B in May 2010 there will only be a need for minor modification to the current text.	**Doc. 5/192, Section 4** (Dec. 2009)
1.10	357 (WRC-07)	WP 5B	The following documents have been developed within WP 5B: – a draft new Report ITU-R M.[SAT-AIS] - Improved satellite detection of AIS, which has been submitted to SG5 for approval (Doc. 5/175, source: Doc. 5B/TEMP/181); – a preliminary draft new Report on use of maritime freight identity tags (Doc. 5B/175 (Annex 14)); – a draft revision to Recommendation ITU-R M.1842 (Doc. 5/117) which was approved by SG 5 in May 2009; – work plan and milestones (Doc. 5B/TEMP/218); – a working document towards draft CPM text (Doc. 5B/TEMP/223). The current draft CPM text is essentially complete with a single method to satisfy the agenda item. That method requires has a number of separate parts to satisfy the various elements of this agenda item including Satellite AIS and HF data. Some work is required in May 2010 to complete the methods and the example regulatory text.	**Doc. 5/192, Section 4** (Dec. 2009)

1.11	753 (WRC-07)	WP 7B	WRC-12 Agenda item 1.11 seeks an allocation to the space research service (Earth-to-space) to support lunar missions, L2 missions and other near-Earth space research missions in the 22.55-23.15 GHz band. Resolution 753 (WRC-07) calls for sharing studies between space research service systems operating in the Earth-to-space direction and the fixed, inter-satellite and mobile services in the band 22.55-23.15 GHz, and to recommend appropriate sharing criteria for an allocation to the space research service in the Earth-to-space direction. It also recognizes the requirement to protect systems in the band 22.55-23.55 GHz. ITU-R initiated the studies in early 2008 and is currently developing a working document towards an ITU-R Report on sharing in the 22.55-23.15 GHz band (Report ITU-R SA.[23 GHz SRS SHARING], **Doc. 7B/181 Annex 14**). The studies have examined the compatibility between a transmitting SRS earth station and stations in the inter-satellite service (ISS), fixed and mobile services. Studies of interference to ISS systems addressed sharing with GSO-to-GSO, GSO-to-non-GSO, non-GSO-to-GSO inter-satellite links. Positive interference margins were found for each of the scenarios. Another working document towards Report ITU-R SA.[23 GHz SRS NGSO ISS COMPATIBILITY] addresses the specific case of non-GSO-to-non-GSO inter-satellite links (**Doc. 7B/181 Annex 13**). Results are TBD. One study conducted with a simulation tool and based on a single non-GSO satellite of the victim system concluded that a hypothetical non-GSO system operating at 1 400 km based on Recommendation ITU-R S.1591 can share with large margins. Two studies conducted with independent simulation tools concluded on the basis of interference to a single victim satellite that in-band sharing between systems using non-GSO-non-GSO ISS links of future HIBLEO-2 type systems is feasible. Margins for the worst case lunar links of up to 47 dB were obtained based on protection criteria contained in Recommendation ITU-R SA.1155 and Recommendation ITU-R F.1245 antenna patterns. One study based on an analytical approach considering the extreme cases of interference, both the lower and upper, to the system concluded that in-band sharing would not be feasible and that out-of-band sharing would be feasible subject to appropriate control of unwanted emissions.	**Doc. 7B/181, Annex 2** (Sep. 2009)

