1ST ITU INTER-REGIONAL WORKSHOP ON WRC-15 PREPARATION

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Satellite Regulatory Issues

Panel-5 Discussions on WRC-15 Agenda items 7, 9.1, 9.2, 9.3

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Satellite Regulatory Issues

- **AI 7** – Consider changes in advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks
- **AI 9.1, issue 9.1.1** – Protection of the systems operating in the mobile-satellite service in the band 406-406.1 MHz
- **AI 9.1, issue 9.1.2** – Studies on possible changes to current ΔT/T coordination trigger and on possible reduction of the coordination arc
- **AI 9.1, issue 9.1.3** – Use of satellite orbital positions and associated frequency spectrum to deliver international public telecommunication services in developing countries
- **AI 9.1, issue 9.1.5** – Consideration of technical and regulatory actions to support existing and future operation of FSS within the band 3 400-4 200 MHz as an aid to the safe operation of aircraft and reliable distribution of meteorological information in some countries in Region 1
- **AI 9.2** – Any difficulties or inconsistencies encountered in the application of the Radio Regulations (satellite issues)
- **AI 9.3** - Due diligence in applying the principles embodied in the Constitution

Agenda Item 7

- *Consider changes in advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks*
- **Current Issues**:
  - Should the Radiocommunication Bureau specifically be instructed to publish information regarding bringing into use and suspension of frequency assignments?
  - What consequences, if any, should be associated with notifying the ITU of suspension of use of frequency assignments beyond the 6 month period defined in RR No. **11.49**?
  - Is RR No. **9.58** still needed?
  - Should RR No. **11.41** be changed to account for cases where no interference occurs for several years?
  - Should a comprehensive review of the regulatory regime governing space services be undertaken?

Agenda Item 7

- Resolution: **86 (Rev. WRC-07)**
- ITU-R Responsible Groups: **WP 4A** (next meeting: 5-13 Feb 2014) and **SCRPM**
- Latest technical/regulatory information: **Doc. 4A/343, Annexes 18, 19, 25**

Ongoing Studies to Satisfy the AI:

- All previously mentioned issues are still being actively discussed in WP 4A
- It is expected that additional issues may arise, in general, but also in association with WRC-15 Agenda item 9.1, Issue 9.1.2

Latest Draft CPM text: Doc. 4A/343, Annexes 34, 35

- Draft CPM text on two issues has been developed and forwarded to SCRPM

Agenda Item 9.1, Issue 9.1.1

- *Protection of the systems operating in the mobile-satellite service in the band 406-406.1 MHz*

- **Current Issues**:
  - The 406-406.1 MHz frequency band is exclusively allocated to MSS for low power satellite emergency position-indicating radiobeacons (EPIRB) (see RR No. **5.266**).
  - All emissions capable of causing harmful interference to this usage of the band are prohibited (see RR No. **5.267**).
  - The use of search and rescue space segment instruments in this band is coordinated through the international Cospas-Sarsat organisation.
  - Recent measurements have shown an increase of noise levels at 406 MHz over certain geographic areas, which reduces the ability to detect EPIRB emissions and therefore degrades the capability to answer emergency calls and, sometimes, to save lives.
  - The impact of services in bands adjacent or nearby 406-406.1 MHz should be studied to ensure the continued ability to receive EPIRB emissions.

Agenda Item 9.1, Issue 9.1.1

- Resolution: **205 (Rev.WRC-12)**
- ITU-R Responsible Groups: **WP 4C** (next meeting: 13-19 February 2014)
- Latest technical information: **Doc. 4C/239, Annexes 1 and 8**
- Protection criteria (Annex 1) – Recommendation ITU-R M.1478-2 is being revised to ensure that the protection criteria of the COSPAS-SARSAT space components are appropriately described and computed.

Studies to Satisfy the Agenda Item

- A list of relevant parameters of services operating in adjacent or nearby bands has been elaborated.
- Compatibility studies being performed, to date, interference levels into COSPAS-SARSAT receivers have been assessed for the cases of:
  - Data Collection Platforms in the MetSat or EESS services;
  - Radiosondes in the meteorological aids service; and
  - Mobile systems (in the 390-420 MHz range).

Latest Draft CPM text: Doc. 4C/239, Annex 14

- The current version of the Draft CPM text summarises the results of the available studies.
- The current version of the Draft CPM text also mentions that a WRC Resolution may be developed with a view of having an adequate protection of the MSS in the band 406-406.1 MHz in order to detect and successfully process 406 MHz distress signals taking into account the current and future deployment of services in adjacent bands.

