



Radiocommunication Bureau
(Direct Fax N°. +41 22 730 57 85)

**Administrative Circular
CAR/303**

28 October 2010

To Administrations of Member States of the ITU

Subject: Radiocommunication Study Group 7

- **Proposed approval of 2 draft new ITU-R Questions and 3 draft revised ITU-R Questions**
- **Proposed suppression of 3 ITU-R Questions**

At the meeting of Radiocommunication Study Group 7 held on 4 and 12 October 2010, 2 draft new ITU-R Questions and 3 draft revised ITU-R Questions were adopted and it was agreed to apply the procedure of Resolution ITU-R 1-5 (see § 3.4) for approval of Questions in the interval between Radiocommunication Assemblies. Furthermore, the Study Group proposed the suppression of 3 ITU-R Questions.

Having regard to the provisions of § 3.4 of Resolution ITU-R 1-5, you are requested to inform the Secretariat (brsgd@itu.int) by 28 January 2011, whether your Administration approves or does not approve the proposals above.

After the above-mentioned deadline, the results of this consultation will be notified in an Administrative Circular. If the Questions are approved, they will have the same status as Questions approved at a Radiocommunication Assembly and will become official texts attributed to Radiocommunication Study Group 7 (see: <http://www.itu.int/publ/R-QUE-SG07/en>).

Valery Timofeev
Director, Radiocommunication Bureau

Annexes: 6

- 2 draft new ITU-R Questions, 3 draft revised ITU-R Questions and proposed suppression of 3 ITU-R Questions

Distribution:

- Administrations of Member States of the ITU
- Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 7
- ITU-R Associates participating in the work of Radiocommunication Study Group 7

Annex 1

(Source: Document 7/125)

DRAFT NEW QUESTION ITU-R [XXX]/7

Parameters needed for the registration of distributed radio astronomy systems

The ITU Radiocommunication Assembly,

considering

- a) that the angular resolution of single dish radio telescopes is proportional to their diameter, and that the diameter of a dish antenna, particularly if it is steerable, is limited by engineering factors;
- b) that higher angular resolutions may be achieved through the use of arrays of antennas working jointly as an interferometer, and that such arrays may be spread over large areas;
- c) that most radio telescopes currently under construction or planned are interferometric systems, and in some cases the elements of the interferometer are expected to be spread over hundreds or even thousands of kilometres;
- d) that interferometers are less susceptible to interference than single dish telescopes;
- e) that distributed radio astronomy systems may also be used in a non-interferometric mode;

noting

that the characteristics required to register radio astronomy stations, listed in the Tables of Annex 2 to Appendix 4 of the Radio Regulations, appear to have been determined with single dish telescopes in mind, and that these characteristics may not be sufficient to adequately describe distributed radio astronomy stations, such as those referred to in considering c) , and thus ensure their protection, in accordance with the Radio Regulations,

decides that the following Question should be studied

- 1** What parameters should be specified, in addition to, or instead of, those contained in Appendix 4 of the RR, when registering distributed radio astronomy systems that may cover extended areas, in order to ensure their effective protection?

further decides

- 1** that the results of the above studies should be included in (a) Recommendation(s) and/or Report(s);
- 2** that the above studies should be completed by 2015.

Category: S2

Annex 2

(Source: Document 7/129)

DRAFT NEW QUESTION ITU-R [YYY]/7

Relativistic effects in the transfer of time and frequency in the vicinity of the Earth and in the solar system

The ITU Radiocommunication Assembly,

considering

- a) that it is desirable to maintain coordination of standard time and frequency on platforms operating in the vicinity of the Earth and in the solar system;
- b) that accurate means of transferring time and frequency are required to meet the future needs of communication, navigation, and science in the vicinity of the Earth and in the solar system;
- c) that atomic clocks are subject to path dependent time and frequency variations due to their motion and to the gravitational potential in which they operate;
- d) that the conceptual foundation for the transfer of time and frequency should be clearly outlined;
- e) that procedures for the transfer of time and frequency in the vicinity of the Earth and across celestial bodies and spacecraft in the solar system require the use of mathematical algorithms that account for relativistic effects,

decides that the following Questions should be studied

- 1 What are the conceptual foundations and the appropriate mathematical algorithms that account for relativistic effects in the transfer of time and frequency in the vicinity of the Earth and in the solar system?
- 2 What levels of precision and accuracy are required for the transfer of time and frequency in the vicinity of the Earth and in the solar system?
- 3 What standardized procedures should be adopted to ensure that the required levels of precision and accuracy can be achieved?

and further decides

- 1 that the results of the above studies should be included in future recommendation(s) and/or report(s) regarding time and frequency transfer in the vicinity of Earth and in the solar system;
- 2 that the studies should be completed by 2015.