			WP 7B still discusses the issue related to the accuracy of the analytical and the simulation approaches, to the antenna pattern (Recommendation ITU-R S.672 or Recommendation ITU-R ITU-R F.1245), to the protection criteria (Document 7B/166 or Recommendation ITU-R SA.1155) and also to the impact of analysing one satellite or the entire network. Sharing with fixed service systems was evaluated using methods of RR Appendix 7 to determine separation distances under certain circumstances such as flat terrain and a minor barrier of up to 50 m in height located 5 km from the transmitting SRS earth station. The separation distances using the static analysis, the time-invariant gain (TIG) and time-variant gain (TVG) were compared. Based on the assumptions made, the separation distances ranged from about 113 km to less than 10 km.	
1.12	754 (WRC-07)	WP 7B	Sharing between systems in the space research service (SRS), fixed service (FS), and fixed-satellite service (FSS) and the systems in the aeronautical mobile service (AMS) in the 37-38 GHz band has been studied. The studies indicate that the emissions from aeronautical mobile transmitters would, with high probability, cause harmful interference to receiving earth stations of the space research service and fixed-satellite service. In addition, the transmissions from the high-density fixed service (HDFS) systems would interfere with the airborne receivers of the AMS. Two different methods are proposed to modify the aeronautical component of the mobile service allocation in the 37-38 GHz band to protect space research service, fixed service, and fixed-satellite service: – Method A: Restrict the mobile service allocation in the band 37-38 GHz to land and maritime mobile systems only; – Method B: Apply a power flux-density (PFD) limit to the emissions from the airborne stations of the mobile service in the band 37-38 GHz to protect the earth stations of the space research service, the fixed satellite service, and stations of the fixed service, applied at the surface of the Earth. An example PFD limit needed to protect the space research service, fixed service, and fixed-satellite service is given in Section 4/1.12/6.2 of **Doc. 7B/181 Annex 4**.	**Doc. 7B/181, Annex 4** (Sep. 2009)
1.13	551 (WRC-07)	WP 4A	WP 4A received a significant number of contributions associated with BSS in the 21.4-22 GHz band in Regions 1 and 3, including contributions proposing revisions to the initial draft CPM text. A considerable amount of time was again devoted to discussion of these topics during the meeting. Progress was made on the revisions to ITU-R Recommendations and the Report associated with mitigation techniques for combating rain fading for such systems, reference power flux-density for such	**Doc. 4/110, Section 3.1.1** (Sep. 2009)

			systems, intra-service sharing criteria for such systems and technical characteristics of BSS systems. Some progress was also made on developing various elements of the draft CPM text for this Agenda item. However, key sections of draft CPM text addressing "Methods to satisfy the Agenda item" have not yet been agreed and discussion on these elements was limited due to lack of time. It was recognized that discussion of these "methods" will need to be one of the main areas of focus at the next meeting of the Working Party (March-April 2010). (See **Doc. 4A/278 Annexes 1, 2, 10, 12, 15, 16**)	
1.14	611 (WRC-07)	WP 5B	The following documents have been developed within WP 5B: – a draft revision of Recommendation ITU-R M.1802 - Characteristics and protection criteria for radars operating in the radiolocation service in the frequency band 30-300 MHz (Doc. 5/176, source: Doc. 5B/TEMP/198); – a draft new Report ITU-R M.[RLS 30-300 MHz Sharing] - Radiolocation service sharing feasibility in the 154-156 MHz bands (Doc. 5/180, source: Doc. 5B/TEMP/195); – work plan and milestones (Doc. 5B/TEMP/212); – a working document towards draft CPM text (Doc. 5B/TEMP/193). The current draft CPM text is essentially complete with a single method to satisfy the agenda item. That method essentially is to include in the table of allocations an allocation to the Radiolocation service in the frequency band 154-156 MHz qualified by a revised Resolution 611 (WRC-07). An example of the required modifications to the table of allocations and Resolution 611 (WRC-07) is given. It is anticipated that at the next meeting of WP 5B in May 2010 there will only be a need for minor modification to the current text.	**Doc. 5/192, Section 4** (Dec. 2009)
1.15	612 (WRC-07)	WP 5B	The following preliminary draft documents have been developed within WP 5B: – a draft new Recommendation ITU-R M.[OCEANOGRAPHIC-RADAR] - Technical and operational characteristics of oceanographic radars operating in sub-bands within the frequency range 3-50 MHz (Doc. 5/171, source: Doc. 5B/TEMP/162); – a working document towards a draft new Report ITU-R M.[RLS 3-50 MHz SHARING] on the feasibility of sharing sub-bands within the 3-50 MHz band width oceanographic radars (Doc. 5B/TEMP/167); – work plan and milestones (Doc. 5B/TEMP/211); – a working document towards draft CPM text (Doc. 5B/TEMP/194).	**Doc. 5/192, Section 4** (Dec. 2009)

