International Telecommunication Union

Director, Radiocommunication Bureau

REPORT TO THE SEVENTEENTH MEETING OF THE
RADIOCOMMUNICATION ADVISORY GROUP

1   Introduction

This Report is intended to provide status reports and background information on some of the issues that are on the provisional agenda for the 17th meeting of RAG to assist the meeting in considering the relevant agenda items.

Separate reports will be submitted for some of the agenda items.

2   Relevant Decisions of Council-09 (Agenda item 3)

This section covers the decisions of the October 2009 session of the Council (see: http://www.itu.int/council/C2009/).

2.1   Budget for 2010-2011

Council approved the ITU biennial budget for 2010-2011 (Resolution 1308 (Doc.C09/110)). The estimated expenditure for ITU-R is distributed as detailed in Table 1 (in thousands of Swiss francs).

2.2   RA/WRC-12 dates and venue

Council noted the report on the final choice of dates and venue of the RA/WRC-12 (Doc.C09/41). The report indicated that in 2008, Council resolved, by its Resolution 1291, to convene the next RA/WRC in 2011 in Geneva (Switzerland). The dates and venue were provisional. In the absence of a formal invitation from a Member State and taking into account a number of other elements, the Secretary-General identified dates and venue in 2012. Following consultations of Council and ITU Member States, the dates and venue of the next RA/WRC have been definitively confirmed.

2.3   Cost recovery for the processing of satellite network filings

Council noted the progress report on the implementation of the cost recovery for the processing of satellite network filings (Doc. C09/24). The report indicated that for that purpose Council-08 approved modifications to Decision 482, following the WRC-07 complete revision of Appendix 30B of the Radio Regulations. Decision 482 (modified 2008) entered into force on

1 January 2009[1] and has been applied to satellite network filings received on or after
1 January 2009. Before that date, Decision 482 (C-05) was in force. Implementation of
Decision 482 (C-05), and subsequently Decision 482 (modified 2008), by the Radiocommunication
Bureau did not raise any difficulty nor create any specific problem neither internally nor with
administrations notifying satellite network filings.

Table 1

Operating expenses by section		Estimates 2010	Estimates 2011	Estimates 2010-2011
Section 3.1	World radiocommunication conferences			0
Section 3.2	Radiocommunication assemblies			0
Section 4.1	Regional radiocommunication conferences			0
Section 5.1	Radio Regulations Board	623	627	1'250
Section 5.2	Radiocommunication Advisory Group	75	75	150
Section 6	Study group meetings	1'015	1'550	2'565
Section 7	Activities and programmes	1'530	960	2'490
Section 8	Seminars	299	175	474
Section 9	Bureau	29'552	29'522	59'074
	- Common expenditure	845	810	1'655
	- Office of the Director	558	558	1'116
	- Study Groups Department	3'150	3'151	6'301
	- Space Services Department	9'471	9'475	18'946
	- Terrestrial Services Department	7'585	7'585	15'170
	- Informatics, Administration & Publications Dept	7'943	7'943	15'886
	- Regional presence			0
TOTAL		**33'094**	**32'909**	**66'003**

2.4   Free-online access to certain ITU documents

Council noted the progress report on the trial of free online access for the ITU membership to
ITU-R Recommendations (Doc.C09/63) and agreed to continue the trial until PP-10. A decision on
requests for free access to the Basic Instruments of the Union, including the Radio Regulations and
CS/CV, was deferred to PP-10. The Council instructed the Secretariat to undertake a study of the
financial impact on revenue through free online access, addressing proposals submitted to this
Council session (Docs C09/69, 81 and 84) and report to PP-10 on the matter.

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[1] See BR Circular letter CR/295 of 19.12.08.

2.5   Elaboration of the Strategic Plan for 2012-2015

Following the presentation of the report by the Secretary-General on this issue (Doc.C09/26), Council decided to establish a Council Working Group to elaborate the Strategic and Financial Plans. This group will be chaired by Mr Fabio Bigi (Italy) and report to Council 2010.

