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**Director, Radiocommunication Bureau**

1996 OPERATIONAL PLAN OF THE RADIOCOMMUNICATION SECTOR

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## **1 Introduction**

This operational plan for the ITU-R Sector and, in particular, the Radiocommunication Bureau sets out, in an open and transparent way and in some detail, the activities planned to be undertaken during 1996. In the Bureau, the activities fall into two general categories: ongoing work and special projects or studies having a fixed duration. This document is an important tool for the effective management of the Bureau's activities. Objectives are established for the five departments in the Bureau. Their progress in achieving these objectives can be assessed by means of their quarterly reports, which are an additional internal management tool. The operational plan flows from the strategic plan as adopted by the Kyoto Plenipotentiary Conference in its Resolution 1. While that strategic plan is not perfect, it does serve as important guidance. In the period leading up to the 1998 Plenipotentiary Conference, improvements to this strategic plan will need to be developed in consultation with the Radiocommunication Advisory Group (RAG).

The year 1996 will be particularly challenging for the Bureau and the Sector as a whole. In terms of ongoing activities, the workload placed upon the Bureau, much of which is treaty-based, is rapidly increasing. In addition to these demands, many special projects and studies have been added by the recent Radiocommunication Assembly and World Radiocommunication Conference to those already required by previous decisions of the membership. To deal with these mounting workloads in the face of the budgetary reductions mandated by the Council, several measures have been and will be taken. Greater use of computer-based tools is being pursued but, of course, this too requires that more resources (which are not available to the extent desired) be invested in order to return greater savings in the future. Further organizational changes are being made in the Bureau to improve efficiency. Extra budgetary resources are being sought but it is not yet clear if these can be realised. In addition to these measures, it has been necessary in preparing this operational plan to establish priorities as not all of the tasks before the Bureau in 1996 can be accomplished given the disparity between the growing workload and the diminishing resources. Thus, this plan sets out areas where activities may have to be curtailed. The RAG is invited to review this plan and, in particular, the priorities set out in it. The Bureau will do its best to maintain the high level of quality for which it is known but, generally speaking, there is no doubt that the level and quality of service will have to suffer in 1996 especially if clear priorities cannot be agreed in the Sector and some activities given a lower priority or curtailed altogether.

## **2 Treatment of frequency notifications**

### **2.1 Space notifications**

#### **2.1.1 Tasks and objectives**

The main tasks of the Space Services Department are directly related to the application of the Radio Regulatory procedures. These tasks are the reception, capture, validation and publication of the notified data elements through the Space Network System (SNS) containing all space-related data (characteristics of stations in space networks) as well as the regulatory and technical examination of the notices with a view to their inclusion in the Master International Frequency Register (MIFR). The processing of frequency assignment notices for space radiocommunication services falls into the following general categories:

- advance publication of information pertaining to satellite networks;
- coordination requests pertaining to satellite networks;

- modifications to frequency assignment/allotment Plans;
- notifications for recording in the Master Register;
- establishment and maintenance of the space databases;
- assistance to administrations in the above activities;
- participation in the ITU-R conference and Study Group activities.

The general objective is to process the above notices and to undertake the activities in a timely manner and, in all those cases when there is a regulatory time limit specified, to satisfy this requirement.

### 2.1.2 Workload situation

Over the last several years there has been a regular increase in the workload associated with space services with a 100% increase over the years 1990-1994 and an even higher rate of increase in 1995 (see diagram in the Annex). This reflects the reality of the development (existing and foreseen) of satellite communication systems on a worldwide basis affecting both geostationary and non-geostationary systems. The increasing number of submissions is accompanied by a growing complexity of the space networks reflecting, on the one hand, technological evolution and, on the other hand, the requirements of recent ITU conferences for the provision of more detailed data elements used in more complex examinations. Furthermore, in addition to the material received for current processing, it has been necessary to incorporate the satellite network coordination requests previously published outside the SNS into the SNS and GIMS systems used for computer-based processing (this represented two years worth of Special Section publications). In addition to the normal regulatory assistance provided to administrations (in cases where the Bureau is acting on behalf on an administration within the Radio Regulatory procedures) there is also an increasing workload in assisting administrations in the complex technical calculation procedures (assessing incompatibilities, optimization of orbit positions, etc.) as well as new tasks associated with conference decisions.

Due to the above evolution and the fact that in recent years staff resources and software assistance could not follow the rate of the increasing workload, delays in treatment of material received are increasing. The most critical area of processing delay is the satellite network coordination examination and publication (AR11/C Special Sections) where the publication delay (at the beginning of 1996 is about 18 months). The following table summarizes the response times (processing delays between dates of receipt and publication including all necessary technical and regulatory examinations) in the main sectors of space activities:

	Article 11, RS33, RS46		Article 13	AP30/30A	AP30B
	adv. publ.	coordination	recording	plan mod.	conversion
response time	4-5 months	18 months	6 months	14 months	3 months

### 2.1.3 Measures taken and to be taken

To remedy the above backlog situation, in 1995 the Bureau took several measures. It reassessed its priorities in order to reinforce and better streamline the activities of the Space Services Department. Within its limited staff resources, the Bureau reallocated some staff from other areas to reinforce

space-related activities. After the WRC-95 decision to suspend the technical examinations for some categories of terrestrial assignments, further reallocations will take place in 1996 (one P3 and one G5 from the Terrestrial Services Department (TSD) to the Space Services Department (SSD)). The Director also submitted a Report on the situation to the 1995 session of the Council (Document C95/78: Major workload increase in space-related activities ...). The Council then decided to allocate 1.4 million Swiss francs in the 1996-1997 budget (700 000 Swiss francs in each of these two years) as an additional provision for processing space-related notices. This measure permitted the Bureau to fund two P4 (engineers) and four G4/G5 (data capture operators) fixed-term staff (for two years) who will work on the two most critical areas of space coordinations and Plan modifications, shown in the above table.

With the help of the progressively implemented Space Network System (SNS, a computer-assisted database comprising space-related data and software to capture, validate and publish alphanumeric and graphical data), substantial progress has been accomplished in the reduction of the publication and examination delay of notices in all areas other than the two critical areas mentioned above. The situation as of January 1996 is the following:

As a result of a major effort, the reformatting of the whole space-related database has been effectively completed and, in cooperation with the administrations, the identified missing data elements have been introduced in the system so that the BR database is now available both for its own technical examination and for use by administrations for their own coordination and interference studies. After the recomposition of the space-related database, the Bureau included the SNS data in the CD-ROM publication series. In addition, the Bureau regularly publishes a limited selection (regulatory and technical) of parameters in the (quarterly) List of Space Networks which, after its recent extension, now contains not only geostationary networks but also non-geostationary systems and broadcasting satellites involved in the application of the procedures of Articles 11 and 13 and Resolutions 46 and 33, as well as the different plan procedures of Appendices 30, 30A and 30B. The data included in this publication with its weekly updates can be read remotely via the auto-answering ITU-DOC mailbox.

The time delay in advance publication of information on satellite networks has been reduced and, in spite of the substantial increase in the requests for such publications, at present these publications are regularly made within a four to five month period after their receipt. In addition, to immediately inform administrations of the planned satellite networks submitted for advance publication, the Bureau decided to attach to its Weekly Circulars (WIC) the list of satellite networks (with their main parameters such as identification, orbital position, frequency band and class of station/service) which have been received during the weeks preceding the publication.

Due to the large number of submissions, the processing delay on coordination requests for satellite networks exceeds the regulatory time period (three months). As explained above, efforts are being made to shorten this publication delay (manpower reallocation and software enhancements). The SNS processing functions were extended to cover Special Sections of the WIC concerning the coordination requests. A considerable part of the staff reinforcement has been reallocated to this domain.

The most substantial progress was achieved in the space notification area (Article 13) where the Bureau has eliminated the more than two years backlog.

Major efforts were also made to accelerate treatment of notices in the area of space plans (modifications to the Appendices 30 and 30A Plans). The recent increase in submissions by administrations of notices for direct broadcasting-satellite systems and the future revision of these

Plans has resulted, nevertheless, in a substantial addition of the incoming workload. In view of the relationship of these procedures with the WRC-97 Conference preparatory activities, the Bureau has decided to reinforce this domain in SSD from internal resources (resulting, however, in increased processing delays for the Article 13 and Appendix 30B procedures). The Bureau is also seeking external resources (see under paragraph 4.20 of this document).

To further assist administrations and to reduce processing/publication delays, the Bureau is developing means to receive notices submitted by electronic means for data capture, validation and incorporation in the databases. Trial runs with some administrations which have developed their own data capture systems have already started. An automated technical examination software has recently been added to the SNS system to allow the identification of affected networks within the coordination procedure through interfaces with the MSPACE software which contains the engineering programmes of the space plan procedures.

#### **2.1.4 Priorities**

In spite of all the efforts in recent years, the working environment and conditions of the Space Services Department (manpower and computer support) could not evolve proportionally with the growing workload of recent years. The decisions of WRC-95 concerning space activities (in particular Resolutions 46 and 531) add further difficulties and complexity to the already difficult situation. Present studies on trends of the volume of satellite coordination submissions (for Resolution 18 and other studies) and the growing number of advance publications already received indicate that there will be no reduction in the number of coordination requests to be processed by the Bureau. It should also be realized that the use of electronic notification and access to the ITU database by administrations will not yield any significant alleviation in the very short term. While external assistance from some administrations would be a considerable relief, it cannot be expected that in 1996 the long-term goal of timely processing of all space-related notices will be realized. In order, nevertheless, to reduce the backlog in the most critical areas and to have a more balanced situation of the response times in processing notices, some prioritization of the space-related activities had to be decided. The main activities of the Space Services Department have been categorized into three levels of priorities as follows:

First level of priority (top priority):

- processing of space coordination requests (AR11/C, RS46/C backlog);
- processing of BSS Plan modifications (AP30/30A backlog and review Resolution 531, paragraph 5.3);
- BSS planning exercises (Resolution 531, paragraph 5.4);
- procedural (regulatory) assistance to administrations of developing countries and those having no or difficult relations with whom coordination is required.

Second level of priority (reduced activities) which may suffer some delays:

- processing of Article 13 notices;
- advance publication (AR11/A, RS46/A);
- participation in ITU-R Study Groups.

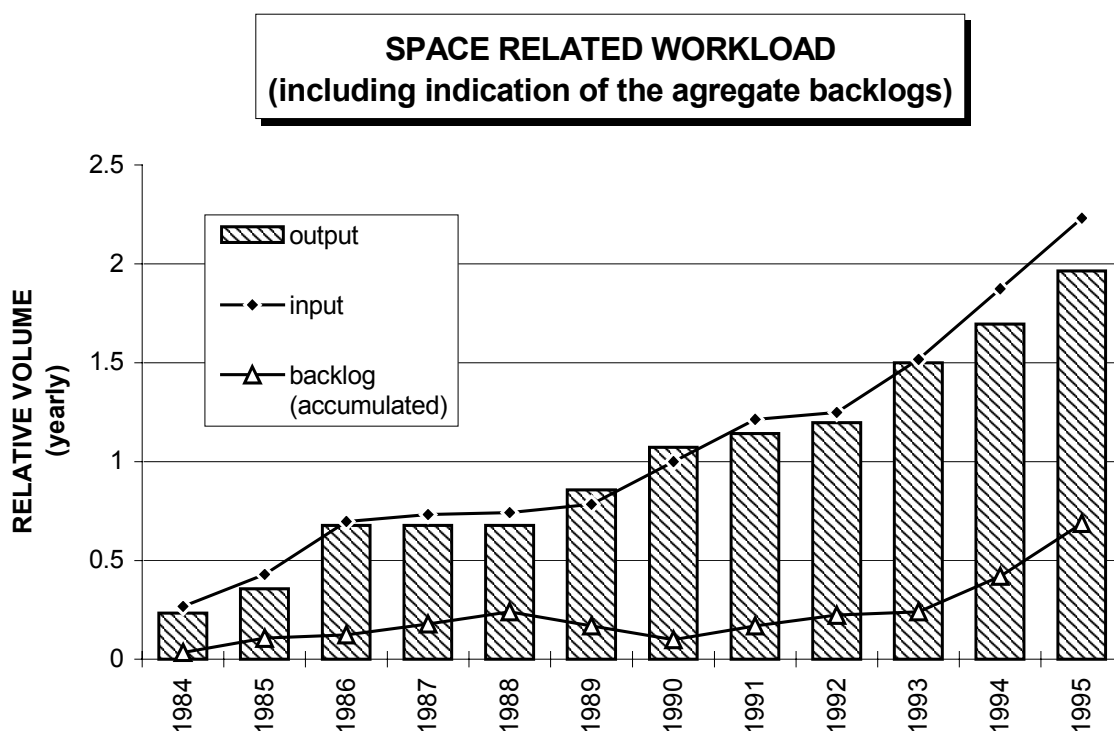
Third level of priority (tasks to be effected as far as possible):

- Appendix 30B;
- assistance to administrations in complex technical calculations (with some exceptions for developing countries).

The consequence of the above is that there will be a reduction in the production of the Article 13 examinations. Only very limited assistance might be able to be provided and practically no activity on the Appendix 30B (FSS allotment plan) area can be pursued. The above levels of priorities will be kept under constant review and, according to the evolution of the workload/resource situation, will be revised in consultation with the RAG and, on those issues relating to the application of the Radio Regulations, with the RRB.

### Annex to paragraph 2.1.2

CHART I



## 2.2 Terrestrial notifications

### 2.2.1 Tasks and objectives

The processing of notices for terrestrial services is carried out by the Terrestrial Services Department (TSD). This involves capture and validation of data, application of Radio Regulatory procedures including examination of conformity with the Radio Regulations and various frequency assignment and allotment plans as contained in the Radio Regulations or annexed to Regional Agreements. It also involves, for specific bands, the calculation of probability of harmful interference. These notices cover the broadcasting services in LF, MF, HF and UHF parts of the spectrum, the fixed and mobile services such as radio relays, maritime and aeronautical services as well as other services concerning radionavigation, standard frequency and time signal, and

meteorology. As a result of successful regulatory and, where required, technical examinations, the assignments are recorded in the Master International Frequency Register.

