International Telecommunication Union

ITU-D STUDY GROUP 2 4th STUDY PERIOD (2006-2010)

QUESTION 9-2/2:

*Identification of study topics
in the ITU-T and ITU-R study groups
which are of particular interest
to developing countries*

THE STUDY GROUPS OF ITU-D

In accordance with Resolution 2 (Doha, 2006), WTDC-06 maintained two study groups and determined the Questions to be studied by them. The working procedures to be followed by the study groups are defined in Resolution 1 (Doha, 2006) adopted by WTDC-06. For the period 2006-2010, Study Group 1 was entrusted with the study of nine Questions in the field of telecommunication development strategies and policies. Study Group 2 was entrusted with the study of ten Questions in the field of development and management of telecommunication services and networks and ICT applications.

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ABSTRACT

This report contains the third update of the yearly progress report on Question 9-2/2 for this cycle 2006-2010. However, it still needs updating by the Rapporteurs for Questions 11-2/2, 14-2/2, 18-1/2, 19-1/2, 20-2/2, 22/2 and Resolution 9, each in accordance with No. 1 of the guidelines of this Question, including, as well as the regular comments by the TSB and BR secretariats.

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QUESTION 9-2/2

Identification of study Group Questions (to be called topics) in the ITU-T and ITU-R Study Groups which are of particular interest to developing countries

Introduction

A   Question 9-2/2 as adopted by WTDC-06 calls for the following: "**Identify Study Group Questions in the ITU-T and ITU-R Sectors which are of particular interest to developing countries and systematically, by way of annual progress reports, inform them of the progress of work on the Questions to facilitate their contributions to the work on those Questions as well as, ultimately, to benefit from their outputs in a timely manner**". In order to fulfil this task the following **Guidelines** for selecting such Questions (to be called topics as of September 2002) have been revised by the Study Group in its last meeting in September 2006:

a)   Study topics relevant to maintenance (ITU-T Study Group 4);

b)   Study topics relevant to the acquisition of propagation data (ITU-R Study Group 3);

c)   Study topics relevant to spectrum management (ITU-R Study Group 1);

d)   Study topics relevant to the protection of telecommunication installation and equipment (ITU-T Study Group 5);

e)   Study topics relevant to international telephone tariffs and accounting (ITU-T Study Group 3);

f)   Study topics relevant to security of telecommunication networks (ITU-T Study Group 17). It was agreed that matters related to security of telecommunication networks would be left to ITU-D Study Group 1 under the new Question 22-1/1 in order to avoid duplication;

g)   Study topics relevant to quality of service in telecommunication/ICT networks (including, but not limited to, the work done by ITU-T Study Group 12);

h)   Other additional relevant Questions based on requests of the members of the Study Group during the new life period of this Question (2006-2010).

Based on these general guidelines, the Study Group 2 meeting in September 2006 reconfirmed the following additional guidelines for finalizing the list of selected Questions (topics) of particular interest to developing countries:

1)   request the concerned Rapporteur's Groups in Study Group 2, dealing with WTDC-06 Questions, to cover those Questions of particular interest to developing countries and to report on their progress in their reports or to this report. This will apply to the following WTDC-06 Questions:

   a)   Question 11-2/2: (Examination of terrestrial digital sound and television broadcasting technologies and systems, including cost/benefit analyses, interoperability of digital terrestrial systems with existing analogue networks, and methods of migration from analogue terrestrial techniques to digital techniques) covering relevant Questions of ITU-T SG 9 and ITU-R SG 6.

   b)   Question 14-2/2 (Telecommunications for e-health) covering relevant Questions of ITU-T SG 16.

   c)   Question 18-1/2 (Implementation aspects of IMT-2000 and information-sharing on systems beyond IMT-2000 for developing countries) covering relevant Questions of ITU-R SG 8 and ITU-T SG 19.

   d)   Question 19-1/2 (Strategy for migration from existing networks to next-generation networks for developing countries) covering relevant Questions of ITU-T SG 2, SG 4, SG 11, SG 13 and SG 19 relevant to the NGN.

   e)   Question 20-2/2 (Examination of access technologies for broadband telecommunications) covering relevant Questions of ITU-T SG 15 and ITU-R SG 8 and 9.

g)   Question 22/2 (Utilization of ICT for disaster management, resources, and active and passive space-based sensing systems as they apply to disaster and emergency relief situations) covering relevant Questions of ITU-R SG 4, SG 6, SG 7, SG 8 and SG 9.

h)   Resolution 9 (Rev-06) will continue covering relevant Questions of ITU-R SG 1.

2)   drop the selection of any Question for which ultimate result(s) is(are) recommendation(s) addressed to the industry for manufacturing;

3)   continue to seek the proposals of relevant counsellors in the other two ITU Sectors, in the final selection of these Questions (topics).

A list of Questions of particular concern was established and is presented in Annex 1, which is composed of Part 1 "ITU-R Questions of particular concern to developing countries" and Part 2 "ITU-T Questions of particular concern to developing countries". This Annex includes the mission of the Sector, the scope of each Study Group, relevant Questions with their corresponding resulted Recommendations, Handbooks and/or equivalent issued or under preparation. The list of relevant Supplements to ITU-T Recommendations is attached as Appendix 1 to Part 2 of Annex 1.

B   In addition to this list of Questions, many topics (formally called technical arrays) were identified by Study Group 2 in the past three cycles to be covered through technical reports, some had been dropped and handled as Questions (e.g. IP telephony, digital broadcasting, broadband communications, etc.). However, three are still some to be handled by Question 9-2/2 and covered by such technical reports as follows:

–   High-altitude platform stations;

–   Frequency-agile systems in the MF/HF band;

–   National strategy to secure cyberspace; and

–   As requested, a list of workshops is attached as Appendix 2 to this report.

Annex 1

PART 1

ITU-R[1] Questions, Recommendations and Handbooks of particular concern to developing countries

Mission of the Sector

The role of the Radiocommunication Sector is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including satellite services, and carry out studies without limit of frequency range on the basis of which Recommendations are adopted.

The regulatory and policy functions of the Radiocommunication Sector are performed by World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by Study Groups.

The Radio Assembly (15-19 October 2007) restructured the study groups, and changed the Scope of some study groups as follows:

Study Group 1	Spectrum management (no change except for the scope)
Study Group 3	Radiowave propagation (no change)
Study Group 4	Satellite services (changed the title, the scope also by integrating in this study group mobile satellite service and radiodetermination satellite service)
Study Group 5	Terrestrial services (a new study group formed from the merger of the terrestrial elements of former Study Groups 8 and 9 and including amateur and amateur satellite services)
Study Group 6	(Remain as before except for the satellite broadcasting which was transferred to Study Group 4)
Study Group 7	Science services (no change)

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[1] For more detailed information, please consult: http://www.itu.int/brsg/index.html.

STUDY GROUP 1

Spectrum management

Scope

Spectrum management principles and techniques, general principles of sharing, spectrum monitoring, long-term strategies for spectrum utilization, economic approaches to national spectrum management, automated techniques and assistance to developing countries in cooperation with the Telecommunication Development Sector.

1   Questions

Q.205-1/1   Long-term strategies for spectrum utilization

Q.206/1   Strategies for economic approaches to national spectrum management and their financing

Q.208/1   Alternative methods of spectrum management

Q.214/1   Monitoring of digital broadcasting signals

Q.215/1   Monitoring of the radio coverage of land mobile networks to verify compliance with a given license

Q.216/1   Spectrum redeployment as a method of national spectrum management

Q.225/1   Inspection of radio stations to verify compliance with licence parameters

Q.232/1   Methods and techniques used in space radio monitoring

The suppression of Questions 207/1 and 223/1 was approved in 2008.

2   Reports and Recommendations (SM series)

Recommendations ITU-R SM.1131 and SM.1133, as well as Report ITU-R SM.2015 were developed in response to Questions 205/1 and Recommendation ITU-R SM.1265-1 was developed in response to Questions 208/1. In addition, Report ITU-R SM.2012-2 entitled "Economic aspects of spectrum management", was developed in response to Questions 206/1, 208/1, and former Question 207/1. This later Report provides useful information on the theory and practice of economic strategies for spectrum management as well as further information in the form of accounts of countries experiences. It is currently under review and will assist in the future development of any Recommendation relevant to those Questions.

Recommendations ITU-R SM.1447, SM.1682, SM.1708 and, more recently in 2006, Recommendation ITU-R SM.1792 were developed in response to Questions 214/1 and 215/1.

In response to former Question ITU-R 223/1, Report ITU-R SM. 2093 entitled "Guidance on the regulatory framework for national spectrum management" was approved in 2006 and published in 2007.

In response to Question ITU-R 225/1, Report ITU-R SM. 2130 entitled "Inspection of radio stations" " was approved and published in 2008.

The following Recommendations have also been developed to provide guidance and assistance in national spectrum management and monitoring:

Rec. SM.1047-1: "National spectrum management";

Rec. SM.1048: "Design guidelines for a basic automated spectrum management system (BASMS)" this has resulted in a special collaboration between the Development Sector and Study Group 1 in the development of WinBASMS. The Windows Basic Automated Spectrum Management System (WinBASMS) has been developed according to specifications prepared by the ITU Telecommunication Development Bureau (BDT).