2.6   Operational Plan

Council approved Resolution 1301 (Doc.C09/99) containing the four-year rolling Operational Plan for the Radiocommunication Sector for 2010-2013).

A comment was made during the Council discussions of the ITU-R Operational Plan on whether or not the CPM activities currently placed under Objective 3 (Produce recommendations to achieve connectivity and interoperability) should be moved to appear under Objective 1 (Promote coordination and collaboration among members), given its direct relationship with WRC. Council decided that this issue should be further considered by the RAG.

3   Study group activities (Agenda item 5)

3.1   Working methods

Study Group activities have been pursued within a stable Study Group and Working Party structure according to the work programmes defined in the ITU-R Operational Plan, taking due regard of advice provided by RAG-16 (2009). Working methods have been satisfactorily applied in accordance with Resolution ITU-R 1-5 (and the associated Guidelines), with increased emphasis placed on the use of electronic facilities that have brought considerable benefit to delegates as well as a significant economy in paper. Access to documentation during meetings via a dedicated Sharepoint website has become standard practice, with only a minimal number of paper copies printed in certain cases. The use of Sharepoint facilities is also being extended to meetings held outside of Geneva and discussions are underway with the ITU IS department on the provision of a dedicated server for remote usage.

On an increasing number of occasions, the shortage of meeting rooms at ITU Headquarters is seriously hindering the effective planning of meetings. The problem is exacerbated by three main factors: i) the increasing number of meetings being arranged by all three Sectors and the General Secretariat, ii) the increasing size of delegations to the meetings, and iii) the need to avoid overlap and clashes of meeting dates, also taking account of major events staged by other UN bodies and the Geneva authorities. Apart from the obvious solution of providing additional rooms within the existing buildings, the situation could perhaps be ameliorated by seeking improvements in the internal room reservation system in ITU with a view to a fair and equitable allocation of rooms amongst all users.

3.2   Study Group preparations for WRC-12

Studies on agenda items of WRC-12 have been pursued in accordance with the Decisions of CPM11-1. A second meeting of the CPM Steering Committee was held in December 2009 which took note of the timetable of preparatory activities leading up to the production of the Draft CPM Report to WRC-12. It also reviewed the progress of studies on the various agenda items and agreed on additional guidelines for the preparation of the Draft CPM Report.

Detailed information regarding the ITU-R preparatory studies for each WRC-12 Agenda item is updated on a periodic basis, as appropriate, and made available on the following ITU web page: http://www.itu.int/ITU-R/go/rcpm-wrc-12-studies. See § 4.2 below for further information on preparation for WRC-12.

3.3 Notable activities in the Study Groups

- During the period since RAG-16, emphasis has continued to be focussed on ITU's responsibilities in the field of climate change. In this respect, the ITU-R Study Groups and BR have taken every opportunity to promote the role that radio services and systems can play in monitoring the climate and in disseminating climate information, as well as demonstrating areas where carbon emissions could be, or already have been reduced due to the implementation of modern ICT technologies. Much material addressing these issues has been prepared by BR/SGD for inclusion in various written and oral presentations on ITU's activities in the field of climate change, details of which are outlined below in § 7. The ITU-R Web page "Radiocommunications and Climate Change" describing the role of radiocommunications in combating of climate change is available at: http://www.itu.int/ITU-R/go/climate-change.

- Closely linked with studies relating to climate change are efforts made by the Study Groups to develop Recommendations, Reports and Handbooks in support of radio services and systems employed for emergency and disaster situations. Examples include Recommendations addressing radiocommunication infrastructures and systems, involving both satellite and terrestrial services, for public warning, disaster mitigation and relief. The ITU-R Web page on emergency radiocommunications is available at: http://www.itu.int/ITU-R/go/emergency.