TSD is also responsible for other tasks which are covered elsewhere in this report, such as:

- assistance to administrations on frequency selection and the treatment of cases of harmful interference;
- organization of the regular and special monitoring campaigns;
- application of the administrative and operational provisions of the Radio Regulations such as the allocation of the international means of identification;
- data publications, including the IFL, the Weekly Circulars, Ship and Coast Stations, Call Signs and other service documents;
- technical editing and publication of ITU-R Recommendations, Handbooks, Reports, Radio Regulations, etc.;
- organization of world and regional radiocommunication seminars;
- preparation and participation in meetings and conferences.

As reflected in Chart II, the workload of TSD over the last six years has considerably increased (almost 100% between 1990 and 1994). This trend is expected to continue in 1996 with the prospect of, as a result of decisions taken by WRC-95, an increase in the number of terrestrial notifications in the bands shared with the space services. Also, the merging of the Editing Service (formerly in the Office of the Director) with the Radio Regulations Division (TSD) within the new Technical Editing and Publication Division (TSD), while rationalizing further the organization of the recently created Radiocommunication Bureau, will also increase significantly the workload of the Terrestrial Services Department.

## **2.2.2 Tasks related to registration and publication of assignment notices**

**2.2.2.1** It is estimated that some 50 000 notices (RR Article 12) will be received in 1996. As specified in the Radio Regulations, these notices are to be processed (capture, validation, corrections and publication in the Weekly Circular) within a six week period. The Bureau expects to meet this requirement in 1996.

Moreover, some 10 000 notifications, received electronically in 1995 and which the Bureau could not process due to software problems, will have to be treated in 1996.

**2.2.2.2** In addition, some 5 800 notices dealing with the various plans (**AP25, AP26, AP27, ST61, GE75, RJ81, GE84, GE85MM, GE85EMA, GE89, RJ88**) will require treatment within a four week period. Although backlogs exist for some broadcasting plans, the Bureau should be able to meet this time requirement.

**2.2.2.3** The processing of notices for the High Frequency Broadcasting Service (HFBC) is governed by **RR Article 17**. This processing, which deals with 40 000 notices per year, is carried out on a weekly basis resulting in the publication, every month, of the Tentative Schedule on diskette.

**2.2.2.4** The organization of regular and special **monitoring** reports will be organized on a quarterly basis. Some 26 special monitoring reports will be published in 1996.

**2.2.2.5** Most of the above procedures are currently under review as part of the development of a new frequency management system for the terrestrial services (**TerRaSys**). The user's involvement in this project will have to be increased in 1996 if the project is to be completed before the end of



1998. The rapid evolution of computer technology over the last 15 years, when the existing system was introduced, facilitates the adoption of new approaches which, however, will necessitate staff training and adaptation.

### 2.2.3 Tasks related to broadcasting services

**2.2.3.1** The regulatory and technical examination of broadcasting notices to modify the **broadcasting plans** is carried out within a three month time-frame. This task consists of assessing the impact of proposed modifications on assignments in the Plans using the technical criteria and models adopted by the conferences. **Table 1** shows the estimated number of notices foreseen in 1996.

TABLE 1

ST61	3 600
GE75	200
RJ81	200
GE84	1 600
GE89	200

**2.2.3.2** In addition, approximately 5 000 notices will be examined through the application of **RR Article 12** for their conformity to the Plan and/or to other prescriptions of the Agreement before they are recorded in the Master International Frequency Register.

**2.2.3.3** The technical processing of high-frequency broadcasting notices under Article 17 involves the identification of severe incompatibilities, the selection of appropriate bands and frequencies when requested by administrations and the preparation of the Tentative Schedules. In 1996, new bands are made available for HFBC and an increase in the number of notices is expected.

**2.2.3.4** Some 80 notices will require the application of **Article 14** for the coordination of broadcasting assignments in the bands shared with broadcasting or other services.

### 2.2.4 Tasks related to the fixed and mobile services

**2.2.4.1** Notices received under **RR Article 12** for the fixed and mobile services are examined within the regulatory time-frame fixed in the Radio Regulations. In 1996, TSD will also be responsible for the examination of terrestrial notices for assignments in the bands shared with the space services. Although WRC-95 decided to suspend the technical examinations in the non-planned bands below 28 000 kHz, this examination is still required for the planned bands.

**2.2.4.2** Other regulatory procedures related to the fixed and mobile services and described in the Radio Regulations as well as in relevant Resolutions and Regional Agreements are expected to generate the notices workload indicated in **Table 2**.

TABLE 2

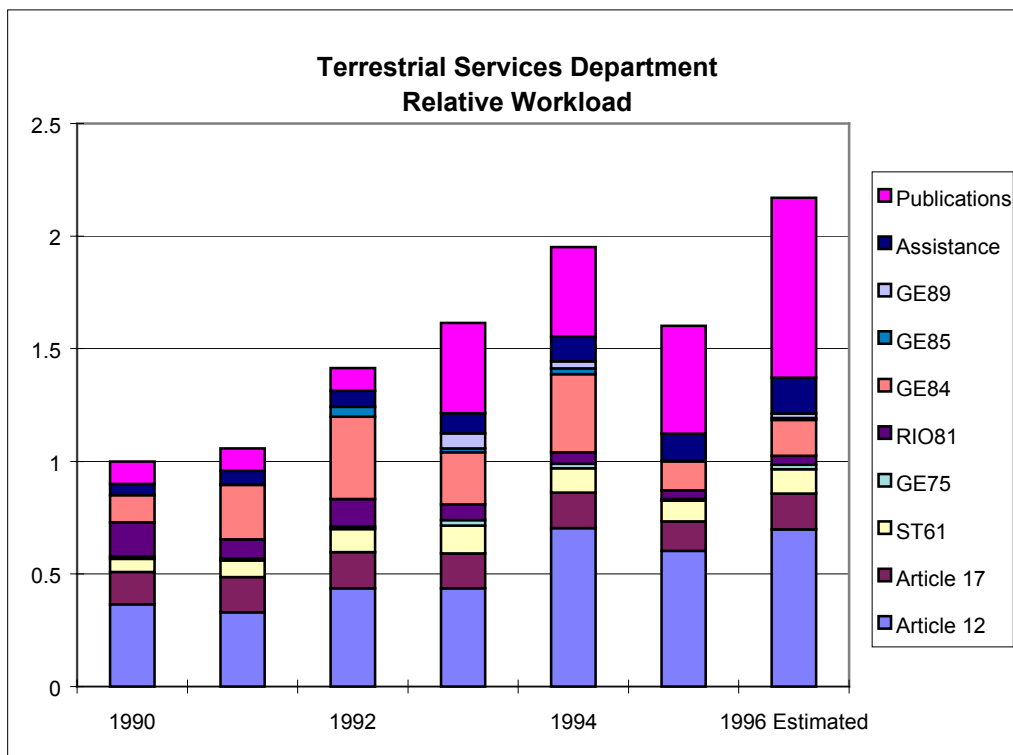
AR14	150
AR16	30
GE85	40
RS300	100
RS339	10
RC402	20

**2.2.5 Tasks related to the administrative and operational procedures**

The Bureau provides assistance to administrations in the application of administrative and operational procedures which constitute a significant part of the Radio Regulations. It is expected that, in 1996, the Bureau will receive 200 requests dealing with the allocation of series of call signs, blocks of selective call numbers and Maritime Identification Digits (MID). This examination is undertaken in accordance with Article 25 and Resolution 13 (WARC-79).

Other requests under Articles 55 and 56 (30 cases), AP43 (30 cases), Resolution 331 (10 cases), and Article 32 (Amateur Service) are also foreseen.

CHART II



### **3 Meetings and conferences**

#### **3.1 Study Group meetings**

##### **3.1.1 Meetings related to Study Group 1 - Spectrum Management**

In the 1996-1997 study period Study Group 1 on spectrum management will organize its work through Task Groups and Working Parties. The Questions assigned to Study Group 1 are the main basis of its activities in this study period. The meetings of Study Group 1 and its Task Groups and Working Parties were foreseen in the ITU-R programme given in the calendar of meetings contained in Administrative Circular CA/27 of 8 January 1996.

At its 1996 meeting, the Study Group will consider the executive reports from Task Groups/Working Parties which will meet immediately before Study Group 1. It is expected that the following draft new and revised ITU-R Recommendations should be considered and adopted by Study Group 1:

- performance functions for digital modulation systems in an interference environment (WP 1B);
- efficient spectrum utilization using probabilistic methods (WP 1B);
- frequency and distance separations (revision of Recommendation ITU-R SM.337-3) (WP 1B);
- definition of spectrum use and efficiency of a radio system (Revision of Recommendation ITU-R SM.1046) (WP 1B);
- new spectrally efficient techniques and systems (revision of Recommendation ITU-R SM.856) (WP 1B);
- spurious emissions (revision of Recommendation ITU-R SM.329-6) (TG 1/3);
- electronic exchange of information for spectrum management purposes (revision of Recommendation ITU-R SM.668) (TG 1/4).

##### **3.1.1.1 Task Group 1/3 - Modification of Recommendation ITU-R SM.329-6 on spurious emissions**

The objective of this Task Group is the modification of Recommendation ITU-R SM.329-6 on spurious emissions in response to Recommendation 66 (Rev.WARC-92). Two meetings are scheduled for April and October 1996. It is expected that the Task Group will finalize a draft revised text of Recommendation ITU-R SM.329 at the April meeting.

##### **3.1.1.2 Task Group 1/4 - Electronic exchange of spectrum management information**

The work of this Group is organized in two phases:

- Phase 1: to develop guidance for the formal and informal exchange of spectrum management information through electronic means;
- Phase 2: to develop a comprehensive data dictionary to aid the process of notification and coordination.

Work on Phase 1 is to be completed in January 1996 by the development of the guidelines for electronic exchange of spectrum management information. The Group will also draft a revision of Recommendation ITU-R SM.668 and will include the "Guidelines for the electronic exchange of spectrum management information" as an appendix to this Recommendation.

Work on Phase 2 is to commence in January 1996. A number of documents were prepared as the basis on which the detailed work of the Rapporteurs will proceed. They will include the specification of methods and procedures, technical quality criteria, and details of the actual modelling process. These methods and procedures are:

- data management policy;
- data dictionary management procedures;
- data modelling product standards;
- data modelling guidelines;
- data model quality review guidelines;
- data definition and naming standard.

Further development of these texts will take place with a view to becoming part of the dictionary's supporting documentation.

### **3.1.1.3 Working Party 1A - Engineering principles and techniques, including computer-aided analysis for effective spectrum management**

Activities in 1996 will be focused on, amongst others, the development of the following new Recommendations:

- design guidelines for the Advanced Automated Spectrum Management System (ASMS);
- block allocations for adaptive systems in the HF bands;
- classification of designation of emissions;
- alternative allocation methods.

The Working Party will also draft two new Questions.

### **3.1.1.4 Working Party 1B - Principles and techniques for spectrum planning and sharing**

In 1996, the work of the Working Party will mainly concern two topics: spectrum economics and spectrum use above 20 GHz. It is expected that the following new Recommendations will be developed:

- alternative methods of spectrum management;
- assessment of the benefits arising from the use of the radio spectrum; and
- economic methods for spectrum management systems.

Preparation of a draft new Recommendation on spectrum use above 20 GHz will also be completed in collaboration with Study Group 3.

### **3.1.1.5 Working Party 1C - Techniques for spectrum monitoring**

It is intended that further studies will be carried out with a view to finalizing the ITU-R Recommendations at the next meeting of Working Party 1C (24-30 October) on the following subjects:

- method of measuring the maximum frequency deviation of FM broadcast emissions at monitoring stations;
- collection and publication of monitoring data to assist frequency assignment for low-earth orbit mobile satellite systems below 1 GHz;
- collection and publication of ambient noise field strength data;

- collection and publication of monitoring data to assist frequency assignment in the high frequency aviation bands;
- classification of bearings;
- collection and publication of monitoring data to assist frequency assignment for geostationary satellite systems;
- minimum requirements for radio monitoring stations in the developing countries.

Working Party 1C jointly with Working Party 1A will consider the issue of classification and designation of emissions according to Question ITU-R 1-2/1.

### **3.1.2 Meetings related to Study Group 3 (Radiowave propagation)**

WPs 3J (Propagation fundamentals), 3L (HF propagation) and 3M (Point-to-point and Earth-space propagation) will each hold one meeting during 1996; WP 3K (Point-to-area propagation) currently has no scheduled meeting and will work by correspondence (as will all WPs in preparation for their "block" meetings in January 1997).

WRC preparation: involves WPs 3L, 3K and 3M in the preparation of supporting information for the respective WRC-97 agenda items based on the guidance provided by the ITU-R Chairmen and Vice-Chairmen meeting (Geneva, November 1995). The material is to be ready in time for the preparation of the draft consolidated CPM Report to WRC-97.

Preparation of material will be undertaken for draft new and revised Recommendations concerning: (WP 3J) digital topographic maps, global modelling (with supporting software) of radiometeorological parameters, statistical aspects of propagation (variability and risk analyses), vegetation attenuation, diffraction over irregular terrain; (WP 3K) land-mobile propagation effects, short-path outdoor propagation prediction; (WP 3L) HF field strength and reliability prediction, short-term ionospheric forecasting and channel evaluation; (WP 3M) unified Earth-space path propagation model, modelling for terrain/building/vegetation scatter interference prediction, bidirectional coordination propagation aspects, propagation aspects of emerging MSS services and related hand-held equipment. The material is to be ready for approval at the SG 3 meeting, January 1997.

