



Question 11/2: Examine digital broadcasting technologies and systems, including cost/benefit analyses, assessment of demands on human resources, interoperability of digital systems with existing analogue networks, and methods of migration from analogue to digital technique

STUDY GROUP 2

SOURCE: PROPOSED RAPPORTEUR FOR QUESTION 11/2

TITLE: UPDATE OF REPORT ON DIGITAL BROADCASTING TECHNOLOGIES

1. Introduction

In the last Study Period (1994 - 1998), Study Group 2 addressed Question 1/2 - Part d), which stated: "Determine a work programme to assist developing countries to evaluate the appropriateness of a broad array of technologies (including satellite and terrestrial radiocommunications) to satisfy their equipment and service requirements and to encourage modernization and normalization; to ensure interoperability of networks; develop a methodology to analyse the benefits and costs associated with investment in relevant technologies and implementation of related systems; and identify associated requirements for human resource development."

In treating Part d) of Question 1/2, the Rapporteur's Group identified four technical arrays, including "Digital, audio and video broadcasting with related interactivity." The Associate Rapporteur for this technological array prepared an elaborated report¹ (hereafter the "digital broadcasting report"), including proposed text for a new Question (current Question 11/2), that Study Group 2 approved at its meeting in September 1997. The 1998 World Telecommunication Development Conference (WTDC - 98) subsequently adopted Question 11/2 for examination during the current Study Period (1998 - 2002) (see Document 2/019, pages 30-31).

¹ See Document 2/263-E, Annex 7, 25 August 1997.

2. Update of Digital Broadcasting Report

Since the digital broadcasting report was prepared last year, there have been some important achievements in the area of both digital television and sound broadcasting.

- a) Digital Television Broadcasting (DTB) Recommendations. The digital broadcasting report had described two non-compatible terrestrial DTB standards that were emerging worldwide: the European-developed Digital Video Broadcasting (DVB) standard, and the United States-favored Advanced Television Committee Standard (ATSC). In 1997 the ITU announced that it had successfully unified both broadcasting standards. The ITU also forged unanimous agreement on the convergence toward a single digital high definition television (HDTV) production standard.

The consensus reached within the ITU Radiocommunication Sector allows equipment manufacturers to start delivering TV sets with the distinct advantage of having worldwide portability for consumers and vendors. This is in sharp contrast to the present situation with analogue TV, where 40 different television systems exist - including the well-known PAL, SECAM and NTSC systems - and no single system is compatible with another system.

The new set of Recommendations were developed by ITU-R Study Group 11, and can accommodate both HDTV and conventional television services in the terrestrial broadcasting environment, while at the same time being interoperable with cable delivery, satellite broadcasting and recording media. The single worldwide standard is expected to lead to a large number of broadcasters transmitting digital TV programs in the near future. The digital television market is estimated to be worth some hundreds of billions of dollars over the next ten years.

Study Group 11 also approved a new version of its Recommendation for HDTV programme production. The previous version of the Recommendation set forth two specifications with equal weight, and included a note of reservation by the United States. The United States has removed its reservation from the current Recommendation, opening the way for the worldwide manufacture and use of a unique type of equipment for HDTV programme production.

- b) Digital Sound Broadcast (DSB) Standards. At its September 1997 meeting, Study Group 2 approved the text of a liaison statement from Working Party A/2 to ITU-R Joint Working Party 10/11S. The liaison statement notes the importance to developing countries of ITU-R technical Recommendations such as BO.1130-1, which includes descriptions of satellite DSB systems. The liaison statement asks JWP 10-11S to make it a high priority to include in Recommendation BO.1130-1 descriptions of those satellite DSB networks intended to operate in the developing world.

In response, JWP 10-11S issued a liaison statement to ITU-D WP A/2 entitled : "Recommended systems for satellite digital sound broadcasting (see Document 2/027)."² The liaison statement thanks WP A/2 for its interest in recommended systems for satellite DSB, and notes that Recommendation ITU-R BO.1130 was revised in January 1998 to include reference to Digital System D, a system intended to provide service to developing countries.

² See Document 10-11S/35-E, Annex 18.

3. Proposed scope for future work

The original digital broadcasting report included executive summaries of technologies that are not described in any detail in ITU documents, for example, the in-band on-channel (“IBOC”) and in-band adjacent-channel (“IBAC”) digital sound broadcast systems being developed in the United States. It is proposed that in treating Question 11/2 the Rapporteur’s Group limit its work to those technologies that are sufficiently described in relevant ITU-R documents, and that are in compliance with the ITU-R policy on intellectual property.³

³ See ITU-R Resolution 1-2, Annex 1.