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| **Radiocommunication Assembly (RA-15)Geneva, 26-30 October 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| **PLENARY MEETING** | **Document RA15/PLEN/1-E** |
| **28 August 2015** |
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| Director, Radiocommunication Bureau |
| Director’s Report |
|  |

# 1 Introduction

In response to § 1.6 of Resolution ITU-R 1-6, this Report covers the period from the last Radiocommunication Assembly in 2012 (RA-12). It addresses the activities of the six Radiocommunication Study Groups, the Special Committee on Regulatory/Procedural Matters (SC), the Coordination Committee for Vocabulary (CCV) and the Conference Preparatory Meeting (CPM). Liaison and cooperation with the other two Sectors, as well as that with other organizations, is briefly described and mention is also made of activities in relation to meetings of the Radiocommunication Advisory Group (RAG) and the Plenipotentiary Conference.

The role of the Radiocommunication Bureau, in particular the Study Group Department (SGD), in supporting these activities is also presented, as well as the financial environment in which the work is undertaken.

# 2 Response to the results of RA-12

The Radiocommunication Assembly in 2012 approved the 40 Resolutions that serve as the basic texts and directives upon which the Study Groups undertake their responsibilities.

Resolutions ITU‑R 4 and 5 provide the structure of the Study Groups and their respective work programmes. These Resolutions were used as the basis for the Study Group work during the 2012‑2015 study period.

Resolution ITU‑R 9 (Liaison and collaboration with other organizations) recognizes the need to facilitate coordination and information exchange between ITU‑R and other bodies, particularly those involved with standards development. The Resolution as revised at RA-12 includes the principles for interaction of ITU‑R with other organizations, and these principles have been used by BR and the Study Groups for such interactions.

RA-12 approved several new and revised Resolutions relating to the work of the Study Groups concerning, for example, short-range devices, disaster prediction detection mitigation and relief, cognitive radio systems, terrestrial electronic news gathering systems, and reduction of energy consumption for environmental protection and mitigation of climate change, and the concerned Study Groups have taken due note of such Resolutions in their work programmes.

With respect to Resolution ITU-R 60 – Reduction of energy consumption for environmental protection and mitigating climate change by use of ICT/radiocommunication technologies and systems – Study Group 5 has incorporated new developments in technology into its reports and recommendations on mobile systems and standards that will result in reduced energy consumption. While there have been no outputs specifically devoted to this topic, it is covered in the regular updating of the technical and operational characteristics of systems and standards under the purview of Study Group 5. Study Group 6 continues to work on further reduction of energy consumption in broadcasting through the “green broadcasting” and “sustainable broadcasting” initiatives. In July 2015, Study Group 6 approved Report ITU-R BT.2385-0 – Reducing the environmental impact of terrestrial broadcasting systems. Study Group 6 continues to participate in the work of ITU-T SG 5 Focus Group on Guidelines for sustainable broadcasting. It is also to be noted that broadcasting has already achieved substantial energy reductions through the transition from analogue to digital TV broadcasting, which is under way or completed in many parts of the world.

RA-12 approved new Resolution ITU-R 63 regarding admission of academia, universities and their associated research establishments to participate in the work of ITU-R. Furthermore, the Plenipotentiary Conference (Busan, 2014) revised Resolution 169 (Guadalajara, 2010) to further enhance participation of academia in the work of the Union. Consequently academia members have been granted access to all Study Group documentation and are able to participate in the Radiocommunication Assembly, Study Groups and Working Party meetings. In accordance with *resolves* 5 of Resolution 169 (Rev. Busan, 2014), academia do not have a role in decision-making, including the adoption of resolutions and recommendations regardless of the approval procedure.

# 3 Preparatory work for WRC-15

Study Group activities in preparation for WRC‑15 were conducted through the CPM process, in accordance with Resolution ITU‑R 2-6.

The first session of the 2015 Conference Preparatory Meeting (CPM15-1) was held in Geneva on 20‑21 February 2012 to organize the preparatory studies for WRC-15. It also identified studies in preparation for the following WRC. A structure for the CPM Report to WRC-15 was agreed together with a preparatory process, working procedures and a chapter structure. The meeting appointed a Rapporteur for each chapter to assist the Chairman in managing the development and flow of draft report contributions. The results of CPM15-1 were published in Administrative Circular [CA/201](http://www.itu.int/md/R00-CA-CIR-0201) of the Radiocommunication Bureau, dated 19 March 2012.

CPM15-1 activated the Special Committee on Regulatory/Procedural Matters (in short the Special Committee, SC), in accordance with Resolution ITU-R 38-4, and noted that the SC activities consist of two categories:

1) work assigned directly to the Special Committee by the first session of CPM; and

2) tasks related to regulatory aspects of work assigned by the first session of CPM to the Study Groups and their Working Parties.

CPM15-1 also noted that the results of the studies by the SC shall be submitted as contributions to the work of the CPM in preparing its report to the relevant WRC.

