

# **WP5A-WP5B-WP5C workshop on the preparations for WRC-15**

(Geneva, 23 May 2012, POPOV Room, ITU Tower)

## **Objectives and Outline**

The purpose of this workshop is to provide a high level view of the WRC-15 Agenda Items for which the Study Group 5 working parties are responsible for or are contributing to. The intent is to bring everyone up to speed and on a common ground on the relevant WRC-15 agenda items to enable more productive work in the preparations for WRC-15.

It is expected that this workshop will permit an open discussion of issues and ideas and is not intended for the presentation of proposals to the working parties.

## **Reference Documents**

**WRC-12 Provisional Final Acts**

**Results of the first session of the Conference Preparatory Meeting for WRC-15 (CPM15-1)**

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## Programme

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9:00-9:15

### Opening Session

- Opening remarks, Akira Hashimoto, Chairman ITU-R SG 5
- Welcome Address by ITU

9:15-10:30

### Session 1: Land Mobile and Amateur Services Session Chairman: José Costa, Chairman WP 5A

P1-1 Bharat Bhatia, Title: "Broadband Public Protection and  
Disaster Relief (PPDR)"

**Abstract:** WRC-15 Agenda Item 1.3 is on Broadband PPDR - Harmonized Frequency Bands for Broadband Public Safety and Emergency Communications (Broadband -PPDR).

Certain frequency bands were identified by WRC-03 on a regional basis under Resolution 646 (Rev.WRC-2012) for the purposes of achieving harmonized frequency bands/ranges for advanced public protection and disaster relief solutions. The global Public safety scenario has undergone massive changes since 2003, both in the area of the activities of the public protection agencies (also known as Public Safety agencies and these include police, fire services, emergency responders, ambulance, etc.) for their day to day operations as well as to respond to the terrorist activities and disasters. Recent Tsunamis, Nuclear catastrophes, typhoons, terrorist attacks, bombings, shootings, etc in various countries including in India, Japan, UK, USA and New Zealand have again reinforced the need to upgrade the communications and response facilities needed to meet these new global safety challenges.

*[[Presentation](#)] [[Biography](#)]*

P1-2 Timothy Ellam and Ole Garpestad, Title: "The Need for a Secondary Amateur Allocation at 5 MHz"

**Abstract:** The amateur service seeks a secondary allocation at 5 MHz as described in Agenda Item 1.4. This new allocation is required to bridge the propagation gap between the amateur allocations at 3.5 and 7 MHz and provide a stable platform for communications for emergency and disaster relief operations. Many administrations have granted access to this band with favourable results. The presentation will also address other Agenda Items of interest to the amateur service.

*[Presentation] [Biography] [Biography]*

P1-3 Paul Najarian / Satoshi (Sam) Oyama, Title: "Automotive Short-Range High Resolution Radar - Technical and Spectrum Requirements"

*[Presentation] [Biography] [Biography]*

Questions and Answers (15 min)

**11:00-12:15**

**Session 2: Aeronautical, Maritime and Radiodetermination Services**  
**Session Chairman: John Mettrop, Chairman WP 5B**

P2-1 John Mettrop, Topic: "Responsibilities of WP 5B", oral presentation

*[Biography]*

P2-2 Loftur Jonasson, Title: "Satellite spectrum to support the safe operation of Unmanned Aircraft Systems"

**Abstract:** Unmanned aircraft systems (UAS) are a new component of the aviation system, one which ICAO, States and the industry are working to understand, define and ultimately integrate into non-segregated airspace. These systems are based on cutting-edge developments in aerospace technologies, offering advancements which may open new and improved civil/commercial applications as well as improvements to the safety and efficiency of all civil aviation. The safe integration of UAS into non-segregated airspace is a long-term activity with many stakeholders adding their expertise on such diverse topics as licensing and medical qualification of UAS crew, technologies for safe and robust communication links and detect and avoid systems, separation standards from other aircraft, and development of a robust regulatory framework. One essential element of this equation, the availability of appropriate satellite frequency spectrum, including its protection from unintentional or unlawful interference, is currently being addressed under the auspices of the ITU WRC process.

