

RECOMMENDATION ITU-R SM.1604

**Guidelines for an upgraded spectrum management system
for developing countries**

(2003)

The ITU Radiocommunication Assembly,

considering

- a) that the creation of an upgraded spectrum management system would contain software modifications to the current Windows multi-lingual basic automated spectrum management system (WinBASMS) to support and facilitate upgraded national spectrum management and monitoring, coordination among administrations and notification to the Radiocommunication Bureau (BR);
- b) that the spectrum management system should be upgraded because some developing countries are in the early stage of spectrum management development;
- c) that basic data elements used in national spectrum management have been reflected in the Preface to the International Frequency List (IFL) which appear in TerRaSys and Recommendations ITU-R SM.1047 and ITU-R SM.1413;
- d) that administrations should maintain spectrum management data with an automated database management system;
- e) that many administrations have been successful in implementing an automated database management system in the development and maintenance of their national spectrum management data;
- f) that computer programs which accomplish engineering analysis are described in the ITU Catalogue of Software for Radio Spectrum Management and have proven to be useful in national spectrum management;
- g) that a WinBASMS has been developed jointly by the experts of ITU-R and ITU-D for developing countries for the fixed, mobile and broadcasting services and a single user;
- h) that an upgraded spectrum management system needs to be developed to effectively meet the new requirements of managing modern telecommunication systems with increased spectrum and more complex frequency assignment, other spectrum management data requirements and other radio services according to recommended standards;
- j) that the World Telecommunication Development Conference (Istanbul, 2002) (WTDC-02) recommended that such spectrum management system should be developed within Programme 2,

recommends

- 1 that the engineering for an upgraded system should be developed jointly by the Telecommunication Development Bureau (BDT) and the BR;
- 2 that a system should be upgraded with the ultimate objective of using the program as critical building blocks to improve spectrum management for developing countries;

- 3 that the user interface of the system should be in English, French, Spanish with an option to convert to other languages;
- 4 that the upgraded system should contain the features described in Annex 1;
- 5 that the upgraded software should be implemented jointly by the experts of ITU-R and ITU-D;
- 6 that the development and the implementation of the system by the experts of ITU-R and ITU-D should be completed in the shortest possible time;
- 7 that the introduction of the system should include the necessary training.

Annex 1

Upgraded WinBASMS

1 Background

The BASMS and WinBASMS computer software programs for national spectrum management were developed jointly by ITU-R and ITU-D according to requirements specified in Recommendation ITU-R SM.1048. A group of ITU experts developed the computer specifications and supervised the creation and testing of the software programs by a contractor. Implementation of the first DOS version (BASMS) of the system was initiated in 1995; in 1997 the system was amended to be supported by a Windows platform and operated in three languages (WinBASMS).

The purpose of the WinBASMS software is to give developing countries a tool to efficiently and effectively manage the radio spectrum primary for broadcasting, fixed and mobile radio services and therefore to accelerate the development of wireless technology in the countries. The WinBASMS is designed for ease of use and maintenance by a single user. The WinBASMS can be used to support most functional requirements defined in the ITU Handbook on National Spectrum Management. The WinBASMS software is presently distributed free of charge in English, French and Spanish (a version in Russian is also available on special request) through regional and area training seminars on the WinBASMS. This training is organized by the BDT under the ITU/BDT Valletta Action Plan and within the framework of ITU/BDT technical assistance missions on frequency management and radiocommunication development.

The limitations of the WinBASMS include the following:

- Simplified implementation of propagation models, particularly those given by Recommendation ITU-R P.1546.
- Simplified calculation procedures within the interference calculation process and the frequency assignment process.
- No inclusion of monitoring functions or a spectrum monitoring database.
- Omission of a multiple user networking capability.
- Omission of a digital terrain database and associated operational programs.
- No security features.