- Work has progressed on IMT-Advanced in accordance with foreseen time-scales. Candidate radio interface technologies have been submitted to WP 5D and are currently being studied within established evaluation groups. The on-going evaluation process, assessment of compliance with minimum requirements and subsequent consensus building will lead to decisions on the radio interface technologies to be included in the standardization phase of IMT-Advanced scheduled for October 2010. The dedicated website containing details of the candidate submissions and the evaluation process can be accessed at: http://www.itu.int/ITU-R/go/imt-advanced.

3.4 Liaison and collaboration with ITU-D and ITU-T, and with other Organisations

Inter-sector activities have been very evident throughout the period, particularly concerning ITU's priority topics of climate change and emergency communications, further details of which are contained in § 7.

Concerning ITU-D: Of particular importance has been ITU-R and BR's contribution to several BDT Development Fora linked with the preparation for WTDC-10. These events provided an opportunity to present ITU-R's standardization activities and, in turn, to demonstrate their contribution to Resolution 123 (Rev.Antalya, 2006) in bridging the standardization gap. BR was also present at the WTDC-10 Regional Preparatory Meetings held for the CIS, European and Arab regions.

Experts from ITU-R Study Group 1 and from the BR continued to assist in the development of the SMS4DC software application, in accordance with Resolution ITU-R 11-4. In addition, SG 1 continued the preparation of the next edition of the Handbook on Spectrum Monitoring – a publication recognised to be of particular benefit to developing countries.

In connection with ITU-D Study Group activities:

- BR contributed to the annual update of the Report of RG 9-2/2 describing those studies and their outputs of particular interest to developing countries;

- ITU-R WP 7C provided information to the ITU-D Rapporteur Group on Question ITU-D 22/2 on the use of radio-based remote sensing in disaster prediction, detection and mitigation;

- ITU-R Study Group 1 continued its active collaboration with ITU-D Study Group 2 in the analysis of results stemming from the current phase of studies falling under ITU-D Resolution 9 (Rev.Doha, 2006), as well as in the preparation for WTDC-10 in this regard;

- Following the publication of a Report on the transition from analogue to digital terrestrial broadcasting, ITU-R Study Group 6 has started the preparation of a Handbook on digital television (DTV) implementation. This Handbook will gather together all relevant technical material and will complement the Report and be of benefit to Administrations that are planning migration. The work is foreseen to be of particular relevance to ITU-D;

- ITU-R WPs 4A, 4B and 4C provided information to ITU-D Study Group 2 on the use of FSS, BSS and MSS networks in the event of natural disasters and similar emergencies. This information was subsequently included in an ITU-D Study Group 2 Report on Guidelines for Implementation of Satellite Communications for Disaster Management in Developing Countries.

Concerning ITU-T: In addition to climate change and emergency communications, topics of mutual interest between ITU-R and ITU-T include:

- ITU-T Resolution 72 on the effects of human exposure to radio-frequencies where studies in ITU-T SG 5 have been followed, particularly in ITU-R Study Group 1, with respect to the monitoring and measurement of electromagnetic fields. It should be noted that BR liaised with representatives of ITU-T SG 5 in presenting material at related workshops staged by the Administrations of Greece (Athens, June 2009) and Oman (Muscat, January 2010);

- ITU-T Resolution 76 (Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU mark programme), where BR has provided information on Global Mobile Personal Communications by Satellite (GMPCS) and followed developments with a view to exploring any future potential of a mark programme to ITU-R Recommendations;

- Activities in ITU-T Study Group 13 on standards for future networks and next generation networks as well as mobility management and fixed-mobile convergence, having particularly in mind current studies in ITU-R Study Groups 4 and 5, which are associated with various Questions currently under study within ITU-T Study Group 13.