			The current draft CPM text is essentially complete with three methods to satisfy the agenda item. Method A looks to add a number of new primary allocations in the table of allocations to the radiolocation service qualified by a revised Resolution 612 (WRC-07), Method B is similar to Method A but the allocations are on a secondary basis and Method C is similar to Method B but adds technical and operational restrictions. Examples of the required modifications to the table of allocations and Resolution 612 (WRC-07) are given. It is anticipated that at the next meeting of WP 5B in May 2010 there will only be a need for minor modification to the current text and the possibility that the number of methods to satisfy the agenda item might be reduced.	
1.16	671 (WRC-07)	WP 7C	Working document towards a preliminary draft new Recommendation on the protection of the ATD sensors of the meteorological aids service in operation below 20 kHz: The original protection C/I values provided in this document were revised to equivalent I/N values. This was due to the concerns raised on being able to adequately determine suitable characterisation of the wanted signal of lightning systems. Additionally editorial changes were also made to the text of the considering of the recommendation. The agreed document with these changes can be seen in **Doc. 7C/146 Annex 10**. Preliminary draft new Report ITU-R RS.[20 kHz SURVEY]: The original document discusses radio services and radio frequency environment within the band below 20 kHz. Prediction of field strength of RNAV transmitters were removed as they were considered more appropriate to be combined with Document on sharing between RNAV and MetAids below 14 kHz. The revised version can be seen in **Doc. 7C/146 Annex 14**. A new draft report on sharing between RNAV stations and ATD sensors covers initial sharing studies between RNAV transmitters and ATD passive sensors operating in the meteorological aids service between 9-14 kHz. It was noted that due to the assumptions made in the report on RNAV antenna efficiency, the findings of necessary separation distances may have to be revised for the next meeting. This will be dependent on if true antenna efficiency values are made available. See **Doc. 7C/146 Annex 15**. Revisions to draft CPM text for WRC-12 Agenda item 1.16: Minor changes were made to the background text. Revisions were also agreed on the addition of the section on sharing analysis conclusions. Additionally combined proposals for the 4 proposed Methods to meet the agenda item were also agreed and added to the	**Doc. 7C/146, Section 2.3 paragraph 3)** (Sep. 2009)

			document. Again it was noted that there would be the possibility of a need to revise the section on sharing analysis conclusions once confirmation on the antenna efficiency values were obtained. See **Doc. 7C/146 Annex 5**. Minor amendments were also agreed to the preliminary draft new Report ITU-R RS.[ATD], adding the missing parameters on ATD sensor protection I/N values. This revised document can be seen in **Doc. 7C/146 Annex 16**.	
1.17	749 (WRC-07)	JTG 5-6	JTG 5-6 has continued its sharing studies between the mobile service and other services in the band 790-862 MHz in Regions 1 and 3, in accordance with Resolution 749 (WRC-07). As part of the work, general principles in the context of the studies were established based on the current (2008) version of the Radio Regulations. Regarding the protection of the broadcasting service from the mobile service, a study is on-going to determine the cumulative effects of multiple interference sources. An establishment of a predetermined coordination distance between borders of service areas related to an aeronautical radionavigation service (ARNS) station and mobile service stations is been considered in order to provide an adequate protection of ARNS stations. Furthermore, the protection criteria for different services, methodologies to assess interference, and the results of sharing studies will be presented in the JTG 5-6 report on sharing studies in response to Resolution 749 (WRC-07). The methods to satisfy Agenda item 1.17 are divided into three issues corresponding to different services to be addressed in this agenda item: – Issue A: Protection of the broadcasting service from the mobile service – Issue B: Protection of the aeronautical service from the mobile service – Issue C: Protection of the fixed service from the mobile service The methods are further distinguished by cases according either to ITU Regional division (for Issue B and Issue C) or to binding to the GE06 Agreement (Issue A). So far, single methods have been identified and agreed for all cases except for the case of protection of the broadcasting service in countries Contracting Members of the GE06 Agreement, where two methods are currently under consideration. Preliminary regulatory and procedural considerations have been also drafted according to the methods agreed.	JTG 5-6 Chairman (Dec. 2009)