The ITU-R preparations for WRC-15 were concentrated in the following responsible groups (listed in the order of the Study Groups):

**Study Group 1** chaired by Mr S. Pastukh (Russian Federation) and WP 1B chaired by Mr N. Al‑Rashedi (United Arab Emirates)

**Study Group 3** chaired by Mr B. Arbesser-Rastburg (European Space Agency)

**Study Group 4** chaired by Mr C. Hofer (United States of America), WP 4A chaired by Mr J. Wengryniuk (United States of America) and WP 4C chaired by Mr A. Vallet (France)

**Study Group 5** chaired by Mr A. Hashimoto (Japan), WP 5A chaired by Mr J. Costa (Canada) and WP 5B chaired by Mr J. Mettrop (United Kingdom of Great Britain and Northern Ireland)

**Study Group 6** chaired by Mr C. Dosch (Germany (Federal Republic of))

**Study Group 7** chaired by Mr V. Meens (France), WP 7A chaired by Mr R. Beard (United States of America), WP 7B chaired by Mr B. Kaufman (United States of America) and WP 7C chaired by Mr E. Marelli (European Space Agency)

**Joint Task Group 4-5-6-7** initially chaired by Mr T. Ewers (Germany (Federal Republic of)) and subsequently chaired by Mr M. Fenton (United Kingdom of Great Britain and Northern Ireland)

**The Special Committee on Regulatory/Procedural Matters** (SC) chaired by Mr T. Shafiee (Iran (Islamic Republic of)).

Texts for the draft CPM Report were prepared by the responsible groups identified by CPM15‑1 and provided by the Chairmen of these groups to the CPM-15 Chapter Rapporteurs.

The work was coordinated by the Chairman of CPM-15, in consultation with the CPM-15 Management Team, as defined in Sections 5 and 6 of Annex 1 to Resolution ITU-R 2-6.

In accordance with Section 6 of Annex 1 to Resolution ITU-R 2-6, the CPM-15 Management Team meeting was held in Geneva from 1 to 5 September 2014. It consolidated the draft CPM Report which was distributed to all Member States and Radiocommunication Sector Members as Document CPM15-2/1.

The SC met in Geneva from 1 to 5 December 2014, reviewed the regulatory and procedural aspects of the draft CPM Report and prepared its report to the second session of CPM-15, which was subsequently distributed to all Member States and Radiocommunication Sector Members as Document CPM15‑2/2.

The second session of CPM-15 (CPM15-2) met in Geneva from 23 March to 2 April 2015 under the chairmanship of Mr Aboubakar Zourmba (Cameroon (Republic of)) to consider the draft CPM Report together with the SC Report, contributions from the ITU membership and additional material submitted by the Radiocommunication Bureau.

CPM15-2 divided the work amongst six working groups according to the agreed Chapter structure. In addition, an Ad-hoc Group of the Plenary was established to address contributions related to Resolution 185 (Busan,2014) on global flight tracking for civil aviation.

table 4.3-1

Structure of the CPM15-2 Report

|  |  |  |
| --- | --- | --- |
| CPM15-2Groups | Topic | (Co-)Chairman |
| Working Group 1 | Chapter 1: Mobile and amateur issues; AI 1.1, 1.2, 1.3, 1.4 | Ms C. Cook (CAN)Mr C. Glass (USA) |
| Working Group 2 | Chapter 2: Science issues; AI: 1.11, 1.12, 1.13, 1.14, 9.2 (relevant issues) | Mr A. Vassiliev (RUS) |
| Working Group 3 | Chapter 3: Aeronautical, maritime and radiolocation issues; AI 1.5, 1.15, 1.16, 1.17, 1.18 | Mr M. Weber (D) |
| Working Group 4.1 | Chapter 4 (Satellite services), Sub-Chapter 4.1: FSS; AI 1.6, 1.7, 1.8, 1.9.1 | Mr X. Gao (CHN) |
| Working Group 4.2 | Chapter 4 (Satellite services), Sub-Chapter 4.2: MSS; AI 1.9.2, 1.10 | Mr M.A. Nazari (IRN) |
| Working Group 5 | Chapter 5: Satellite regulatory issues; AI 7, 9.1 (issues 9.1.1, 9.1.2, 9.1.3, 9.1.5, 9.1.8), 9.2 (relevant issues), 9.3 | Mr K. Al-Awadhi (UAE) |
| Working Group 6 | Chapter 6: General issues; AI 2, 4, 9.1 (issues 9.1.4, 9.1.6, 9.1.7), 9.2 (relevant issues), 10 | Mr P.N. Ngige (KEN) |
| Ad-Hoc Group of the Plenary | Contributions related to Global Flight Tracking for civil aviation | Mr W. Guggi (AUT) |

Since CPM15-2, the CPM Report has become a contribution to WRC‑15 as Document 3.

The Report comprises six Chapters, following the structure described above. In addition, Annex 1 was added to the Report to reflect the work of the CPM, which discussed how to deal with the subject of global flight tracking.

The Report also contains in Annex 2 a list of the ITU-R Recommendations, including certain draft new and revised Recommendations, that are referred to in the text of the Report. The final version of this list reflecting the decisions of the Radiocommunication Assembly 2015 will be made available to the World Radiocommunication Conference 2015.

# 4 Activities of the Study Groups

A detailed account of the activities of each of the Study Groups and the CCV during the study period is given in Documents X/1001 submitted to RA-15 (where X = concerned Study Group).