Particularly since WTSA-08, it is evident that ITU-T addresses an increasing number of topics that impinge on radiocommunication issues, thereby enhancing the potential for overlap, duplication and conflict of work undertaken by the two Sectors. Specific cases that have come to light are those of electromagnetic radiation studies in ITU-T SG 5 and interference from PLT systems currently under study in ITU-T SG 15 and ITU-R SGs 1 and 6. Not only is there a need to improve liaison mechanisms between the two Sectors (and specifically between the Study Groups concerned), but it may be timely to confirm the boundary of responsibilities between the Sectors with due reference to Resolution ITU-R 6-1 and in accordance with ITU-T Resolution 57 (Strengthening coordination and cooperation among ITU-R, ITU-T and ITU-D on matters of mutual interest). In addition, for those topics of ITU-wide interest such as climate change and emergency communications, improved mutual appreciation of the individual contribution of each Sector according to its area of responsibility would lead to more efficient use of resources and expertise.

Concerning Other Organizations: Healthy liaison has continued between the ITU-R Study Groups and Other Organisations, with due reference to Resolution ITU-R 9-3 where required. ITU-R and BR representatives have continued their active involvement in the Global Standards Collaboration (GSC), including its annual meeting held in July 2009 which was successfully hosted by ITU in Geneva. Liaison has also been evident with UN bodies and agencies in various fields, e.g. climate change and climate monitoring (WMO, UNFCCC, Global Humanitarian Forum, GEO, SFCG, NASA, ESA, JAXA) and EMF exposure (WHO).

4   WRC issues (Agenda item 6)

4.1   WRC-07 post-conference activities (Agenda item 6.1)

BR pursued its activities related to the implementation of the decisions of WRC-07. The following table summarizes the main topics covered by the post-conference activities:

Topic	Circular letter	Relevant WRC Resolution
General		
Implementation of decisions of WRC-07 and associated transitional arrangements that entered into force on 17 November 2007 or on 1 January 2009	CR/279, 11.02.08	55, 80, 120, 145, 221, 355, 356, 549, 647, 805, 904, 906, 417, 750, 751, 752
RR Appendix 30B		
Implementation of Appendix 30B (Rev.WRC-07) in accordance with Resolution 149 (WRC-07)	CR/278, 15.02.08 CR/280, 04.03.08 CR/299, 27.03.09 CR/302, 19.05.09 CR/306, 24.07.09	149
Notice forms		
Submission of frequency assignment/allotment notices regarding terrestrial services (WISFAT)	CR/289, 24.07.08 CR/297, 20.01.09 CR/308, 01.10.09	906
Submission of Appendix 4 information for space services to the Radiocommunication Bureau	CR/284, 16.05.08	-
Mandatory use of the **SpaceCom** software package from 1 July 2009	CR/305, 17.06.09	55
Emergency communications (Resolution 647)		
Implementation of Resolution 647 (WRC-07) – terrestrial services	CR/281, 13.03.08 CR/288, 17.07.08	647
Implementation of Resolution 647 (WRC-07) – space services	CR/283, 13.05.08 CR/291, 09.10.08	647

4.1.1   Software-related activities

The software package on Appendix 30B (as per Resolutions 148 and 149 (WRC-07))[2] consists of the upgraded version 8.0.0.10 of the GIBC software package together with a stand alone software application "**AP30BRefSituation**". The GIBC software package can calculate power flux-density

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[2] See BR Circular letter CR/306 of 24.07.09.

and *C/I* values for Annex 3 and Annex 4 examinations respectively. The **AP30BRefSituation** software application is used to establish and update the examination results including reference situations of the Plan, the List and pending Article 6 submissions contained in the AP30B database. This software package operates with the upgraded structure of Space Network System database version 6.1 (SNS 6.1). The software package and the upgraded AP30B database were made available on BR IFIC 2649 (space services) of 28 July 2009. The upgraded AP30B database is also available from the ITU website at: http://www.itu.int/ITU-R/software/space/.

4.1.2   Emergency communications database – Resolution 647 (WRC-07)

In the context of Resolution 647, WRC-07 decided that administrations should consider global or regional frequency bands for emergency and disaster-relief in their national spectrum planning and considered the need for immediate availability of pre-identified frequencies or frequency bands for the very early stages of intervention in case of emergency and disaster-relief.