Category: S2

Annex 3

(Source: Document 7/118)

DRAFT REVISION OF QUESTION ITU-R 139-3/7^{*}

Data transmission for Earth exploration-satellite systems

(1990-1993-1995-2000)

The ITU Radiocommunication Assembly,

considering

a) that the data transmission characteristics of Earth exploration-satellite systems, frequencies and bandwidths, and performance, interference and frequency sharing criteria are established by Recommendations ITU-R SA.514, ITU-R SA.1024, ITU-R SA.1025, ITU-R SA.1026 and ITU-R SA.1027, ITU-R SA.1159, ITU-R SA.1160 and ITU-R SA.1161;

b) that ~~these systems may require very high transmission rates~~ the band 2 025-2 110 MHz used for EESS (Earth-to-space) is getting increasingly congested,

decides that the following Questions s should be studied

1 What are the performance, interference, sharing and coordination criteria and operating characteristic~~efficient spectrum utilization techniques for high data rate transmission~~ of the different Earth exploration-satellite data transmission systems?

2 What additional frequency bands would be suitable for EESS (E-s) links?

further decides

1 that the results of the above studies should be included in (a) Recommendation(s) and/or Report(s);

2 that the above studies should be completed by ~~2011~~2015.

Category: S2

^{*}—~~In the year 2009, Radiocommunication Study Group 7 extended the completion date of studies for this Question.~~

Annex 4

(Source: Document 7/127)

DRAFT REVISION OF QUESTION ITU-R 207-2/7^{*,**}

Time and frequency transfer using digital communication links

(1993-1997-2001)

The ITU Radiocommunication Assembly,

considering

- a) that the performance of time and frequency transfer in digital communication links has been improved and offers additional capabilities for standard time and frequency dissemination;
- b) that a variety of digital communication systems, based on both optical and RF technologies, are available which enable long-distance communication, standardized interfaces and low timing jitter;
- c) that time and frequency transfer via digital communication systems offer promising methods for national and international time and frequency transfer;
- d) that evolving applications for standard time and frequency reference signals require time and frequency services with improved coverage, accuracy and reliability of reception;
- e) that time and frequency transfer can be made simultaneously available without impacting the data carrying capacity of digital communication services,

decides that the following Question should be studied

- 1** What are the performance characteristics required of digital communication technologies to support specific time and frequency transfer applications?
- 2** What standardized digital communication methods, interfaces and formats meet both the transmission technology requirements and are compatible for use in time and frequency transfer?
- 3** What are the optimum digital communication systems and configurations available to support national and international two-way and common-view time transfer applications between timing centres?

~~*—In the year 2009, Radiocommunication Study Group 7 extended the completion date of studies for this Question.~~

~~**—This Question should be brought to the attention of Study Group 13 of the Telecommunication Standardization Sector.~~

* This Question should be brought to the attention of Study Group 13 of the Telecommunication Standardization Sector.

4 What are the optimum methods for improving the time synchronization accuracy of time transfer in digital communication networks with different time delays in the transmitting and receiving directions?

further decides

- 1 that the results of the above studies should be included in (a) Recommendation(s) and/or Report(s);
- 2 that the above studies should be completed by ~~2014~~2015.

Category: S2

Annex 5

(Source: Document 7/130)

DRAFT REVISION OF QUESTION ITU-R 141-3/7^{*}

Data transmission for meteorological satellite systems

(1990-1993-1995-2000)

The ITU Radiocommunication Assembly,

considering

a) that the data transmission characteristics of meteorological satellite systems, frequencies and bandwidths, and performance, interference and frequency sharing criteria are established by Recommendations ITU-R SA.514, ITU-R SA.1025, ITU-R SA.1026, ITU-R SA.1027, ITU-R SA.1159, ITU-R SA.1160, ~~and~~ ITU-R SA.1161 and ITU-R SA.1807;

b) that most operators of these systems have established mutual exchanges with a view to optimizing their operation for the benefit of the world and regional communities,

decides that the following Question should be studied

1 What are the performance, interference, sharing and coordination criteria and operating characteristics of the different meteorological satellite data transmission systems?

further decides

1 that the results of the above studies should be included in (a) Recommendation(s) and/or Report(s);

2 that the above studies should be completed by 2014~~2015~~.

Category: S2

^{*} ~~In the year 2009, Radiocommunication Study Group 7 extended the completion date of studies for this Question.~~

Annex 6

Questions proposed for suppression

Question ITU-R	Title
203-1/7	Characteristics and telecommunication requirements for space very long baseline interferometry
202-1/7	Protection criteria and frequency sharing between space very long baseline interferometry and other space research systems
223/7	The role of differential GPS networks in timing applications