WinBASMS is a multilingual, multi-function computer programme providing spectrum managers automated support for:

- Record keeping for all radio services licenses and related technical and administrative information;

- Frequency assignment and interference calculations for fixed, mobile, broadcasting and other similar services;

- Frequency coordination for both national and international applications;

- Recording and notifying national license fee data;

- Generating national frequency licenses.

SG 1 experts assisted the BDT in creating a new Spectrum Management System for developing countries (SMS 4 DC);

Rec. SM.1049-1: "A method of spectrum management to be used for aiding frequency assignment for terrestrial services in border areas";

Rec. SM.1370-1: "Design guidelines for developing advanced automated spectrum management systems";

Rec. SM.1392-1: "Essential requirements for a spectrum monitoring station for developing countries";

Rec. ITU-R SM.1413-2: containing 391 pages, entitled "Radiocommunication Data Dictionary (RDD) for notification and coordination purposes" has been developed to assist administrations in their filings to the ITU Radiocommunication Bureau;

Rec. ITU-R SM.1447: "Monitoring of the radio coverage of land mobile networks to verify compliance with a given licence" (developed from Question 215/1);

Rec. ITU-R SM.1603: "Spectrum redeployment as a method of national spectrum management" (developed from Question 216/1).

3   Handbooks and/or the equivalent

c.1   Issued:

c.1.1   Handbook on "Spectrum monitoring" (English, French and Spanish 2002)

c.1.2   An update of the Handbook on "Computer-aided techniques for Spectrum Management 1999" was published in 2005.

c.1.3   An update of the handbook on "National spectrum management 1995" was also published in 2005.

c.1.4   A supplement to the 2002 Edition of the "Spectrum monitoring Handbook" was approved and published in 2008 to update Chapter 3, 5.2 and Annex 1 of the Handbook.

c.2   Under preparation:

c.2.1   Further studies are on-going to prepare the complete next edition of the "Spectrum monitoring Handbook".

4   Remarks

Special collaboration existed between the Development Sector's Study Group 2 and ITU-R Study Group 1 on implementing WTDC-06 Resolution 9 for the third cycle, "Participation of countries, particularly developing countries, in frequency spectrum management". The first stage of this collaboration resulted with an adopted Report to this aim. The World Telecommunication Development Conference WTDC-02 adopted a revision of Resolution 9 and requested the work to continue on the second stage and to associate the work on ITU-D Q.21/2 "Calculation of frequency fees". This combined activity should be considered also as a direct answer to Question 205-1/1, a part answer to Question 216/1 and to complement Report SM.2012-2.

In addition to Report ITU-R SM.2093 referred to above, Study Group 1 prepared a report on "Options to improve the international spectrum regulatory framework " in response to Resolution 951 (WRC-2003). This report was presented to WRC-07 in Document 24. Consideration of this report resulted in a modification of

the Resolution, i.e. Resolution 951 (Rev. WRC-07) and this issue was put on the WRC-12 Agenda, as Agenda item number 1.2 .

In addition to Agenda item 1.2, Working Parties 1A or 1B will be responsible also for the following WRC-12 Agenda items:

1.6   Consideration of procedures for free-space optical links (Resolutions 950 (Rev.WRC-07) and 955 (WRC-07));

1.19   Regulatory measures and their relevance for the introduction of software-defined radio and cognitive radio systems (Resolutions 956 (WRC-07));

1.22   Effect of emissions from short-range devices on radiocommunication services (Resolutions 953 (WRC-07));

8.1.1   Issue A, on the protection of radiocommunication services against interference caused by radiation from industrial, scientific and medical (ISM) equipment (Resolution 63 (Rev.WRC-07)).

STUDY GROUP 3

Radiowave propagation

Scope

Propagation of radio waves in ionized and non-ionized media and the characteristics of radio noise, for the purpose of improving radiocommunication systems.

The Study Group produces Recommendations (in the ITU-R P-series) containing (i) information on the basic propagation characteristics of the troposphere and ionosphere that affect radiowave propagation, and (ii) propagation prediction methods for use by the various radiocommunication services.

1   Questions

Question ITU-R 201-2/3   –   Radiometeorological data required for the planning of terrestrial and space communication systems and space research application

Question ITU-R 203-3/3   –   Propagation data and prediction methods for terrestrial broadcasting, fixed (broadband access) and mobile services at frequencies above 30 MHz

Question ITU-R 206-3/3   –   Propagation data and prediction methods for fixed- and broadcasting-satellite services

Question ITU-R 208-3/3   –   Propagation factors in frequency sharing issues affecting fixed-satellite services and terrestrial services

Question ITU-R 211-4/3   –   Propagation data and propagation models for the design of short-range wireless communication and access systems and wireless local area networks (WLAN) in the frequency range 300 MHz to 100 GHz.

2   Recommendations (P-series)

Rec. P.1144-4: "Guide to the application of the propagation methods of Radiocommunication Study Group 3". This Recommendation lists those propagation prediction methods available within the ITU-R P-series of Recommendations, together with their parameter ranges of applicability. It is a quick and easy way to identify the required Recommendation for each application. This Recommendation was updated regularly to reflect the latest revised and new Recommendations, the latest update revision 5 was carried out during the June meeting of SG 3 in this year. Originally this Recommendation was requested by ITU-D Study Group 2.

Recommendations associated with Question ITU-R 201-2/3:

–   Rec. ITU-R P.453-9: "The radio refractive index: its formula and refractivity data". This Recommendation gives basic formulae relating to the refractivity of the neutral atmosphere and maps indicating the geographical and season variation of surface refractivity and refractivity gradient.

–   Rec. ITU-R P.837-5: "Characteristics of precipitation for propagation modelling". This Recommendation contains a rain intensity prediction procedure suitable for providing the information needed for quantifying the effect of rain on radio systems. Also provided for easy reference are maps indicating the rain intensity exceeded for 0.01% of the time.

Recommendations associated with Question ITU-R 203-3/3:

–   Rec. ITU-R P.1406: "Propagation effects relating to terrestrial land mobile service and broadcasting in the VHF and UHF bands". This Recommendation provides information on various aspects of propagation, which should be taken into account in the design and planning of terrestrial land mobile services.

–   Rec. ITU-R P.1410-2: "Propagation data and prediction methods required for the design of terrestrial broadband and millimetric radio access systems operating in a frequency range of about 20-50 GHz". This Recommendation addresses aspects of millimetric radiowave propagation related to the delivery of broadband services in an access network. Information is given on the effects of buildings, vegetation and precipitation as they affect area coverage, and also on channel distortion.

–   Rec. ITU-R P.1546-3: "Methods for point-to-point area predications for terrestrial services in the frequency range 30 MHz to 3000 MHz. This Recommendation represents the "main" prediction method for the land-mobile and broadcasting services in the VHF and UHF bands. The method of version 2 of this Recommendation was used as the basis for the planning of digital broadcasting at the Regional Radiocommunication Conference 2006 (RRC-06). An update, revision 4, was carried out during the June meeting of SG 3 in this year.

–   Rec. ITU-R P.1812: "A path specific propagation prediction method for point-to-area terrestrial services in the VHF and UHF bands". This Recommendation provides a propagation prediction method for broadcasting and mobile services in the frequency range 30 MHz to 3 GHz with detailed analysis based on the terrain profile.

Recommendations associated with Question ITU-R 206-3/3:

–   Rec. ITU-R P.618-9: "Propagation data and prediction methods required for the design of earth-space telecommunication systems". This Recommendation contains data and prediction methods for evaluating the propagation effects that can occur on a slant path and which need to be taken into account in the design and planning of earth-space telecommunication systems. An update, revision 10, was carried out during the June meeting of SG 3 in this year.

Recommendations associated with Question ITU-R 208-3/3

–   Rec. ITU-R P.620-6: "Propagation data required for the evaluation of coordination distances in the frequency range 100 MHz to 105 GHz". This Recommendation contains the propagation calculation methods for the determination of the coordination area with respect to frequencies above 100 MHz. These methods were incorporated in Appendix 7 to the Radio Regulations used by administrations in the coordination process.

Recommendations associated with Question ITU-R 211/3

–   Rec. ITU-R P.1411-4: "Propagation data and prediction methods for the planning of short-range outdoor radiocommunication systems and radio local area networks in the frequency range 300 MHz to 100 GHz". This Recommendation provides methods for the assessment of the propagation characteristics of short-range outdoor radio systems between 300 MHz and 100 GHz where applicable. An update, revision 4, was carried out during the June meeting of SG 3 in this year.

–   Rec. ITU-R P.679-3: "Propagation data required for the design of broadcasting-satellite systems". Complementing Recommendation ITU-R P.618-9, this Recommendation contains data and prediction methods for evaluating the propagation effects that particularly apply in the design and planning of broadcast-satellite systems. An update, revision 10, of Recommendation ITU-R P.618-9 was carried out during the June meeting of SG 3 in this year.

3   Handbooks and/or the equivalent

3.1   Issued

3.1.1   "Curves for radiowave propagation over the surface of the Earth" (1991)

3.1.2   "Radiometeorology" (1996)

3.1.3   "Radiowave propagation information for predictions for Earth-to-space path communications" (1996)

3.1.4   "Ionosphere and its effects on radiowave propagation " (1998)

3.1.5   "Terrestrial land mobile radiowave propagation in the VHF/UHF bands" (2002)

3.1.6   "Radiowave propagation information for designing terrestrial point-to-point links" (2008).

