

CANTO Annual Conference

WRC-15 Caribbean Stakeholders
Preparatory Discussions
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Agenda Item 1.1

Background

- **WRC-15 agenda item 1.1 (Resolution 233) offers a unique opportunity to:**
 - **Expand broadband spectrum to meet consumer demand and promote economic development**
 - **Provide harmonized spectrum to meet the global needs of manufacturers and consumers**
 - **Promote regulatory flexibility wherever possible to enable technological evolution**
 - **Protect existing operations, while increasing efficiency with advanced sharing techniques where practical.**



Agenda Item 1.1

Mobile Broadband/IMT in UHF (470-698 MHz)

U.S. Objectives:

- *Primary allocation to the mobile service in 470-698 MHz band and identification for IMT in all regions, with full flexibility to preserve and protect broadcasting and other services.*
- *Facilitate international spectrum harmonization in 470-698 MHz.*

Rationale:

- *Mobile allocation would allow countries to maximize accessibility and benefit of UHF spectrum.*
- *Broadcasting deployment in the UHF band varies from country to country - parts of the band are unused in many countries.*
- *Ensuring protection of broadcasting and other services is a priority and can be achieved with appropriate regulatory constraints on mobile systems*



Agenda Item 1.1

C-Band

U.S. Objective:

- Protect existing services (e.g. FSS ES) from cross-border interference while allowing countries to decide on whether to use portions of C-band for IMT
 - ❖ Spectrum use within a country is a national decision
 - ❖ IMT identification does not establish regulatory priority or obligate administrations, in any way, to curtail existing operations
 - ❖ Deployment of mobile/IMT within a country is exclusively national decision



Agenda Item 1.1

C-Band

U.S. Approach:

- Recognize that many Region 2 countries expressed interest in deploying IMT in various portions of 3400 – 3700 MHz band but FSS stations must be protected
 - ❖ 3 400 - 3 700 MHz band -- IMT Identification in Region 2 with appropriate constraints that ensure protection of existing services from cross-border interference (e.g., pfd, No. 9.21)
 - ❖ 3 700 – 4 200 MHz band -- “No Change” (no Region 2 country expressed interest in IMT deployment above 3 700 MHz)



Agenda Item 1.3 Harmonized Spectrum for Public Protection & Disaster Relief (PPDR)

Background:

- Resolution 646 encourages administrations to consider certain frequency bands when undertaking their national planning for PPDR frequencies
- WRC-15 Agenda Item 1.3, Resolution 648 calls for the ITU-R to study technical and operational issues relating to broadband PPDR and its further development, taking into account:
 - technical requirements for PPDR services and applications;
 - evolution of broadband PPDR through advances in technology, and
 - needs of developing countries.



Agenda Item 1.3 Harmonized Spectrum for Public Protection & Disaster Relief (PPDR)

U.S. Objectives:

- Establishment of common global and regional tuning ranges for PPDR
- Enable flexibility to revise PPDR tuning ranges without WRC action
 - Avoid repetitive consequential WRC actions



Agenda Item 1.3 Harmonized Spectrum for Public Protection & Disaster Relief (PPDR)

U.S. Approach:

1. Establish core harmonized global and regional frequency tuning ranges for PPDR within Resolution 646 and remove all other specific regional or national level PPDR frequency bands
2. Specific frequency band information from a regional or national level should be detailed in a Recommendation
 - ITU-R M.2015, “Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution 646”
3. Supports development of new ITU-R Report on PPDR which encompasses updated broadband, wideband and narrowband PPDR requirements
 - Report set to be completed by July 2015.