## 4.1 Recommendations, Reports and Handbooks

Up to July 2015, around 250 new or revised Recommendations and 150 new or revised Reports have been approved in the 2012-2015 study period. Many of these have stemmed from studies associated with CPM activities, although a good number reflect the vital “basic” studies that underpin the fundamental work of the Study Groups. Some notable topic areas for which recommendations and reports are being produced include:

– harmonization of short-range devices;

– propagation studies dealing with building entry loss and propagation models and related characteristics for higher frequencies (6-100 GHz);

– a carrier identification system for digital-modulation transmissions of fixed-satellite service occasional use carrier earth station transmissions;

– protection criteria for Cospas-Sarsat search and rescue instruments in the band 406‑406.1 MHz;

– technology trends of terrestrial IMT systems considering the time-frame 2015-2020 and beyond;

– radiocommunication objectives and requirements for public protection and disaster relief;

– technical parameters, operational characteristics and deployment scenarios of SAB/SAP as utilized in broadcasting production;

– active sensing at around 9 GHz;

– characteristics and spectrum requirements of satellite systems using nano- and pico-satellites.

Ten new or revised handbooks have also been published, addressing:

– National spectrum management

– Global trends in International Mobile Telecommunications

– Computer-aided techniques for spectrum management

– Guidance for bilateral/multilateral discussions on the use of frequency range
1 350 MHz - 43.5 GHz by fixed service systems

– Space research communications

– Amateur and amateur-satellite services

– Ground wave propagation

– Radio astronomy

– Radiometeorology

– Propagation prediction methods for interference and sharing studies.

## 4.2 Statistics regarding meetings, documentation and finalized texts (in electronic or paper form)

The following figures relate to the study period since RA-12:

– Number of documents processed (to June 2015): 23 180

– Number of pages processed (to June 2015): 316 210

– Number of meetings: 168

– Number of meeting days (total): 898

– Number of days on which meetings were held (block meeting days): 440

– Average number of participants at SG and WP meetings: 129

– Number of Recommendations approved (to June 2015): 254

– Number of Reports finalized (to June 2015): 147

– Number of Handbooks finalized (to June 2015): 10

The total number of study group and associated working party/task group meetings and meeting days during this study period are shown in the figure below.

## 4.3 Meeting rooms

The restructuring of the study groups, notably in Study Groups 4, 5 and 6, has resulted in the need for a higher number of big meeting rooms (~100-200 people) for concurrent meetings of large working parties. This has led to difficulties in scheduling meetings and, on some occasions, the need to use external facilities such as CCV and CICG, or the need to hold meetings outside Geneva. This problem has been exacerbated by the increased numbers of meetings being scheduled by the other Sectors and the General Secretariat and by the long lead times now required for booking nearby facilities such as the CICG and CCV. In the coming study period, it may be necessary to hold more meetings outside Geneva.

## 4.4 Level of participation

With respect to the previous study period the overall level of participation in all study groups and working parties has increased on average by approximately 20%, despite the effects of the economic downturn.

## 4.5 Number of documents

The number of documents produced during this study period, as shown in the figure below, are approximately 22% higher than the numbers for the previous study period.

## 4.6 Interpretation

Study Group meetings are held with interpretation in the six official languages. All Working Party meetings are held in English only.

## 4.7 Approval process

During this study period (up to September 2015), approximately 93% of new or revised Recommendations were approved using the procedure for the simultaneous adoption and approval by correspondence (PSAA). A further 3% were approved by consultation of the Member States following adoption at a study group meeting, and 4% were approved by the process of adoption by correspondence followed by approval by consultation. In all study groups, application of the procedure for simultaneous adoption and approval of Recommendations has become the norm.

## 4.8 Electronic working methods

During this study period the Sharepoint tool has been used to facilitate development of draft texts during working party and study group meetings. This tool has proved to be very popular and is used extensively by all study groups and working parties.

The study groups and working parties are now completely paperless. The Sharepoint tool is used for all meetings held outside of Geneva and all such meetings are also completely paperless. It is also used by Rapporteur/Correspondence Groups between the meetings for discussions, organizing meetings and document exchange.

A file synchronization facility has been implemented for all Study Group/Working Party meetings to facilitate access to the most recent versions of documents during meetings.

In order to facilitate remote participation in ITU-R meetings an audio webcast of Study Group and Working Party plenary sessions is provided through the ITU Internet Broadcasting Service (IBS).

Remote participants are able to actively participate in Working Party meetings (e.g. to introduce a contribution) by registering in advance for the meeting and coordinating their active participation at least one month prior to the meeting with the responsible Counsellor.

Captioning is now also provided for the plenary sessions of all Study Group meetings.

## 4.9 ITU-R texts search tool

At the 19th meeting of the RAG, the RAG invited the Director to develop a database, within existing budgetary limitations, that would enable ITU-R Recommendations to be searched and filtered by categories such as the radiocommunication service(s) and applicable frequency band.

Since then, supported by a voluntary contribution and the assistance of experts from the Japanese Administration, the development of the ITU-R documents database search facility has been progressed to cover Recommendations and Questions and a trial version is available at <https://extranet.itu.int/brdocsearch>. It is intended that this tool will be enhanced and extended to also cover ITU-R Resolutions, Reports and Handbooks.