3.2   Under preparation

3.2.1   A revision of the "Ionosphere and its effects on propagation" handbook has been initiated.

3.2.1   "Radio wave propagation information for predictions for signal levels likely to cause interference and for evaluation of coordination distances".

3.2.2   Partial revision of the handbook on "Radiometeorology", its publication is foreseen during 2011.

STUDY GROUP 4

Satellite services

Scope

Systems and networks for the fixed-satellite service, mobile-satellite service, broadcasting-satellite service and radiodetermination-satellite service.

1   Questions

Former Question 43/4 "Use of small earth stations in the fixed-satellite service in the event of natural disasters, epidemics, famines and similar emergencies for warning and relief operations" has been completed by issuing Recommendation ITU-R S.1001, thus answering this Question.

Former Question 252/4 "Criteria for the protection of Appendix 30B Plan against interference from non-GSO systems"

Former Question 269/4 "Spectrum requirements and technical and operational characteristics of user terminals (VSAT) for global broadband satellite systems"

Question 118-1/6 – Broadcasting means for public warning, disaster mitigation and relief

Former Question 90/8 – Technical and operating characteristics of systems providing radiocommunication using satellite techniques for distress and safety operations

Question 227/4 – Technical and operational characteristics of emergency communications in the mobile-satellite service

2   Recommendations (S and BO series)

Rec. ITU-R S.1001-1: "Use of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations"

Rec. ITU-R BO.1774-1: "Use of satellite and terrestrial broadcast infrastructures for public warning, disaster mitigation and relief"

Rec. ITU-R S.1782: "Possibilities for global broadband Internet access by fixed-satellite service systems"

3   Handbooks and/or the equivalent

3.1   Issued:

3.1.1   "Satellite communications" (fixed-satellite service, second edition 1988). With this Handbook are also three supplements:

–   Supplement 1: "Effect of WARC ORB-88 Decisions" ()

–   Supplement 2: "Computer programs for satellite communications" (1993)

–   Supplement 3: "VSAT systems and earth stations" (1994)

3.1.2   A third revised edition of the Handbook on Satellite Communications (FSS), including all new technical and operational developments, was published in 2002.

3.1.3   Handbook on "Specifications of transmission systems for the broadcasting-satellite service" (1993).

3.1.4   Handbook on "Terrestrial and satellite digital sound broadcasting to vehicular, portable and fixed receivers in the VHF/UHF bands" (2002).

3.1.5   Handbook on "Mobile-satellite service (MSS)" (2002).

3.1.6   Supplements No. 1, 2, 3 and 4 to Handbook on Mobile-satellite service (MSS) (2006).

3.2   Under preparation:

Preliminary draft revision of Recommendation ITU-R S.1001-1: "Use of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations"

Preliminary draft new Recommendation ITU-R M.[MOBDIS]: "Use of mobile-satellite service (MSS) in disaster response and relief"

4   Remarks

4.1   This Study Group decided to cancel the electronic version of its user guide for Satellite News Gathering of 1996 from the ITU website being no more useful after all these years.

4.2   This Study Group will be responsible for six agenda items of the next World Radiocommunication Conference 2012, as follows:

4.2.1   Agenda item 1.7: to ensure long-term spectrum availability for the aeronautical mobile-satellite (R) service in accordance with Resolution 222 (Rev.WRC-07).

4.2.2   Agenda item 1.13: Spectrum usage of the 21.4-22 GHz band for the broadcasting-satellite service in Region 1 and 3 in accordance with Resolution 551 (WRC-07)

4.2.3   Agenda item 1.18: to extend the allocations of radiodetermination-satellite service (S-E) in the band 2 483.5-2 500 MHz in accordance with Resolution 613 (WRC-07).

4.2.4   Agenda item 1.25: possible additional allocations to the mobile-satellite service in the range 4 GHz to 16 GHz in accordance with Resolution 231 (WRC-07).

4.2.5   Agenda item 7: possible changes to advance publication, coordination, notification and recording procedures for satellite networks, in accordance with Resolution 86 (Rev.WRC-07).

4.2.6   Agenda item 8.1.1, Issue B: updating of the remarks column in the tables of Article 9A of Appendix 30A and Article 11 of Appendix 30 to the RR in accordance with Resolution 547 (Rev.WRC-07).

STUDY GROUP 5

Terrestrial services

Introduction

This new Study Group was the result of the (RA-07) decision to merge all terrestrial services (except for broadcasting) into one single new Study Group, replacing the former Study Group 8 (mobile, radiodetermination, amateur and related satellite and services) and Study Group 9 (fixed services)

Scope

Systems and networks for fixed, mobile, radiodetermination, amateur and amateur-satellite services.

1   Questions

Question 48-6/5 –   Techniques and frequency usage in the amateur service and amateur-satellite service

Question 77-6/5 –   Consideration of the needs of developing countries in the development and implementation of mobile radiocommunication technology (Question 18-1/2 will report on this Question)

Question 209-3/5 –   Contributions of the mobile and amateur services and associated satellite services to the improvement of disaster communications.

Question 229-2/5 –   Future development of the terrestrial component of IMT (Question 18/2 will report on this Question.)

Question 125-7/5 –   Point-to-multipoint fixed wireless systems used in access or back-haul networks

Question 212-2/5 –   System characteristics and frequency bands for fixed service systems utilizing "high altitude platform stations"

2.1   Recommendations (F series)

Rec. ITU-R F.701-2: "Radio frequency channel arrangements for analogue and digital point-to-multipoint radio systems operating in frequency bands in the range 1 350-2 690 GHz (1.5, 1.8, 2.0, 2.2, 2.4 and 2.6 GHz)"

Rec. ITU-R F.1098-1: "Radio frequency channel arrangements for fixed wireless systems in the range 1 900-2 300 MHz"

Rec. ITU-R F.1242: "Radio frequency channel arrangements for digital radio systems operating in the range 1 350-1 530 MHz"

Rec. ITU-R F.1243: "Radio frequency channel arrangements for digital radio systems operating in the range 2 290-2 670 MHz"

Rec. ITU-R F.755-2: "Point-to-multipoint systems used in the fixed service"

Rec. ITU-R F.756: "TDMA point-to-multipoint systems used as radio concentrators"

Rec. ITU-R F.1488 "Frequency block arrangements for FWA systems in the range 3 400-3 800 MHz"

Rec. ITU-R F.757-3: "Basic system requirements and performance objectives for FWA using mobile-derived technologies offering basic telephone services"

Rec. ITU-R F.1399-1: "Vocabulary of terms for wireless access"

Rec. ITU-R F.1400: "Performance and availability requirements and objectives for FWA to PSTN"

Rec. ITU-R F.1401-1: "Frequency bands for FWA systems, and the identification methodology"

Rec. ITU-R F.1402: "Frequency sharing criteria between a land mobile wireless access system and FWA systems using the same equipment type as the mobile wireless access system"

Rec. ITU-R F.1490-1: "Generic requirements for FWA systems"

Rec. ITU-R F.1500: "Preferred characteristics of systems in the fixed service using HAPS operating in the bands 47.2-47.5 GHz and 47.9-48.2 GHz"

Rec. ITU-R F.1501: "Coordination distance for systems in the FS involving HAPS sharing the 47/48 GHz bands with other FS systems"

Rec. ITU-R F.1111-1: "Improved Lincompex systems for HF radio-telephone circuits"

Rec. ITU-R F.1335: "Technical and operational considerations in the phased transitional approach for bands shared between the mobile-satellite service and the fixed service of 2 GHz"

Rec. ITU-R F.1405: "Guidance to facilitate coordination and use of frequency bands shared between the FS and MSS in the frequency range 1-3 GHz"

2.2 Recommendations (M series)

– Rec. ITU-R M.1041-2: "Future Amateur Radio System (FARS)"

– Rec. ITU-R M.1042-3: "Disaster communications in the amateur and amateur-satellite services"

– Rec. ITU-R M.1043-2: "Use of the amateur and amateur-satellite services in the developing countries"

– Rec. ITU-R M.1044-2: "Frequency sharing criteria in the amateur and amateur-satellite services"

3 Handbooks and/or the equivalent

3.1 Issued

3.1.1 "Digital Radio relay systems" A very important handbook, addressing also the needs of developing countries issued in 1996.

3.1.2 "Land mobile" (including wireless access). Volume I, (second edition (2001).

3.1.3 Land Mobile (including wireless access). Volume II (Principles and approaches on evolution to IMT-2000/FPLMTS) of this Handbook issued in 1998.

3.1.4 "Deployment of IMT-2000 Systems", developed as a joint activity between the three ITU Sectors was published by the end of 2003.

3.1.5 Supplement 1 to the Handbook on Deployment of IMT-2000 systems – Migration to IMT-2000 systems (published end 2005).

3.1.6 "Land mobile" (including wireless access), Volume III (Dispatch systems), published end 2005

3.1.7 "Land mobile" (including wireless access), Volume IV (Intelligent Transport Systems ITS), published end 2006.

3.1.8 Guide to the use of ITU-R texts related to the land mobile service (under continuous updating) - http://www.itu.int/ITU-R/study-groups/docs/rwp5a-guide-en.doc.

3.1.9 Handbook for the Amateur and Amateur-Satellite Services (published June 2007)

3.1.10 Frequency-advaptive communication system and networks in the MF/HF bands" issued in 2002 at the request of the Developing Sector.