With relation to its implementation, BR set up a website at: http://www.itu.int/ITU-R/go/res647.

In order to achieve the objectives of Resolution 647 (WRC-07), it is essential that administrations communicate to the BR, as soon as possible, the available frequencies and information about their spectrum management practices for use in an event of disaster or emergency situation.

4.1.3   Resolution 80 (Rev.WRC-07)

Work is being pursued in Study Group 4 regarding the implementation of Resolution 80 (Rev. WRC-07) within the framework of WRC-12 agenda item 8.1.3 and a preliminary working document is attached to Working Party 4A Chairman's Report of its September 2009 meeting (Doc.4A/278, Annex 18).

The Radio Regulations Board (RRB) has also been carrying out studies by means of its Working Group on Resolution 80 (Board's WG on Res80) regarding the implementation of Resolution 80 (Rev. WRC-07) which conclusions are summarized as follows:

- At it 50th meeting (16-20 March 2009), the Board's WG on Res80 reviewed the RRB mandate under Resolution 80 (Rev. WRC-07), to consider and review possible draft recommendations and draft provisions linking the formal notification, coordination and registration procedures with the principles contained in Article 44 of the Constitution and No. 0.3 of the Preamble to the Radio Regulations. The Board's WG on Res80 came to the conclusion that the formal notification, coordination and registration procedures referred to in *resolves* 2 involve Articles 9 and 11 and Appendices 4, 5, 30, 30A, and 30B of the Radio Regulations and Resolution 49 (Rev.WRC-07) and that all of the principles contained in Article 44 of the Constitution and No. 0.3 of the Preamble to the Radio Regulations were to be considered. It was recognized that the work would be enhanced by input from administrations and from the studies to be performed under *resolves* 1 of Resolution 80 (Rev.WRC-07). In this connection, the Board instruct the BR to send a circular letter (see CR/300 of 22.04.09) repeating the invitation made in CR/279 to contribute to these studies and to the work of the RRB in this respect.

- At it 51st meeting (6-10 July 2009), the Board's WG on Res80 reviewed the summary notes on the BR Workshop on the efficient use of the spectrum/orbit resource held on 6 May 2009 and the regulatory options identified therein. Noting that ITU Working Parties and the Special Committee may be studying these specific issues and developing draft recommendations and draft provisions that the Board may consider and review under its Resolution 80 (Rev.WRC-07) mandate, it was concluded that the Board should primarily focus its efforts on new concepts. Review of No. 13.6 of the Radio Regulations and Annex 6 of the Director's Report (Document RRB09-2/4) were identified as possible new areas.

- At it 52nd meeting (9-13 November 2009), the Board's WG on Res80 determined an approach to its task under *resolves* 2 of Resolution 80 (Rev.WRC-07*)* "to consider and review possible draft recommendations and draft provisions linking the formal notification, coordination and registration procedures with the principles contained in Article 44 of the Constitution and No. 0.3 of the Preamble to the Radio Regulations". The Board's WG on Res80 will focus its efforts on recommendations concerning specific provisions of the Radio Regulations, bearing in mind these principles. Consistent with the conclusions of the Board's WG on Res80 at the 51st meeting, the WG began its review of No. 13.6 of the Radio Regulations with a description of the history of this provision and identified the following issues associated with No. 13.6 for further review:

  o The meaning of "reliable information".

  o Number and timing of reminders.

  o What constitutes a response to an enquiry.

  o The meaning of regular operation.

  o Cancellation of a network by the BR and confirmation by the Board.

  In addition to No. 13.6, the WG will take up Annex 6 of the Director's Report (Document RRB09-2/4) and other elements brought up by Board Members to the next meeting with a view to identifying draft provisions for consideration by WRC-12. Taking into account the terms of current Board Members, the Working Group decided to produce a draft of its report to WRC-12".