# 5 Issues associated with the Radiocommunication Advisory Group (RAG)

These issues are described in the Report from the Chairman of the RAG (Document RA15/PLEN/7).

# 6 Results of the Plenipotentiary Conference 2014 of particular relevance to the Radiocommunication Assembly

The 2014 Plenipotentiary Conference (PP-14) took place in Busan, Republic of Korea, from 20 October to 7 November 2014. It was attended by 2 505 delegates from 171 countries – including 76 ministers, 36 deputy ministers and 56 ambassadors. The main results of direct interest to ITU‑R may be summarized as follows:

Mr François Rancy was re-elected as Director of the Radiocommunication Bureau.

The following 12 members of the Radio Regulations Board were elected/re-elected:

• Region A: Mr R.L. Terán (Argentina) and Ms J. Wilson (United States).

• Region B: Mr A. Magenta (Italy) and Ms L. Jeanty (Netherlands).

• Region C: Mr V. Strelets (Russian Federation) and Mr I. Khairov (Ukraine).

• Region D: Mr S.K. Kibe (Kenya), Mr S. Koffi (Côte d’Ivoire) and Mr M. Bessi (Morocco).

• Region E: Mr Y. Ito (Japan), Mr N. Bin Hammad (United Arab Emirates) and Mr D.Q. Hoan (Viet Nam).

For the first time since 1992, the conference made no amendments to the ITU Constitution and Convention.

The conference formally adopted ITU’s Strategic Plan 2016-2019 and the Financial Plan for the same period, including a new “Connect 2020” resolution that sets out a clear vision and shared objectives for the future of the ICT sector through measurable new statistical targets.

The Strategic Plan 2016-2019 sets out the following objectives for ITU‑R:

R.1 Meet, in a rational, equitable, efficient, economical and timely way, the ITU membership’s requirements for radio-frequency spectrum and satellite-orbit resources, while avoiding harmful interference

R.2 Provide for worldwide connectivity and interoperability, improved performance, quality, affordability and timeliness of service and overall system economy in radiocommunications, including through the development of international standards

R.3 Foster the acquisition and sharing of knowledge and know-how on radiocommunications

**Income and expenditure for the Union for the period 2016-2019:** Decision 5 was adopted, including its Annex 2, which includes an extensive list of measures for reducing expenditure. Some of the measures having a direct impact in ITU‑R’s work are the following:

– Identification and elimination of duplication (and overlap of functions, activities, workshops, seminars), and centralization of finance and administrative tasks, in order to avoid inefficiencies and to gain from a specialized workforce.

– The General Secretariat and the three Sectors of the Union should reduce the cost of documentation of conferences and meetings by conducting paperless events/meetings/ conferences and fostering the adoption of ICTs as viable and most sustainable substitutes for paper.

– Reducing to the absolute minimum necessary the printing and distribution of ITU promotional/non-revenue generating publications.

– Consideration of savings in languages (translation, interpretation) for study group meetings and publications, without prejudice to the goals of Resolution 154 (Rev. Busan, 2014).

– Evaluation and use of alternative translation procedures that could reduce the cost of translations while maintaining or improving their current quality and the accuracy of telecommunication/ICT terminology.

– Reviewing the number of study group meetings and their duration with a view to reducing their costs and those of other relevant groups.

– Limitation of the number of days of meetings for the advisory groups to three days per year maximum with interpretation.

– Taking into account No. 145 of the Convention, a full range of electronic working methods needs to be explored to possibly reduce the costs, number and duration of the Radio Regulations Board meetings in the future, e.g. reduction of the number of meetings in one calendar year from four to three.

– Discontinue to the greatest extent possible communications by fax and traditional postal mail between the Union and Member States and replace it with modern electronic communication methods.

– Appeal to the Member States to reduce the number of issues to be considered by WRCs to the minimum necessary.

**Access to documentation:** PP-14 agreed further to provide public access to all input and output documents of all conferences and assemblies of the Union starting from the beginning of 2015 “unless where disclosure would cause potential harm to a legitimate private or public interest that outweighs the benefits of accessibility.” Public access to all input and output documents does not cover documents of study groups, which will be subject to a policy on this issue to be approved by the Council.

**Scheduling of conferences and meetings of the Union:** the conference decided that there should be only one major ITU conference per year. The next RA/WRC will be in 2019.

**Admission of Academia to participate in the work of the Union:** PP-14 revised Resolution 169 to entitle Academia members to participate in the work of all three Sectors of ITU. In this regard, a single membership category for Academia replaces the previous membership categories per Sector (revised Resolution 169). A membership fee of CHF 3 975 for Academia from developed countries and of CHF 1 987.50 for those from developing countries gives access to all three Sectors.

In addition, Academia should also be invited to participate in other global and regional conferences, workshops and activities of the Union, with the exception of plenipotentiary conferences, world radiocommunication conferences, world conferences on international telecommunications and the Council, in conformity with the rules of procedure of the respective Sectors and taking into account the outcome of the review pursuant to Resolution 187 (Busan, 2014). As a consequence, it is proposed that Academia members be invited to attend the forthcoming radiocommunication assembly.