*[Presentation] [Biography]*

P2-3 Jaap Steenge, Title: "On-board communication stations in the maritime mobile service in the UHF bands"

**Abstract:** In the RR, the band 457/467 is allocated to fixed and mobile service in all three regions. The maritime use is allowed according to the footnote 5.287, which refers to the ITU-R M.1174-2. Currently there are a total of six single frequencies if using 25 kHz bandwidth and another four if using 12,5 kHz bandwidth. Those channels can be used in simplex or in duplex, thus giving ten simplex or five duplex channels. Most ships, passenger and cargo, use a repeater onboard to increase coverage which requires two duplex pairs. Digital use of the channels is not allowed according to the ITU R-REC M.1174-2. Due to the limited number of frequencies and the number of ships in major ports, the interferences are indicated as to be substantial. Since some traffic is definitely safety related, e.g. when making maneuvers in tight space or when mooring, it is important to avoid interference as much as possible. According to major shipping companies in Sweden, the situation is similar in all major harbors such as Stockholm, Gothenburg and Malmoe but also in many harbors abroad. Not all ships limit the output power to 2 Watts which makes the problem even worse but even 2 Watts is far more than required to create interferences on ships in the neighborhood. The intention of the agenda item is to investigate the spectrum requirements as well as identify how more channels can be provided to solve the congestion in major harbors to improve safety.

*[Presentation] [Biography]*

P2-4 Alfredo Mistichelli, Title: "Automatic Identification System (AIS) Technology Applications and Improved Maritime Radiocommunication "

**Abstract:** Maritime radio communication are critical to global trade and the safe transit of vessels on the seas. This agenda item will provide for the opportunity to globally harmonize and improve maritime communications. The International Maritime Organization (IMO) requires SOLAS vessels (SOLAS Chap. V, Reg. 19) to carry AIS transponders onboard. This AIS transponder carriage requirement has greatly enhanced navigational safety, vessel tracking, and voyage management. The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), has worked closely with ITU-R, and contributed to the AIS standards, and is perusing studies related to additional AIS like communications and VHF data. ITU-R studies will also examine new AIS satellite applications, in existing maritime mobile and mobile-satellite services allocations. During this study period WP 5B will examine the potential to use AIS technology to further improve Search-and-Rescue applications, and enhanced AIS operations.

*[Presentation] [Biography]*

P2-5 Joseph Cramer, Title: "Wireless Avionics Intra-Communications "

**Abstract:** WRC-15 Agenda Item 1.17 considers possible spectrum requirements and regulatory actions, including appropriate aeronautical allocations, to support the implementation of wireless avionics intra-communications (WAIC) systems. WAIC is the term used to describe the aviation industry's initiative to deploy safety-related, low-power wireless intra-aircraft communications. WAIC systems are expected to allow for a significant reduction in aircraft wiring complexity which will enable next generation aircraft to be more efficient, reliable, and environmentally friendly. The presentation will address the aviation industry's requirements and provide an update of efforts regarding this Agenda Item.

[Presentation] [Biography]

Questions and Answers (15 min)

12:15-14:00

Lunch break

14:00-15:15

**Session 3: Fixed Service and Other Aspects**  
**Session Chairman: Charles Glass, Chairman WP 5C**

P3-1 Masaharu Araki, Title: "Importance of reference antenna radiation patterns in sharing studies"

**Abstract:** The reference radiation pattern of the antennas is one of the most important parameters in sharing/compatibility studies. There are three F-series Recommendations on the antenna radiation patterns for the fixed service systems, i.e. Recommendations ITU-R F.699-7, ITU-R F.1245-2 and ITU-R F.1336-3. The application of the above three Recommendations depends on the used antenna type and the interference environment in question. It should be noted that the reference pattern for sectoral antennas defined in Recommendation ITU-R F.1336-3 has been utilized in a number of interference analyses not only for fixed service systems but also for systems in the land mobile service. In this presentation, explanation would be made on the following points:

- Scope and application of the 3 Recommendations;
- Points of recently revised Recommendation F.1336 which includes a method to improve the reference side-lobe patterns of sectoral antennas;

Possibility of future extension of the frequency range of Recommendation F.1336, currently 1 to 70 GHz, to the bands below 1 GHz will also be discussed.