4.2 WRC-12 preparations (Agenda item 6.2)

The BR organized an ITU Meeting on WRC-12 Preparation, in collaboration with ATU (Geneva, 14-16.09.09). The meeting was attended by 164 participants representing 49 countries (27 from Africa with 78 delegates), 13 companies and organizations, and six regional telecommunication organizations - APT, ASMG, ATU, CEPT, CITEL, and RCC (see http://www.itu.int/ITU-R/go/wrc-11-regional-atu-09). Fellowships were given to 17 participants from the following Member States: Bangladesh, Burkina Faso, Cameroun, Chad, Côte d'Ivoire, Rep. Dem. Congo, Djibouti, Gambia, Lesotho, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Uganda.

The first day was devoted to general presentations on the WRC and CPM processes, followed by a progress report on the status of preparatory activities by each regional group. During the second day, four panels were set up to discuss specific agenda items in the light of presentations on the progress achieved so far by the responsible Working Parties or Joint Task Group of relevant Study Groups. Day 3 was dedicated to ATU to discuss the organization of the African Group towards WRC-12 and review the preliminary views and activities of some sub-regional groups. The final report of the ATU meeting is available on the meeting website and contains the following conclusions: ATU will organise two or three WRC 12 preparation meetings between now and WRC-12; the date of next meeting will be communicated after consultations and should most likely be held after the publication of the draft CPM Report in English in August 2010.

Following the successful results of this 2009 meeting, two more information meetings on WRC-12 preparations are planned. The next one is scheduled for 24-25.11.10 focused on the draft CPM Report, with panels led by the CPM Report Chapter Rapporteurs; another one to take place in 2011 could be focused on the presentation of proposals, positions and views of the regional groups, taking into account the CPM Report and the Director's Report to WRC-12.

BR staff have been attending most of the WRC-12 preparatory meetings of the regional groups and when requested, making presentations on the progress of the ITU-R preparations (latest information at: http://www.itu.int/ITU-R/go/rcpm-wrc-12-studies).

The ITU-R Web page for WRC-12 has been set up at: www.itu.int/itu-r/go/wrc-12 and information on all the regional groups in charge of the preparation for WRC-12 are accessible from: http://www.itu.int/ITU-R/go/wrc-12-regional.

5   Radiocommunication Seminars and Workshops

The full list of Seminars and Workshops organized directly by ITU-R or in cooperation with other Sectors is available at: http://www.itu.int/ITU-R/go/seminars.

The following events took place since the last RAG meeting:

Space Services:

BR Workshop on the efficient use of the spectrum/orbit resource (Geneva, 6 May 2009)

Study Groups:

- Workshop on Three-Dimensional Television Broadcasting (3D TV) (Geneva, 30 April 2009) First ITU/WMO Seminar on the "Use of Radio Spectrum for Meteorology: Weather, Water and Climate Monitoring and Prediction" (Geneva, 16-18 September 2009).

- WP 5D Third Workshop on IMT-Advanced
  Focussed on Candidate Technologies and Evaluation (Dresden, 15 October 2009).

During 2009, BR provided fellowships for the participation in ITU-R seminars, workshops and meetings.

The following events are planned for 2010:

- World Radiocommunication Seminar 2010 (WRS-10) (Geneva, 6-10 December 2010).

- Regional Radiocommunication Seminar for Central America and the Caribbean (venue and dates to be defined).

6   Operational Planning (Agenda item 7)

The draft Operational Plan for the period 2011-2014 is available at: http://www.itu.int/ITU-R/go/operational-plans/ for the consideration of RAG. This plan is structured in a result-based way so as to ensure a complete linkage with the budget and other financial tools of the Union. It also addresses the strategic aspects of ITU-R and provides appropriate linkage with the strategic plan of ITU.