3.1.11 Report ITU-R M.2117 "Software defined radio in the land mobile, amateur and amateur-satellite services".

3.2 Under preparation:

3.2.1 New report on "Cognitive Radio Systems in the Land Mobile Service"

3.2.2 "Land Mobile" Volume V (Deployment of broadband wireless access systems).

3.3   "Tutorial supplement to the HF Handbook mentioned in § 3.1.2, at the request of the Development Sector.

4   **Remarks**

This Study Group is the responsible for Group for 9 agenda items for WRC-11, which is a unique case among all other Study Groups, these agenda items are: 1.3, 1.4 (represents three different subjects, equivalent to 3 agenda items), 1.5, 1.8, 1.9, 1.15, 1.20, 1.21, and 1.23.

1.3   Spectrum requirements for unmanned aircraft systems (UAS)

1.4   Regulatory measures to facilitate introduction in new aeronautical mobile ® services in the bands
     a   112-117.975 MHz
     b   960 – 1164 MHz
     c   5000-5030 MHz

1.5   Harmonization of spectrum for electronic news gathering (ENG)

1.8   Technical and regulatory issues relative to the fixed service in the bands 71 to 238 GHz

1.9   Revision of frequencies and channelling arrangements for Appendix 17 of frequencies

1.15   Possible allocation of frequencies in the range 3-50 MHz for oceanographic radar applications

1.20   Possible Spectrum identification for gateway links for high altitude statures (HAPS)

1.21   Possible additional allocation to radiolocation in the band 15.4-15.7 GHz

1.23   Possible allocation of 15KHz for the Amateur services

STUDY GROUP 6

Broadcasting service

This is a Study Group created by decision of the Radiocommunication Assembly 2000 to merge the former Study Group 10 (Sound broadcasting) and Study Group 11 (Television broadcasting) into one Study Group. The Radiocommunication Assembly of 2007 decided to transfer the RF spectrum and system aspects of the Broadcasting Satellite Service to Study Group 4.

Scope

Radiocommunication broadcasting, including vision, sound, multimedia and data services principally intended for delivery to the general public.

Broadcasting makes use of point-to-everywhere information delivery to widely available consumer receivers. When return channel capacity is required (e.g. for access control, interactivity, etc.), broadcasting typically uses an asymmetrical distribution infrastructure that allows high capacity information delivery to the public with lower capacity return link to the service provider. This includes production and distribution of programmes (vision, sound, multimedia, data, etc.) as well as contribution circuits among studios, information gathering circuits (ENG, etc.) primary distribution to delivery nodes, and secondary distribution to consumers.

The Study Group, recognizing that radiocommunication broadcasting extends from the production of programmes to their delivery to the general public, as detailed above, studies those aspects related to production and radiocommunication, including the international exchange of programs as well as the overall quality of service.

N.B. – Question 11-1/2 will cover all Questions of particular interest to the development sector.

2   Handbooks and/or the equivalent

2.1   Issued:

2.1.1   Television systems used around the world (Still available reference for developing countries)*

2.1.2   Compatibility between the broadcasting service in the band about 87-208 MHz and the aeronautical services in the band 108-137 MHz (1991)

2.1.3   Digital television signals, coding and interfacing within studios (1995)

2.1.4   Subjective assessment methodology in television (1996)

2.1.5   Technical specifications of ITU-R teletext systems (1999)

2.1.6   HF Broadcasting system design (1999)

2.1.7   LF/MF system design (2001)

2.1.8   Terrestrial and satellite digital sound broadcasting to vehicular, portable and fixed receivers in the VHF/UHF bands (2002)2.1.9   Digital terrestrial television broadcasting in the VHF/UHF bands (2002)

2.1.10   The new Report ITU-R BT.2140 on the Transition from Analogue to Digital terrestrial Broadcasting (2008), which will be a useful guideline for the work of Question 11-1/2.

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* Updated information can be found in Recommendation ITU-R BT.470, Conventional Television Systems (1998) and in Report ITU-R BT.2043: Analogue television systems currently in use throughout the world (2004).

STUDY GROUP 7

Science services

Scope

1   Systems for space operation, space research, Earth exploration and meteorology, including the related use of links in the inter-satellite service.

2   Systems for remote sensing, including passive and active sensing systems, operating on both ground-based and space-based platforms

3   Radio astronomy and radar astronomy.

4   Dissemination, reception and coordination of standard-frequency and time-signal services, including the application of satellite techniques, on a worldwide basis.

1   Questions

None was selected due to the particular scope of this Study Group1.

2   Recommendations (SA, RA, RS and TF series)

None1

3   Handbooks and/or the equivalent

3.1   Issued

3.1.1   "Radio astronomy" (2003). This Handbook is intended to be used by the spectrum managers to understand the frequency sharing issues and their implications.

3.1.2   "The selection and use of precise frequency and time systems" (1997). This Handbook explains the relation between precision frequencies and standard timing for spectrum managers.

3.1.3   "Space research communications (2002)". This Handbook addresses the use of radio spectrum by the research service and discusses related aspects of spectrum management necessary for sharing with other radiocommunication services.

3.1.4   "Use of Radio Spectrum for Meteorology: Weather, Water and Climate Monitoring and Prediction (2008)". This Handbook provides technical information on the use of radio spectrum by meteorological systems in the meteorological satellite and meteorological aids services. Such systems include meteorological satellite, radio sources, weather radars, wind profiler radars and space-borne remote sensors. The Handbook was updated recently in 2009 through joint activities by SG 7 experts and their counterparts in the World Meteorological Organization (WMO). Electronic version is available free of charge at: http://www.itu.int/publ/R-HDB-45/en.

3.2   Under preparation

3.2.1   "Satellite Time and Frequency Transfer and Dissemination". The handbook will address, inter alia, navigation satellite systems, timescales, international timekeeping and reference systems, geodetic systems, and techniques and receiving equipment for time and frequency transfer. Publication is expected for the beginning of 2010

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1   Even there was no Question and Recommendation identified as a particular interest for ITU-D Study Groups the ITU-R Study Group 7 (Science services) is one of the main source of information for ITU-D concerning the use of radio technologies for disaster prediction, detection and mitigation of negative effect of disasters as well as environment and climate monitoring (see WTDC-06 Resolution 2, Question 22/2).

3.2.2   "Earth exploration-satellites". The handbook will provide information on the use of Earth exploration-satellite systems for environment control, weather forecast, climate change monitoring, natural disaster prediction and detection and mitigation of negative effect of disasters. Publication is expected for the end of 2009.

Annex 1

PART 2

ITU-T[2] Questions of particular concern to developing countries

Mission of the Sector

The ITU-T fulfils the purposes of the ITU relating to telecommunications standardization by studying technical, operating and tariff Questions and adopting on them relevant Recommendations with a view to standardizing telecommunications on a worldwide basis.

N.B.

1   In accordance with the ITU Convention, the World Telecommunication Standardization Assembly (WTSA) was convened last year in October 2008 (21-30). A new study group structure (number, mandate and management), took place at this Assembly with the adoption of the relevant Questions.

2   As a result of this restructuring of Study Groups, the work of three Study Groups (4, 6 and 19) were merged with the other Study Groups, as will be clarified later in this progress report.

3   The ITU-T Study Groups complement the adopted Recommendations, normative texts, by supplements, non-normative texts, belonging to each series of Recommendations identified by a number for each Recommendation and a letter prefix. Appendix 1 attached at the end of this Part clarifies the identification and layout of ITU-T Recommendations. Appendix 2 attached at the end of this Part clarifies the understanding of supplements.

4   The ITU-T Sector organizes since 2001 a series of workshops and seminars, which are of great value to developing countries, and since 2005 has initiated a stronger campaign for the promotion of standards by means of a new newsblogs-based information centre called "Lighthouse" and the initiative with discussion forums, called Technology Watch, to investigate new emerging technologies with the aim to provide new studies for standardization. For more information, please consult the following web site:

http://itu.int/ITU-T/worksem/
http://itu.int/ITU-T/lighthouse/
http://itu.int/ITU-T/techwatch/.

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[2]   For more detailed information, please consult: http://itu.int/ITU-T/index.html.

STUDY GROUP 2

Operational aspects of service provision and telecommunication management

The new Study Group 2 took in addition to its responsibility and mandate, the maximum work elements of former Study Group 4, is the lead Study Group for Service definition (including all types of mobile services) and become responsible for emergency communications.

Responsible for studies relating to:

- Principles of service provision, definition and operational requirements of service emulation;
- Numbering, naming, addressing and identification requirements and resource assignment including criteria and procedures for reservation and assignment;
- Routing and interworking requirements;
- Human factors;
- Operational aspects of networks including network traffic designation, and transport-related operational procedures;
- Operational aspects of interworking between traditional telecommunication networks and evolving networks;
- Evaluation of feedback from operators, manufacturing companies and users on different aspects of network operation.
- Management of telecommunication services, networks, and equipment via management systems, including support for next generation networks (NGN) and the application and evolution of the telecommunication management network (TMN) framework;

    Ensuring the consistency of the format and structure of IdM identifies; and

- Specifiying interfaces to management systems to support the communication of identity information within or between organizational domains.

Its role and mandate was strengthened in WTSA-08 with a new Revision of Resolution 20 (Rev.WTSA-08) reflecting the additional mandates as well as revised Resolutions 47, 48 and the new Resolutions 60, 61, 62, 63, 65 and 70.