Finally, Resolution 169 (Rev. Busan, 2014) instructs the radiocommunication assembly, the world telecommunication standardization assembly and the world telecommunication development conference to mandate their respective Sector advisory groups to continue to study whether there is a need for any additional measures and/or arrangements to facilitate such participation that are not covered by relevant resolutions or recommendations of the above-mentioned assemblies and conference, and adopt such modalities, if they deem it necessary or required, and report the results through the Directors of the Bureaux to the Council.

**Global flight tracking for civil aviation:** Resolution 185 (Busan, 2014) instructs WRC‑15, pursuant to No. 119 of the ITU Convention, to include on its agenda, as a matter of urgency, the consideration of global flight tracking, including, if appropriate, and consistent with ITU practices, various aspects of the matter, taking into account ITU‑R studies, and instructs the Director of the Radiocommunication Bureau to prepare a specific report on the matter, as referred to in the *resolves* section of the resolution, for consideration by WRC‑15. That report has been submitted to WRC-15 as Document 5.

**Strengthening the role of ITU with regard to transparency and confidence-building measures in outer space activities:** Resolution 186 (Busan, 2014) resolves to encourage the dissemination of information, capacity building and the sharing of best practices in the use and development of radiocommunication satellite networks/systems, with the objectives of, *inter alia*, bridging the digital divide and enhancing the reliability and availability of the above-mentioned satellite networks/systems. It instructs the Director of BR to promote access to information, upon request by administrations concerned, related to satellite-monitoring facilities, in order to address cases of harmful interference in accordance with Article 15 of the Radio Regulations, as well as to continue taking action to maintain a database on cases of harmful interference reported in accordance with relevant provisions of the Radio Regulations and in consultation with Member States concerned.

**Strategy for the coordination of efforts among the three Sectors the Union:** A new resolution was approved – Resolution 191 (Busan, 2014) – aiming at ensuring the design of a coordination and cooperation strategy for effective and efficient efforts in areas of mutual interest to the three ITU Sectors, in order to avoid duplication of effort and optimize the use of resources.

# 7 Assistance to Member States

## 7.1 Assistance to administrations of developing countries

In the period between WRC‑12 and WRC‑15, the Bureau provided assistance to the administrations of developing countries in more than 40 instances, in areas such as:

– Supporting national spectrum management activities in the rapidly changing regulatory environment (see Resolution 7 (Rev.WRC‑03)) and providing technical assistance in the field of space radiocommunication (Resolution 15 (Rev.WRC‑03); to this end, missions were undertaken either on request of administrations, or under special missions jointly organized with the BDT, including participation of BR experts to provide capacity building in regional seminars organized by BDT or regional organizations. Furthermore, experts from administrations of least developed countries were granted fellowships to attend BR radiocommunication seminars and workshops. Experts from administrations were also received for individual or group in‑service training in the ITU headquarters on radio regulatory procedures;

– Participating in the meetings of the regional coordination groups, as requested by Article 12 of the Radio Regulations

– Providing assistance in Long Term Frequency management and assignment for mobile broadband (IMT)

– Providing guidance and technical support for the transition to Digital Television and the allocation of the digital dividend.

## 7.2 Assistance to Regional Groups

In the period between WRC‑12 and WRC‑15, following the request of assistance from the Regional Groups ATU and ASMG in implementing the decisions of WRC-07 and WRC-12 on the allocation of the 700 and 800 MHz band, the Bureau provided technical expertise and the associated software to enable ATU and ASMG Administrations to plan additional channels in the frequency band 470‑694 MHz in preparation to the transition to digital TV and the allocation of these bands to the mobile service.

Assistance was also provided by the Bureau in support of frequency coordination between the administrations of smaller groups of countries.

## 7.2.1 Assistance to ATU

The process of coordination was initiated in response to two African summits of Ministers conveyed by ATU: in Nairobi (December 2011) and Accra (September 2012), and included 47 Sub-Saharan countries. The intensive discussions and technical compatibility analysis of frequencies, based on the recommendations of ATU adopted in Bamako in March 2012, covered 18 months, during which 33 compatibility iterations were performed, based on the requirements submitted by administrations.

To enable the participating administrations to proceed with bilateral and multilateral coordination, ATU, with the assistance of the ITU, organized three planning and coordination meetings, respectively in Bamako, Kampala and Nairobi.

The average of satisfied requirements achieved was 97.37%. By the date of preparation of this report, 89% of ATU Administrations had successfully modified the GE06 Plan in line with the agreement reached.

## 7.2.2 Assistance to ASMG

The process of coordination between ASMG countries was initiated in response to a recommendation from the 35th meeting of the Permanent Arab Committee for Communications and Information (Cairo: 4-5 March 2014) and involved 17 Arab Administrations (with the exception of the Arab countries also part of ATU).

The process covered eleven months, with the coordination criteria and establishment of the frequency requirements in the frequency band 470-694 MHz based on ASMG recommendations (Dubai, 2014). A total of 27 iterations were performed for the compatibility analysis, based on the requirements submitted by administrations. To facilitate bilateral and multilateral coordination, three meetings were organised successively in Dubai, Hammamet and Marrakech.