The performance report for 2009 is available at: http://www.itu.int/ITU-R/go/performance-reports/. It aims at providing the relevant information regarding the implementation of the outputs and activities foreseen in the ITU-R Operational Plan for 2009. The Performance Report provides the comparison between the realized results and the expected ones as well as the respective key performance indicators. These are specified with each major Objective and within each relevant output in the document.

7 Inter-Sector Activities

7.1 World Telecommunication Policy Forum 2009 (WTPF-09)

BR (Mr. Philippe Aubineau, Counsellor, SGD) actively participated in the preparation and at the meeting of the WTPF-09, which was held in Lisbon, Portugal, from 22-24 April 2009. It was attended by over 850 delegates, representing 118 Member States (including 29 of the Least Developed Countries) and 44 Sector Members and 5 United Nations entities, as well as 75 members of the public.

The Policy Forum adopted the Opinions in what is now known as the "Lisbon Consensus", covering the following topics: Internet-related public policy matters; the implications of the advent of next-generation networks (NGNs) and advanced broadband access; ICT and the Environment; collaborative strategies for creating confidence and security in the use of ICTs; capacity building in support of the adoption of IPv6; the International Telecommunication Regulations (ITRs).

As a follow-up to the WTPF-09, and in accordance with Res. 2 (Rev. Marrakesh, 2002) and Decision 9 (Rev. Antalya, 2006), the strategies for the implementation or consideration of its Opinions were agreed by the ITU management. In this respect, it was decided to submit the results of WTPF-09 to all the ITU-R Study Groups for information, in order to initiate follow up actions, as appropriate.

In so doing, the attention of the ITU-R membership was drawn in particular to WTPF-09 Opinion 2 (The implications of the advent of NGNs and advanced broadband access) and Opinion 3 (ICT and the Environment), in order to ensure that the ITU-R studies take into account the technical, regulatory and legal aspects addressed by Opinion 2 with respect to the terrestrial and/or satellite radiocommunication infrastructure and broadband wireless access, as well as with respect to Opinion 3, the reduction of power consumption by ICT radio equipments and their recycling, and also the development of new ICT radio technologies and applications to help humanity fight climate change.

7.2 ICT and Climate Change

BR (Mr. A. Vassiliev, Counsellor, SGD) has actively participated in various International, Sector and inter-sector activities and in the preparation of publications related to climate change. It is recalled that a special Climate Change and Emergency Telecommunications Taskforce, chaired by ITU Deputy Secretary-General, Mr. Houlin Zhao, has been created to coordinate activities in the area of climate change and emergency telecommunications conducted by ITU's three Bureaux and the General Secretariat. An inter-sector web page dedicated to climate change is available at http://www.itu.int/climate.

The following activities are worthy of note:

ITU-R Study Group 7, in cooperation with the Steering Group on Radio-Frequency Coordination of the World Meteorological Organization (WMO), produced the WMO/ITU Handbook "Use of Radio Spectrum for Meteorology: Weather, Water and Climate Monitoring and Prediction". This Handbook provides information on the development and use of radiocommunication systems and radio-based technologies for environment observation, climate control, weather forecasting and natural and man-made disaster prediction, detection and mitigation. For the first time in the history of ITU, the Handbook was signed by the Secretary Generals of two UN Agencies.

In accordance with Resolutions **671 (WRC-07)**, **672 (WRC-07)** and **750 (WRC-07)**, ITU-R Study Groups carry out studies and develop standards related to the use of radio-based technologies, systems and applications (such as remote sensing) to further improve climate monitoring and prediction, as well as monitoring climate-initiated natural disasters.

ITU-R Study Groups and BR staff prepared inputs and participated in the Final Meeting of the ITU-T Focus Group "ICT and Climate Change" on 27-30 March in Hiroshima (Japan), providing information on radiocommunications and greenhouse emissions, and assisting in the preparation of output documents.

A BR representative participated in the following international symposia on ICTs and Climate Change:

- Symposium jointly organized by ITU and CITIC in Quito, Ecuador, on 8-10 July 2009, which was the first such event held in a developing country and issued a set of Conclusions reflecting concerns of the region;
- the first ITU VIRTUAL International Symposium co-organized with the Korea Communications Commission (KCC) (Seoul, Korea, 23 September 2009).