1   Questions

Question 1/2 –   Applications of Numbering, Naming and Addressing Plans telecommunications and services and operational aspects of numbering, including service definition.

Relevant Recommendations:

- E.162: "Capability of seven digit analysis for international E.164 numbers at time T" (new)
- E.164: "The international public telecommunication numbering plan"
- E.164-1: "Criteria and procedures for the reservation, assignment and reclamation ICS"
- E.164-2: "Numbering resources for trial"
- E.164-3: "Principles, criteria and procedures for the assignment and reclamation of E.164 country codes and associated identification codes ICS"
- E.165-1: "Use of escape code '0' within the E.164 numbering plan during the transition period to implementation of number plan interworking (NPI) mechanism"
- E.166/X.122: "Numbering plan interworking for the E.164 and X.121 numbering plans"
- E.169: "Application of E.164 numbering plan for universal international numbers for international telecommunications services using country codes for global service"

- E.169.1: "Application of Recommendation E.164 numbering plan for universal international freephone numbers for international freephone service"

- E.169.2: "Application of Recommendation E.164 numbering plan for universal international premium rate numbers for the international premium rate service"

- E.169.3: "Application of Recommendation E.164 numbering plan for universal international shared cost numbers for the international shared cost service"

- E.190: "Principles and responsibilities for the management, assignment and reclamation of E-Series international numbering resources"

- E.191: "B-ISDN addressing"

- "E.195: "ITU-T international numbering resource administration"

- E.212: "Network operational principles for future public mobile systems and services"

- F.16: "Global virtual network services"

- E.117: "Terminal devices used in connection with the public telephone service (other than telephone)"

- E.152: "International free phone service" (revision)

- E.153: "Home country direct"

- E.168: " "Application of E.164 numbering plan for UPT"

Question 3/2 – Human factors related for improvement of the quality of life through international telecommunications

Relevant Recommendations:

- F.902: "Interactive services design guidelines"

- E.135: "Human factors aspects of public terminals for people with disabilities"

- F.910: "Procedures for designing, evaluating and selecting symbols, pictograms and icons"

- E.121: "Pictograms, symbols and icons to assist users of the telephone service"

Former Question 1/4 – Terms and definition of S.G. 4, now become Question 6/2 of S.G.2 with the same title

Relevant Recommendation:

- M.60: "Maintenance terminology and definitions"

Former Question 3/4 – Transport network and service operations procedures for performance and fault management of S.G. 4 was merged with former Question 5 of S.G.2 under the name "network and service operations and maintenance procedures"

Relevant Recommendations:

- M.2100: Performance limits for bringing-into-service and maintenance of international PDH paths, sections and transmission systems"

- M.2101.1: Performance limits for bringing-into-service and maintenance of international SDH paths and multiplex sections"

- M.2110: Bringing-into-service of international PDH paths, sections and transmission systems and SDH paths and multiplex sections"

Former Question 6/4 – Management principles and architecture of S.G. 4, now became Question 8/2 of S.G. 2 under the name "Management framework and architecture"

Relevant Recommendations:

- M.3000: "Overview of TMN Recommendations"

- M.3010: "Principles for a Telecommunications Management Network"

- M.3013: "Considerations for Telecommunication Management Network"

- M.3600: "Principles for the management of ISDNs"
- M.3610: "Principles for applying the TMN concept to the management of B-ISDN"

Question 4/4 − Test and measurement techniques and instrumentation for use on transmission systems and their constituent parts

2 Handbooks and/or the equivalent

2.1 Issued

2.1.1 In the past many useful ITU-T documents were prepared by the former ITU-T Study Group 1[2], mainly to facilitate the operational activities of the telecommunication services, e.g.: Bureaufax tables, gentex tables, codes and abbreviations for the use of the international telecommunication services, etc. In addition, the Appendix 1, attached to this report, contains a list of valid Supplements to those Recommendations pertinent to former Study Group 1 (i.e. E- and F-series), as well as those for Study Group 2.

2.1.2 "Instructions for the international telephone service" (1993)

2.1.3 A new Handbook for quality of service was published in 2005 in English. Other linguistic versions are under preparation.

2.1.4 The former Handbook on "Quality of service & network performance" 1993 issued by former S.G. 4.

2.2 Under preparation

None

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[2] Responsible mainly for Service Definition (is now part of the responsibility of this Study Group).

STUDY GROUP 3

Tariff and accounting principles including
related telecommunications economic and policy issues

Study Group 3 is responsible for studies related to tariff and accounting principles for international telecommunications services and study of related telecommunication economic and policy issues. To this end, Study Group 3 should in particular foster collaboration among its Members with a view to the establishment of rates at level as low as possible consistent with an efficient service and taking into account the necessity for maintaining independent financial administration of telecommunication a sound basis.

Question 1/3 –   Development of charging and accounting/settlement mechanisms for telecommunications services, including adaptation of the D-series Recommendations to the evolving market environment

Relevant Recommendations:

•   D.50: "International Internet connection"

•   D.120: "Charging and accounting principles for the automated telephone credit card service"

•   D.140: "Accounting rate principles for international telephone services" with five annexes (A, B, C, D & E)

•   D.155: "Guiding principles governing the apportionment of accounting rates in the intercontinental telephone relations"

•   D.170: "Monthly telephone and telex accounts"

•   D.190: "Exchange of international traffic accounting data between Administrations using electronic data interchange (EDD) techniques" (revision)

•   D.201: "General principles regarding call-back practices"

Question 2/3 –   Study of economic and policy factors relevant to the efficient provision of international telecommunication services.

Relevant Recommendations:

None

Question 3/3 –   Regional studies for the development of cost models together with related economic and policy issues (former Questions 13 and 14 and the basis for the work of the regional tariff groups TAF, TAL, TAS and TEUREM).

Relevant Recommendations:

•   D.300R: "Determination of accounting rate shares in telephone relations between countries in Europe and the Mediterranean Basin"

•   D.301R: as D.300R, but for telex.

•   D.302R: as D.300R, but for telegrams.

•   D.303R: as D.300R, but for circuits of sound and television programme transmission.

•   D.306R: as D.300R, but for public-switched data transmission network.

•   D.307R: "Renumeration of digital systems and channels used in telecommunication relations between the countries of Europe and the Mediterranean Basin"

•   D.310R: "Determination of rentals for the lease of international programme (sound and television) circuits and associated control circuits for the private service in relation between countries in Europe and the Mediterranean basin"

•   D.400R: "Accounting rates applicable to direct traffic relations in voice telephony between countries in Latin America and the Caribbean"

- D.500R: "Accounting rates applicable to telephone relations between countries in Asia and Oceania" (also a Supplement was issued to this Recommendation on method of carrying out the cost price study in Asia and Oceania)

- D.501R: The same as D.500R, but for telex.

- D.600R: "Determination of accounting rate shares and collection charges in telephone relations between countries in Africa" (revision)

- D.601R: The same as D.600R but for telex relations

- D.602R: The same as D.600R but for application of "sender pays transit" principle in transit relations

- D.603R: Minimizing collection charges on inter African calls

- D.604R: Preferential rates in telecommunication relations between countries in Africa

Question 4/3 − Terms and definitions of Recommendations dealing with tariff and accounting principles.

Relevant Recommendation:

- D.000: "Terms and definitions for the Series D Recommendations" (revision)

2 Handbooks and/or the equivalent

Three supplements (see attached supplement in Appendix 1) and a handbook on costing methodologies..

3 Conclusion

a- It is worth mentioning that a sufficient number of delegations from developing countries participate actively in the work of this Study Group, which is not the case for the rest of the ITU-T Study Groups, where the participation of delegations from developing countries is minimal, if non-existent in some cases.

b- This Study Group cooperates with ITU-D Study Group 1 on the Question for tariffs, 12-2/1.

c- This S.G. was requested by revised Resolution 26 "Assistance to Regional Groups of Study Group 3" to support the work of these Regional Groups (TAS, TAF & TAL)

d- This S.G. with S.G.2 is responsible for the implementation of revised Resolution 29 "alternatively Calling procedures on international telecommunication networks"

e- This S.G. with S.G.2 is responsible for the implementation of new Resolution 64" IP address allocation and encouraging the development of IPv6.

STUDY GROUP 5

Protection against electromagnetic environment effects the name and the mandate of this S.G. were changed by the Telecommunication Standardization Advisory Group "TSAG" in April this year to be called "Environment and Climate Change"

Responsible for studies relating to protection of telecommunication networks and equipment from interference and lightning. Also responsible for studies to electromagnetic compatibility (EMC), to safety and to health effects connected with electromagnetic fields produced by telecommunication installations and devices, including cellular phones. Responsible also for Studies on the existing network outside plant and related indoor also installation. And after the change of its name and mandate become the Lead Study Group on Environment and Climate change.

