



REPORT OF ITU-R WORKING PARTY 7A

IN THE PERIOD 1999 TO 2001

TO THE 15-TH MEETING OF THE CCTF (SEVRES, 20 – 21 JUNE 2001)

Introduction

The International Telecommunication Union (ITU) has 3 sectors. The Radiocommunication sector (ITU-R) deals with all systems that make use of radio waves. The Telecommunication Standardization Sector (ITU-T) is dealing with international tariffs, treaties and standardization of wired communicated systems. The Study Group 7 (SG 7) is called Science services and deals with Space research, Radio Astronomy and Earth Observation and Meteorological Systems, and its Working Party 7A deals with all Standard Frequency and Time Signal (SFTS) emissions and transfers, also by satellite and other means.

Meetings of Working Party 7A were held yearly at the ITU head quarters in Geneva during one week. Active participation was 15 to 20 delegates from about 8 to 12 Administrations (member countries) and 2 international organizations (sector members) including BIPM. In the period 1999 - 2002 meetings were held on 4 - 8 October 1999, 9 - 17 October 2000, 7 - 11 May, 2001.

Some highlighted subjects discussed at recent WP meetings

1. The support to the radio navigation Study Group for the protection of the GPS and Glonass frequency bands L1 and L2 from sharing by the mobile communication services. At the WRC it was indeed decided not to share these bands and also some additional frequencies have been granted for the improvements of GPS and for the future Galileo global navigation system.
2. Updating of the tables of time signals and standard frequency transmissions, including the time codes used by modem time dissemination.
3. Attempts were made to describe the scope and structure of the WP 7A work. The result is a brochure where SG 7 and its Working Parties will be described.
4. How can the use of TAI be recommended if UTC and its leap seconds pose a problem in some (navigation and communication) systems. A draft document (revision of Rec. ITU-R TF.460-5) that recommends the introduction of DTAI (= TAI-UTC as determined by the IERS) in the Time Signals has been formulated. See also under Special Rapporteur Group on the future of UTC, that addresses the question raised by CCTF and others about possible changes to the present leap second practice.
5. The question of finding methods to determine and calibrate delays in antennas and other equipment for high accuracy time transfer (GPS, Glonass, GNSS, TWSTFT) is issued.
6. The application of accurate, trusted time for time stamp authorities has been addressed in a new question and in a new opinion.
7. An answer stating that the WP is not convinced by the stated arguments has been given on a letter proposing a decimal hour replacing minutes and seconds.
8. The importance of using TWSTFT for accurate time transfer was also addressed.
9. A question about standardized instrumentation time codes is formulated.
10. For other big tasks Drafting Groups by Correspondence have been formed. These tasks extend over several years and can be performed by exchange of documents by e-mail and by the Internet. See the next paragraphs.

Drafting Group (by Correspondence) on TF Glossary

This Drafting Group consists of Mr. Bartholomew (chairman, USA), Laverty (UK), Brunet (FR), Cordara (IT). Their task has been the complete review of the Glossary (Rec. ITU-R TF.686) and the Recommendation TF.538, while also harmonizing this with the TF Handbook, the ITU-T Recommendation G810, the IEEE and ISO documents. It is finalized in the May 2001 meeting. The result is a Draft Revised Recommendation ITU-R TF.686 in Document 7A/TEMP/15 Rev.2. After minor editorial changes this document will be sent to the next SG7 (October 2001) for adoption.

Drafting Group (by Correspondence) on the Handbook on Satellite Time and Frequency Transfer and Dissemination.

It was decided at the WP 7A meeting in October 1998 to establish a new Drafting Group (by Correspondence) on a Handbook about T& F Transfer by Satellites. The Drafting Group is now chaired by Mr. Beard (USA), supported by Mr. Laverty (UK), Mr. Hanson (USA), Mr. Klepczynski (USA), and Mr. Brunet (FR). Except for two or three chapters authors have been found. A work plan has been adopted.

Connection to the ITU Telecommunication sector.

Mr. D. Hanson (USA) and Mr. Bartholomew (USA) have been acting as Rapporteurs to ITU-T SG13. They will continue also now network timing has shifted to ITU-T SG 15, WP 4. In addition, a letter will be sent to ITU-T SG13 (discussing secure time stamps in IP systems and E-commerce) concerning trusted time sources for time stamp authorities as indicated in Question ITU-R 238/7. Mr. G. de Jong will start to act as a point of contact.

Rapporteur for ITU-R Rec. TF.768 and TF.583

During the WP 7A meeting in 1999 the problem of obsolete data (Omega, Loran-C, etc) of the SFTS services in ITU-R Rec. TF.768 and TF.583 was discussed. It was decided to appoint a Rapporteur who has the task to write a letter to the responsible organizations to check the existing data and if necessary, to update this data. Mr. J.R. Laverty (UK) had taken this duty (See 7A16, page 23, Attachment 7). No progress has been made so far, but Mr. Hanson (USA) will investigate if he can take this task

Special Rapporteur Group on the future of UTC

In the WP 7A meeting in October 2000, it was decided to appoint a Special Rapporteur Group on the future of UTC to act on the request of several international organizations on the possible change of the present implementation of UTC including leap seconds. This consists of Mr. Beard (USA) as chairperson, Mr. Klepczynski (USA), Mr. Brunet (FR), Mr. Azoubib (BIPM), Mr. Domnin (Russia), Mr. Hanson (USA), Mrs. Baumont (FR), Mr. Bartholomew (USA). A report of their work and a further plan of action can be found in Document 7A/TEMP/14 Rev. 2, also attached to this report. The chairman of CCTF will be asked to invite Mr Beard to report from the progress of this Special Rapporteur Group at its forthcoming meeting June 20-21, 2001 in Sevres.

Latest output Documents

The following output documents have been sent after the meeting in May 2001 to the next meeting of SG 7 for considering:

1. Draft Rev. of ITU-R Recommendation TF.768-4 (7A/TEMP/12 Rev. 2): "Standard-frequency and time-signals".
2. Draft Revised Recommendation ITU-R TF.686-1 (7A/TEMP/15 Rev. 2). "Glossary".
3. Draft New Recommendation ITU-R [TBD] (7A/TEMP/16 Rev.1): "Time scales for use by standard frequency and time signal services"
4. Draft Rev. of ITU-R Recommendation TF.460-5 (7A/TEMP/17 Rev.1): "Standard-frequency and time-signal emissions"

Next WP 7A Meeting

The week of Monday 7 to Friday 11 October 2002 in Geneva is proposed.

Gerrit de Jong, Chairman WP 7A