The average of satisfied requirements achieved was 76.87%. By the date of preparation of this report, ASMG Administrations were in the process of modifying the GE06 Plan according to the agreement reached channels. Coordination with several administrations outside the ASMG is still ongoing. It is be necessary to permit the corresponding modifications to the GE06 Plan.

## 7.2.3 Assistance to CITEL

Following the development by BR of online tools for technical examinations in the scope of the RJ81 Plan, the BR provided remote training for the use of this software, on request from CITEL.

## 7.3 Assistance to other groups of countries

The Bureau hosted two sub-regional frequency coordination meetings in March 2013 and November 2014 at the ITU headquarters in Geneva, between the Administrations of Saudi Arabia, Bahrain, United Arab Emirates, Iran, Kuwait, Oman and Qatar. These meetings enabled the concerned administrations to conclude two agreements:

– arrangement to control cross-border spillover and harmful interference to the mobile service;

– mechanism for coordinating the VHF sound broadcasting service;

The application of these agreements has significantly improved the coordination of frequencies used for the mobile.

The Bureau hosted a coordination meeting between the Administrations of Egypt, Israel, Lebanon, Palestine and Syria on the Digital Television broadcasting frequency planning in the band 470‑694 MHz. This meeting took place in Geneva from 29 September to 1 October 2014 and agreement on some technical criteria for frequency coordination was reached, such as a limiting interfering margin between Israel and the Arab countries.

## 7.4 Treatment of cases of harmful interference

## 7.4.1 General overview

In the application of the procedures of Article 15 of the Radio Regulations, the Bureau has treated all reports of harmful interference as a matter of urgency, particularly where safety services were involved. Each reported case is normally handled by the Bureau within 48 hours from its receipt. In several cases, the Bureau was asked to provide assistance in determining the source of interference; such assistance was provided in collaboration with the monitoring stations of the Member States. Some cases were reported to the RRB, as requested by administrations whose services suffered interference. For some cases, the Bureau received declaration, from affected administrations, claiming the cases were closed. Table 7.4.1‑1 summarizes statistical information regarding terrestrial systems and Table 7.4.1-2 with respect to cases affecting space services.

Table 7.4.1-1

Statistical information regarding the treatment of cases of harmful interference
 affecting terrestrial services

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2012 | 2013 | 2014 | 2015[[1]](#footnote-1) |
| Cases submitted for BR information  | 23 | 31 | 53 | 32 |
| Cases of assistance to administrations | 20 | 18 | 26 | 13 |

Table 7.4.1-2

Statistical information regarding the treatment of cases of harmful interference
 affecting space services

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2012 | 2013 | 2014 | 2015(till 30.06) |
| Cases submitted for BR information (RR 15.41) | 25 | 20 | 9 | 9 |
| Cases requesting BR Assistance under RR 13.2 | 22 | 9 | 7 | 3 |

NOTE – One case may refer to one or several short or long term occurrences of harmful interference.

Annex 2 to this Report provides an in depth analysis describing the current situation as well as the actions and initiatives being taken by ITU together with the latest developments to contribute to the prevention and resolution of cases of harmful interference affecting space services.

### 7.4.2 Developments regarding specific cases of harmful interference

#### 7.4.2.1 Harmful interference to the VHF/UHF broadcasting services of Cuba

Since WRC-12 and until May 2013, the Administration of Cuba continued to submit reports on several longstanding cases of harmful interference to their broadcasting services (sound and television) caused by emissions on board an aircraft under the responsibility of the Administration of the United States.

These cases have been included in the agenda of the Radio Regulations Board (RRB) meetings and dealt by the Board until RRB meeting No. 63 (June 2013).

The Bureau wishes to report that no complaint of harmful interference was received from the Administration of Cuba since May 2013.

#### 7.4.2.2 Harmful interference caused by Italy to the broadcasting services (sound and television) of its neighbouring countries

The 13th Plenary meeting of WRC-12 agreed that the Director of BR would continue to monitor the situation of multiple longstanding cases of harmful interference caused by Italy to the broadcasting services (sound and television) of its neighbouring countries and provide progress reports to the RRB and WRC-15.

On request from the RRB, the Director of the Bureau and the Chief of Terrestrial Services Department met twice with the Italian authorities and the Italian broadcasting operators during 2014, in order to evaluate the situation and discuss about the possibilities to resolve the issue.

The Administration of Italy committed to address the interference issues from both a legal, regulatory, technical and operational standpoint.

A law was adopted in order to phase out the use by television networks of the specific frequencies which result in the most critical harmful interference cases to television broadcasting in neighbouring countries and a new frequency plan was developed by Italy to identify appropriate channels.

A Decree associated to this law was published on 6 June 2015, allowing for the implementation of reverse auctions by which the concerned broadcasters in Italy could apply for compensation and/or switch off the transmission of the relevant television broadcasting stations causing harmful interference.

It is expected that situation of interference will progressively improve after the end of 2015 with the finalization of the reverse auction process, for which a budget of 50.8 M€ was adopted by law for 2015.

No specific action has been reported by Italy with regards to resolving the harmful interference to the sound broadcasting services. This issue will still take significant time to be definitively settled.

All the related monitoring and interference reports regularly received by the BR are available on the ITU website at <http://www.itu.int/md/R11-MMHI-SP/en>.