The following Handbooks will be prepared:

- i) "Radiometeorology" (to be checked editorially in BR and published in three languages in 1996);
- ii) "Radiowave propagation information for predictions for Earth-to-space path communications" (to be finalized by WP 3M, checked editorially in BR and published in 1996). Work will continue in WPs 3L and 3M on four further propagation Handbooks (see Annex II).

In terms of the acquisition of propagation data:

WPs 3J, 3K, 3L and 3M will be involved in the collection of measurement data, particularly from tropical, low latitude regions, to augment the existing data banks of SG 3 used in the development and testing of prediction methods.

NOTE – The Chairman's report is the principal output document common to all WPs and TGs recording progress and conclusions, and defining future tasks for the following meeting. Annexes contain working documents and material destined for future Recommendations and reports.

### **3.1.3 Meetings related to Study Group 4 (Fixed-satellite service)**

In response to the urgent and difficult tasks from WRC-95, the Working Parties of SG 4 will meet twice in two blocks of meetings in March and September/October 1996 (see the following table).

#### **WRC-97 preparation**

Working Parties 4A (Efficient orbit/spectrum utilization), 4B (Systems, performance, availability and maintenance) and 4-9S (Frequency sharing between the fixed-satellite service and fixed service) are involved in the preparation of material for WRC-97 agenda items 1.3, 1.9.1 and 1.9.4.3 concerning Resolutions 114, 115, 116, 117, 118, 119, 120 and 121, and Recommendations 104 and 105. The material needs to be ready in time for the preparation of the draft consolidated CPM Report to WRC-97.

#### **Preparation of contributions concerning Resolution 18 (Kyoto, 1994) (see also paragraph 4.10)**

Working Party 4A is involved in studies on the technical and operational aspects referred to in Sections 5.1, 5.2, 6, 7 and 8 of Document WGRAG-1/10(Rev.1) on the major issues to be considered in the review of the ITU's frequency coordination and planning framework for satellite networks (Resolution 18, Kyoto, 1994). The results of the study will be contributed to the Director's report to WRC-97 and could possibly lead to draft new Recommendations.

#### **Preparation of material for draft new and revised Recommendations concerning:**

- (WP 4A) forward/reverse band sharing of non-GSO MSS feeder links with GSO FSS networks; frequency sharing between feeder links of non-GSO MSS constellations; sharing between non-GSO MSS feeder links and radio services other than FSS; criteria for acceptable short-term interference into GSO FSS networks; frequency sharing between FSS and MSS networks in the bands 19.7 - 20.2 GHz and 29.5 - 30.0 GHz; maximum permissible levels of interference for an HRDP (Hypothetical Reference Digital Path) operating at or above the primary rate in the FSS caused by other networks below 30 GHz; interference effects to intermediate data rate and TDMA digital transmission in FSS networks;
- (WP 4B) performance requirements for non-GSO FSS links and non-GSO MSS feeder links; performance required for transmission of ATM traffic via satellite; transmission and performance requirements for digital satellite systems in the FSS forming part of SDH transport networks;
- (WP 4-9S) frequency sharing between non-GSO MSS feeder links and networks in the fixed service; technical criteria to be used in examination relating to the probability of harmful interference between the FS and the FSS; maximum allowable values of interference from the FSS into terrestrial radio-relay systems used as constant bit-rate digital path at or above the primary rate;
- (WP 4SNG) digital transmission of HDTV via satellite for SNG and OB (Outside Broadcast); completion of the preparation of the SNG user's guide by the end of 1996.

## **Preparation of Handbooks**

The Study Group 4 Handbook Group has the task of updating the Handbook on satellite communications (second edition, 1988) to include recent developments in the field of satellite communications in accordance with the approved revised table of contents.

### **3.1.4 Meetings related to Study Group 7**

The Questions assigned to Study Group 7 are the main basis of its activities in the 1996-1997 study period. Special attention is drawn to the Questions directly connected with the WRC-97 agenda. Furthermore, WRC-95 approved a number of Resolutions and Recommendations including Resolutions 213 (Rev.WRC-95) and 712 (WRC-95) which will require Study Group 7 to undertake preparatory work for WRC-97. The work of Study Group 7 on science services will be organized through Working Parties 7A, 7B, 7C and 7D. Compatibility between active spaceborne sensors and systems in the radionavigation and radiolocation services is jointly studied with Study Group 8 by JWP 7-8R. The meetings of Study Group 7 and its Working Parties, and JWP 7-8R were foreseen in the ITU-R programme given in the calendar of meetings contained in Administrative Circular CA/27 of 8 January 1996.

#### **3.1.4.1 Working Party 7A - Time signals and frequency standard emissions**

Activities in 1996 will be focused on, amongst others, the development of the following new Recommendations:

- two-way time transfer through communication satellites;
- a common-clock two-way satellite time transfer experiment;
- frequency transfer at the  $10^{-15}$  accuracy level using two-way satellite time-and-frequency-transfer systems;
- use of millisecond-pulsar observations for time and frequency reference;
- time and frequency transfer using digital telecommunication networks; and
- the revision of Recommendation ITU-R TF.1011 - Systems, techniques and services for time and frequency transfer.

The Drafting Group on the Handbook on Time and Frequency will complete the development of this Handbook (see Annex II).

The cooperation between Working Party 7A and ITU-T Study Group 13 on the use of new digital telecommunication networks for accurate time and frequency transfer will be continued.

#### **3.1.4.2 Working Party 7B - Space radio systems**

In 1996 studies to be carried out by WP 7B will cover deep- and near-space research, data relay satellites, space operations and inter-satellite links. A number of new Recommendations will concern the following subjects:

- typical characteristics of data relay satellite systems;
- link availability and error performance objectives for data relay satellite systems;
- radiation patterns of antennas for data relay satellite systems, space research earth stations and astronomy.

Furthermore, Working Party 7B will complete its joint studies with Working Party 9D. The objectives of these studies are to develop a number of Recommendations setting forth mutually agreeable conditions for sharing between the fixed service (FS) and the space science services in the 2 025 - 2 110 MHz and 2 200 - 2 290 MHz bands (the 2 GHz bands) and between the FS and the inter-satellite service in the 25.25 - 27.5 GHz bands. Five preliminary draft new Recommendations will be considered at the next meeting.

#### **3.1.4.3 Working Party 7C - Earth exploration satellite systems and meteorological systems**

During the period 1996-1997, Working Party 7C will prepare two types of texts:

- 1) texts for submission to CPM-97, in response to the WRC-97 agenda items and the relevant WRC-95 Resolutions and Recommendations; and
- 2) texts of draft new or revised Recommendations for submission to Study Group 7.

The draft new or revised Recommendations will cover the following subjects:

- sharing of the band 401 - 403 MHz between satellite data collection systems and radiosondes;
- sharing of the band 18.6 - 18.8 GHz between spaceborne passive sensors and various radiocommunication services;
- possibilities for sharing of the band 50 - 66 GHz between spaceborne passive sensors and various radiocommunication services;
- technical and operational characteristics of the systems for the EES service;
- radiocommunications for meteorological satellite systems;
- feasibility of frequency sharing between a geostationary meteorological-satellite service and the other services near 400 MHz, 1 700 MHz and 7 500 MHz.

For the first meeting of Working Party 7C (11-15 March), it would seem appropriate to give priority to draft Recommendations, particularly those connected with the preparations for WRC-97.

#### **3.1.4.4 Working Party 7D - Radio astronomy**

In 1996, it is expected that the studies to be carried out by the WP will be concentrated on the following topics:

- protection of the radio astronomy service from unwanted emissions specifically from forms of wideband digital modulation;
- protection of radioastronomical measurements above 60 GHz;
- compatibility study between the mobile-satellite service in the band 1 610 - 1 626.5 MHz and the radio astronomy service in the band 1 610.6 - 1 613.8 MHz;
- interference issues related to MSS (Resolutions 116, 214 and 721, and spurious emissions (Recommendation 66 (Mod. WARC-92)).

#### **3.1.4.5 Joint Working Party 7-8R - Compatibility within active spaceborne sensors and systems in the radionavigation and radiolocation services**

In 1996, the JWP will complete the studies under Questions ITU-R 213/7 and 204/8 needed to establish the technical basis for decisions on the agenda items for WRC-97. According to its terms of reference, the main task of JWP 7-8R is to reach conclusions needed as input to the CPM. This will be done primarily in the final report to CPM-97. Documents developed within the framework



of the JWP may also be used to derive ITU-R Recommendations. Such work is not part of the terms of reference of JWP 7-8R and should preferably be done by Working Parties 7C and 8C. However, JWP 7-8R could suggest a means of work sharing between both Working Parties to avoid any duplication.

### **3.1.5 Meetings related to Study Group 8 (Mobile, radiodetermination, amateur and related satellite services)**

#### **General**

It has been foreseen that all Working Party meetings during the 1996-1997 period take place during 1996. This explains the high level of activity during the current year. TG 8/1 will meet twice as usual and TG 8/2 will have its final meeting. SG 8 will hold a one-day meeting to consider the resulting draft new and revised texts.

#### **WRC preparation**

WPs 8A, 8B and 8D and TG 8/2 are involved with agenda items 1.5, 1.6, 1.8, 1.9 and 2. Material will have to be ready in time for the preparation of the draft consolidated CPM Report to WRC-97.

#### **Preparation of material for new and revised Recommendations concerning:**

**WP 8A:** cordless systems, cellular systems, dispatch traffic systems, multi-mode mobile systems, data messages;

**WP 8B:** protection of aeronautical mobile telemetry in the 1.5 GHz and 2.3 GHz bands, use of 12.5 kHz channel spacing in the maritime service in the 156 - 174 MHz band;

**WP 8D:** performance objectives for ISDN MSS, performance objectives for non-ISDN digital aeronautical-MSS in the 1.5 and 1.6 GHz bands, interference criteria for digital GSO aeronautical-MS(R)S in the 1.5 and 1.6 GHz bands, impact of propagation in the design of non-GSO MSS systems, performance objectives for non-ISDN GSO MSS systems, sharing of satellite subsystem resources between MSS, performance, interference and sharing criteria for narrow-band downlinks in non-GSO MSS in the 137 - 138 MHz band, sharing between MSS and RAS in the 1.6 GHz band, sharing involving the GLONASS-M systems, sharing between MSS and FSS in the 20/30 GHz bands;

**TG 8/1:** vocabulary of terms for FPLMTS, evaluation of security mechanisms for FPLMTS;

**TG 8/2:** technical and operational characteristics of wind profiler radars in the vicinities of 50 MHz, 400 MHz and 1 000 MHz.

#### **Handbooks**

SG 8 Handbook Groups will prepare the first draft text elements for the Land Mobile and Mobile-Satellite Handbooks in accordance with the corresponding approved outlines.

### **3.1.6 Meetings related to Study Group 9 (Fixed service)**

Working Parties 9A to 9D will meet in March 1996 and either October 1996 or January 1997.

#### **WRC preparation**

WPs 9B, 9C and especially 9D are involved in the preparation of supporting information for agenda items 1.5, 1.7, 1.9.1, 1.9.2, 1.9.3, 1.9.4.1 to 1.9.4.3, 1.9.5 and 1.10 as contained in WRC-95 Resolution 718 (former GT-PLN-3). Special Rapporteur Groups will be established to study

relevant agenda items and material is expected to be ready in time for the preparation of the draft consolidated CPM Report for WRC-97.

**Preparation of material for draft new and revised Recommendations concerning:**

- (WP 9A) Performance degradation of digital radio-relay systems due to interference; digital radio-relay systems in real links aligned to Recommendation ITU-T G.826; availability issue aligned to draft new Recommendation ITU-T G.827 (former I.35x); performance limits to be respected for bringing into service and maintenance of radio-relay systems.
- (WP 9B) System characteristics of Radio Local Area Network (RLAN); error performance and availability measurement algorithm for digital radio-relay links at the system bit-rate interface (amendments are required to existing Recommendation ITU-R F.700-1); reference antenna patterns for omnidirectional and sectorial antennas used in P-MP applications as needed to establish sharing criteria between MSS and FS particularly in the 1 to 3 GHz range; radio-frequency transport through optical fibres.
- (WP 9C) Technical and operational implications of using discrete blocks of spectrum by adaptive HF systems will require contributions; traffic capacity of automatically controlled radio systems and networks in the HF Fixed Service.
- (WP 9D) Sharing studies particularly related to the following services and bands: FS and SSS in the 2 and 26 GHz band, MSS and FS below 3 GHz, BSS and FS in the 12 GHz band.

The Handbook Group of Study Group 9 has been endeavouring to develop an ITU-R Handbook on digital radio-relay systems. It is now in the final stage of preparation and it is expected that the complete manuscripts will become available for sale by March 1996. It will provide good guidance to engineers and systems planners, especially in developing countries.

**3.1.7 Meetings related to Study Group 10**

In 1996, no meetings of Study Group 10 are foreseen. The studies will be carried out by its related Working Parties and Task Groups as indicated below. A detailed programme is shown in Annex I.

**3.1.7.1 Working Party 10A "Sound broadcasting at frequencies below 30 MHz and antennas for sound broadcasting"**

According to the decisions taken at the last meeting of the Study Group Chairmen and Vice-Chairmen, Working Party 10D on "Antennas for sound broadcasting" has now merged with Working Party 10A, which will now also be responsible for the Questions previously assigned to Working Party 10D. Working Party 10A will have one meeting in 1996 in Vatican City State just after the meeting of Task Group 10/5, to prepare:

- a new Recommendation on LF/MF antennas, which will complement Recommendation ITU-R BS.705 (HF antennas) and Recommendation ITU-R BS.1195 (VHF/UHF antennas);
- a revision of Recommendation ITU-R BS.1195 (VHF/UHF antennas) to include antennas for DAB services;
- finalization of the Handbook on HF system design (in cooperation with the BDT);
- a preliminary Recommendation on digital sound broadcasting at frequencies <30 MHz.