[Presentation] [Biography]

P3-2 Alexander Klyucharev, Title: "Sharing between fixed service and other terrestrial and satellite services"  
**Abstract:** Formally Agenda for the 2015 World Radiocommunication Conference has no issues seeking new allocations for the fixed service (FS). However some frequency bands already allocated for FS can be considered for new allocations to other terrestrial or satellite services based on the results of relevant sharing studies. Thus there is a need to consider the general principals of sharing between fixed service and other terrestrial and satellite (active and passive) services. Some ITU-R Recommendations already provide methodologies that can be used for sharing studies involving FS and other services. Also it is required to identify in this connection the minimum set of parameters for FS stations that can be used in sharing studies (e.g. protection criteria and technical characteristics).

*[Presentation] [Biography]*

P3-3 Topic: "Potential impacts of UTC leap second decisions on terrestrial services", oral presentation

*[Biography]*

P3-4 Naser Al Rashedi, Title: "Studies towards review of the definitions of fixed service, fixed station and mobile station"

**Abstract:** While recognizing that the current technological environment for some applications is substantively different from the one which prevailed when the current definitions were established; during the study period leading up to WRC 12, studies were undertaken to address fixed and mobile convergence. One method proposed to address this convergence was to revise the definitions of fixed service, fixed station and mobile station. Different views about this approach were raised during the WRC-12; and it was agreed that further studies in these possible revisions were required, including studying the potential impact on regulatory procedures in the Radio Regulations (coordination, notification and recording) and the impact on current frequency assignments and other services resulting from possible changes to the definitions. The review of these definitions should aim to support the implementation of efficient spectrum management practices and spectrum use. Hence, the WRC-12 decided to conduct the necessary studies to review the definitions of fixed service, fixed station and mobile station contained in Article 1 (see also No. 1003 CV) for possible modification and for consideration by WRC 15.

*[Presentation] [Biography]*

Questions and Answers (15 min)

**15:15 - 15:45**

**Coffee break**

15:45-17:00

**Session 4: IMT and related sharing studies**

**Session Chairman: Thomas Ewers, Chairman JTG 4-5-6-7**

**P4-1 Thomas Ewers, Title: " ITU-R JTG 4-5-6-7 Overview"**

**Abstract:** For the development of the CPM Report on agenda item 1.1 and 1.2 of the World Radiocommunication Conference 2015 the Conference Preparatory Meeting at its first session decided to establish the Joint Task Group 4-5-6-7. The JTG 4-5-6-7 is to consider, in developing sharing studies and draft CPM text, in accordance with WRC-12 Resolutions 232 (WRC-12) and 233 (WRC-12), the results of studies from Working Party 5D and 5A on the spectrum requirements for the mobile service, including suitable frequency ranges, and other specific requirements as well as results of studies from any concerned Working Parties on technical and operational characteristics, spectrum requirements and performance objectives or protection requirements of other services. Also CPM decided on certain dates at which relevant information from concerned groups are to be submitted to JTG 4-5-6-7. The presentation will give an overview on the background, the tasks, target dates and intended schedule of JTG 4-5-6-7.

*[Presentation] [Biography]*

**P4-2 Roberto Ercole, Title: "Motivation for IMT/Mobile Broadband"**

*[Presentation] [Biography]*

**P4-3 Naser Al Rashedi, Title: "ASMG views on WRC-15 agenda items 1.1 and 1.2"**

*[Presentation] [Biography]*

P4-4 Stephen Blust, Title: "Global Deployments of Technologies Utilizing IMT Specifications and Standards" presented by Jim Ragsdale

**Abstract:** IMT based technologies form the dominant foundation of terrestrial mobile broadband deployments around the world and continue to expand their presence and their capabilities. IMT-2000 terrestrial technologies are a strong and still increasing part of that foundation and continue to be enhanced as evidenced by Rec. ITU-R M.1457-10. IMT-Advanced technologies have recently entered the mainstream as the next generation of technology capability as delineated in Rec. ITU-R M.2012. The service capabilities and spectrum efficiencies offered by the IMT terrestrial technology portfolio are unmatched by any other technology family whether utilized in wide area high mobility outdoor situations or low mobility indoor scenarios. Deployment demographics of these technologies reveal the IMT impact and importance across the world. The projections show that the market demand for terrestrial mobile broadband is unceasing in all deployment environments and that IMT terrestrial technologies are the preferred solutions for meeting this demand.

*[[Presentation](#)] [[Biography](#)] [[Biography](#)]*

Questions and Answers (15 minutes)

17:00 – 17:30

**Closing Session: General Discussion**

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