BR also participated in the World Climate Conference 3 and provided information to WMO on the role of ICTs in climate monitoring, as well as inputs for the opening speech by the ITU Deputy Secretary-General and the speech of the ITU Secretary-General at the WCC-3 High Level Segment.

BR in close cooperation with the World Meteorological Organization (WMO) organized and actively participated in the first ITU/WMO Seminar "Use of Radio Spectrum for Meteorology: Weather, Water and Climate Monitoring and Prediction" in WMO Headquarters. The seminar was opened by the BR Director Dr. Valery Timofeev and several BR staff members (K. Hughes, Y. Henri, A. Vassiliev) made presentations at the seminar. It was attended by representatives from meteorological and radiocommunication communities from 31 countries (including developing countries). The seminar participants expressed the view that such seminars should be organized on regular basis. It was also noted that the ITU should actively participate in the development and implementation of a new WMO Global Framework for Climate Services as decided by the World Climate Conference 3.

ITU is actively participating in the UN processes toward a new global agreement on climate change. In June 2009, ITU sent a written contribution to the UNFCCC on the importance of ICTs for the mitigation of, and adaptation to climate change, in response to a request for input from UN agencies. BR was part of the ITU delegation to the Barcelona Climate Change Talks 2009 from 2-6 November 2009 and participated in the official side-event organized by ITU, OECD, GeSI on ICTs and Climate Change. The side event provided information on how developed and developing countries can use ICTs to effectively combat global warming and how the innovative use of ICTs and the Internet could reduce potential CO_2 emissions by 15% in 2020, for example by replacing travel through the use of teleconferencing, "replacing atoms with bits" (electronic publications of documents, books, DVDs), smart buildings and electricity grids, intelligent transport systems, etc. BR was a member of the ITU delegation to the Conference of the Parties (COP-15) in Copenhagen in December 2009, where it was expected that a new agreement on climate change would be reached.

7.3   Emergency Radiocommunications

In implementing Resolutions ITU-R 53 "The use of radiocommunications in disaster response and relief" and ITU-R 55 "ITU studies of disaster prediction, detection, mitigation and relief", ITU-R Study Groups have developed several new Recommendations and Reports on the relevant use of radio technologies and radiocommunication systems belonging to different radiocommunication services for disaster prediction, early warning and mitigation of negative effects of disasters. For example, Study Group 7 developed the first ITU-R Recommendation on the use of emergency radiocommunications for saving lives in space ("Radiocommunications used for emergency in manned space flight").

In accordance with WRC-07 decisions BR cooperates with the UN Working Group on Emergency Telecommunications (WGET) and provides information on ITU-R standardization activities as well as on the development of Emergency communications database – Resolution **647 (WRC-07)**.

7.4   WSIS Implementation

BR (Mr. N. Venkatesh, Counsellor, SGD) participated in the activities related to the implementation of WSIS action lines. It is worth noting the following group and event in which BR has taken part: Council Working Group-WSIS: Implementation of Outcomes; WSIS Forum 2009 (Geneva, 18-22 May). More information can be found in the ITU website at: http://www.itu.int/wsis/.

BR (Mr. A. Vassiliev, Counsellor, SGD) participated in WSIS 2009 Forum held in Geneva (18-22 May 2009), where a presentation was given on "ITU Radiocommunication Sector (ITU-R) and Climate Change".

7.5   Connect CIS Summit

The BR Director Dr. Timofeev and BR prepared inputs and participated in the ITU *Connect CIS Summit* (Minsk, Belarus, 26-27 November), organized by BDT and chaired by the ITU Secretary General. The Director, BR moderated one of the most attended session "Moving from Analogue to Digital Broadcasting" and participated in formal and informal discussions on the role of radiocommunications in the modern world.

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