### **3.1.7.2 Working Party 10B "Sound broadcasting at frequencies above 30 MHz"**

According to the decisions taken at the last meeting of Study Group Chairmen and Vice-Chairmen, Working Party 10B is now responsible also for sound broadcasting at frequencies above 30 MHz in the Tropical Zone. Working Party 10B will have one meeting in 1996 just prior to a meeting of Working Party 10-11S to prepare:

- a revision of Recommendation ITU-R BS.412 (Planning standards for FM sound broadcasting at VHF) to include planning of synchronous network;
- a new Recommendation on service requirements for multiplexing FM sound broadcasts with a subcarrier data channel having relatively large capacity for stationary and mobile reception;
- a revision of Recommendation ITU-R BS.1194 on subcarrier data channels.

### **3.1.7.3 Working Party 10C "Audio-frequency characteristics of sound broadcasting signals"**

Working Party 10C will have one meeting in 1996 focused on evaluation of Dolby AC-3 and MPEG-2 audio coding systems in order to achieve a single worldwide standard specified in Recommendation ITU-R BS.1196 (Audio associated to digital terrestrial television broadcasting). In addition, half-sampling frequency coding will be studied with a view to its implementation in digital sound broadcasting at frequencies below 30 MHz (see § 3.1.7.1).

### **3.1.7.4 Task Group 10/3 "Subjective sound assessment"**

Task Group 10/3 will have two meetings in 1996 and it is expected to terminate its activities by the finalization of the following Recommendations:

- methods for the subjective assessment of sound quality - a guide to existing Recommendations;
- methods for the subjective assessment of audio systems with accompanying picture;
- simplified methods for the initial subjective assessment of impairments in audio systems;
- methods for the subjective assessment of sound quality - general requirements;
- a revision of Recommendation ITU-R BS.1116 (Methods for the subjective assessment of small impairments in audio systems including multichannel sound systems).

### **3.1.7.5 Task Group 10/4 "Objective perceptual audio quality assessment methods"**

Task Group 10/4 will have two meetings in 1996 and it is expected to terminate its activities by the finalization of a Recommendation on objective perceptual audio quality assessment.

### **3.1.7.6 Task Group 10/5 "Technical parameters and planning procedures for HF broadcasting"**

Task Group 10/5 will have two meetings in 1996 addressed to finalize its report to the CPM on technical parameters and planning procedures for HFBC by early November 1996. Its activity might continue beyond 1996 depending on the decisions taken by WRC-97. Coordination and liaison with the Special Committee on Procedures will need to be established and ensured.

### **3.1.8 Meetings related to Study Group 11**

In 1996, no meetings of Study Group 11 are foreseen. The studies will be carried out by its Working Parties and Task Groups. A detailed programme is shown in Annex I.

### **3.1.8.1 Working Party 11A "Television systems and data broadcasting"**

According to the decisions taken at the last meeting of the Study Group Chairmen and Vice-Chairmen, Working Party 11A has now merged with Working Party 11D. Working Party 10C will have one meeting in 1996 focused on the preparation of:

- a new Recommendation for 525/625 PROSCAN studio standard;
- a new Recommendation for uniform colorimetry for HDTV, EDTV and conventional television;
- a new Recommendation for requirements for stereoscopic broadcasting using MPEG-2;
- a new Recommendation for sound/vision delay;
- a new Recommendation for the allocation of sound-vision delay tolerances to different parts of the broadcast chain;
- a new Recommendation for Enhanced SECAM.

Working Party 11A, as the successor of Working Party 11D will also approve the Handbook on Teletext Systems at its meeting in October 1996.

### **3.1.8.2 Working Party 11B "Digital television source coding"**

Working Party 11B will have one meeting in 1996, concentrating on preparing Recommendations on:

- user requirements for various parts of broadcasting chains;
- generic bit-rate reduction coding;
- assessment methods for bit-rate reduction codecs;
- bit-rate reduction coding methods for multi-programme television broadcasting services;
- performance of the complete digital signal chain;
- a new MPEG profile for broadcasting applications;
- studies for bit-rate reduction coding methods not based on DCT algorithm;
- bit-rate reduction coding of stereoscopic television.

### **3.1.8.3 Working Party 11C "Terrestrial television (emission and planning parameters)"**

Working Party 11C will have one meeting in 1996 addressed to prepare the technical basis for planning and implementation of digital terrestrial television into existing analogue environment. Recommendations on revised protection ratio values for new enhanced and digital systems are also expected. Working Party 11C is also responsible for interactive television studies. A preliminary draft Recommendation was already prepared to be approved at the next meeting of Working Party 11C (March 1996).

### **3.1.8.4 Working Party 11E "Quality evaluation"**

Working Party 11E will have one meeting in 1996 concentrating on preparing Recommendations on:

- subjective assessment of digital systems including multi-programming and scalable coding;
- objective measurement and relationship to picture quality in digital systems;

- perceptual models to approach an objective calculation of the subjective quality;
- complementing the information related to the test material, including the study of appropriate statistics;
- harmonizing the Recommendations in the application domain.

#### **3.1.8.5 Task Group 11/1 "High-definition television for studio and international programme exchange"**

Most of the work of Task Group 11/1 has been finalized. The Task Group will have one meeting in 1996 addressed to prepare Recommendations for fully digital production systems for HDTV.

#### **3.1.8.6 Task Group 11/2 "Digital studio interfaces"**

Task Group 11/2 will have one meeting in 1996 dedicated to the preparation of Recommendations on:

- ancillary signals carried in digital component studio interfaces;
- interfaces for digital component video signals for 18 MHz implementation of Recommendation ITU-R BT.601; and possibly,
- special ancillary signals not conforming to the general format.

#### **3.1.8.7 Task Group 11/3 "Digital terrestrial television broadcasting"**

Task Group 11/3 plans to finalize its activities before the next meeting of Study Group 11 (21-25 April 1997), where it will present its results. Task Group 11/3 will have two meetings in 1996 dedicated to the preparation of the remaining Recommendations on:

- service transport;
- conditional access;
- modulation and emission;
- error management;
- performance of digital terrestrial television emission systems.

Task Group 11/3 will also consider the possibility of converting a tutorial publication already being finalized on DTTB into a Handbook.

#### **3.1.8.8 Working Party 10-11R "Recording for broadcasting"**

Working Party 10-11R will have one meeting in 1996 focused on the preparation of new Recommendations on:

- requirements for the production, recording and presentation of HDTV programmes intended for release in electronic cinemas;
- broadcasting of film programmes with optical surround sound tracks;
- use of 16 mm film in broadcasting.

#### **3.1.8.9 Working Party 10-11S "Satellite broadcasting"**

Working Party 10-11S will have two meetings in 1996. The first meeting in March 1996 will exclusively address matters related to the preparation for WRC-97 (revision of Appendices 30 and 30A of the Radio Regulations). A basic report has already been prepared which will be the basis for the main contribution to the CPM. This and other issues will be dealt with in a second meeting of

the Working Party (October 1996) which will address finalization of the report to the CPM and the preparation of Recommendations on:

- digital multi-programme satellite emissions; and
- interactive satellite TV services.

A new report is being prepared on recent developments in the field of satellite DAB services.

### **3.1.8.10 Joint Steering Committee of Study Groups 10 and 11**

This Committee is providing an extremely useful coordination of the broadcasting activities and includes participation from ITU-T, ITU-D and external organizations. A meeting is foreseen in 1996 to address rationalization of the Questions assigned to SGs 10 and 11 and to discuss the report of an ad hoc Group on harmonization of broadcasting standards previously assigned to Working Party 11F.

### **3.1.9 Meetings related to CCV Study Group**

Support will be provided to the Group's activities which will mainly be undertaken by correspondence. No meeting of the CCV is foreseen for 1996.

## **3.2 Special Committee (SC)**

Two meetings of the Special Committee on regulatory and procedural matters are being organized in 1996 for a total of five meeting days. The Bureau will provide secretariat support. The first meeting will deal primarily with organizational matters and the creation of Rapporteur Groups. The second meeting, of about three days, will deal with Resolution 18. Some 500 pages of documents will be produced in the three working languages of the Union.

## **3.3 Radio Regulations Board (RRB)**

The Radio Regulations Board will meet four times in 1996. Input to the meetings will be prepared by the Secretariat in the form of reports and draft Rules of Procedure. Each meeting is supported by the Director in his function as Executive Secretary and by the staff of the Bureau as required. The 1996 work programme will include studies related to Resolution 18, the simplified Radio Regulations and on other subjects of interest to the RRB.

## **3.4 Radiocommunication Advisory Group (RAG)**

The RAG will meet in February 1996 to review the outcome of the Assembly and WRC-95 and will consider, in particular, the process for approval of Recommendations and review the working methods of the CPM and adapt, as necessary, the guidelines for the work of the Study Groups.

Further, in line with the provisions of Resolution 17 (PP-94), it will review priorities and strategies for ITU-R activities. The refinement of the ITU-T and ITU-R Sectors will be considered in a Joint TSAG/RAG Working Group (see paragraph 4.9). Work on Resolutions 15, 16 and 18 will also be considered. Effective coordination of activities between the Sectors will be a major goal for the forthcoming period. The Bureau will support the work of the RAG through the submission of documents such as this operational plan, plans and progress reports on publications (see Annex II), the Study Group meeting calendar, post conference work and by providing administrative assistance. It is expected that the advice provided by the RAG to the Director will contribute to enhance services to M/m-members.

### **3.5 Conference Preparatory Meeting (CPM)**

The 1996 meeting will be for the purpose of coordinating the work programmes of the relevant Study Groups and the Special Committee based on the agenda for the 1997 and 1999 WRCs taking into account the directives from the relevant Resolutions and Recommendations of WRC-95. It is expected that the following documents will be developed by CPM-96:

- structure of the consolidated report of the ITU-R Conference Preparatory Meeting (CPM-97) to the World Radiocommunication Conference, 1997;
- list of the ITU-R Study Groups (Working Party/Task Group) involved in preparation for the 1997 World Radiocommunication Conference (related to WRC-97 agenda items);
- list of the ITU-R Study Groups (Working Party/Task Group) involved in preparation for the 1999 World Radiocommunication Conference (related to WRC-97 preliminary agenda items).

### **3.6 1996 session of the Council**

The Bureau will contribute to the annual report on the activities of the Union. In this context, it will report on RA-95 and WRC-95, report on the preparations for RA-97 and seek a decision on the duration, date and venue of that Assembly. Following the decisions of WRC-95 and the resulting assignment of additional workload to the Bureau without allocating adequate additional resources or setting clear priorities, the Bureau will report to the Council on the situation and request that appropriate measures be taken. It will also report on the work of the Advisory Group and on the work carried out under PP Resolution 16 (Refinement of the ITU-R and ITU-T Sectors) and Resolution 18 (Planning Framework for Satellite Networks). The Bureau will report on the progress of studies of the costs of ITU-R's services and products (see paragraph 4.5). In view of the great impact on the resources of the Bureau, the Council's action on the finalization of the agenda for WRC-97 is of particular importance. The Director and staff of the Bureau will provide assistance to the Council as required.

### **3.7 1997 Radiocommunication Assembly (RA-97)**

Except for the normal work of ITU-R Study Groups, specific tasks for the preparation of the 1997 Radiocommunication Assembly will not be carried out in 1996.

The invitation to RA-97 will be sent as usual together with the invitation of WRC-97 by the end of 1996.

### **3.8 1997 World Radiocommunication Conference (WRC-97)**

A very heavy work programme has been placed on the Bureau as well as on administrations by the agenda for WRC-97. The Bureau has analysed the resulting tasks and has identified the following non-exhaustive list of main items:

- planning exercises for AP30/30A in accordance with Resolution 531;
- support studies in Task Group 10/5 on alternative planning procedures for HFBC (Resolution 530) and appropriate testing;
- submit a final report on activities related to Resolution 18 (see also paragraph 4.19);
- organize, support and report on results of studies on sharing possibilities in various bands;
- studies concerning the identification of stations (Resolution 71).

Particular efforts are required to respond adequately to the first item. To this effect, a special BR project team has been set up comprising four staff members to provide the necessary technical and regulatory input and to develop the required software to undertake the planning exercises. As additional resources have not been made available for this work, the reassignment of staff from other tasks will have a negative impact on the processing of space-related notices and the timely adaptation of existing software for notice processing to the new client-server based computing environment (see also paragraphs 4.2.3 and 4.4).

Apart from the preparatory work for 1997 requested by WRC-95 as outlined above, the following major decisions increase the workload of the Bureau and in some cases of some administrations, which will have to:

- apply the generalized identification of all affected administrations through AP29 (instead of the verification only of the information submitted), etc.;
- apply the extended provisions of Resolution 46 (feeder links, earth station coordination, assistance, etc.);
- adapt all data processing software to the simplified Radio Regulations.

### **3.9 1999 World Radiocommunication Conference (WRC-99)**

The Bureau has taken note of the preliminary agenda for WRC-99 (Resolution 720) but, for the time being, has seen no need to organize any specific preparatory work, apart from preparing the studies to be undertaken in the ITU-R Study Groups.

## **4 Special projects and studies**

### **4.1 Technical assistance, seminars, cooperation with other Sectors and relations with regional and international organizations**

The Bureau provides a wide range of services to its clients (M/members). The Bureau studies, under the relevant provisions of the Radio Regulations, regional and worldwide agreements, requests for assistance received from administrations and addressed to both the Terrestrial and Space Radiocommunication Service Departments.

#### **4.1.1 Technical assistance**

**4.1.1.1** The treatment of cases of harmful interference is a special case of assistance which is defined in the Radio Regulations. Owing to the nature of some services dealing with safety of life, the Bureau's objective is to process these cases within 48 hours. The Bureau anticipates dealing with approximately 60 such cases in 1996.