#### 7.4.2.3 Harmful interference between the mobile-satellite service and radioastronomy in the band 1 610.6-1 613.8 MHz

The Bureau has been informed of harmful interference to radioastronomy stations operating in the band 1 610.6-1 613.8 MHz with a primary status generated by unwanted emissions from a non-GSO satellite network in the mobile satellite service operating in the band 1 618.25-1 626.5 MHz (space to Earth) on a secondary status. The Bureau has however so far not received any request for assistance in accordance with the provisions of section I of Article 13.

No. 5.149 and No. 5.372, respectively indicate that “In making assignments to stations of other services to which the bands: …, 1 610.6-1 613.8 MHz, … are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. “ and that “Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. 29.13 applies)”.

In addition No. 29.11 specifies that “When assigning frequencies to stations in other bands, administrations are urged, as far as practicable, to take into consideration the need to avoid spurious emissions which could cause harmful interference to the radio astronomy service operating in accordance with these Regulations” with the regulation governing the resolution of harmful interference in this case mentioned in the provisions of No. 4.6 of the Radio Regulations: “For the purpose of resolving cases of harmful interference, the radio astronomy service shall be treated as a radiocommunication service. However, protection from services in other bands shall be afforded the radio astronomy service only to the extent that such services are afforded protection from each other”.

In order to settle this issue, the Bureau encouraged the involved administrations to cooperate and exercise the utmost goodwill and mutual assistance, noting also the relevant ITU‑R Recommendations with the aim of limiting interference to the radio astronomy service from other services (No. 29.13).

# 8 Cooperation

## 8.1 Cooperation with ITU‑D

The BR continues to fulfil its objective of informing and assisting the ITU membership, in particular in developing countries, on issues relating to radiocommunication matters. For this purpose BR organizes and participates in a number of spectrum related workshops, seminars, meetings and capacity building activities. These actions are being carried out in close cooperation with the BDT and the ITU regional and area offices, and the relevant international organizations and national authorities.

### 8.1.1 GSR

Recognizing the importance of expert information to Member States, the BR continues to support the BDT by providing technical expertise in relation to spectrum management, digital broadcasting and digital dividend. The BR contributed to the ITU Global Symposium of Regulators 2012, 2013, 2014, 2015) with the organization of, and participation in, sessions related to spectrum management.

### 8.1.2 ICT Survey and ICT Eye

ICT-eye and its survey form an essential tool for gathering data from administrations on key ICT metrics. The BDT does the tracking of such data on a yearly basis, and displays the data results in a meaningful way in the statistics portal. In order to capitalize from the existing platform provided by ICT-eye, the BR engaged with the BDT to expand the current survey and include a chapter on key spectrum-specific information (i.e. auctions, caps, mobile technologies/standards, spectrum licensing). The spectrum chapter was developed by BR and published in the ICT survey for first time in 2013.

### 8.1.3 Spectrum Management Training Programme (SMTP)

The BR has actively participated on a joint project with BDT to develop a: *Spectrum Management Training Programme (SMTP*) along its different phases, since 2013: design, material preparation, peer review, and the pilot test currently in progress and evaluation.

Close contact has continued with the BDT on work of mutual interest to ITU‑R and ITU‑D. The BR has participated in relevant meetings of ITU‑D Study Groups, Rapporteur Groups and TDAG, where liaison activities have involved topics such as spectrum management, digital broadcasting and migration from analogue systems, transition towards and implementation of IMT, and broadband wireless access technologies. These topics are in addition to the collaboration undertaken through ITU‑D Question 9-3/2 that calls for the identification of study topics in ITU‑R (and ITU‑T) considered of particular interest to developing countries.

In response to requests from the BDT, experts from ITU‑R and BR have participated in ITU seminars and workshops organized by ITU‑D (see § 7.1). Within the framework of Resolution ITU‑R 11-4 (Further development of the spectrum management system for developing countries), BR has been involved with the design, testing and training associated with the software SMS4DC (Spectrum Management System for Developing Countries), with advice provided on the use of relevant ITU‑R Recommendations. In addition, ITU‑R Study Group 1 has continued to work closely with the ITU‑D Study Groups in pursuing studies on spectrum usage in accordance with Resolution ITU‑D 9.

In 2013, the BR developed jointly with the BDT an ITU Report on the Digital Dividend. On this basis, ITU-R Study Group 1 has since developed and recently adopted an ITU-R Report on this subject.

With the needs of developing countries always in mind, the production of Handbooks has continued to be viewed as a major Study Group activity. In this respect, new or revised Handbooks have been developed on topics such as spectrum monitoring, radiowave propagation information for designing terrestrial point-to-point links, amateur and amateur-satellite services, migration to IMT-2000 systems and use of radio spectrum for meteorology – weather, water and climate monitoring and prediction.

## 8.2 Cooperation with ITU-T

In addition to climate change and emergency communications, topics of mutual interest between ITU‑R and ITU‑T include IMT 2020, the effects of human exposure to radio frequencies, power line transmission systems, intelligent transport systems, common patent policy and intellectual property rights and audiovisual media accessibility.