1.18	613 (WRC-07)	WP 4C	WP 4C has continued its sharing studies between the radiodetermination-satellite service (RDSS) and other services in the band 2 483.5-2 500 MHz. Concerning sharing between the RDSS and an MSS system operating in the band, it was concluded that its operations would be impacted by an RDSS system emitting at an assumed satellite e.i.r.p. of 37.3 dBW. A possible solution to overcome this interference from potential future RDSS emissions would consist in relaxing the existing coordination trigger levels for MSS and RDSS by about 3 dB. Concerning sharing between the RDSS and SAP/SAB applications operating under the fixed service allocation, updates on previous studies have been incorporated. Parameters of the radiolocation service in this band were also provided. (See **Doc. 4C/338 Annex 16**)	**Doc. 4/112, Section 3.1.2** (Sep. 2009)
1.19	956 (WRC-07)	WP 1B	During the September 2009 meeting of WP 1B, the following actions were taken: – Work plan for WRC-12 Agenda item 1.19 was updated (see **Doc. 1B/158 Annex 6**). – Draft new Report ITU-R SM.[SDR-CRS] on definitions for SDR and CRS was developed (Document **1/65**), as well as a draft liaison statement for consideration by SG 1 to be sent to the CCV (Document **1/79**). The definitions for SDR and CRS contained in the new Report ITU-R SM.[SDR-CRS], were unanimously agreed by WP 1B. – The draft CPM text for WRC-12 Agenda item 1.19 was further developed (**Doc. 1B/158 Annex 5**). Currently only one Method was developed to satisfy WRC-12 Agenda item 1.19. Some administrations pointed out that only one Method "No change to the Radio Regulation" with respect to the CRS may not be sufficient and additional Methods should be developed. WP 1B Chairman invites administrations to contribute on this issue to the next WP 1B meeting. The Report containing the SDR and CRS definitions was subsequently approved by SG 1 and sent to the CCV for their consideration (see **Doc. CCV/23**). The draft CPM text contains information received from the contributing Working Parties. Future work under WRC-12 Agenda item 1.19 will continue to be considered in future WP 1B meetings (February & June 2010).	**Doc. 1B/158, Section 2.3** (Sep. 2009)

1.20	734 (Rev.WRC-07)	WP 5C	The PDNR on the characteristics of HAPS gateway links in the band 5 850-7 075 MHz was updated (Document 5C/TEMP/168). The major changes included limiting the modulation to 64-QAM (instead of 64 or 256 QAM), reducing the number of gateway links from 10 to 5 and limiting those links to the Urban Area Coverage (UAC), and changing the antenna mask at the HAPS platform to the same mask used on the ground station. It is hoped that WP 5C will be able to promote this document to a DNR at its May meeting. The working document on HAPS modelling (Document 5C/TEMP/175) was updated to incorporate a number of new studies that were contributed to this meeting. This document already includes a number of other studies and as a result it is now quite lengthy. Administrations are encouraged to contribute on this document at WP 5C's May 2010 meeting keeping in mind the following considerations: – because of the changes to the PDNR on HAPS characteristics, most of these studies will now need to be updated to take the revised parameters into account; – it would be desirable to reduce the length of this document; – studies are still needed on the impact of interference from HAPS platforms to both FSS satellites and earth stations; – the conclusions of the individual FSS sub-sections and the overall FSS conclusions are currently repeated text and consolidation would be desirable; – there is currently no information on interference modelling between HAPS gateway links and microwave passive sensors in this band and the current placeholder Annex will be removed at the May 2010 meeting if no input on this subject has been received; and – that Annex 6 contains information on the radio astronomy service, which needs to be reviewed considering that it is not allocated in this band. The PDNR on HAPS gateway stations modelling with respect to the conventional fixed service (Document 5C/TEMP/172) was updated. For WP 5C's May 2010 meeting, Administrations are requested to provide their views on whether this should be maintained as a separate document or if it should be merged into the general document on HAPS modelling. In addition, Administrations are requested to provide their views on whether both the HAPS modelling and HAPS gateway documents should be finalized in the form of Recommendation(s) or Report(s).	**Doc. 5/193, Section 3.5** (Dec. 2009) and WP 5C Chairman