**4.1.1.2** The Bureau expects to receive 150 requests for assistance in dealing with frequency selection or in applying the technical plan procedures for the broadcasting services.

**4.1.1.3** Also in the domain of frequency selection, it is expected that requests to find some 20 assignments under RR 1218 will be received in 1996. Other assistance for AP26 (Aeronautical) may concern ten allotments.



**4.1.1.4** Although this assistance is aimed mostly at developing countries, there is an increasing demand from developed countries to request assistance for bilateral space systems coordination meetings, as well as assistance in space matters in the form of meetings and training missions. Owing to the workload situation for space notifications, the Bureau is reviewing its priorities in this regard (see 2.1.4).

**4.1.1.5** Assistance will be provided to administrations wishing to submit their notifications electronically, thereby ensuring a more accurate capture process and reducing the publication delays.

**4.1.1.6** Study Group Department A continues to provide, to the extent possible, technical assistance to external and internal bodies on broadcasting and spectrum management related activities. It includes on-call assistance and attendance to specific meetings.

#### **4.1.2 Seminars and training sessions**

The Bureau will organize two Regional Radiocommunication Seminars and one World Radiocommunication Seminar in 1996. The regional seminars will be held in French-speaking Africa and in the eastern part of Europe. The world seminar will be held in Geneva in November 1996. In addition, the Bureau will actively participate in another seminar dealing with broadcasting in Region 3.

Each year the Bureau also organizes two training sessions in Geneva, one in spring and one in autumn. These sessions of one week are addressed to developing countries who need special assistance on specific problems such as notification, software, etc. In 1996, since a world seminar will be held in Geneva in autumn, only the spring session will be organized.

#### **4.1.3 Cooperation with the ITU-D and ITU-T Sectors**

**ITU-D Study Groups:** liaison in areas of common interest, in particular Questions 1/2 (Concerns of developing countries in relation to work of other Sectors) and 2/2 (Handbooks); BR attendance at Working Party and Rapporteur Group meetings.

**BASMS:** continuation of BR input to development of BASMS software, related training and future development of ASMS.

**Propagation experiments:** BR coordination with BDT in establishment of new trans-horizon VHF measurements on a path in Africa (following that in Senegal) and related data analysis; BR and SG 3 support relating to propagation prediction for broadcast planning in developing countries (BAAP programme 10); installation of HF field strength measurement equipment in developing countries and related data analysis.

**Training:** BR association with the International Centre for Theoretical Physics (ICTP) (Trieste) in consultancy/training of scientists/engineers from developing countries; in conjunction with BDT, involvement in the Global Telecommunication Training Institute (GTTI) and a pilot plan for an ABU training course in broadcasting.

#### **Cooperation with ITU-T Sector**

Concerning issues of mutual interest to ITU-R and ITU-T Study Groups, the activities of liaison Rapporteurs and the interchange of liaison statements will continue to closely follow the rapid development in radiocommunication and telecommunication fields.

## **ICG-SAT**

ICG-SAT will continue its activity to monitor the work programmes of the relevant ITU-R and ITU-T Study Groups in relation to the use of satellites in order to ensure that Recommendations being produced by relevant Study Groups allow the continuing full integration of the satellite transmission medium in public networks. The work will be carried out by correspondence.

## **ICG-FPLMTS**

TG 8/1 will continue to provide necessary information to update and revise the overall work plan. The work will continue to be carried out by correspondence with a possibility of convening a short meeting during the SG 8 block meetings in September/October 1996.

## **Refinement of the ITU-R and ITU-T**

The RAG/TSAG JWP on Refinement will examine a case study on FPLMTS based on reports provided by the BR and TSB and a document prepared by the Chairman, ITU-R SG 9 will be submitting a case study of ITU-R SG 9 and its European counterpart.

### **4.1.4 Cooperation with international and regional organizations**

**URSI:** BR will continue to monitor the activities of URSI and to maintain contact with the URSI Scientific Committee for Telecommunications (SCT) which was established to identify and to stimulate studies in radio science of common interest.

**COST:** BR will aim to monitor those COST Projects of relevance to its work such as COST 235 (Radiowave propagation effects on next generation fixed service terrestrial telecommunication systems) and COST 251 (Improved quality of service in ionospheric telecommunication systems planning and operation). The major part of the results of these projects would be expected to represent the basis of new Recommendations.

Close liaison will be maintained with the major Broadcasting Unions (EBU, ABU, NANBA, ASBU, AIR, URTNA, etc.) and the World Broadcasting Union (particularly its Inter-Union Technical Committee). Representatives of the above organizations are participating in the Joint Steering Committee of ITU-R Study Groups 10 and 11 to ensure proper coordination of the broadcasting activities of the Study Groups. ITU/BR will participate wherever possible, in the yearly meeting of the Technical Committees of the various Unions where contributions to ITU-R Study Groups are formulated and new studies are activated by each Union. In this context, advice from the responsible ITU/BR Counsellor appears to be quite useful to ensure efficient coordination. Cooperation includes participation in seminars organized by the Broadcasting Unions (see § 6 "Missions").

As in the past, the Radiocommunication Bureau will take part in the work of the United Nations' Committee on the Peaceful Uses of Outer Space (UN-COPUOS). The Legal Sub-Committee of the COPUOS has questions on its agenda on the character and utilization of the geostationary orbit and the definition and delimitation of outer space. The common understanding of the UN committee members has been that the GSO, because of its specific characteristics and its nature of being a limited natural resource, requires scientific, technical, political, and strategic considerations by the United Nations. Nevertheless, these considerations should not lead to controversial regulations in the various different UN fora. In 1996 the accent of the Bureau's participation in the COPUOS will be put on its contribution to the activities of the Legal Sub-Committee, where the respective legislative roles of the COPUOS and of the ITU are considered. It is important that the treaty-

making activities of the UN should remain complementary to the activities of the ITU and not prejudice the role of the ITU. The Radiocommunication Bureau will prepare the ITU's 35th Annual Report on Telecommunication and the Peaceful Uses of Outer Space. This Report, in addition to its submission to the ITU Council and its dissemination to the ITU administrations, will also be submitted to the COPUOS and its Sub-Committees.

Necessary liaison with IMO, INMARSAT, Cospas-Sarsat, CICR and ICAO will be provided with regard to the application of the ITU treaty texts (Constitution and Convention, and Radio Regulations) within these international organizations. The Bureau will be involved in the preparation of input documents and participation in the meetings of COMSAR 1 (Sub-Committee on Radiocommunication and Search and Rescue, January 1996) and MSC (Maritime Safety Committee, May 1996) of IMO and in the Cospas-Sarsat meeting (September 1996).

## **4.2 Software development/EDP support**

The strategy and plans to migrate existing software to the new ITU operating system and software platform were reviewed in 1994 in view of the cost and consequences for the work of the BR. The implementation of those plans is under way. Precise objectives as described below have been set, in order to try to complete the migration of all software application systems in the Radiocommunication Bureau by the end of 1998. Regular meetings will be held with the Information Systems Department of the General Secretariat to align software development strategies and coordinate the use of development tools.

### **4.2.1 Space applications**

The migration of the application software for the processing of space notifications will proceed with the target date of 1998 for its completion. While the Bureau is still confident that that date can be met, only marginal effort will be deployed in 1996 to migrate the operational mainframe space notification system to the new environment. Instead, and in order to accommodate the increasing volume and complexity of space notices, priority is being given to developing software for electronic notifications on PC workstations. The software will enable administrations and allow the Bureau to capture, validate and correct space notices on a PC and the BR to accept such electronic notifications from administrations. A first release of such a package is foreseen in spring 1996. It is anticipated that this software package will be recycled within the migration process of the mainframe system.

### **4.2.2 Terrestrial applications**

Following a decision to completely redesign the terrestrial part of the Frequency Management System (FMS), a project management team was set up to supervise the design, development and implementation of the new terrestrial application software. That team plans to complete in 1996 the reformatting of all terrestrial data into the new structure and to release the new notice forms for FM/TV (paper and electronic versions). In 1996 it will also start the development of processing software for FM/TV notices. Efforts will be made to limit possible delays due to the required detachment of staff to work on higher priorities, in particular in the space domain, assuming that well specified user requirements are provided in a timely manner so as to not delay the development process.

### **4.2.3 Other software applications**

To further promote computer-assisted spectrum management and to improve access to available software, the ITU software database, which is also accessible through TIES, contains detailed

descriptions of available relevant software. Software from this catalogue is available to all interested parties. The present "best-seller" is a package to determine the coordination requirements for space networks in Appendices 30/30A/30B of the Radio Regulations. This software will be developed into a comprehensive plan management tool in the context of the preparations for the planning exercises for AP30/30A and should become available to external users in the first half of 1996.

#### **4.2.4 Hardware provisioning and maintenance in the BR**

Standard office hard and software for use in the Bureau will continue to be provided in cooperation with the Information Systems Department. By the end of 1996, most workstations will be equipped with PCs fully meeting all operational requirements and capable of operating in a client-server network environment. Ways and means will be sought in cooperation with the IS Department to improve the maintenance of that equipment as well as to achieve a better definition of the standard office software to be used in the standard workstation. The need to identify a single technical person from the IS Department, but resident in the BR, to ensure adequate operational support for the PC workstations in BR will be examined with the IS Department in the first quarter of 1996.

#### **4.3 Costing study**

As requested by Resolution 13 (APP-92), the Bureau carried out a study to evaluate the costs involved in the technical examination of assignment notifications for various classes of radio stations, satellite networks, etc. The study covered the 1993 period and resulted in a report which included the various unit costs (staff costs only) for many of the services offered by the Bureau. In Resolution 19 (PP-94) the Conference indicated that this study should be continued.

The Bureau has initiated a new costing study in 1995 to evaluate the costs of the various products and services which are generated in the ITU-R Sector. These costs will include staff costs as well as indirect costs and costs invoiced by other sectors of the ITU. With the cooperation of the Strategic Planning Unit (SPU) and the Finance Department, this study will be completed during the first half of 1996.

#### **4.4 Handling of regulatory/procedural matters**

The 1995 Assembly decided to set up a special committee replacing the Working Party on regulatory matters of the CPM. This arrangement will be reviewed at the next Assembly. The Radiocommunication Assembly also requested a study of the options for dealing with regulatory and procedural matters. This study will be undertaken once some experience with present arrangements has been gained. Included in the investigation will be a precise definition of the tasks that are necessary; the relationship of the work to World Radiocommunication Conferences, the Conference Preparatory Meeting and Study Groups; possible working methods of any long-term group, and the financial implications for the Sector. On the basis of experience gained during the year, a preliminary report will be prepared in the fourth quarter of 1996 for submission to the RAG in early 1997. A final report on these matters will be prepared for the 1997 Radiocommunication Assembly.

#### **4.5 PP, Resolution 1**

The Director will continue to implement the directives of Resolution 1 in the management of the Bureau through the use of this operational plan that is regularly updated and reviewed by means of quarterly reports from the five departments in the BR.

In line with the specific priorities set out in the strategic plan, the respective groups of Study Group 8 will meet in 1996 to prepare Recommendations for the development of FPLMTS (see paragraph 3.1.5). Similarly, Study Group 11 will continue to develop Recommendations for HDTV (see paragraph 3.1.8). The support for the timely coordination between space systems and between space and terrestrial systems as well as the provision of assistance to Member administrations will, however, be constrained by the lack of resources (see paragraph 4.2.3). The working methods of the Bureau are under permanent review, aiming at improving user-friendly document exchange capabilities (electronic notifications, electronic publications and TIES) and the internal organization of the Bureau will be further reviewed in 1996.

Adequate revisions to the strategic plan will be prepared in time for review by the RAG and submission to the next Plenipotentiary Conference.

#### **4.6 PP, Resolution 14**

The Rules of Procedures and processes in the Sector as laid down in Resolution ITU-R 1 and other instructions from the 1995 Assembly have been reviewed. Future reviews will take into account the results of the review of the rights and obligations of M/m-members of the Sector under way in the review committee (see below). The Bureau is contributing with its experience to this review.

#### **4.7 PP, Resolution 15**

Further work in 1996 under this Resolution will depend upon the Council's reaction to the Review Committee's report to the Council. In view of the important role that "m"-members play in the activities of the Sector, it is foreseen that any directives by the Council will be applied as soon as possible. The Bureau will also actively support any further work as required and will participate in the respective meetings with the objective of assuring recognition of the special requirements of the Sector.

#### **4.8 PP, Resolution 16**

Notwithstanding ongoing consultations between the Directors of TSB and BR on the attribution of work, the matter of refinement of the Radiocommunication Sector and the Telecommunication Standardization Sector will continue to be considered at joint meetings of the Advisory Groups of the two Sectors which set up a Joint Working Party. It will take into account the current processes and activities, consider further elements for refining the structure and appropriate consequential action. Specific studies on the process for approval of Recommendations and on the experience gained in the cross-Sector coordination of work for FPLMTS will be undertaken to support the work on refinement and the results will be submitted to the respective meeting in the first quarter of 1996. Based on the conclusions of those meetings, the Bureau will develop any further necessary contributions in the second half of 1996.

#### **4.9 PP, Resolution 17**

The Director and the Bureau will continue to support the Radiocommunication Advisory Group. For more details see Section 3.4.

#### **4.10 PP, Resolution 18**

The Plenipotentiary Conference (Kyoto, 1994), in its Resolution 18, requested the Director of the Radiocommunication Bureau, in consultation with the Radiocommunication Advisory Group (RAG), to initiate a review of the ITU's frequency coordination and planning framework for satellite networks with a view to submitting a preliminary report to the World Radiocommunication Conference 1995 (WRC-95) and a final report to the 1997 Conference (WRC-97). In considering the matter, the Working Group of the RAG considered the possible issues to be included in the review and identified a list of issues which would be used in the studies organized within the framework of the Resolution.