Agenda Item 1.3 Harmonized Spectrum for Public Protection & Disaster Relief (PPDR)

Benefits of U.S. Approach:

- No future WRC action for an administration to include its current or future PPDR usage.
- Inclusion of global and regional tuning ranges in WRC Resolution, without specifying countries, would encourage wider use of globally harmonized bands, with its obvious benefits for economies of scale, cross-border coordination, and interoperability.
- Approach satisfies the main points of Resolution 648 by:
 - ✓ Providing the technical requirements for PPDR services and applications through ITU-R PPDR studies;
 - ✓ Allowing for the evolution of broadband PPDR through advances in technology without the need for WRC action, and
 - ✓ Accounting for needs and requirements of developing countries through ITU-R reports and recommendations.



Agenda Item 1.5 Controlling Unmanned Aircraft Beyond Line of Sight Using Satellite Links

Background:

- UAS applications are deployed and new users are being added
- UAS industry needs access to beyond radio line-of-sight communications links to support operations such as:
 - search and rescue
 - weather monitoring/forecasting
 - highway traffic monitoring
 - surveying
 - package delivery (e.g., medicines and food)
 - agriculture



Agenda Item 1.5

Controlling Unmanned Aircraft Beyond Line of Sight Using Satellite Links

U.S. Approach:

- Existing commercial FSS networks offer a near/mid-term solution that can meet the needs of UAS community
- At WRC-15, update ITU Radio regulations to enable control of UAS via existing FSS networks
- Following WRC-15, work with international organizations (e.g., ICAO) to ensure safe and proper implementation of integrated UAS control networks



Agenda Item 1.5

Controlling Unmanned Aircraft Beyond Line of Sight Using Satellite Links

U.S. Objectives:

- Enable global operations for the rapidly expanding uses of Unmanned Aircraft Systems (UAS)
 - Use existing Fixed-Satellite Service (FSS) networks for control of UAS beyond radio line of sight (long range)



Agenda Item 1.6

Fixed Satellite Service

10-17 GHz

U.S. Objectives:

- To protect U.S. incumbent services that operate in the various bands under consideration for expanded allocations for FSS.
- The U.S. supports NOC for this agenda item.

• **Rationale:**

- ITU-R analyses submitted to ITU demonstrated that FSS links in the 10-17 GHz range will cause unacceptable interference to services in each of the bands under consideration.
- ITU-R WPs 4A and 5B analyses conclude that large separation distances would be required to prevent interference between FSS and aeronautical mobile operations.
- Further U.S. analyses indicated that mitigation techniques would be impractical.
- Critical aeronautical mobile systems require spectrum access to support coordinated security, public safety, and humanitarian assistance efforts throughout the 14.5-15.35 GHz frequency range.



Global Flight Tracking

Background:

- ITU's 2014 Plenipotentiary Conference adopted Resolution **185** on global flight tracking (GFT) for civil aviation
- GFT is knowing where an aircraft is located at any given point in time--ultimately the characteristics of GFT are the responsibility of ICAO
- ICAO identified future technologies that could support flight tracking in oceanic and remote airspace such as satellite-based reception of Automatic Dependent Surveillance – Broadcast (ADS-B) from aircraft



Global Flight Tracking

U.S. Objectives and Approach:

The United States proposes to address GFT for civil aviation at WRC-15 with a two-pronged approach:

- (1) New primary aeronautical mobile-satellite (R) service (AMS(R)S) allocation in the frequency band 1 087.7-1 092.3 MHz to facilitate satellite reception of ADS-B as a possible constituent element of GFT – no additional constraints on other services
- (2) addition of an item to the 2019 WRC agenda to address other requirements which may come out of the ongoing ITU-R studies and consultations with ICAO



Agenda Item 10

2019 World Radio Conference

- Spectrum for next generation of mobile broadband communication systems beyond IMT-Advanced--also referred to as '5G'
 - ❖ WRC-19 agenda item to consider identification of frequency bands for terrestrial component of IMT in bands above 6 GHz to support future growth of IMT, within the frequency ranges:
 - 27.5 – 29.5 GHz
 - 37.0 – 40.5 GHz
 - 47.2-50.2 GHz
 - 50.4 – 52.6 GHz
 - 59.3 – 71 GHz
 - ❖ In bands already allocated to mobile service on a primary basis