			At its November 2009 meeting, WP 5C updated the PDR of Recommendation ITU-R F.1764, "Methodology to evaluate interference from service links in fixed service systems using high altitude platform stations to fixed wireless systems in the bands above 3 GHz" (Document 5C/TEMP/173). The purpose of the revision of this Recommendation is to make it clear that it only applies to HAPS service links, since HAPS gateway links will be covered in the new Recommendations/Reports being developed under WRC-12 Agenda item 1.20. It is felt that work on the revision of Recommendation ITU-R F.1764 is nearing completion and that it may be possible to progress this document to a DRR in May 2010. For this work to be completed however, it will be necessary to add text on a "summary for draft revision" and to decide whether or not to retain the information on sharing analysis for analogue FS systems. Administrations are requested to provide contributions on these matters. WP 5C was unable to progress the CPM text on WRC-12 Agenda item 1.20 since no inputs were received on this subject at this meeting. As a result, no new document on CPM text was developed and the baseline text for contributions remains the version in Document 5C/129, Annex 8.	
1.21	614 (WRC-07)	WP 5B	The following documents have been developed within WP 5B: – a revision to Recommendation ITU-R M.1730 - Characteristics of and protection criteria for the radiolocation service in the frequency band 15.4-17.3 GHz, which was approved at SG 5 in May 2009; – draft new Report ITU-R M.[RLS15.4-15.7 GHz] - Compatibility analysis and results for radiolocation systems planned to operate in the 15.4 to 17.3 GHz band and aircraft landing system operating in the 15.4-15.7 GHz band as well as the radio astronomy service operating in the adjacent band 15.35-15.40 GHz, FSS systems and aeronautical radionavigation systems, which has been submitted to SG 5 for approval (Doc. 5/174 including corrigendum 1, source: Doc. 5B/TEMP/163); – work plan and milestones (Doc. 5B/TEMP/213); – a working document towards draft CPM text (Doc. 5B/TEMP/192). The draft text towards the draft CPM Report is nearing completion and includes a single method to satisfy the agenda item. That method essentially is to include in the table of allocations a primary allocation to Radiolocation service in the frequency band 15.4-15.7 GHz with suitable regulatory provisions to protect existing services. Examples of regulatory provisions have yet to be developed but should not be too difficult to achieve at the next meeting.	**Doc. 5/192, Section 4** (Dec. 2009)