As requested by the Resolution, the Director, BR, submitted his preliminary report to WRC-95. On the basis of this report, the Conference decided that further studies should be undertaken by the following entities of the ITU-R Sector: The Special Committee on Regulatory/Procedural Matters, other Study Groups (in particular SG 4), the Radio Advisory Group (RAG), the Radio Regulations Board (RRB), the Radiocommunication Bureau and the ITU World Telecommunication Policy Forum (1996). The Director, BR, will collect the results of the studies and will submit his final report to WRC-97 for decision.

A meeting of the Special Committee on Regulatory/Procedural Matters is scheduled for 28 February to 1 March 1996 to deal specifically with consideration of questions relating to Resolution 18. From the decisions of WRC-95, it is also understood that the RAG will be one of the players in developing solutions to questions raised within the framework of Resolution 18. As it has done in the preparatory phase, the Bureau will provide general support (organizational, administrative) to the activities of the different bodies of the ITU-R Sector. In addition, it will organize regional information exchange meetings in the three Regions in 1996. For the organization of these meetings the necessary partnerships will be established and it is expected that in the second half of 1996 such meetings will take place in Regions 1, 2 and 3. The final report of the Director to WRC-97 is planned to be finalized in early 1997 to allow its circulation before the Conference.

#### **4.11 PP, Resolutions 19 and 39**

The terms of reference, objectives, and time-scale for an analytical study of the costs of ITU-R products and services are under way at the initiative of the Director (see paragraph 4.5). The study is being conducted by a team with members from the BR, the Finance Department and the Strategic Planning Unit. The objectives of the study are to identify existing and potential outputs, estimate the direct costs and identify the indirect costs, determine relative benefits to M-, m- and non-members, analyse the costs of major processing steps and identify different ways of reducing costs and improving productivity.

A first report covering the identification of outputs and services will be submitted to the 1996 Council.

#### **4.12 PP, Resolutions 32, 33 and 34**

These Resolutions request the Radiocommunication Bureau to cooperate with and assist the BDT in providing assistance to specific countries. Meetings were held in 1995 to identify the needs for assistance and to provide possible technical support as required. Although no definite tasks are planned for 1996, the Bureau may be required to provide specific training, in particular in the broadcasting field.

#### **4.13 PP, Resolution 36**

The existing regulatory provisions to assure efficient means of communication for disaster mitigation and for relief operations have been studied and to date no suggestions for modifications have been identified. The BR was established as the contact point for a UN Committee on this matter and a meeting will possibly be held in 1996.

#### **4.14 PP, Resolution 62**

The instructions for the provision of interpretation at meetings and translation of documents and publications will be followed within the budgetary limitations established by the Council.

#### **4.15 PP, Resolutions 65 and 66**

The matter of remote access to ITU-R data, documents and publications is regularly considered by the RAG and all efforts are being made to make such data and documents available within established ITU policy and the resources available. In particular, the laborious process of completing the posting onto TIES/ITUDOC of those ITU-R Recommendations that have been in force for some time and therefore are not yet in an adequate electronic format will, unfortunately, be delayed due to lack of staff resources. Consequently, priority will be given to the posting of new information (see paragraph 5.3.2).

#### **4.16 WRC-95 Resolution 531 (former GT-PLN-1)**

Resolution 531 in Chapter 5 of its annex contains the instructions and advice to the ITU-R Sector concerning the measures to be taken in view of the WRC-97 agenda item for the "Review of Appendices 30 and 30A". The major elements of this Chapter are as follows.

##### **4.16.1 Matters which WRC-95 either took note of or decided required further study (paragraphs 5.1 and 5.2 of Resolution 531)**

The meeting of Study Group Chairmen and Vice-Chairmen (Geneva, 20-21 November 1995) decided that WP 10-11S and the Special Committee on Regulatory/Procedural Matters will cover issues defined by paragraphs 5.1 and 5.2 of Resolution 531.

##### **4.16.2 Rules of Procedure (paragraph 5.3 of Resolution 531)**

According to the Conference decision as contained in paragraph 5.3 of the Annex to the above-mentioned Resolution, the RRB and the Bureau were instructed to take necessary actions on specific issues concerning the Rules of Procedure. The Bureau will submit to the RRB draft Rules to cover the matters relating to the application of Appendices 30/30A.

- publication of those BSS networks with parameters different from the Plan (GE-77) ("non-standard parameters") (February 1996);
- updating of Plans' database (May 1996);
- planning exercise - step 1 (modification of the existing Plan on the basis of new technical parameters) (September 1996);
- planning exercise - step 2 (first phase) (to provide plan entries for "new" ITU Member countries) (March 1997);
- planning exercise - step 2 (second phase) (to provide plan entries for countries with reduced numbers of channels) (May 1997);

- planning exercise - step 3 (to take into account, as far as possible, Article 4 modifications) (September 1997).

A circular letter will be published on the newly approved Rules of Procedure and their application by the Bureau in the first quarter of 1996.

#### **4.16.3 Organization of the planning exercises (paragraph 5.4 of Resolution 531)**

The Bureau has been identified by the Conference to undertake planning exercises (with the assistance of administrations and the Study Groups). To identify the scope, the timing, the possible other players, the resource implications and, later on, to monitor the progress, a standing BSS planning Steering Committee has been established within the Bureau. Taking into account the Conference decisions concerning the above issues and the planning exercises to be undertaken, the Bureau will establish in the first quarter of 1996 a specific work plan to update the available software (MSPACE, including development of the data capture, management and publication subsystems) and to conduct the various steps of the planning exercise included in paragraph 5.4 of the Annex of the Resolution. The major milestones of this plan are the following:

- publication of BSS networks of non-standard parameters (February 1996);
- establishment (software updating) of Plans' database (May 1996);
- existing plan modification (planning exercise - step 1) (September 1996);
- plan entries for "new" countries (planning exercise step 2, first phase) (March 1997);
- plan entries for countries with less than minimum channels (planning exercise 2, second phase) (May 1997);
- taking into account Article 4 modifications (planning exercise 3) (September 1997).

The above tasks will be undertaken in cooperation with administrations and ITU-R Study Groups. A separate circular letter will be published to cover these activities.

Document 259 of WRC-95 in its Annex 3 (Rev.) identified the manpower required for the planning exercise (six man-years P3/P4 and 1 G3 support). The Conference did not, however, identify the necessary financial resources. The Bureau is currently seeking solutions to the resource problems resulting from this situation including obtaining external assistance, without which the Bureau will be unable to carry out all the tasks that Radio Regulations and the Conference decisions require.

#### **4.17 WRC-95 Resolution 529 (former GT-PLN-2)**

The Bureau will complete in 1996 the necessary steps to accept notices in the HFBC bands allocated to the broadcasting service by WARC-79 in the ART17 procedure as from the May 1996 Tentative Schedule. This includes modification of the data capture and retrieval program on diskettes and the incompatibility calculation programs and database. (See Circular-letter CR-47 dated 19 December 1995.)

The Bureau will actively participate in the work of Task Group 10/5. The preparation of the necessary software for conducting tests based on the recommended criteria will be initiated in the first half of 1996.



#### **4.18 WRC-95 Resolution 26 (former COM 4-1)**

The main part of this Resolution, which contains principles for inclusion of footnotes in the Radio Regulations, is directed to administrations. As instructed in the Resolution, the Director will undertake the review of footnotes in a timely manner before WRC-97 and communicate the results to administrations in order to enable them to follow the provisions of Resolution 26.

#### **4.19 WRC-95 Resolution 71 (former COM 4-3)**

Arrangements will be provided for the study to be undertaken within the Radiocommunication Sector on the application of Article S19 of the Radio Regulations.

#### **4.20 WRC-95 Resolution 339 (former COM 4-7)**

Consultations will be arranged by the Secretary-General with IMO with a view to determining the need for the ITU to continue frequency coordination for NAVTEX services in order to reach an agreement by WRC-97.

#### **4.21 WRC-95 Resolution 713 (former COM 4-8)**

Support will be provided to the Secretary-General for the studies on the possibility of transferring the responsibilities relating to operational provisions in the Maritime and Aeronautical Mobile Services to IMO and ICAO, following the procedures agreed between these organizations and the ITU.

### **5 Publications**

#### **5.1 Regulatory publications**

The following publications resulting from the application of the Radio Regulations are foreseen:

- 50 Weekly Circulars on paper, microfiche and diskette;
- 2 IFL on CD-ROM and microfiches;
- 2 SRS (Space Radiocommunication Systems) on CD-ROM;
- 2 updates to the Preface to the IFL;
- 1 Terrestrial Plans on CD-ROM.

#### **5.2 Service documents**

The following service documents are described in the Radio Regulations. In 1996 the Bureau will publish:

- List IV one supplement (200 pages) and a recapitulative supplement (150 pages).
- List V three supplements (650 pages), one full edition (3 000 pages).
- List VI two recapitulative supplements (200 pages).
- List VIIA four recapitulative supplements (1 100 pages).
- List VIIB two supplements (70 pages).
- Manual for use by the maritime mobile and maritime mobile-satellite services.

### **5.3 ITU-R Recommendations, Resolutions and Opinions**

A book of all Resolutions and Opinions in force will be prepared (420 pages in the three languages - E/F/S). 88 new and 100 revised Recommendations will be published in 21 fascicles. The total number of pages to be published in the first half of 1996 totals 8 200 pages for the three languages.

### **5.4 Radio Regulations**

The Radio Regulations will be published in two sets: Set I, containing those regulatory provisions which will be in force on 1 January 1997, and Set II which will include the provisions approved by WRC-95 with effect from 1 July 1998.

#### **Set I (Provisions in force as from 1 January 1997)**

- Volume 1 texts of the current Volume 1 (without Articles 8, 28, 29);
- Volume 1A (Articles S5, S21, S22 and S59);
- Volume 2 texts of the current Volume 2 (without Appendices 1-5);
- Volume 2A Appendix S4;
- Volume 3 texts of the current Volume 3 (without Resolutions revised and abrogated by WRC-95);
- Volume 3A revised Resolutions and new Resolutions and Recommendations approved by WRC-95.

Volumes 1A, 2A and 3A will be published in A5 format and bound in a single book and will complement Volumes 1, 2 and 3 published in 1994.

#### **Set II (Provisions to be in force from 1 July 1998)**

- Part A new Preamble, S-Articles;
- Part B S-Appendices (as approved by WRC-95);
- Part C Resolutions and Recommendations;
- Part D ITU-R and ITU-T Recommendations incorporated by reference.

Parts A, B, C and D will be printed in A4 format and will be used as an input document for WRC-97. It is suggested that the administrations be supplied with one free copy of Set II, which should be considered as a document to WRC-97. Should administrations need additional copies, they will be invited to buy them (the same approach was taken for the VGE final report).

### **5.5 Preparation of Handbooks**

See Annex II.

### **5.6 Electronic publications**

#### **5.6.1 CD-ROMs and diskettes**

Large volumes of data will continue to be published at least twice a year on CD-ROM and more frequently on diskette. Thus, in 1996 the International Frequency List, the terrestrial frequency assignment Plans and the list of Space Radiocommunication Systems with all specific data

including graphical data for the latter will be published on CD-ROM. These disks also contain the Preface to the IFL and other software packages of interest to frequency managers.

In addition, the Weekly Circular and its Special Sections are made available on a weekly basis on paper and diskette. The latter version can be used together with the data on CD-ROM through the software package for local frequency management.

The HF Broadcasting Schedules are now published regularly on diskette. Also now accessible through TIES is the List of Ship Stations with possible queries on relevant data (MARS).

### 5.6.2 TIES/ITUDOC

Substantial progress was made in response to Kyoto Resolution 66 and to Resolutions ITU-R 19 and ITU-R 20 by posting, apart from general information on the Sector, official ITU-R publications, including a large number of Recommendations in ITU's document store accessible through TIES and the WWW.

The following information is now accessible electronically:

- a complete list of M/m-members, ROAs, SIOs, regional telecommunication organizations, intergovernmental organizations operating satellite systems, etc., forming the membership of the Sector;
- circular letters concerning the general business of the Radiocommunication Sector (CA), Assembly and Study Group work (CACE), draft Recommendations and Questions (CAR), maritime affairs (CM) and Radio Regulation frequency registration matters (CR);
- documentation dealing with the Radiocommunication Advisory Group (RAG), Study Groups and the Special Committee on Regulatory/Procedural Matters;
- documentation of the Conference Preparatory Meeting (CPM);
- the complete text of all Resolutions, Opinions, as well as all Questions under study by each Study Group;
- accessible databases such as a list of ITU-R Recommendations and Questions, ship-station database, software for frequency management, etc.;
- the Space Network List (updated every two weeks) with detailed technical information on geostationary and non-geostationary-satellite networks and earth stations in coordination, notified or registered. This includes information on space stations in Plans (AP30/30A/30B), as well as data submitted in application of Resolution 33 (WARC-79) and Resolution 46 (WARC-92);
- approximately two-thirds of the ITU-R Recommendations in force.

In addition, a number of bulletin boards are in use with a variety of information posted, in particular meeting documents related to the work of a particular Working Party or Task Group.

BR's resources provided within the budget for 1996/1997 do not provide specifically for any resources dedicated to this work. Consequently, special operational arrangements within BR have been made using existing resources for the posting of information as soon as the work schedule permits. In 1996 priority will continue to be given to the posting of the most recent information in order to maintain easy access to up-to-date reference material.

Electronic document handling (EDH) practices will be expanded including electronic document submission (EDS) and electronic document exchange (EDE) following the guidelines in Circular-letter CA/17 (1995). Maintenance and improvement of the bulletin board and mailing list services is foreseen in the period as well as a substantial increase in the ITUDOC document posting activities.

**5.6.3** Efforts will be made to make all ITU-R Recommendations available on-line in WinWord2 and PostScript formats. While new or newly revised Recommendations will be put on-line immediately, many of the older Recommendations (3 180 pages) will need to be converted to fully electronic format.