Agenda Item 9.1, Issue 9.1.2

- *Studies on possible changes to current ΔT/T coordination trigger and on possible reduction of the coordination arc*
- **Current Issues**:
  - Should the current coordination trigger of ΔT/T= 6% be increased?
  - Should the current criteria of ΔT/T be replaced with:
    - carrier-to-interference ratio (C/I)?
    - a power flux density trigger at the orbit and on the Earth's surface in the most heavily congested frequency bands?
  - Should the current values of coordination arc be reduced for the frequency bands in which they apply?
  - How would any of the above changes affect the protection of existing networks or particularly sensitive networks?
  - How would changing one parameter above affect changes to other parameters or impact overall protection of networks?

Agenda Item 9.1, Issue 9.1.2

- Resolution: **756 (WRC-12)**
- ITU-R Responsible Groups: **WP 4A** (next meeting: 5-13 Feb 2014) and **SCRPM**
- Latest technical information: **Doc. 4A/343, Annexes 8, 9, 42**
- **Ongoing Studies to Satisfy *resolves 1 (technical criteria)* of Res 756 (WRC-12):**
  - Multiple studies have been submitted and are ongoing addressing the following issues:
  - Which frequency bands are to be considered ?
  - What interfering level should trigger coordination?
  - What are the optional types of coordination trigger/protection criteria?
  - What representative range of technical parameters to use when determining coordination triggering interference levels?
- **Ongoing Studies to Satisfy *resolves 2 (coordination arc)* of Res 756 (WRC-12):**
  - Multiple studies have been submitted addressing the impact of reducing the coordination arc
  - A key to these studies is the appropriate protection for networks outside the arc
  - The size of the arc is also closely tied to the coordination trigger value
- **Latest Draft CPM text: Doc. 4A/343, Annex 37**
  - An early version of Draft CPM text that starts to compile the results of the above studies has been created

Agenda Item 9.1, Issue 9.1.3

- *Use of satellite orbital positions and associated frequency spectrum to deliver international public telecommunication services in developing countries*
- **Current Issues**:
  - No specific studies yet submitted under this issue
  - A Working Document intended to provide guidance on the scope of required studies has been developed

- Resolution: **11 (WRC-12)**
- ITU-R Responsible Group: **WP 4A** (next meeting: 5-13 Feb 2014)
- Latest information: **Doc. 4A/343, Annex 23**
- No draft CPM text at this time

Agenda Item 9.1, Issue 9.1.5

- *Consideration of technical and regulatory actions to support existing and future operation of FSS within the band 3 400-4 200 MHz as an aid to the safe operation of aircraft and reliable distribution of meteorological information in some countries in Region 1*

- **Current Issue**:
  - In the African region there is extensive deployment of an aeronautical communication infrastructure based on FSS VSAT systems in the 3 400-4 200 MHz band.
  - The use of mobile service systems in the vicinity of airports has increased the number of cases of interference into these VSAT receivers.

- Resolution: **154 (WRC-12)**
- ITU-R Responsible Group: **WP 4A** (next meeting: 5-13 Feb 2014)
- Draft CPM text: **Doc. 4A/343, Annex 38**
  - Current Draft CPM text includes specific suggestions to address this issue

WRC-15 Agenda item 9.2

- *Consider and approve the BR Director's Report on difficulties or inconsistencies in RR application*

Latest information available	Doc. 4A/343 Annex 39 (next meeting, 5-13 February 2014)

Issues

- Note to the Director – Review of the Provisions Associated with the Use of the Band 15.4-15.7 GHz by the FSS (Earth-to-space & space-to-Earth)
- Annex 32 of Doc. 4A/242 contains an explanation and proposed possible removal of an outdated provision of the Radio Regulations associated with the FSS allocation in the 15.4-15.7 GHz band and the consideration of approaches to deal with issues related to these outdated provisions. These considerations include:
  - Modification of Article 5;
  - Modification of Article 21;
  - Modifications of Appendices 4, 5 and 7;
  - Modification to Volume 4.

Agenda Item 9.3

- *Due diligence in applying the principles embodied in the Convention.*
- **Issues**:
  - To date, there are not sufficient contributions to identify any major issues.
- Resolution: **80 (Rev.WRC-07)**
- **Ongoing Studies to Satisfy the AI:**
  - No significant activities
- **Working Document toward Draft CPM Text:**
  - No working document yet developed