1.22	953 (WRC 07)	WP 1A	The "Working document to advance work of WRC-12 Agenda item 1.22" was improved according to the input documents to the September 2009 meeting of WP 1A (see **Doc. 1A/207 Annex 4**). WP 1A also improved the "Working document toward preliminary draft CPM text for WRC-12 Agenda item 1.22" including 3 possible Methods to satisfy the Agenda item (see **Doc. 1A/207 Annex 3**): – Method A: keep current practice with current national or regional arrangement regulation; – Method B: develop a general WRC Resolution inviting the ITU-R to study the regional and global harmonization of certain SRDs and encouraging administrations to harmonize frequency bands and technical rules for certain types of SRDs such as those that are portable and that have great growth potential; – Method C: recognize a limited number of harmonized tuning bands and emission levels for SRD applications either by a Resolution at WRC-12 or regulatory changes in RR Article 5 for SRDs similar to those specific bands for ISM. WP 1A revised the Work Plan of WRC-12 Agenda item 1.22 (see **Doc. 1A/207 Annex 5**).	**Doc. 1A/207, Section 2.3.1** (Sep. 2009)
1.23	-	WP 5A	The frequency range around 500 kHz provides unique ground wave propagation characteristics well suited to low power amateur service emergency and disaster communications and existing use of this portion of the spectrum by incumbent services has decreased recently due to the implementation of new and more effective systems in other bands. To consider an allocation in this band, compatibility studies are being performed between proposed amateur radio emissions and the following systems: – Non-directional beacons (NDBs) used in the aeronautical radionavigation service; – NAVTEX maritime safety stations; and – Stations in the Broadcast Service adjacent to the range 525-526.5 kHz. Studies still needed to be completed include compatibility with proposed new systems for port security and e navigation. Two preliminary draft new reports related to Agenda item 1.23 are in progress. One on the characteristics of Amateur systems in the 500 kHz range (**Annex 5** to **Doc. 5A/411**) and the other one is the compatibility of amateur service stations with incumbent systems in the 500 kHz range (**Annex 6** to **Doc. 5A/411**).	**Doc. 5A/411**, **Annex 4** and **Doc 5/190, Section 3.3** (Dec. 2009)

			Currently the following methods to satisfy this Agenda item are being proposed: Method A-1: One worldwide secondary allocation of about 15 kHz to the amateur service between [XXX] and [YYY] kHz. Method A-2: One worldwide secondary allocation of about 15 kHz to the amateur service in the range [493] to [510] kHz. Method B: Two non-contiguous worldwide secondary allocations to the amateur service in the spectrum between [XXX] and [YYY], totalling about 15 kHz. Method C: No change (NOC).	
1.24	672 (WRC-07)	WP 7B	This agenda item calls for consideration of the extension of the existing primary allocation to the meteorological-satellite service in the band 7 750-7 850 MHz to the band 7 850-7 900 MHz, limited to non-geostationary meteorological satellites in the space-to-Earth direction. The mission requirements for next generation non-GSO meteorological satellite systems in terms of observations, instruments and user-services clearly show a need to transmit significantly higher data rates as compared to current systems. The required extension of the MetSat allocation into the band 7 850-7 900 MHz concern the same radiocommunication services as in the already allocated band 7 750-7 850 MHz, namely the fixed and mobile (except aeronautical mobile) service. Compatibility between existing MetSat systems and FS was already demonstrated applying the currently applicable regulations for the band 7 750-7 850 MHz. It has been confirmed that applications in the MetSat service and the FS have similar characteristics in both the 7 750-7 850 MHz and 7 850-7 900 MHz bands. Sharing studies between non-geostationary MetSat and the FS concluded that sharing with the FS (including electronic news gathering and outside broadcasting (ENG/OB)) under the same regulatory conditions as existing in the currently allocated band 7 750-7 850 MHz is feasible using the pfd limits in the band 7 750-7 850 MHz as contained in RR Table 21-4 of Article 21 and applying Table 8c of Appendix 7 for this band. (See **Doc. 7B/181 Annex 6**)	**Doc. 7B/181, Annex 6** (Sep. 2009)
1.25	231 (WRC-07)	WP 4C	ITU-R is undertaking studies of possible bands for new allocations to the mobile-satellite service in the Earth-to-space and space-to-Earth directions, with particular focus on the range 4-16 GHz, taking into account sharing and compatibility, without placing undue constraints on existing services in this band. Based on the results of studies, an appropriate amount of spectrum may be made available to the MSS	