## **6 Missions and in-service training**

The missions undertaken by the BR staff fall into four main categories:

- Participation in non-ITU radio conferences, meetings and seminars (normally supported by the BR regular budget);
- Technical and administrative support to Study Group meetings outside Geneva (normally supported by Study Group budget);
- Lecturer in BR training seminars on frequency management and related matters (normally supported by the Radiocommunication Seminars' budget);
- In-Service training (normally supported by the BR part of the ITU In-Service training budget, PM-15).

In 1996 the distribution of these missions is foreseen as shown in the table below:

<b>Forecast</b>	<b>No. of missions</b>	<b>No. of days of missions</b>
Participation in non-ITU radio conferences, meetings and seminars	27	186
Technical and administrative support to Study Group meetings outside Geneva	16	100
Lecturer in BR training seminars on frequency management and related matters	8	54
In-service training	12	60
Others (assistance to developing countries, TELECOM exhibition, World Development Regional Conference)	4	24

## 7 Staff matters

The human resources of the Radiocommunication Bureau are based on 149 posts among which 74 are Professionals (P) and 75 are General Services (G). The related staff are recruited on the basis of three different kind of contracts, Permanent, MRT and Fixed-Term, following the ITU staff rules and regulations.

Some of the above-mentioned posts will be vacant mainly due to retirements taken in 1995 or to be taken in 1996. As of 1 January 1996, six posts are still vacant. In 1996, three Professionals and two General Services staff will retire. Taking into consideration the average delay of about four months to fill a vacant post, the foreseen quantity of vacant posts in 1996 would be equivalent to approximately 45 to 50 man-months.

The Radiocommunication Bureau can recruit additional support staff on the basis of short-term contracts. In 1996, this additional human resource will be used particularly in the reduction of backlogs in the Space Services Department and also in helping the Study Groups departments especially for the preparation and the implementation of ITU-R block meetings. It is noted that the unused budget left by vacant posts, mentioned above, can also be used for recruiting short-term staff.

The foreseen distribution of human resources, in 1996, among Radiocommunication Bureau departments is the following:

<b>Forecast</b>	<b>P-staff</b> (Perm/MRT/Fix.)	<b>G-staff</b> (Perm/MRT/Fix.)	<b>P-staff</b> (short-term)	<b>G-staff</b> (short-term)
	No. of persons	No. of persons	Man-month	Man-month
Office of the Director <sup>1</sup>	3	9	-	<b>16</b>
Space Services	19	18	18	56
Terrestrial Services <sup>2</sup>	25	39	-	<b>44</b>
Information System	20	2	-	3
Study Group (A)	3	3	-	15
Study Group (B)	4	4	-	23
	74	75	18	156

<sup>1</sup> Short-term staff for assisting Study Group meetings.

<sup>2</sup> Short-term staff for preparation of ITU-R publications.

## 8 Financial matters

### 8.1 General

The present 1996-1997 budget of the Radiocommunication Sector has been decided in Resolution 1071 of 1995 session of the Council. This budget defines in financial terms the resources available to the BR in order to undertake the Sector mandates as defined by the Plenipotentiary Conference, the Council, the World Radiocommunication Conference and the Radiocommunication Assembly.

Table I gives the foreseen breakdown of costs which will be generated by the activities planned in the Sector during the year 1996. In this context, the Radiocommunication Sector, in 1996, will be able to:

- employ **74 professional** and **75 administrative** staff on a permanent or fixed-term basis;
- employ **174 man-months** of additional short-term staff, including P and G levels, mainly to support the elimination of the backlog in BR Space Services and the implementation of Study Group block meetings in Geneva;
- support the implementation of **419 days** of Study Group, Working Party and Task Group meetings including the CPM and the Special Group on Regulatory/Procedural Matters;
- **translate** approximately **8 200 pages**, **type 38 000 pages** and **duplicate 58 million pages** of various documents produced in the Sector for its members;
- allow some **28 BR specialists** to undertake some **55 missions** outside Geneva, corresponding to approximately **364 mission-days**, for participation in radio conferences and meetings worldwide as appropriate, assisting and training some administrations and supporting the organization of Study Group meetings outside Geneva;
- allow the BR staff to enhance their knowledge and know-how through specific training and seminars. Due to the limited training resources available, about **10 to 12 BR staff** would be able to follow such courses/seminars in 1996.
- organize **one global** and **two regional** seminars, one in Africa and the other in East Europe, and information meetings on frequency management and related administrative matters including **fellowships for about five to eight persons** from developing countries (some other fellowships resources might be possible through BDT channels as appropriate);
- organize four meetings of the Radio Regulations Board of five days each in 1996;
- organize three Regional Information meetings on the planning framework for satellite networks, Resolution 18, Kyoto 1994, of about three days each.

## **8.2 Budget of the Radiocommunication Study Groups**

The principle of establishing a biennial budget for each Radiocommunication Study Group was decided by the 1995 Radiocommunication Assembly which asked the concerned Chairmen and Vice-Chairmen to define these budgets based on the foreseen workload and particularly on the number of meetings and volume of documentation to be produced (see Annex III).

It was also agreed that, based on the financial reports on Study Groups activities that will be available in each BR Quarterly Report, the next meeting of ITU-R Chairmen and Vice-Chairmen might review, as appropriate, the distribution of this budget.

Table I

	Costs centres -->	211.000	212.000	214.000	215.000	231.000	232.000	240.000	260.010	262.100	262.200	262.300	261.100	261.200	260.000
<b>DIRECT</b>		<b>CMR</b>	<b>AR</b>	<b>SEM</b>	<b>Res.18</b>	<b>RRB</b>	<b>RAG</b>	<b>SG</b>	<b>BRDIR</b>	<b>SSD</b>	<b>TSD</b>	<b>RIS</b>	<b>SGA</b>	<b>SGB</b>	<b>BR</b>
	STAFF														
010	Permanent + Fixed term									4'340'000	7'255'702	3'148'000	790'000	914'216	
010	BR Supp. short term			6'645				173'217		700'000					
010	Interpreters			62'778	68'276	47'760	75'121	120'000							
010	Précis writers					56'520		55'666							
010	Meeting logistics short term			1'729	3'653		2'483	186'534							
010	Other meeting short term			821	5'223	3'286	3'506	131'509							
020	Other staff costs			9'712	26'691	2'963	42'934	33'563	384'812	1'105'000	1'856'647	791'000	202'000	229'541	
	<b>Subtotal staff</b>	0	0	81'685	103'843	110'529	124'044	700'489	1'863'894	6'145'000	9'112'349	3'939'000	992'000	1'143'757	
030	Missions			153'855		213'760		80'000							95'000
2 040	In-Service training														113'000
2 040	Weekly circular														712'000
2 040	Contracts														825'000
050	Logistics			6'000		12'000	5'000	80'000							
060	Equipment			6'000		10'000	4'000	100'000							
070	Acquisitions														
080	Services			5'000			15'000	150'000							
	<b>Subtotal (030 to 080)</b>	0	0	170'855	0	235'760	24'000	410'000	0	0	0	0	0	0	920'000
110	Miscellaneous (Repr.)			6'000		4'000	2'000	15'000							20'000
	<b>Subtotal (090 TO 110)</b>	0	0	6'000	0	4'000	2'000	15'000	0	0	0	0	0	0	20'000
	<b>TOTAL DIRECT</b>	0	0	258'540	103'843	350'289	150'044	1'125'489	1'863'894	6'145'000	9'112'349	3'939'000	992'000	1'143'757	940'000
	<b>INVOICED</b>														
251	Translation	32'000	10'000	13'000	14'000	33'000	20'000	274'000	6'000	10'000	18'000	7'000	1'500	1'500	610'000
311	Typing	30'000	8'000	3'000	12'000	31'000	20'000	1'216'000	6'000	10'000	18'000	7'000	1'500	1'500	610'000
330	Reproduction	20'000	10'000	1'000	4'000	1'000	3'000	575'000	2'000	5'000	6'000	3'000	500	500	294'000
	<b>TOTAL INVOICED</b>	82'000	28'000	17'000	30'000	65'000	43'000	2'065'000	14'000	25'000	42'000	17'000	3'500	3'500	1'514'000
	<b>TOTAL</b>	82'000	28'000	275'540	133'843	415'289	193'044	3'190'489	1'877'894	6'170'000	9'154'349	3'956'000	995'500	1'147'257	2'454'000

ANNEX I

**Extracts of BR Administrative Circular CA/27 of 8 January 1996**

**1996 schedule of the  
Radiocommunication Study Groups,  
the Conference Preparatory Meeting  
and the Special Committee on Regulatory/Procedural Matters**



## RADIOCOMMUNICATION STUDY GROUP MEETING SCHEDULE FOR 1996

(1): Possibly outside Geneva		1996		
(?): Tentative	<u>Group No</u>	<u>Place</u>	<u>Start</u>	
			<u>End</u>	
	TG 1/4	Geneva	10.1.96	18.1.96
				Electronic exchange of spectrum management information
	<b>CPM</b>	<b>Geneva</b>	<b>14.2.96</b>	<b>16.2.96</b>
				<b>Conference Preparatory Meeting for WRC-97</b>
	<b>RAG</b>	<b>Geneva</b>	<b>19.2.96</b>	<b>23.2.96</b>
				<b>Radiocommunication Advisory Group</b>
	<b>SCRPM</b>	<b>Geneva</b>	<b>26.2.96</b>	<b>27.2.96</b>
				<b>Special Committee on regulatory and procedural matters</b>
	<b>SCRPM</b>	<b>Geneva</b>	<b>28.2.96</b>	<b>1.3.96</b>
				<b>Special Committee on regulatory and procedural matters - Resolution 18</b>
	TG 10/5	Vatican	11.3.96	14.3.96
				Technical parameters and planning procedures for HF broadcasting
	WP 3L	Cologne	11.3.96	15.3.96
				HF propagation
	WP 7B	Toulouse	11.3.96	15.3.96
				Space radio systems (space research, data relay satellites, space operations, etc.)
	WP 7C	Toulouse	11.3.96	15.3.96
				Earth exploration satellite systems and meteorological systems
	Handbook SG9	Geneva	12.3.96	15.3.96
				Handbook Group on Digital radio-relay systems
	WP 4-9S	Geneva	12.3.96	19.3.96
				Frequency sharing between the fixed-satellite service and fixed service
	WP 8B	Geneva	13.3.96	21.3.96
				Maritime mobile service including Global Maritime Distress and Safety System (GMDSS); aeronautical mobile service, excluding public telephone service with aircraft
	WP 8D	Geneva	13.3.96	22.3.96
				All mobile satellite services except the amateur-satellite service; radiodetermination satellite service; public telephone service with aircraft
	WP 10A	Vatican	15.3.96	19.3.96
				Sound broadcasting at frequencies below 30 MHz and antennas for sound broadcasting
	WP 11C	Geneva	20.3.96	28.3.96
				Terrestrial television (emission and planning parameters)
	WP 9D	Geneva	18.3.96	29.3.96
				Sharing with other services (except for the fixed-satellite service)
	Ad hoc 7B-9D	Geneva	19.3.96	21.3.96
				Ad hoc Group 7B-9D
	JWP7-8R	Geneva	19.3.96	22.3.96
				Compatibility between active spaceborne sensors and systems in the radionavigation and radiolocation services
	JSC 10-11	Geneva	20.3.96	20.3.96
				Joint Steering Committee for Study Groups 10 and 11
	JWP4A-8D	Geneva	20.3.96	20.3.96
				Joint meeting of Working Parties 4A and 8D
	WP 10-11R	Geneva	20.3.96	22.3.96
				Recording for broadcasting
	TG 11/3	Geneva	21.3.96	29.3.96
				Digital terrestrial television broadcasting
	WP 11B	Geneva	21.3.96	29.3.96
				Digital television (source coding)
	WP 4A	Geneva	20.3.96	29.3.96
				Efficient orbit/spectrum utilization
	WP 9A	Geneva	20.3.96	29.3.96
				Performance and availability, interference objectives and analysis, effects of propagation, and terminology
	WP 9B	Geneva	20.3.96	29.3.96
				Radio-frequency channel arrangements, radio system characteristics, interconnection, maintenance and special applications
	TG 11/1	Geneva	21.3.96	29.3.96
				High-definition television for studio and international programme exchange
	Handbook SG4	Geneva	25.3.962	28.3.96
				Handbook Group on satellite communications
	TG 11/2	Geneva	25.3.96	29.3.96
				Digital studio interfaces
	WP 10-11S	Geneva	25.3.96	29.3.96
				Satellite broadcasting
	WP 11E	Geneva	25.3.96	29.3.96
				Quality evaluation
	WP 7D	Nançay	25.3.96	29.3.96
				Radio astronomy
	TG 1/3	Paris	1.4.96	4.4.96
				Modification of Recommendations ITU-R SM.329-6 on spurious emissions

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TG 8/1	Mainz	15.4.96	26.4.96	Future Public Land Mobile Telecommunication Systems (FPLMTS)
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**RADIOCOMMUNICATION STUDY GROUP MEETING SCHEDULE, 1996 (continued)**