1   Questions

Question 5/5 − Lighting protection of fixed, mobile and wireless systems

Relevant Recommendations:

- K.25: "Protection of optical fibre cables"
- K.39: "Risk assessment of damages to telecommunication sites due to lightning discharges"
- K.40: "Protection against LEMP in telecommunication centres"
- K.46: "Protection of telecommunication lines using metallic symmetric conductors against lightning induced surges"
- K.47: "Protection of telecommunication lines using metallic conductors against direct lightning discharges"
- K.56: "Protection of radio base stations against lightning discharges"

Question 9/5 −   Interference produced by power lines and electrified railway lines into telecommunication networks

Relevant Recommendations:

- K.54: "Conducted immunity test method and level at fundamental power frequencies"
- K.57 "Protection measures for radio base stations sited on power line towers"

Question 11/5 – Safety in the telecommunications networks

Relevant Recommendations:

- K.50 "Safe limits of operating voltages and currents for telecommunication systems powered over the network"
- K.51 "Safety criteria for telecommunication equipment"
- K. 64 "Safe working practices for outside equipment installed in particular environments"

Question 13/5 – Protective components and assemblies

Relevant Recommendations:

- K.11: "Principles of protection against over voltages and over currents"
- K.36: "Selection of protective devices"

2   Handbooks and/or the equivalent

2.1   Issued

2.1.1   "CCITT Directives concerning the protection of telecommunication lines against harmful effects from electrical power and electrified railway lines:

Volume I: "Design construction and operational principles of telecommunications, power and electrified railway facilities" (revision 1990)

Volume II: "Calculating induced voltages and currents in practical cases" (revision 1999)

Volume III: "Capacitive inductive and conductive coupling: physical theory and calculation method" (revision 1999)

Volume IV: "Inducing currents and voltages in electrified railway systems" (revision 1990)

Volume V: "Inducing currents and voltages in power transmission and distribution systems" (revision 1990)

Volume VI: "Danger and disturbance" (revision 2004, not yet published)

Volume VII: "Protective measures and safety precautions" (revision 1990)

Volume VIII: "Protective devices" (revision 1990)

Volume IX: "Testing methods and measuring apparatus" (revision 1990).

2.1.2   The lightning Handbook composed of 10 Chapters "The protection of telecommunication lines and equipment against lightning discharges". Originally published in 1974, composed of five chapters, then chapters 6, 7 and 8 appeared in 1978, and chapters 9 and 10 were issued in 1994 (for details of these chapters, refer to the Guide 2.1.3).

2.1.3   Handbook, entitled: "Guide to the use of ITU-T publications produced by SG 5 aimed at achieving electromagnetic compatibility and safety" was issued in 2002, which is of great use for developing countries. This Handbook is updated regularly, the last version was updated in the SG 5 meeting in June 2005, a new update is expected in 2008.

2.1.4   A Handbook on interference measuring techniques was issued in 2001.

2.1.5   The new handbook "Earthing and bonding" was approved in June 2003 (to replace the old handbook "Earthing of telecommunication installations" issued in 1976).

2.1.6   The "Handbook of mitigation measures for telecommunications installations" was approved in December 2004 and is under publication.

2.2   Under preparation

2.2.1   Revisions of Volumes V and VIII of the Directives are planned for this study period up to 2008.

2.2.2   Possible additional chapters to the handbook "Protection of telecommunication lines and equipment against lightning discharges" are under preparation. Publishing date is not finalized.

3   New Questions under the new mandate: the last meeting of S.G. 5 in May this year proposed a new sets of Questions to respond to the new additional mandate on "environment and climate change", which are expected to be adapted soon, in addition to be responsible for a former Question of S.G. 15, now called Question 21/5 environemental protection and recycling of ICT equipment/facilities.

4   This Study Group became the responsible for implementing two new Resolutions of WTSA-08, 72 "Measurements concerns related to human exposure to electromagnetic fields" and 73 "Information and Communication technologies and climate change".

STUDY GROUP 9

Television and Sound Transmission and Integrated Broadband Cable Networks

Lead Study Group on integrated broadband cable and television networks. Responsible for studies relating to:

- Use of telecommunication systems for contribution primary distribution and secondary distribution of television, sound programmes and related data services including interactive services.

- Use of cable and hybrid networks, primarily designed for television and sound programme delivery to the home, as integrated broadband networks to also carry voice or other time critical services, video on demand, interactive services, etc.

Study Group 9 will be responsible for coordination on broadcasting with Study Group 6 in the Radio sector

N.B:

a-   Question ITU-D 11-1/2 will cover any Question of particular interest to the Development sector.

b-   Some harmonization between the Questions of this Study Group and Study Group 16 was requested by (WTSA-08) in order to eliminate any overlap between the Questions of both Study Groups

c-   All the Recommended outputs of this Study Groups is addressed to the Industry for manufacturing.

STUDY GROUP 11

Signalling requirements, protocols test including test specifications

Responsible for studies relating to signalling requirements and protocols including those for IP based networks, , some multimedia related signalling aspects, ad hoc networks (sensor networks, RFID, etc…), QoS, and interwork signalling for ATM, N-ISDN and PSTN Networks. This also includes reference signalling architectures and test specifications for NGN and emerging networks (e.g. USN).

1   Questions

All the Questions (15 in total) are addressing mainly signalling requirements and protocols including the support of bearer independent call control (BICC).. All Recommendations resulted from the study of these Questions are relevant to manufacturing, Questions 8 (Protocol test specifications for NGN, Question Service test specification for NGN, Question 11 QoS, USN and RFID test specifications are new Questions addressing the new mandate for test specifications (see Resolution 76 of Johanesbourg, 2008 on Studies related to conformance and interoperability testing)

2   Recommendations:

It is worth mentioning some of the still valid valuable Recommendations of the Q series and new additional recently developed ones on testing:

*   Q9: Vocabulary of switching and signalling terms
*   Q13: International telephone routing plan
*   Q500: Digital local, combined, transitional international exchanges – introduction and field of application
*   Q55: Transmission – characteristics of digital exchanges
*   Q601: Interworking of signalling systems – general
*   Q700: Introduction to CCITT signalling No. 7
*   Q933: Digital subscriber signalling No. 1 (DSSI)
*   Q.1000: Structure of the Q.1000 – series Recommendations for public land mobile networks
*   Q.1200-Series – Intelligent Network
*   Q.1900-Series – Bearer Independent Call Control
*   Q2931: Digital subscriber signalling system No. 2
*   Q.3900: "Methodology of testing and model network architecture for NGN technical means testing in the model and operators networks" 2006
*   Q.3901: "Distribution of tests and services for NGN technical means testing in the model and operate Networks" (2008)
*   Q.3903: "Formalized presentation of testing results (2008)

NOTE – In addition to about 2000 Recommendations of Study Group 11, many Q-Series supplements represent a valuable source of information to those interested in the work of Study Group 11 (e.g. Q-Series Supplement 51 on Signalling requirements for IP-QoS).

2   Handbooks and/or equivalent

2.1   Issued

2.1.1   "Guidelines for preparing and conducting field trials of digital switching equipments" (1987)

2.1.2   "ISDN field trial guidelines" (1991)

2.1.3   "Guidelines for implementing a signalling system No. 7 network" (1991)

2.2   Under preparation

         In close collaboration with SG 13, a new handbook on "The deployment of packet based networks"

3   As a leader on test specifications, for NGN and emerging networks (e.g. USN) etc… The follow-up of the results of test specifications shall be given the priority by developing countries which were behind the adoption of Resolution 76 of (Johanesbourg 08) mentioned before.

STUDY GROUP 12

Performance,quality of service QoS and quality of experience QoE

Responsible for Recommendations on performance, quality of service (QoS) and quality of experience (QoE) for the full spectrum of terminals, networks and services ranging from speech over fixed circuit-based networks to multimedia applications over networks that are mobile and packet based. Included in this scope are the operational aspects of performance, QoS and QoE.

A special focus is given to interoperability to ensure end-to-en users' satisfaction.

1   Questions

Question 10/12 −   Transmission planning and performance considerations for voiceband, data and multimedia services

Relevant Recommendations:

•   G.113: "Transmission impairments due to speech processing"

•   G.175: "Transmission planning for private/public network interconnection of voice traffic"

Relevant Recommendation:

•   G.177 − "Transmission planning for voiceband services over IP connections"

NOTES:

a)   The G100 series of Recommendations are essential Recommendations for the quality of service end-to-end transmission performance of networks and terminals.

b)   The complementary P series of Recommendations (60 in total) and corresponding supplements, complement those essential Recommendations mentioned in a. above.

c)   With 17 Questions , some of the related testing and assessment methods and objectives for QoS, QoE, a better analysis of those Question is needed by Question 9/2 in the future taking into consideration that some responsibility of Question 4 were transferred to this Study Group.

2   Handbooks and/or the equivalent

2.1   Issued

2.1.1   "Telephonometry" (published 1993) and continuously amended.

2.2   Under preparation

         Handbook of subjective testing procedures (STP)

STUDY GROUP 13

Future networks including mobile and NGN

Responsible for studies relating to the requirements, architecture, evolution and convergence of future networks. Also includes NGN project management coordination across study groups and release planning, implementation scenarios and deployment models, network and service capabilities, interoperability, impact of IPv6, NGN mobility and network convergence and public data network aspects of IDM.

Responsible for studies relating to network aspects of mobile telecommunication networks, including International Mobile Telecommunications (IMT) wireless Internet, convergence and mobile fixed networks, mobility management, mobile multimedia networks functions, internetworking, interoperability and enhancement of existing ITU-T Recommendations.

1   Questions

14 of these Questions are relevant to the NGN, the most important is Question 1/13 "Coordination and planning for NGN, the answer to this being the successoral S. G. 19 on mobility, five new Questions were developed to carry such succession.

Study Group 13 Question 13 - "Step-by-step migration to NGN networks" is the follow-up of former Question 7 of the last cycle which was the most important Question to be reported on its progress bu Question 19-1/2.