			systems in the 4-16 GHz range, firstly in order to overcome the shortfall of spectrum for the present and future MSS systems and secondly in order to provide ubiquitous, high-data rate, content rich services to highly mobile users anywhere in the world. MSS systems in the 4-16 GHz range is a concept and telecommunication standard that will be evolving within ITU in the up-coming timeframe. The traffic forecast from the year 2010 up to 2020 for the satellite component of IMT has been calculated and agreed in the Report ITU-R M.2077 for the range 1-6 GHz. Requirements for "broadband MSS" have also been identified. Studies to assess the total requirements for the MSS in the 4-16 GHz range are being conducted. Studies are also being conducted to assess the feasibility of MSS operations in the following frequency bands: 4 400-4 500, 4 800-4 990, 5 150-5 250, 7 055-7 250, 7 750-7 900, 8 400-8 500 MHz, 10.5-10.6, 13.25-13.4, 14.8-15.35 GHz. WP 4C was able to narrow the initial list of candidate frequency bands on which sharing studies will focus, together with an indication whether an uplink or downlink allocation to MSS was sought. Liaison statements were consequently sent to the relevant Working Parties to inform them of the progress of the studies. Spectrum requirements for the MSS have also been further developed and gathered into a working document. Finally, preliminary sharing studies were considered and liaised to the other relevant Working Parties. See **Doc. 4C/338 Annexes 8, 13, 18, 19, 20 and 21**.	Doc. **4C/338 Annex 18** and Doc. **4/112, Section 3.1.3** (Sep. 2009)
2	28 (Rev.WRC-03) 27 (Rev.WRC-07)	CPM11-2	-	-
4	95 (Rev.WRC-07)	CPM11-2	-	-
7	86 (Rev.WRC-07)	WP 4A, SC [3]	Some issues considered primarily of a regulatory nature were addressed by the SC-WP in **Doc. SC-WP/16 Annex 1**. WP 4A received several contributions addressing possible modifications to various provisions of the Radio Regulations. Through discussion of these documents it was agreed that some of the issues raised were primarily of a regulatory nature and were better addressed by the SC, however one issue relating to the "averaging bandwidth" referred to in RR Appendix 4 is a technical issue that will be further discussed at the next meetings of WP 4A (March-April and July 2010). (See **Doc. 4A/278 Annex 14**).	**Doc. 4/110, Section 3.1.2** (Sep. 2009)

[3] WP 4A: technical aspects, SC: regulatory and procedural aspects

8.1.1-Issue A	63 (Rev.WRC-07)	WP 1A	WP 1A has improved the Working documents toward a preliminary draft new Report in relation to Issue A of WRC-12 Agenda item 8.1.1 - Resolution 63 (Rev.WRC-07) (see **Doc. 1A/207 Annex 6**).	**Doc. 1A/207, Section 2.3.2** (Sep. 2009)
8.1.1-Issue B	547 (Rev.WRC-07)	WP 4A	[-]	[-]
8.1.1-Issue C	673 (WRC-07)	SG 7	WP 7C has been given by SG 7 the responsibility to lead the development of the Report associated to this Agenda item and the relevant CPM text. For what is relevant to the Report, its Part A, directly related to the subject of Resolution 673 (WRC-07) was considered essentially completed, although some minor editorial changes are still needed. On the other hand the other parts of the Report, related to the sun monitoring (part B) and the radio astronomy (Part C), still required some work. A revised version of the PDN Report ITU-R RS.[ESSENTIAL ROLE OBSERVATIONS] was generated and can be found in **Doc 7C/146 Annex 17**. A draft CPM text was developed and can be found in **Doc 7C/146 Annex 3**. Given the particular nature of this WRC-12 Agenda item, no Methods is required and the generation of the Report for the ITU-R Director will be sufficient to cover this Agenda item.	**Doc. 7C/146, Section 2.4.5** (Sep. 2009)
8.1.3	80 (Rev.WRC-07)	-	WP 4A received an input contribution on the implementation of Resolution 80 (Rev.WRC-07) that proposed definitions for specific basic principles associated with the orbit/spectrum utilization contained in Article 44 of the ITU Constitution. (See **Doc. 4A/278 Annex 18**).	**Doc. 4/110, Section 3.1.3** (Sep. 2009)