(1): Possibly outside Geneva		1996		
(?): Tentative	Place	Start	End	TITLE
Group No				
TG 1/4	Geneva	23.4.96	26.4.96	Electronic exchange of spectrum management information
TG 8/2	Geneva	20.5.96	24.5.96	Wind profiler radar
1 TG 10/3		27.5.96	31.5.96	Subjective sound assessment
1 TG 10/4		27.5.96	31.5.96	Objective perceptual audio quality assessment methods
WP 3J	Oslo	12.6.96	18.6.96	Propagation fundamentals
WP 3M	Oslo	12.6.96	18.6.96	Point-to-point and Earth-space propagation
1 WP 4B		23.9.96	27.9.96	Systems, performance, availability and maintenance
TG 1/4	Geneva	24.9.96	27.9.96	Electronic exchange of spectrum management information
1 WP 4A		26.9.96	4.10.96	Efficient orbit/spectrum utilization
JWP 7-8R	Geneva	1.10.96	4.10.96	Compatibility within active spaceborne sensors and systems in the radionavigation and radiolocation services
WP 7A/D	Geneva	8.10.96	16.10.96	Joint meeting of Working Parties 7A and 7D
WP 7B/C	Geneva	8.10.96	16.10.96	Joint meeting of Working Parties 7B and 7C
1 WP 10B		14.10.96	16.10.96	Terrestrial sound broadcasting at frequencies above 30 MHz
TG 8/1	Geneva	15.10.96	25.10.96	Future Public Land Mobile Telecommunication Systems (FPLMTS)
1 WP 10-11S		16.10.96	25.10.96	Satellite broadcasting
<b>SG 7</b>	<b>Geneva</b>	<b>17.10.96</b>	<b>18.10.96</b>	Science Services
1 TG 1/3		24.10.96	30.10.96	Modification of Recommendation ITU-R SM.329-6 on spurious emissions
1 WP 1A		24.10.96	30.10.96	Engineering principles and techniques, including computer-aided analysis for effective spectrum management
1 WP 1B		24.10.96	30.10.96	Principles and techniques for spectrum planning and sharing
1 WP 1C		24.10.96	30.10.96	Techniques for spectrum monitoring
<b>SG 8</b>	<b>Geneva</b>	<b>28.10.96</b>	<b>28.10.96</b>	Mobile, radiodetermination, amateur and related satellite services
WP 8A	Geneva	29.10.96	7.11.96	Land mobile service excluding FPLMTS; amateur and amateur-satellite service
WP 8C	Geneva	29.10.96	7.11.96	Radiodetermination service
WP 8B	Geneva	29.10.96	8.11.96	Maritime mobile service including Global Maritime Distress and Safety System (GMDSS); aeronautical mobile service, excluding public telephone service with aircraft
WP 8D	Geneva	29.10.96	8.11.96	All mobile satellite services except the amateur-satellite service; radiodetermination satellite service; public telephone service with aircraft
<b>1 SG 1</b>		<b>31.10.96</b>	<b>31.10.96</b>	Spectrum management
TG 10/5	Geneva	11.11.96	13.11.96	Technical parameters and planning procedures for HF broadcasting
TG 10/4	Geneva	11.11.96	14.11.96	Objective perceptual audio quality assessment methods
Prep. CPM	Geneva	11.11.96	14.11.96	Preparation for CPM
TG 11/3	Geneva	11.11.96	15.11.96	Digital terrestrial television broadcasting
TG 10/3	Geneva	12.11.96	15.11.96	Subjective sound assessment
WP 10C	Geneva	12.11.96	15.11.96	Audio-frequency characteristics of sound broadcasting signals
<b>CVC</b>	Geneva	14.11.96	15.11.96	Chairmen and Vice-Chairmen meeting
1 WP 11A		18.11.96	23.11.96	Television systems and data broadcasting

Distribution of meetings among the  
Radiocommunication Study Groups,  
the Conference Preparatory Meeting  
and the Special Committee on Regulatory/Procedural Matters  
planned in 1996

	SG 1	SG 3	SG 4	SG 7	SG 8	SG 9	SG 10	SG 11	Others	CPM	SC	CVC	Total
No. of meetings in Geneva	3	0	5	2	8	3	6	7	4	0	0	0	39
No. of meeting days in Geneva	17	0	43	18	77	32	23	51	10	0	0	0	276
No. of meetings outside Geneva	5	3	0	3	1	2	16	1	0	0	0	0	31
No. of meeting days outside Geneva	32	19	0	15	12	15	32	6	0	0	0	0	131
No. of meetings with interpretation	1	0	0	0	0	0	0	0	0	1	2	1	5
No. of meeting days with interpretation	1	0	0	0	0	0	0	0	0	3	6	2	12
Total No. of meetings	9	3	5	5	9	5	22	8	4	1	2	1	75
Total No. of meeting days	50	19	43	33	89	47	55	57	10	3	6	2	419

ANNEX II

ITU-R Handbooks

Four Handbooks were published in 1995. The following seventeen Handbooks (total of about 3 990 pages) are in preparation for possible publication in 1996, 1997 and 1998.

Title	To be published in 1996	To be published in 1997	To be published in 1998	Estimated number of pages
Spectrum monitoring handbook	X			450
Radiometeorology <sup>1</sup>	X			200
Radiowave propagation information for predictions for Earth-to-space path communications <sup>1</sup>	X			150
Ionospheric properties and propagation and measurement of ionospheric parameters		X		150
Precise frequency and time		X		100
Digital radio-relay communications <sup>2</sup>	X			400
HF broadcasting system design		X		120
Teletext handbook		X		300
Digital television signals: coding and interfacing within studios	X			80
Subjective assessment methodology in television	X			70
Radiowave propagation information for predictions for signal levels likely to cause interference and for evaluation of coordination distances			X	150
Radiowave propagation information for predictions for terrestrial path communications			X	150
Operational forecasting and near-real-time assessment of ionospheric variability associated with radiocommunication			X	100
LF-MF System design			X	120
Mobile satellite communications			X	300
Land mobile (including wireless access)			X	500
Handbook on satellite communications (fixed-satellite service)			X	650
<sup>1</sup> Source documents already exist in three languages.				
<sup>2</sup> Partly funded by extra-budgetary resources.				
NOTE – These are the dates for publications in three working languages (English, French and Spanish).				

## Operational Plan for 1996 (EDP)

		Publication Date	Resources
<b><i>ITU-R Recommendations</i></b>			
Proof-reading of about 1 200 pages of old Rec. put "on-line" in WinWord 2 and PostScript formats		March 96	
Figures to be re-drawn in electronic format		Second half of the year	
<b>SM SERIES (SG 1)</b>	Spectrum management (85)	12/07/96	
<b>IS SERIES (SG 2)</b>	Inter-service sharing and compatibility (110)	31/07/96	
<b>P SERIES (SG 3)</b>	Radiowave propagation (375)	31/08/96	
<b>S SERIES (SG 4)</b>	Fixed-satellite service (135)	30/06/96	
<b>SNG SERIES (SG 4)</b>	Satellite news gathering (12)	14/06/96	
<b>TF SERIES (SG 7)</b>	Time signals and frequency standards emissions (60)	29/02/96	
<b>SA SERIES (SG 7)</b>	Space applications and meteorology (170)	29/03/96	
<b>RA SERIES (SG 7)</b>	Radio astronomy (25)	29/02/96	
<b>M SERIES – Part 1 (SG 8)</b>	Land mobile service excluding Future Public Land Mobile Telecommunication Systems (FPLMTS) (15)	12/04/96	
<b>M SERIES – Part 2 (SG 8)</b>	Future Public Land Mobile Telecommunication Systems (FPLMTS) (50)	12/04/96	
<b>M SERIES – Part 3 (SG 8)</b>	Maritime mobile service and aeronautical mobile service (245)	07/06/96	
<b>M SERIES – Part 4 (SG 8)</b>	Radiodetermination service (75)	14/06/96	
<b>M SERIES – Part 5 (SG 8)</b>	Mobile-satellite services and radiodetermination-satellite service (65)	30/05/96	
<b>F SERIES – Part 1 (SG 9)</b>	Fixed service – Radio-relay systems (195)	15/07/96	
<b>F SERIES – Part 2 (SG 9)</b>	Fixed service – HF systems (135)	16/08/96	
<b>SF SERIES (SG 4-9)</b>	Frequency sharing between the fixed-satellite service and the fixed service (60)	05/07/96	
<b>BS SERIES (SG 10)</b>	Broadcasting service (sound) (200)	12/04/96	
<b>Rec. UIT-R BS.705 and Rec. UIT-R BS.1195</b>	HF transmitting and receiving antennas characteristics and diagrams – Transmitting antenna characteristics at VHF and UHF (205)	22/05/96	

<b>BT SERIES (SG 11)</b>	Broadcasting service (television) (385)	15/05/96	
<b>BO SERIES (SG 10-11S)</b>	Broadcasting-satellite service (sound and television) (85)	30/04/96	
<b>BR SERIES (SG 10-11R)</b>	Sound and television recording (35)	29/03/96	
<b><i>ITU-R Handbooks</i></b>			
Spectrum monitoring handbook		08/96	
Radiometeorology		06/96	
Radiowave propagation information for predictions for Earth-to-space path communications		12/96	
Digital radio-relay communications		07/96	
Subjective assessment methodology in television		03/96	
<b><i>Other ITU-R Publications</i></b>			
Book of Resolutions and Opinions [Rules of Procedure]		04/96	
<b><i>Radio Regulation Set I</i></b>			
Volumes 1, 2, 3			
Volume 1A			
Volume 2A			
Volume 3A			
<b><i>Radio Regulation Set II</i></b>			
Part A			
Part B			
Part C			
Part D			

### ANNEX III

## **Budget of the Radiocommunication Study Groups**

### **Implementation of 1996-1997 budget**

**(Extracts of Document CVC-6/1, Geneva, November 1995)**

#### **2.1 General**

The impact of Council Resolution 1071 (1996-1997 budget) in terms of resources for the work of the Radiocommunication Study Groups in 1996 and 1997 (excluding the CPM and including Chairmen and Vice-Chairmen as well as the Special Group on regulatory/procedural matters, meetings) is estimated as follows:

Maximum possible number of days of Working Party and Task Group meetings = **500**

Maximum possible number of days of Study Group meetings = **37**

Maximum possible number of pages to be translated = **4 900**

Maximum possible number of pages to be typed = **32 600**

Maximum possible number of pages to be duplicated = **19 000 000**

The above volume limitations are also taking into account the advice of the second meeting of the RAG (Geneva, September 1995) and Document RA95/PLEN/1, Corrigendum 1, on the volume of pages of Handbooks to be produced which is estimated at 800 pages per year (**1 600 pages per two years**).

Based on the assumption that the work programme of CPM-97 will be equivalent in terms of cost to the 1994-1995 CPM activity, the following resources should be allocated to this activity:

Maximum possible number of days of meeting = **17**

Maximum possible number of pages to be translated = **1 500**

Maximum possible number of pages to be typed = **4 000**

Maximum possible number of pages to be duplicated = **3 000 000**

It should be noted that the CPM and Study Groups' budgets are under the same main cost centre (No. 240 000) in the new ITU financial system, allowing the possibility of transfers from the CPM budget to the budgets of the Study Groups or from the Study Groups' budgets to the CPM budget.

#### **2.2 A possible distribution of the budget**

Since ITU resources are significantly reduced and particularly those of the Study Group activities, it is proposed that the Radiocommunication Assembly establish a budget framework for each Study Group, the Chairmen and Vice-Chairmen's meeting and the Conference Preparatory Meetings.

The distribution of budgets among these activities depends on the number of Study Groups and the work programme as decided by the Radiocommunication Assembly. Statistics on expenditures from the previous study periods may be one factor the Assembly may wish to take into account in approving the budget distribution. Obviously, the foreseen priorities for the Study Groups for the years 1996-1997 should be reflected in the work programme and in the distribution of resources approved by the Radiocommunication Assembly.



One possible distribution of available resources for discussion set out in the following table and, in accordance with Council Resolution 1071, is based on:

- the foreseen number of meeting days of Study Groups;
- the draft schedule of 1996-1997 meetings;
- statistics of 1994-1995 workload mainly on document volumes (see Annex I).

	1996-1997						
	STUDY GROUPS			WP/TG			Documentation
	Planned	Reduction	Proposed	Planned	Reduction	Proposed	proposed
	No. of days	No. of days	No. of days	No. of days	No. of days	No. of days	% of invoiced cost
SG 1	4	1	3	27	1	26	6%
SG 3	4	1	3	67	1	66	4%
SG 4 (1)	4	0	4	50	1	49	12%
SG 7 (2)	4	1	3	64	1	63	6%
SG 8	5	0	5	92	1	91	17%
SG 9	4	0	4	64	1	63	7%
SG 10 (3)	4	1	3	68	2	66	6%
SG 11	4	1	3	78	2	76	14%
CPM	18	0	17				7%
Spec. Group			5				1%
CVC	4	0	4				1%
1,600 pages of handbooks each 2 years, charged to the Study Group budget ---->							19%
<b>TOTAL</b>	<b>55</b>	<b>5</b>	<b>54</b>	<b>510</b>	<b>10</b>	<b>500</b>	<b>100%</b>
<b>Resource</b>	<b>54 days</b>		<b>54 days</b>	<b>500 days</b>		<b>500 days</b>	<b>4,017,000 SFr</b>
(1)	Including WP 4-9S						
(2)	Including JWP 7-8R						
(3)	Including WP 10-11R and 10-11R						

The cost of producing Handbooks is included in the Study Group documentation costs. Note that each page of the master copy of a Handbook (ready for composition), translated and typed in three languages, will be charged to the Study Group budget at an average rate of 500 Swiss francs.

In the above table, the figures for the number of planned meeting days were estimated on the basis of the last Chairmen and Vice-Chairmen's meeting discussions mentioning the possibility of organizing Study Group meetings outside the normal block scheduled in May/June 1997 and the need for continuing Working Party and Task Group work also in 1997. Since the cost of these meeting days were based on the average cost of meetings organized in Geneva, each meeting organized outside Geneva would normally introduce a certain economy which can be calculated only on a case-by-case basis.

Counsellors in the BR and the BR Administrator will assist the Chairmen of the Study Groups in the monitoring and management of their budgets. Once the Assembly approves the two-year budgets for the Study Groups, the Study Groups' management would be free to adjust the mix of Study Group meeting days, Task Group/Working Party meeting days and document and Handbook pages as long as the overall budget for the given Study Group was respected.

Transfers of funds between Study Groups could, of course, in exceptional cases be made by the Director following consultation with the relevant Study Group Chairman.