N.B.: ITU-D Question 19/2 "Strategy for migration from circuit-switched networks to packet-switched networks" will report regularly on the progress of those Questions on NGN with the relevance to Question 19/2 in particular new Question 13 as well as those for mobility.

2   Recommendations

The following three Recommendations are basic ones:

2.1   Y.2001, General overview of NGN

2.2   Y.2011, General principles and general reference model for next generation networks

2.3   Y.2262, "PSTN/ISDN emulation and simulation towards NGN"

3   Handbooks and/or the equivalent
None

STUDY GROUP 15

Optical and other transport network infrastructures

Study Group 15 is responsible in ITU-T for the development of standards on optical transport network infrastructures, systems, equipment, optical fibres and cables, and their related installation, maintenance, test, instrumentation and measurement techniques, and control plane technologies to enable the evolution toward intelligent transport networks. This encompasses the development of relates standards for the customer premises, access, metropolitan and long-haul sections of communication networks.

N.B.   The Study Group integrated all the work of S.G. 6 (A) with its relevant Questions except former Question 6 (A), Question 15/19 which was agreed by TSAG to become the responsibility of Study Group 5.

Study Group 15 also integrated work carried out by former S.G. 4 for measuring equipment.

1   Questions

Question 1/15 − Coordination of Access Network Transport

Question ITU-D 20-1/2 will cover all relevant Recommendations on Digital Subscriber Line (DSL) transceivers.

Question 2/15 − Optical systems for fiber access networks

Relevant Recommendation:
- G. 981: "PDH optical fibre systems for the local network" (new)
- G.983.1: "Broadband optical access systems based on Passive Optical Networks (PON)"
- G.983.2: "ONT management and control interface specification for ATM PON"

Question 5/15 − Characteristics and text methods of optical fibres and cables of the last cycle

Relevant Recommendations:
- G.650.1: "Definitions and test methods for liner, deterministic attributes of single-mode fibre and cable"
- G.650.2: "Definitions and test methods for statistical and non-linear related attributes of single-mode fibre and cable"
- G.653: "Characteristics of a dispersion-shifted single-mode optical fibre cable"
- G.654: "Characteristics of a cut-off shifted single-mode optical fibre cable"
- G.655: "Characteristics of a non-zero dispersion shifted single-mode optical fibre cable"
- G. 982: "Optical access networks to support services up to ISDN primary rate or equivalent bit rates" (new)
- G.692: "Optical interfaces for multichannel systems with optical amplifiers"
- G.958: "Digital line systems based on the synchronous digital hierarchy for use on optical fibre cables"

Question 6/15 – Characteristics of optical systems for terrestrial transport networks

Relevant Recommendations:
G.957: "Optical interfaces for equipment and systems relating to the SDH.
Question 7/15 Characteristics of optical components and subsystems
Rec. L113 "S Health joints and orgnizers of optical fiber cables in the outside plant"

Rec. L.51 "Passive node elemtes for fiber optic networks, General principles and definitions for characteristization and performance evaluation"

Former Question 8/15 – Characteristics of optical fibre submarine cable systems

Relevant Recommendations:

- G.971: "General features of optical fibre submarine cable systems"
- G.972: "Definition of terms relevant to optical fibre submarine cable systems"

Question 9/15 – Transport equipment and network protection/restoration

Relevant Recommendations:

- G. 783: "Characteristics of synchronous digital hierarchy (SDH) equipment functional blocks"
- G. 841: "Types and characteristics of SDH network protection architectures"

Question 15/15 – Test and Measurement technicques and instrument

Relevant Recommendations:

- G.650.1: "Definitions and test methods for liner, deterministic attributes of single-mode fibre and cable"
- G.650.2: "Definitions and test methods for statistical and non-linear related attributes of single-mode fibre and cable"
- G.653: "Characteristics of a dispersion-shifted single-mode optical fibre cable"
- G.654: "Characteristics of a cut-off shifted single-mode optical fibre cable"
- G.655: "Characteristics of a non-zero dispersion shifted single-mode optical fibre cable"
- G. 982: "Optical access networks to support services up to ISDN primary rate or equivalent bit rates" (new)
- G.692: "Optical interfaces for multichannel systems with optical amplifiers"
- G.958: "Digital line systems based on the synchronous digital hierarchy for use on optical fibre cables"
- O.1: "Scope and application of measurement equipment specifications covered in the O-series Recommendations" (revision)
- O.33: "Automatic equipment for rapidly measuring stereophonic pairs and monophonic sound programme circuits, links and connections"
- O.41: "sophometer for use on telephone-type circuits"
- O.133: "Equipment for measuring the performance of PCM encoders and decoders"
- O.150: "General requirements for performance measurements on digital transmission equipment" (revision)
- O.181: "Equipment to assess performance on STM-N interfaces"
- O.191: "Equipment to assess ATM layer cell transfer performance"
- Q.201:   Q-factor test equipment to estimate the transmission performance of optical channels.

Question 16: Optical physical infrastructure and cables

Relevent Recommendations:

Rec. L. 38 "Use of trenchless techniques for the construction of underground infrastructure for telecommunication cable installation"

Question: 17/15 Maintenance and operation of optical fiber cable network

Rec. 53 "optical fiber maintenance criteria for access networks"

- G.971: "General features of optical fibre submarine cable systems"

• G.972: "Definition of terms relevant to optical fibre submarine cable systems"

Question 18/15 Development of optical networks in the access area

Rec. L.42 "Extending optical fiber solutions into access network"

Rec. L.52 "Deployment of passibe optical network (PON)"

2 Handbooks and/or the equivalent:

2.1 Issued

2.1.1 "Optical fibres for telecommunications" (published 1984)

2.1.2 "Optical fibre system planning guide" (published 1989)

2.1.3 "Transmission planning" (published 1993)

2.2 Under preparation
None.

3 Handbooks and/or the equivalent of former S.G. 6

3.1 Issued

3.1.1 "Preservation of wooden poles carrying overhead telecommunication lines" (1974)

3.1.2 "Jointing of plastic-sheathed cable" (1978)

3.1.3 "Jointing of telecommunication cable conductors" (published 1982)

3.1.4 "Outside plant technologies for public networks" (published 1991)

3.1.5 "Optical fibre system planning Guide published 1989"

3.1.6 "Application of computers and micro-processors to the construction, installation and protection of telecommunication cables" (published in 1994)

3.1.7 "Construction, installation, jointing and protection of optical fibre cables" (published in 1994)

3.1.8 "Marinized terrestrial cables" and "Fire protection"

3.1.9 "Protection of telecommunication buildings from fire"

3.2 Under preparation:

3.2.1 Updating of the Handbook", under 3.1.6

3.2.2 "Guide on the use of ITU-T L-Series Recommendations" expected to appear for the first time in 2009.

4 Handbooks and/or the equivalent of former S.G. 4

4.1 "Quality of Service and network performance" 1993

N.B. The Progress Report on the activity of the S.G. 15 need to be updated taking into consideration the enlarged activities

a- Merger of all S.G. Questions except Question 6/A

b- Merger of former S.G. 4 Questions on measurement, see newly adopted Question 15/15, test and measurement techniques and instrumentation"

STUDY GROUP 16

Multimedia coding, systems and applications

Responsible for studies relating to ubiquitous applications, multimedia service capabilities, and application services for existing and future networks, including NGN and beyond. This encompasses multimedia accessibility, multimedia architectures, terminals, protocols, signal processing, media coding and systems (e.g. network signal processing equipment, multipoint conference units, gateways, gatekeepers).

N.B. S.G. 16 became also Lead Study Group on telecommunication/ICT accessibility for persons with disability.

1   Questions

Question 1/16 – Multimedia systems, terminals and data conferencing

Relevant Recommendations:
•   H.222.0: "Information technology – Generic coding of moving pictures and associated audio information: Systems"
•   H.310: "Broadband audiovisual communication systems and terminals"
•   H.320: "Narrow-band visual telephone systems and terminal equipment" and other related Recommendations that compose the so-called H.320 system: H.320, H.221, H.224, H.230, H.242, H.243)
•   H.321: "Adaptation of H.320 visual telephone terminals to B-ISDN environments"

Question 2/16 –   "Real-Time Audio, Video, and Data Communication over Packet-Switched Networks

Relevant Recommendations:
•   H.323: "Packet-based multimedia communications systems" (and related Recommendations that compose the so-called H.323 System: H.323, H.225.0, H. 254, H.246, H.283, H. 235, H.341, H.450 Series, H.460 Series and H.500 series)

Question 22/16 – Multimedia applications and services

Relevant Recommendations:
•   F.700: "Framework Recommendation for audiovisual/multimedia services"
•   F.721: "Videotelephony teleservice for ISDN"
•   F.723: "Videophone service in the Public Switched Telephone Network (PSTN)"
•   Draft new F.VS reqs on video surveillance service requirements and service description

Question 26/16 – Accessibility to Multimedia Systems and Services

Relevant Recommendations:
•   F.790 Telecommunications accessibility guidelines for older persons and persons with disabilities
•   V.18 Harmonization of text telephony
•   V.151 Procedures for the end-to-end connection of analogue PSTN text telephones over an IP network utilizing text relay
•   T.140 General presentation protocol for text conversation
•   T.134 Text conversation in the T120 data conferencing environment
•   H.323 Annex G for the text conversation in H.323 packet multimedia environment

- H.324 Annex L for text conversation in H.324 circuit-switched multimedia environment (including UMTS 3G)
- H.248.2 Gateway procedures between text telephony in PSTN and real-time text in IP and other networks
- H Series supplement 1 Requirements on video communication for sign language and lip reading

Non-normative materials:

- FSTP-TACL Telecommunication Accessibility Checklist for standards writers (2006)

Even though accessibility is addressed by ITU-D Q.20/1, the outcome of ITU-T Q.26/16 is technical in nature and affects the studies of relevant Question in ITU-D SG 2.