SG 6 established a new Intersector Rapporteur Group (IRG) on Integrated Broadband Broadcasting (IBB) systems in addition to the two existing IRGs on audiovisual media accessibility (IRG‑AVA) and on audiovisual quality assessments (IRG-AVQA).

There continues to be a requirement for close coordination on the various topics being addressed by ITU‑T that impinge on radiocommunication issues to reduce the potential for overlap, duplication and conflict of work undertaken by the two Sectors.

## 8.3 Cooperation with international and regional organizations

As in the past, the Bureau maintained close cooperation with many international and regional organizations with the following objectives: 1) to promote dialogue amongst bodies having common interests; 2) to help coordination leading to more effective preparation for events such as WRCs; and 3) to keep ITU‑R abreast of relevant activities in other organizations to help planning of work programmes.

The BR continues its close cooperation with the relevant international and regional organizations dealing with the use of spectrum (APT, ASMG, ATU, CEPT, CITEL and RCC) or more generally with the use of radiocommunications services (e.g. ICTO, ITSO, ESOA, GVF, GSMA, EBU) by organizing, promoting and participating in events to build capacity on the use of the RRs, including WRS and RRS, as indicated in Section 7.

In accordance with Resolution ITU‑R 9-4, liaison has been strengthened with several other standard-making organizations. For example, a memorandum of understanding has been developed between ITU and ARIB, CCSA, TTA and TTC to harmonize standardization activities, and the existing ITU‑R and ITU‑T MoUs with ETSI were reviewed and combined as a single ITU/ETSI MoU.

Attention to the activities of the Global Standards Collaboration (GSC) continues, to which ITU‑R/BR and ITU‑T/TSB contributions were made each year and ITU hosted the meeting of the GSC in July 2015. Involvement with the 3G partnership projects and IEEE has been pursued, given their importance and relevance to the work of Study Group 5. Other notable areas of liaison with Study Group activities include those with the World Meteorological Organization (through SG 7), CISPR (through SG 1), the World health Organization (through SGs 3 and 6), Space Frequency Coordination Group (through SG 7) and the European Broadcasting Union (through SGs 3 and 6).

The BR ensured liaison and cooperation with the UN Committee on the Peaceful Uses of Outer Space (UN-COPUOS), the International Maritime Organization (IMO), the International Maritime Satellite Organization (IMSO), the International Telecommunications Satellite Organization (ITSO), COSPAS-SARSAT, CICR and ICAO with regard to the application of ITU treaty texts. BR experts also participated in various meetings of these organizations.

The BR also ensured liaison and cooperation with IMO, WMO, CEPT, CITEL, APT, ASMG, ATU, RCC, EBU, ABU, ASBU and WBU, regarding effective preparation for WRC‑15. Appropriate liaison and cooperation was also maintained with IEC, ISO, ETSI, and IEEE.

# 9 The Study Group Department

## 9.1 Human resources

At the end of the study period, the full complement of the BR Study Group Department (SGD) comprises six counsellors, one engineer and seven assistants, in addition to the Chief of Department and his personal assistant. Support for Study Group activities is also provided from BR/IAP (Informatics, Administration and Publications Department) as regards meeting logistics, document dispatch and editorial alignment prior to publication.

With this level of resources within SGD, occasional difficulties arise in providing the required level of support:

• for document processing during busy periods of “block” meetings, especially when concurrent meetings are being held both within and outside Geneva;

## • at the professional level, especially for large Study Groups with many subordinate groups and frequent meetings.

## 9.2 Support to membership

During the study period, participants of the ITU‑R Study Groups, as well as staff of the BR, have continued to respond to requests for information and guidance on technical issues concerning the work of the Study Groups. Such questions often relate to problems encountered by Members from developing countries who are seeking relevant ITU‑R texts or an explanation of the material contained therein. Assistance has also been provided by way of presentations at seminars or workshops.

# 10 Financial situation

In the light of the financial situation within ITU over the study period, efforts have continually been made to implement the working methods of the Study Groups in the most efficient manner possible. Such measures have tended to address two principal areas – meetings and documentation. In this respect, the duration and frequency of meetings have been assessed in the light of foreseen work programmes. and paperless meetings have become the norm. Some associated new services such as webcast and captioning during meetings have resulted in some increased miscellaneous and internal expenses.

A financial statement concerning Study Group expenditure as of end September 2015 is given in the Attachment.

Attachment

Study Group expenditure

|  |  |  |  |
| --- | --- | --- | --- |
| Including Study Groups: 1, 3, 4, 5, 6, 7, CPM and SC | 2012-2013(x 1 000 CHF) | 2014-2015(x 1 000 CHF) | Total from 2012 to September 2015(x 1 000 CHF) |
|   |   |   |   |
| Staff costs | 323  | 693  | 1 016  |
| Other staff costs | 4  | 22  | 25  |
| Travel on duty | 33  | 18  | 51  |
| Contractual services | 15  | 29  | 44  |
| Rental and maintenance of premises and equipment | 30  | 88  | 118  |
| Materials and Supplies | 14  | 67  | 81  |
| Public and internal services | 85  | 56  | 141  |
| Miscellaneous | -  | 2  | 2  |
| **Total** | **503**  | **973**  | **1 477**  |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. This Column includes cases up to the end of June 2015. [↑](#footnote-ref-1)