2   Handbooks and/or the equivalent

2.1   Issued

        None.

2.2   Under preparation:

        None.Question 28/16 – "Multimedia framework for e-Health applications"

Relevant Recommendations:

The new Question has not yet produced any Recommendations. Currently planned text is:

- Draft new F. ehmmf "Multimedia framework for e-Health applications" (expected: 2009)

Relevant non-normative material:

- FSTP-RTM Roadmap for Telemedicine (2006)

ITU-D Question 14-1/2 will continue covering all relevant activities, in particular for e-Health applications.

STUDY GROUP 17

Security, languages and telecommunication software

Security

Responsible for studies relating to security including cybersecurity, countering spam and identity management. Also responsible for the application of open system communications including directory and object identifiers, and for technical languages, the method for their usage and other issues related to the software aspects of telecommunication systems.

1   Questions

Question 2/17 – Directory Services, Directory Systems, and Public-key/Attribute Certificates

Relevant Recommendations:

E.115

- X.500: "Information technology (I.T.), O.S.I, The directory: overview of concept models and services" (new)
- X.501: "I.T., OSI, The directory: models" (new)
- X.509: "I.T., OSI, The directory: authentication framework" (new)
- X.511: "I.T., OSI, The directory: abstract service definition" (new)
- X.518: "I.T., OSI, The directory: procedures for distribution operation" (new)
- X.519: "I.T., OSI, The directory: protocol specifications" (new)
- X.520: "I.T., OSI, The directory: selected attribute types" (new)
- X.521: "I.T., OSI, The directory: selected object classes" (new)
- X.525: "I.T., OSI, The directory: replication".

Former Question 5/17: Security Architecture and Framework

Relevant Recommendations:

X.800

Security architecture for Open Systems Interconnection for CCITT applications

X.802

Information technology - Lower layers security model

X.803

Information technology - Open Systems Interconnection - Upper layers security model

X.805

Security Architecture for systems providing end-to-end communications

X.810

Information technology - Open Systems Interconnection - Security frameworks for open systems: Overview

X.811

Information technology - Open Systems Interconnection - Security frameworks for open systems: Authentication framework

X.812

Information technology - Open Systems Interconnection - Security frameworks for open systems: Access control framework

X.813

Information technology - Open Systems Interconnection - Security frameworks for open systems: Non-repudiation framework

X.814

Information technology - Open Systems Interconnection - Security frameworks for open systems: Confidentiality framework

X.815

Information technology - Open Systems Interconnection - Security frameworks for open systems: Integrity framework

X.841

Information technology - Security techniques - Security information objects for access control

X.842

Information technology - Security techniques - Guidelines for the use and management of trusted third party services

X.843

Information technology - Security techniques - Specification of TTP services to support the application of digital signatures

Information technology - Open Systems Interconnection - Security frameworks for open systems: Overview

N.B. – In addition to the above, the following publications clarify many issues on security, in particular updating references to relevant Recommendations:

a)   The second edition (October 2004) of the ITU-T manual on "Security in Telecommunications and Information Technology", which has been produced by ITU-T SG 17 in collaboration with other study groups.

b)   The updated ITU-D Report on "National Cyberspace security infrastructure", which has been prepared by ITU-D Question 9/2.

2   Handbooks and/or the equivalent

b.1   Issued:

b.1.1   CHILL found definition – Volume I

b.1.2   CHILL found definition – Volume II

b.1.3   Introduction to CHILL (1993)

b.1.4   Second Edition of the Manual on Security in Telecommunications and in information technology (2006)

b.1.5   ICT Security standards roadmap at http://www.itu.int/ITU-T/studygroups /com17/ict/index.html will be updated regularly

b.2   Under preparation:

b.2.1   An update of the second edition of the ITU-T Manual on Security in Telecommunications and Information Technology (available in the six ITU working languages) is expected before the end of 2009

Appendix 1
ITU-T Recommendation A.12

Identification and layout of ITU-T Recommendations
(2004)

1   Scope

The Telecommunication Standardization Advisory Group (TSAG) periodically reviews the methods of identifying and laying out Recommendations as well as the Author's Guide for drafting ITU-T Recommendations, prepared and updated by the Telecommunication Standardization Bureau (TSB), providing thus detailed guidelines on format and style. This Recommendation provides principles that are applied in identifying and laying out Recommendations.

2   Identification and layout of Recommendations

2.1   All Recommendations of the ITU Telecommunication Standardization Sector (ITU-T) shall be numbered. The number of each Recommendation shall have a letter prefix referring to the series as well as a number identifying the particular subject in that series. The numbering shall be done in a manner which permits clear, unequivocal identification and facilitates electronic storage of information concerning the Recommendation. The Recommendation number shall be associated on the cover with the date of approval in the format YYYY. The month may be added if required for uniqueness.

2.2   The scope of the series identified by the letter shall be as follows:
- A   Organization of the work of ITU-T
- B   Not allocated
- C   Not allocated
- D   General tariff principles
- E   Overall network operation, telephone service, service operation and human factors
- F   Non-telephone telecommunication services
- G   Transmission systems and media, digital systems and networks
- H   Audiovisual and multimedia systems
- I   Integrated services digital network
- J   Cable networks and transmission of television, sound programme and other multimedia signals
- K   Protection against interference
- L   Construction, installation and protection of cables and other elements of outside plant
- M   Telecommunication management, including TMN and network maintenance
- N   Maintenance: international sound-programme and television-transmission circuits
- O   Specifications of measuring equipment
- P   Telephone transmission quality, telephone installations, local line networks
- Q   Switching and signalling
- R   Telegraph transmission
- S   Telegraph services terminal equipment
- T   Terminals for telematic services
- U   Telegraph switching
- V   Data communication over the telephone network
- W   Not allocated
- X   Data networks, open system communications and security
- Y   Global information infrastructure, Internet protocol aspects and next-generation networks
- Z   Languages and general software aspects for telecommunication systems

2.3   Recommendations in each series shall be classified in sections according to subject.

2.4 The title of each Recommendation should be concise (preferably no more than one line) but unique, meaningful and unambiguous. The details identifying the precise intent and coverage should be contained in the text where possible (e.g. under scope).

2.5 The date of formal approval of the Recommendation, the study group(s) responsible for its approval and a record of revisions shall be clearly indicated.

2.6 The author of a new or revised Recommendation shall provide, in front of the main body of the Recommendation, a summary as outlined in the "Author's Guide for drafting ITU-T Recommendations" prepared by TSB. The author may also provide other up-front elements such as background information and keywords as provided for in the Author's Guide.

2.7 The "Author's Guide for drafting ITU-T Recommendations" prepared by TSB should be applied in drafting new Recommendations, and, wherever practicable, in revising existing Recommendations.

Appendix 2
ITU-T Recommendation A.13

Supplements to ITU-T Recommendations
(2000)

1   Introduction

In the course of its studies, each study group deals with contributions and reports, which are distributed to those organizations that have registered for participation in the study group's work and Recommendations resulting from those studies reach a much wider audience. Normally, any information that is considered as merely illustrative or supplementary to a Recommendation should be included as a (non-integral) Appendix to that Recommendation, where it is useful to the wider audience. However, there are exceptional instances where separate publication of such information is warranted, in the form of Supplements to the Recommendations.

2   Supplements

The following general principles shall be applied by study groups for the development, approval, identification and revision of Supplements:

2.1   Before proposing any new or revised text as a Supplement, a study group or TSAG should ensure, in consultation with the Director, that:

i)   the subject matter is within its mandate;

ii)   there is a sufficient need for the information on a long-term basis;

iii)   the text cannot be reasonably adapted for inclusion in an existing or new Recommendation (e.g. as an appendix);

iv)   the text is sufficiently mature and that the text follows, as far as possible, the format of the "Author's Guide for drafting ITU-T Recommendations";

v)   the text contains material which is supplementary to and associated with the subject matter of one or more Recommendations but is not essential to their completeness or understanding and implementation.

2.2   Supplements do not require approval according to Resolution 1 or Recommendation A.8 procedures; agreement by the study group or by TSAG (in case of a Supplement developed by TSAG) is sufficient.

2.3   Supplements should be limited in number and volume.

2.4   Supplements are only informative and are therefore not considered to be an integral part of any Recommendation(s). They do not imply any agreement on the part of ITU-T.

2.5   Each Supplement should be unambiguously identified by the series letter to which it is associated followed by a sequential number unique within that series.

2.6   Since Supplements are essentially reference material, no onus is implied on the issuing study group to update or to reissue Supplements. However, should reference to a Supplement be made in a Recommendation, the study group should review the applicability both of that reference and the Supplement at least once every four years, and take any necessary action.

2.7   Supplements should be included in databases along with ITU-T Recommendations, but may be deleted after consultation with the concerned study group if not reviewed or updated after a period of eight years.

2.8   To the extent practicable, Supplements will be published in a similar fashion to Recommendations, but with a lower priority, and taking into account market needs.